Delayed discharges in acute health settings: a case study

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A thesis submitted to the Faculty of Health Sciences (University of Malta) in fulfilment of the degree of the Doctor of Philosophy.

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Abstract

This thesis aims to investigate delayed discharges in an acute hospital setting, through the use of a case study carried out in a public primary acute tertiary teaching general hospital in Malta. A Yinian approach was used, incorporating a post-positivist approach with a triangulated methodology, that blended qualitative and quantitative research data collection tools. The study sought to investigate this phenomenon from a strategic, tactical and operational standpoint as this allowed for a more holistic interpretation of results and ultimately the case. Such an approach. Such an approach also paved the way for the researcher to present study contributions and practice implications more comprehensively to each managerial stratum accordingly. An in-depth literature review was carried out before the start of the study, which allowed the researcher to investigate delayed discharges from both a conceptual and operational standpoint. This served, along with literature review findings related to determinants, effects and mitigation strategies related to delayed discharges contributed to the building of model for the phenomenon. This model formed, in turn, a very solid basis for the construction of the research tools utilised in Phase 1 of this study.

The research was carried out in two phases. In Phase 1 the researcher adopted the qualitative triangulated approach through twenty-eight interviews (n = 28) and two interdisciplinary focus groups with health professionals, with both the sampling process (theoretical sampling) and the interview questions themselves being based on the findings of an in-depth scoping literature review on delayed discharges and the emerging evidence-based model derived from this review. Respondents' answers were audiotaped, transcribed verbatim and subjected to the thematic analysis method, deriving 7 themes, namely: a) Long-term care/social cases as a major cause of delayed discharges, b) Faulty system which is open to abuse and inefficiency, c) The impact of COVID-19 (Corona Virus Disease 2019) on discharge

delays and hospital dynamics, d) Stakeholder suggestions to management to counteract delayed discharges, e) Inter-stakeholder interactions, f) The impact of external factors on delayed discharges, and g) Procedural delays directly impacting delayed discharges..

In Phase 2 document analysis was conducted on 220 medical records from two admission units. The collected data were analysed using the Appropriateness Evaluation Protocol (AEP). These records were analysed in detail and delayed discharges were represented quantitatively in the form of 'inappropriate days'. The extent, causes, and timing of inappropriate days which may have led to delayed discharges were calculated, and through an extrapolative exercise associated costing values were assigned to the respective causes of delays. Among the most prominent source of financial burden were patients awaiting long-term care/rehabilitation, patients awaiting geriatric/social worker reviews, patients awaiting medical imaging procedures and patients kept in hospital solely for intravenous antibiotic therapy administration.

The findings from Phase 1 and Phase 2 were compared and contrasted, with differences and commonalities being identified and compared with the general literature. This research study contributed actionable insights to address hospital discharge inefficiencies. It is the first study of its kind in Malta and it offers a combination of study contributions and implications for practice from strategic, tactical and operational viewpoints. Study strengths and limitations were also addressed, most particularly from a methodological standpoint, where the extent of result generalisability and application was discussed.

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- MDH CEO approval
- Departmental manager approval
- DPO approval
- Dr Magri approval
- Prof Fava approval

Appendix 4: Published articles

Micallef, A., Buttigieg, S.C., Tomaselli, G., Garg, L. (2020). Defining delayed discharges of inpatients and their impact in acute hospital care: a scoping review. *International Journal of Health Policy Management*. Vol 11(2), 103 – 111.

Micallef, A., Buttigieg, S.C., Tomaselli, G., Garg, L. (2022). Exploring Factors Related to Delayed Discharges in an Acute Hospital Setting in a Small European Member State Through the Perspectives of Health Professionals. Available on: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4696064 (accessed on 19th March 025).

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List of Abbreviations

A+E: Accident and Emergency

AEP: Appropriateness Evaluation Protocol

BST: Basic Specialist Trainee

CDC: Centre for Disease Control

CN: Charge Nurse

COVID-19: Coronavirus disease 2019

CT: Computer Tomography

DFT: Discharge Facilitation Team

DLN: Discharge Liaison Nurse

ECG: Electrocardiogram

EU: European Union

HAT: Home Antibiotic Team

HST: Higher Specialist Trainee

ICU: Intensive Care Unit

IT: Information Technology

IVI: Intravenous Infusion

LTC: Long-Term Care

LTC/Reh score: Long-term care/Rehabilitation percentage risk

LTC/RehVar: LTC/rehabilitation variable risk list

MDH: Mater Dei hospital

MO: Medical Officer

MRI: Magnetic Resonance Imaging

NHS: National Health Service

OECD: Organisation for Economic Co-operation and Development

SW: Social Worker

SLP: Speech Language Pathologist

U.N: United Nations

U.S: United States

U.K: United Kingdom

WHO: World Health Organisation

Chapter 1
Background and rationale of the study

1.1 : Background

Healthcare systems in developed and developing counties faced several challenges over the past decade, such as the financial/economic crises of 2008 (Marmot et al., 2012) and the more recent COVID-19 pandemic, leading to healthcare workforce shortages and limited financial resources. In such a context, focus has shifted to the cutting of public healthcare expenditure, mainly by reducing resource waste and operational inefficiency (Bauer and Becker., 2014). Bed space is one of the most crucial healthcare resources, which made admission and discharge processes in acute healthcare settings acquire renewed relevance in terms of ensuring efficient and effective quality of patient care (Bauer and Becker, 2014; Jasinarachi et al., 2014).

While it is evident that healthcare systems are very complex, the effects of ageing populations and an overall change in population lifestyle and family dynamics has impacted the healthcare sector and acute healthcare settings in particular (Fowler et al., 2008). This situation has further increased the focus on the hospital discharge process worldwide, gaining more elevated importance with the actual patient discharge procedure being considered as just another step in the patient pathway, rather than an end point (Waring et al., 2014). For this reason, the concept of community care for older people has become a strategically and financially crucial concept in recent healthcare agendas (Hendy et al., 2012). For example, a concern for the United Kingdom (UK) policy makers was that too many resources were being devoted to acute in-patient care, with very limited attention being given to community-based

alternatives (Thwaites et al., 2017). Lack of community services were but one factor contributing to delayed discharges from acute hospital settings (Hendy et al., 2012).

Hendy et al. (2012) sustained that delayed discharges of in-hospital acute care patients were a major factor keeping such settings from achieving optimal performance. Delayed discharges had been linked to increased mortality rates (Greene et al., 2017), a finding that was echoed in other healthcare settings through the European Union (EU) (Baumann et al., 2007; Lenzi et al., 2014; Mendoza et al., 2012). Health policy makers turned their efforts to address the discharge delay problem in a bid to cut costs and improve hospital management and overall patient flow dynamics (El-Eid et al., 2015). In recent years delayed discharges became the focus of many research investigations as academics recognised the impact on health systems from a 'cause and effect' perspective. Studies, in fact, revealed delays in patient discharge to be accentuated by lack of social/community services (Mendosa et al., 2012; Benson et al., 2006; Costa et al., 2012) and a shortage of long-term care beds /rehabilitation beds (Landeiro et al., 2019; Feigal et al., 2014, Majeed et al., 2012). Hospital management issues in the form of procedural delays (Sant et al., 2015) and faulty discharge planning (Hollande et al., 2016; Bryson, 2011) were also identified as relevant contributors to delayed discharges. These studies were particularly focused on elderly patients, with the patient's age being identified as a major contributing factor to delays (Philp et al., 2013).

The United Nations (UN) sustained that population ageing affected almost all countries, which in turn will pose great challenges to healthcare systems (United Nations, 2017). This inevitably translated to an ever-increasing number of older people requiring hospital care and services (World Health Organisation (WHO), 2015). From 2030 it is expected that the required hospital bed capacity will increase significantly with great shifts towards geriatric and chronic care beds (Van Der Heede et al., 2019). The impact of the decline in the extended family in developed and developing countries made the situation worse, particularly in light of the fact

that both parents in the nuclear family possessed full-time employment (Varela et al., 2000). This situation was one of the reasons behind the ageing population becoming an issue of growing concern in high and middle-income countries (Kwok et al., 2017), where unsupported older people (impacted by higher health complexities and morbidity issues) had no other place to go but acute hospital settings. This inevitably led to higher hospital costs and overall inflated healthcare expenditures (Ha et al., 2014; Varela et al., 2000).

1.2 : Research motivation: an overview of the Maltese healthcare system and the relevance of delayed discharges

The researcher embarked on a doctoral degree in 2017, working as a charge nurse on a full-time basis, while simultaneously pursuing his studies as a part-time student. He started on this pathway following the attainment of two master's degrees in Health Systems Management and Executive Business Administration. In addition, the researcher had eight years of prior experience as a staff nurse coupled with ten years' experience as a charge nurse/ward manager. This greatly helped to attract his attention and ignite his interest in hospital processes and operational dynamics. As a clinical academic student, he possessed the necessary proficiency to pose a number of relevant research questions based on both clinical and academic experience.

Such an interest in the topic led him to conduct a preliminary review of the general literature in conjunction with a one-week passive observation (non-participant) exercise on the clinical practice setting. During the course of this passive observation exercise the researcher closely observed the operational dynamics of a typical ward setting, taking field notes of specific activities vis-à-vis the time frames taken for specific activity completion. As a clinician he was a first-hand witness to the operational setting of acute hospital work, and over

the years had observed practices that led to unnecessary daily delays in the patient's stay, which ultimately resulted in the patient being needlessly kept in hospital for a longer time period. Having accepted such system imperfections as a normal part of everyday work life for several years, his attention was strongly drawn to the issue of delayed discharges following the preliminary literature search on the topic. The fact that the general literature did not seem to yield any prior research done on the topic in his work setting (ie. Mater Dei Hospital) added to this newly acquired academic curiosity.

Throughout the thesis health system users will be referred to as 'patients', while individuals providing care from a clinical aspect will be described as 'healthcare professionals'. In turn, 'participants' or 'respondents' will be the terms used to refer to individuals who participated in the research.

This study was carried out in Malta, a small European member state in the Mediterranean, with a population of a little over half-a-million. The Maltese healthcare system is made up of both a public and a (much smaller) private sector (Azzopardi et al., 2017). Malta's health service is predominantly financed through general taxation and provides nearly universal coverage to all residents (Organisation for Economic Co-Operation and Development (OECD), 2021). The private sector provides complementary provision of care mainly in the form of outpatient services and primary care (OECD, 2021).

In such a context, the hospital under study is Mater Dei Hospital (MDH), which is the main publicly owned acute general hospital, catering for the bulk of emergency care and for a general population density that stands disproportionally high as compared to the rest of the EU (Azzopardi et al., 2017). An additional increase in population growth and population ageing significantly impacted the Maltese health system (Azzopardi et al., 2017), with the recent COVID-19 pandemic exacerbating the already critical situation involving high rates of bed-

blocking and patients (mostly elderly patients) requiring long-term care (Hospital Activity Report, 2022). The afore-mentioned pandemic, in fact, uncovered issues related to sustainability and waste reduction which became ever more relevant to the Maltese healthcare arena.

Malta affected an increase in public funding during the course of the COVID-19 pandemic, with the year 2020 being infused with an additional €130 million committed to the health sector (OECD, 2021). Major changes in the form of hospital restructuring were undertaken in the past few years to increase hospital capacity, with hospital beds standing at 4.2 per 1000 population in 2019 (13% more than in 2009) and a pre-COVID-19 occupancy rate of 80% or more throughout the whole year (OECD, 2021). This bed state was further increased five-fold in 2020, with 600 more beds added for COVID-19 patients, pushing the hospital bed state to 4.4 beds per 1000 population (a number which was still below the EU average of 5.3 beds per 1000 population) (OECD, 2023). Due to pressing pressures on MDH it was decided that the newly added COVID-19 beds would be kept permanently as normal acute beds, even after the pandemic had subsided (OECD, 2023).

From this standpoint the delayed discharge phenomenon in Malta was deemed as being a topic of especial interest. This is because, being a small country, bed resources tended to be more finite, and therefore more precious than in larger countries, where the burden of the system running on high occupancy rates could be shared among multiple healthcare facilities throughout the country (Eurostat, 2021). MDH hospital activity reports, in fact, point towards very high A+E (Accident and Emergency) attendances with admission rates for 2019 and 2020 standing at 267 admissions/day and 198 admissions/day respectively (Hospital Activity Report, 2020). In turn, the absolute majority of admissions were reportedly self-referred (79% of patients for both years) (Hospital Activity Report 2019; Hospital Activity Report, 2020), signalling a general lack of an adequate community-based gatekeeping system. In such a

setting, delays in patient discharge gained added relevance to the overall acute hospital dynamic.

1.3 : Study aim and research questions

This thesis analysed delayed discharges in an acute hospital setting using a mix of qualitative and quantitative research approaches. In recent years, the concept of delayed discharges has been gaining momentum on an international level. The number of research papers published on delayed discharges has in fact significantly increased over the course of the past decade. This aim of this thesis was to explore delayed discharges in the context of the MDH case, an aim which was achieved by addressing the following research questions:

- What defines delayed discharges conceptually and operationally?
- What are the perspectives of health professionals regarding systemic and procedural factors contributing to delayed discharges in an acute general hospital in Malta?
- From an operational perspective and considering the hospital case study, can delayed discharges be measured through patient medical records?
- What valuable research-based managerial recommendations can be put forward for the case under study?

1.4: Contribution of the study

The researcher found no evidence that a case study research effort on delayed discharges in an acute health setting was ever conducted in Malta. This added value to this study as it delved into comparatively new unexplored research terrain. The study results would

also be comparable to other studies carried out in a variety of other settings worldwide, providing a picture of how this phenomenon impacted the acute health sector of a small European state (as opposed to larger countries where such studies typically took place). The fact that the data collection tools used were based on evidence-based literature and/or pre-validated, widely used tools, added relevance and helped to make derived results comparable to the general literature. The results and conclusions derived from this case study could also, in turn, be utilized as a basis for future research efforts on delayed discharges. From a knowledge standpoint the thesis provides a sound evidence-based model of delayed discharges, constructed from an extensive review of the literature, together with a definition of the term from a conceptual point of view. Two additional themes uncovered during data collection and analysis also offer an additional contribution to the study of the phenomenon due to these themes being altogether absent from the general literature. The researcher also made small tweaks in the data collection process by way of the AEP model, which measures served to detect delays in patient discharge which would have otherwise been missed by the AEP model. This could serve as an eye-opener for future research by way of this tool, which could guide researchers to similarly take such measures.

1.5: Overview of thesis

The thesis will next delve into a review of the literature, where the phenomenon of delayed discharges will be examined from various perspectives based on research conducted worldwide. The Methodology chapter will then follow, where the researcher will provide a detailed account of how the study was conducted on the case (Mater Dei Hospital). He will provide a detailed explanation of the methods and data collection procedures, ensuring they are clearly outlined for easy replication in future research. Study findings will then be represented

in graphical/tabular form in the Findings sections, where a comprehensive account of results and general outcomes of the investigation will be provided. A Discussion chapter will follow comparing study findings to the general literature. Concluding statements provide a description of how this research investigation contributed to overall theory and knowledge in the area, together with implications for practice. The extent to which the aims and objectives of this study were satisfied will also be discussed.

Chapter 2
Literature review

2.1: Introduction: Objectives of this literature review

This chapter presents a literature review pertaining to delayed discharges in acute healthcare settings. The main objectives of this literature review are to:

- Review the literature and derive an evidence-based definition of delayed discharges
- Examine and critically review the determinants and impact of delayed discharges on acute hospital care settings
- Review the various ways particular acute healthcare settings chose to deal with and counteract delays in discharge in specific situations
- Construct a theoretical framework systems model of delayed discharges using a deductive approach

2.2: Search strategy

The article search was carried out by accessing the following electronic databases: Cochrane, EBSCO, PubMed, PubMed Central, Medline and Web of Science. These databases were chosen for their strength and prominence in health research. The following search strategy was utilised for all the above-mentioned electronic databases:

- "delayed discharges" OR "delayed discharge" AND "acute hospitals"
- "delayed discharges" OR "delayed discharge" AND "bed-blocking"

- “delayed discharges” OR “delayed discharge” AND “acute hospital patient flow”
- “delayed discharges” OR “delayed discharge” AND “alternate level of care”
- “delayed discharges” OR “delayed discharge” AND “transition of care”
- “delayed discharges” OR “delayed discharge” AND “appropriate days”

The search was updated (using the same electronic databases and search strategy) on a regular basis throughout the course of the thesis. This was done to uncover new research studies that emerged on the topic of interest along the months/years until the completion of the thesis.

The articles retrieved from the search were subjected to a set of inclusion/exclusion criteria. These criteria were set with the help and guidance of the primary thesis supervisor, for the purpose of keeping the literature search in line with the title and the pre-set aims and objectives. The following table (Table 1) represents the inclusion/exclusion criteria utilised for article selection.

Table 1

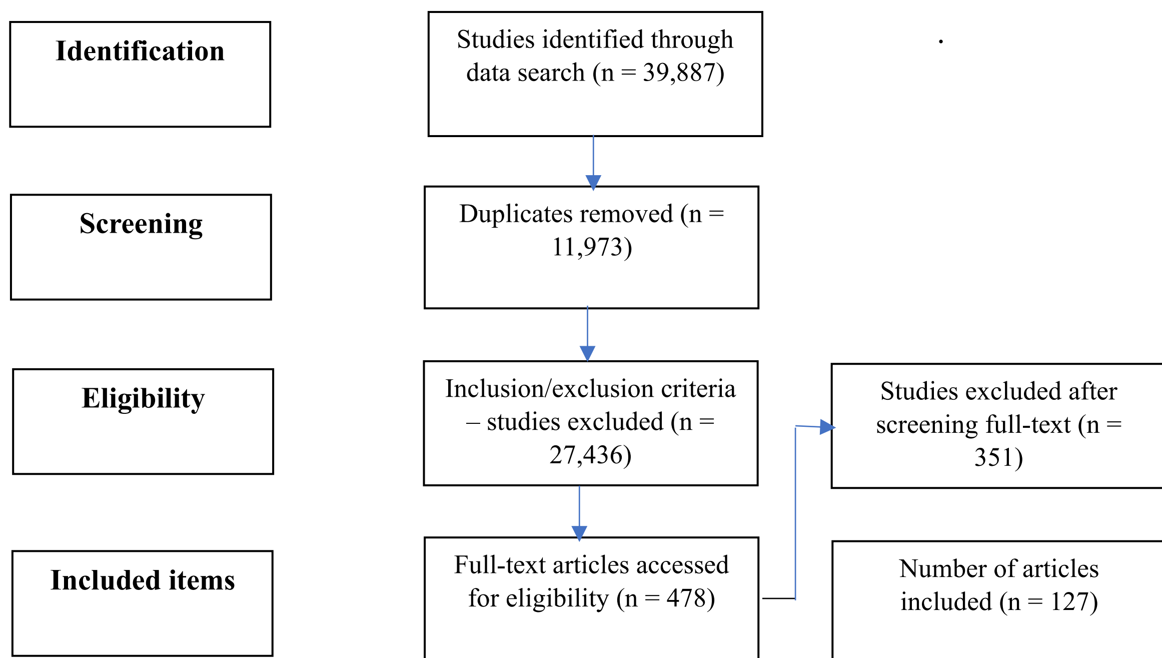
Inclusion/Exclusion criteria for article selection

	Inclusion criteria	**Exclusion criteria**	**Justification**
Target population	Adult ward settings	Paediatric ward settings	To facilitate comparison of results
Language	Articles written in the English language	Articles written in other languages	To prevent translation bias / English is the working language of the researcher
Research setting and perspective	Articles on acute hospital settings from an organisational perspective	Studies conducted in other settings or which tackled patients’ perspectives	Research question focuses on acute hospital settings. Currently organisations are the primary care deciders
Time period	Primarily research articles published from 1990 – 2024	Studies conducted pre-1990	The delayed discharge issue gained most prominence in the past three decades

Research articles were critically compared, while being filtered according to the above-mentioned set of inclusion/exclusion criteria. Records were mainly screened for study setting and sample, including only those pertaining to acute care hospital facilities and involving solely adult populations. This meant that studies conducted in paediatric settings, mental health facilities, nursing homes and other long-term care organisations were generally excluded. This ensured that the literature review respected the parameters of the research question as much as possible. It also prevented unnecessary side-tracking into unrelated research areas. The following PRISMA diagram represents the process of article selection:

Figure 1

PRISMA diagram for article selection



Articles were organised in a hierarchy of importance, with systematic reviews carrying the highest weight, and then moving down to experimental studies and descriptive studies

accordingly. A data extraction form was designed to organise pertinent information from the compiled literature which allowed for easier analysis and interpretation.

2.3: Building a clear definition of delayed discharges

Delayed discharges are a worldwide phenomenon and involve multiple stakeholders, both at an acute hospital level as well as in the transition process (Waring et al., 2014). Knowles et al. (2018) sustained that delayed discharges cost approximately £200-565 per patient per day, with the National Health Service (NHS) in the UK spending $820 million per year on patients with delays in discharge. Furthermore, a Canadian report from three Ontario-based hospitals revealed that approximately $250,000 were incurred to address patients occupying beds at a level of care they no longer required (Fagan, 2019). Such common occurring statistics served as agents of change for several EU countries to address issues related to length of stay of patients in acute hospital settings (El-Eid et al., 2015). The aim of these initiatives revolved around the development of policies to decrease delays in in-patient discharge rates, thereby improving hospital patient flow and overall managerial dynamics (El-Eid et al., 2015). This was by no means an easy endeavour because very often it involved stakeholders outside the acute hospital setting where the delays occurred (Ling et al., 2012). In fact, there was a very tangible tension between health and social care partners, negatively influencing collaboration and coordination, making mutually agreed solutions very difficult to reach (Connolly et al., 2010).

Due to the increased incurred direct costs and lost opportunities (due to decreased bed availability) (Thomas, 2005), reducing excessive length of stay became an ever-pressing priority for acute hospitals (Hauck and Zhao, 2011; Brian et al., 2018). This ultimately resulted in the maximization of cost-efficiency, an increase in bed availability, and a decrease in the

prevalence of hospital-acquired complications (Jean et al., 2012). In both developed and developing countries healthcare delivery was becoming more patient-centred by capturing and addressing the needs and priorities of individuals and their families (WHO, 2019), resulting in improved health outcomes and experiences within healthcare systems (WHO, 2019). Addressing unnecessary delays in acute inpatient discharge directly impacted patient-centred care strategies by decreasing the risk of patients' functional decline (Barnable et al., 2015), decreasing the prevalence of hospital-occurring adverse events (Jasinarachi et al., 2014) and improving both patient and family hospital experiences (Everall et al., 2019).

However, a factor which immediately became evident was that the literature revealed great incongruence in the definition of a 'delayed discharge'. The more the subject was explored the more it became evident that the term lacked clarity and called for a clear definition. Unless a common definition of the term existed, it tended to be very difficult to compare different research investigations carried out in different settings. To this end, the available literature was analysed in the form of a scoping review (Micallef et al., 2022). This was explored for authors' specific definitions of delayed discharges. There definitions are listed in the table below (Table 2):

Table 2

Conceptual definitions of delayed discharges in the literature

Study author/s	Conceptual Definition
Baille et al. (2014)	When a patient is still occupying an acute hospital bed but is clinically ready and safe for transfer
Benson et al. (2006)	Patients who are unable to be discharged from ward despite being fit to leave
Brown et al. (2011)	Patients who are unable to be discharged despite being fit to leave hospital
Bryson (2011)	Patients who have been declared as medically fit for discharge
Challis et al. (2014)	A situation where a patient is deemed to be medically well enough for discharge but they are unable to leave hospital because arrangements for continuing care have not been finalised
Coffey et al. (2015)	A situation where a patient is deemed t be medically well enough for discharge but is unable to leave hospital because arrangements for continuing care have not been finalised

Costa et al. (2012)	A hospital episode where a patient exceeds the length of stay deemed necessary
Falcone et al. (1991)	A period between the day to patient was judged to be medically discharged and the day he/she actually left the hospital
Fontaine et al. (2011)	Defined as per list of criteria expressed on the AEP model
Goughan et al. (2015)	When a patient is medically ready to be discharged and cared for in another setting but is unable to do so
Hollande et al. (2016)	When a patient's discharge occurs after the time-point established between provider and the patient
Holmas et al. (2013)	Patients who no longer require acute care, who are occupying acute care beds while awaiting lower-level placement
Lenzi et al. (2014)	When medically fit patients are unable to leave hospital due to unfinalized continuity of care arrangements
Mendosa et al. (2012)	When a patient is considered medically fir for discharge but continues occupying a bed due to non-medical problems
Mustafa et al. (2016)	A patient remains in hospital after a senior doctor has documented in the medical chart that the patient can be discharged
Nicholas et al. (2002)	Defined as the number of days from when the patient is no longer in need of acute medical in-patient care to eventual discharge
Styrborn and Thorslund (1993)	A patient judged by the physician responsible as being medically ready for discharge but who cannot leave hospital because of alternative forms of care or because of social circumstances
Swanson (2013)	When a patient no longer requires acute hospital care but remains in the hospital due to a variety of reasons

As can be clearly noted, definitions of delayed discharges varied greatly between authors in the literature. Several frequently occurring keywords from a vast repertoire of different research investigations that ventured to define the term were singled out (See Table 2) in an effort to construct a conceptual definition of the term. By the term 'conceptual' the researcher was referring to a definition built around a theoretical (literature-based) description of the term. The identified keywords were: "medically fit", "unable to leave", "exceeding length of stay", "needless hospital admission", "inappropriate occupancy", and "inadequate transfer of care arrangements".

A proposed conceptual, evidence-based, definition of delayed discharges emerged, namely: 'an instance where a medically-fit patient is needlessly kept in hospital due to internal organisational/operational factors or where a patient is flagged as in need of alternate level of care and is delayed because of deferred transition of care and/or lack of external transfer-of-

care arrangements'. Although this definition could not be utilised as an all-encompassing definition it could be considered as a step in the right direction as far as having a clear point of reference (albeit subject to change with further research). For this reason, this definition was utilised to guide the course of this thesis.

The term could not, however, be easily defined from an operational standpoint based on the available literature, with the term 'operational' referring to delayed discharges based on the actual 'practice-based' portrayal of the term. This was due to the widely diverse ways research studies chose to operationally construct the variable, which tended to be unique for every study. Another reason might be that while conceptual definitions could be readily (and relatively easily) attempted and listed, operational definitions needed a sounder practical basis, thereby requiring greater research effort. Table 3 (below) lists a number of operational definitions provided by the general literature:

Table 3

Operational definitions of delayed discharges in the literature

Study author/s	Operational definition
Butcher (2013)	A discharge that happened after 10am on the day the patient left the hospital
Edirimanne et al. (2010)	The difference between expected date and time of discharge and the actual date and time of discharge
Hendy et al. (2012)	The sum of delays that prolonged a patient's hospital stay
Jasinarachi et al. (2009)	When a delay lasts more than 24 hours after the patient is deemed to be medically fit
Lim et al. (2006)	Patients with a length of stay of 28 days or more (in the context of an average length of stay of 10.9 days)
Mathews et al. (2014)	A discharge which occurs after 11am on the day of discharge
Sant et al. (2015)	When a discharge occurs after 6pm on the same day as the day-care procedure
Wortheimer at al. (2014)	A discharge that happened after midday on the day the patient left the hospital
Worthington and Oldham (2006)	Defined as a delay of more than 30 days before transfer of care

As can be clearly noted, operational definitions varied according to the particular study setting the research was conducted in, and they also tended to be highly subjective, with researchers opting for definitions based specifically on a chosen workplace setting. This explained why some definitions were based on specific times of day or an explicit number of days in relation to length of hospital stay (which is also why operational definitions ranged from being measured in hours to days). Although no clear operational definition could be derived from the general literature, the researcher managed to extract a general idea of the term as operational delays in the literature seemed to span from just a few hours to around 30 days. Although the researcher recognised that this range was as huge as it was vague, it did nonetheless provide a general idea of where acute general settings stood in this regard.

The scoping review studies (Micallef et al., 2022) were also analysed for a relationship between the authors' choosing to define delayed discharges conceptually or operationally and the research setting/country where the studies were conducted. Most studies took place in the United Kingdom and the United States (US), with others also being identified from all around the globe (Norway, Italy, Malta, Belgium, Singapore, Australia, Brazil, Sweden, and Portugal). The scoping review concluded that it was very difficult to identify any relationship between delayed discharges and specific health settings, with the role of health professionals still somewhat unclear and undefined with regards to their overall effect on discharge delays (Micallef et al., 2022). No other research investigations were uncovered which attempted to derive a common definition of delayed discharges, and this added further relevance to this particular scoping review finding.

2.4: Delayed discharges: determinant factors

Now that a baseline definition of the phenomenon had been established, the literature could be analysed for factors catalysing the occurrence of delayed discharges in relation to their overall impact on the acute hospital dynamics within which they took place. Such issues stood at the core of understanding the nature of the term.

Glasby et al. (2006) sustained that there was limited research that sought to understand the extent to which causes for delayed discharges could be identified. Hendy et al. (2012) echoed this view, in that the reason for delays was not always easily detected, even because health organisations are complex structures and correlations between variables did not always imply causation. The discharge process did, however, seem to carry significant relevance, with Henwood (2006) proposing that hospital discharge was very often riddled with obstacles within and outside the hospital setting.

As far back as 2004 length of stay caught the attention of researchers as it related to delays in discharge (McCullen et al., 2004). In their study Mc Cullen et al. (2004) sought to uncover the impact of demographic characteristics and organisational factors on length of stay, while also identifying how different investigative practices among physicians impacted patient length of stay. This was done through the analysis of recorded data in a general medicine department in a Belfast hospital. There was found to be a positive correlation between patients' age and length of stay (with results revealing a median length of stay of 7 days). In turn, some medical conditions (such as congestive heart failure, respiratory diseases and cancer) were associated with longer length of stay than others (such as angina). Authors concluded that improved organisational strategies and better social care provision were needed, complimented by more efficient investigative processes which resulted in a more sparing effect on resources (McCullen et al., 2004). Another study conducted in the same time period was carried out by

Hammond et al. (2009) when they explored the causes of prolonged length of stay on patients suffering from long-term neurological conditions, while also striving to identify interventions to avoid unnecessary admissions or expedite discharge processes. Thematic analysis was utilised on two focus group transcripts conducted on a convenience sample of eight primary/secondary care clinicians. Focus group participants identified a number of issues related to inappropriate admissions and prolonged length of stay. These most prominently included capacity resource limitations, communication breakdowns between secondary/tertiary care and community care clinicians, together with an encompassing over-cautiousness of community clinicians to over-refer patients to secondary/tertiary acute healthcare settings. In view of these setbacks, focus group participants came up with ways to prevent unnecessary delays and the resulting increased length of stay. This included the creation of new sub-acute care facilities to keep sub-acute cases out of acute hospital settings together with more patient-centred care across the board. When such measures were utilised in conjunction with a better community distribution level, sub-acute care and acute hospital care, it had the potential to counteract the prevalence and effects of delayed discharges. These findings seemed to complement those attained by Conway and Murray (2011) in their observational study of patients' admission and discharges over a one-year period, assessing for waiting times related to diagnostic tests and services. Results revealed two to three days delay for Magnetic Resonance Imaging (MRI)/colonoscopy procedures, three-day delays for Holter monitor reporting and a nine-day delay for Occupational Therapy referrals. Authors concluded that the addressing of such delays paved the way for the provision of a faster and more cost-effective service.

A similar study conducted by Sarfo et al. (2017) examined the factors that contributed to an increased or decreased length of stay through a survey study carried out on patients admitted to a medical department of a tertiary care facility in Ghana. There was found to be a

direct relationship between length of stay and certain medical conditions, as well as a significant influence by socio-demographic characteristics (such as age and poverty level) and certain institutional factors (such as the availability of specific resources) (Sarfo et al., 2017).

From the above research investigations patient's age surfaced as a common contributor to delays in discharge, a finding further explored in the form of two systematic reviews conducted by Glasby et al. (2004) and Philp et al. (2013). Both reviews addressed the causes of delayed discharges in the context of an ageing population and the demand for acute hospital beds. Both authors came up with varying conclusions, with one author concluding that there was but a weak link between age and delays (Glasby et al., 2004), while the other identifying patients' age as a major determinant (Philp et al., 2013). The conflicting outcome of these reviews (which were conducted roughly a decade apart) seemed to place the 'age' variable on the table, a factor further explored by Rambani and Okafor (2008) in their study of factors causing delayed discharges in a specific orthopaedic setting. A detailed analysis of 453 medical records (over a 6-month period) revealed that age and related co-morbidities were a significant factor in making the discharge process and transfer of care arrangements more challenging (Rambani and Okafor, 2008). Another systematic review conducted by Coffey et al. (2015) strengthened Rambani and Okafor's (2008) findings, in that problems related to lack of social services were found to be a major cause for delayed discharge of patients from acute hospital settings. A sound discharge plan with a supportive community-based network, in turn, was singled out in this review as being very effective in preventing delays in patient discharge (Coffey et al., 2015). These findings drew particular attention towards system issues (rather than patient-related factors) as major determinants of delays, a fact uncovered by Hwaberije et al. (2013), who argued that prolonged length of stay could be mainly attributed to system-related issues such as in-hospital operational delays (particularly operational bottlenecks) and transfer of care setbacks.

The research doors were further opened on determinant factors of delayed discharges by another research investigation carried out by Ou et al. (2009) to identify the reasons behind delays in acute care settings (using medical record analysis in a tertiary hospital in New South Wales). While results revealed that delays were more pronounced in the elderly (due to multiple co-morbidities and high dependency levels), many were also commonly associated delayed healthcare services, delayed diagnostic services, and delayed allied health provision (Ou et al., 2009). Such findings paved the way for a renewed effort to understand the variables leading to delays, which seemed to extend well beyond the age factor.

This reality was explored by multiple researchers along the last couple of decades. A study conducted by Silva et al. (2014) sought to explore delays in hospital discharges of patients in internal medicine wards. This was done through the analysis of 395 medical records from two public teaching hospitals and applying the Appropriateness Evaluation Protocol (AEP) to the derived data. Both hospitals revealed increasing rates of discharge delays (60% and 58% respectively). The delays were mainly related to diagnostic procedures, clinical decision making and waiting for specific consultations (Silva et al., 2014). The warfarin issue as it related to delayed discharges emerged in two separate studies conducted by Tan et al. (2007) and Venkataraman and Pickard (2015). Both studies addressed the problem regarding the time it took to warfarinise patients (suffering from atrial fibrillation and post-operatively respectively) in relation to delays in discharge dates and resultant complications. Tan et al. (2007) uncovered a marked increase in length of stay that marked a delayed discharge (17%) as a direct result of the warfarinisation process. This was echoed in the findings of Venkataram and Pickard's (2015) study where the mean excess cost of a 'warfarin-related' delayed discharge was found to be £1,507 per patient. Both studies strongly recommended the transferring of such care to an outpatient/community-based setting so as to lessen its impact on length of hospital stay.

Two further studies conducted in the same period sought to explore delayed discharge determinants through different methodological approaches. Hollande et al. (2016) developed a tracking system for delays in discharge where more than half of the reported delays (61.4%) were attributed to patients whose discharge disposition involved their own private homes. Mendosa et al. (2016) uncovered very similar results in their research investigation to analyse the frequency of delayed discharges due to non-medical reasons in a tertiary hospital's internal medicine department. Results suggested that major causes revolved around lack of family support and a general inability of the family to cater for their (frequently) elderly loved ones due to work/family obligations. This particular outcome was in line with Bryan et al.'s (2006) assertions that family resistance to discharge greatly contributed to a smooth transition to home-based care. This was, in turn, directly linked to the statements put forward by McClaran and Berglas (1996), where longer hospital stays and delays in discharge were found to be at the mercy of patients' familial status (or lack thereof) coupled with increased age, frailty and resultant disability. Moore and Hartley (2018) went one step further in their research investigation aimed at uncovering the relationship between patient clinical frailty and the risk for the patient to be subjected to a delayed discharge. A positive correlation was found between these two variables, even though authors hinted that this effect may be confounded by other variables such as unavailable social care requirements and community services (Moore and Hartley, 2018).

Such findings complemented research outcomes derived by Feigal et al. (2014) in their analysis of patient admission/discharge charts with the aim to study the relationship between delays in discharge due to non-medical reasons and participants' housing status. Findings pointed towards a situation where patients with challenging home scenarios averaged a length of stay of 8 days more than their 'stable-home' counterparts (Feigal et al., 2014). On a similar note, Jasinarachi et al. (2014) addressed delayed transfer of care issues as they related to

hospital delays in older adults through a passive observational study in one general hospital in the UK. Their study uncovered a new determinant variable (ie. waiting time for therapy assessment) as directly contributing to delayed transfer of care (Jasinarachi et al., 2014). These studies shed some significant light on the fact that delays in patient discharge tended to be at the mercy of both intrinsic as well as extrinsic factors, and that there is no particular 'be all and end all' reason for their undesirable occurrence.

The transfer of care delay issue was by no means a novelty in the research arena. Two studies conducted by Swinkles and Mitchell (2009) and McCoy et al. (2007) addressed this variable from different research perspectives. Swinkles and Mitchell (2009) conducted patient interviews to explore discharge and transfer from hospital to the community in the UK. Lack of proper discharge planning and continuity of care processes emerged as setbacks of especial relevance, with resultant feelings of patient disempowerment due to a combination of poor health and lack of proper information. In the light of such findings, it was not surprising that in the context of the phenomenon under investigation, McCoy et al. (2007) carried out a study on the effects of the Community Care Act launched in the UK in 2003, which act placed the burden of delayed transfer of care on social services by fiscally penalising them whenever transfer delays occurred. McCoy et al.'s (2007) study strived to analyse trends in discharge delays and resulting wasted bed days to uncover the effectiveness of the Community Care Act as a deterrent for such inefficiencies. Results uncovered that while there was a marked decrease in delays, the quality of post-discharge care needed significant improvement. Social services were, in fact, found to be of less concern than delays attributable to in-hospital care, with the financial penalising of social services being an ineffective strategy to decrease delayed discharges (McCoy et al., 2007).

Shortcomings related to transfer of care arrangements as determinant factors for delays paved the way for studies conducive to post-discharge planning and the discharge process

altogether. The literature addressed the discharge process very thoroughly through the years. It was found to be close to impossible to separate issues related to the discharge process from the re-admission problem that seems to plague acute healthcare settings worldwide. Fisher (2016) asserted that avoiding early discharge (ie. pre-mature discharge) from inpatient facilities reduced the risk of re-admissions. Healthcare systems had been facing great pressure to reduce length of stay, sometimes at the cost of having patients re-admitted shortly afterwards (Fisher, 2016). Wang et al. (2014) in fact defined a 're-admission' as being a second acute admission to hospital care within a specific time frame post-discharge. Avoidable re-admissions were a direct affront to the discharge process (Law et al., 2016). They are a complex phenomenon, due to their multi-dimensional nature, and their significant relationship to faulty discharge planning or a premature discharge process. This provided ample food for thought when it came to the delayed discharge phenomenon. However, for the purpose of this literature review (and this thesis in general), the problem of readmissions will not be directly addressed, except as they related to the discharge process.

A study by Fairhurst et al. (1996) attempted to extract the views of health professionals and patients on the quality of discharge arrangements for patients aged 65 years and over. This was done by triangulating a survey questionnaire with interview sessions. A large majority of patients (80%) felt satisfied with their discharge arrangements, while only 2% of health and social care professionals considered the discharge process as being satisfactory. Authors concluded that such results may have been derived due to a combination of patient's low expectations in this aspect of their care and a general lack of inter-professionals' communication and liaison. Such findings were partially in line with those uncovered by Connolley et al. (2010) in their study to examine discharge practices in one hospital in the UK, by comparing the views and perspectives of different health professionals. Great differences emerged between health professionals regarding discharge practice, with conflicting views

being identified between nurses, doctors and the allied health staff. Understanding such differences and finding ways to bridge the communication gap between professions was found to be crucial in reducing dissatisfaction, increasing compliance and preventing potential re-admissions as a direct result of a faulty discharge process (Connolley et al., 2010). Communication issues between health professionals and patients also emerged from a research investigation conducted by Redwood et al. (2020) on the views of health professionals on discharge barriers of older frail patients. Results revealed that the lack of vital conversations between patients and health professionals (especially when it came to end-of-life care) had a direct impact on the discharge process (through increased discharge delays). Ragavan et al. (2017) also hinted at communication problems acting as barriers to effective discharge in their study aimed at identifying discharge barriers for patients experiencing a delayed discharge. The call for effective planning and timely preparation in the context of more comprehensive communication channels was strongly recommended (Ragavan et al., 2017).

Once again, the literature seemed to be pointing towards a lack of appropriate and timely discharge planning as a major negative factor impacting an effective discharge process (Godden et al., 2009; Bryson, 2011). This, in turn, had a direct impact on delays in patient discharge, a turn of events which was counter-productive due to the fact that the whole scope of the discharge planning process was to avoid unnecessary delays. A study conducted by Hollande et al. (2016) aimed at using a specifically designed computer program to track delayed discharges in a large U.S medical centre. The discharge process emerged as a core source of inadequacy across the patient's hospital stay, with delays incurred mainly related to paperwork issues and transfer of care arrangements. Findings also shed some light on the overall tendency of acute tertiary facilities to focus entirely on the patient's medical treatment plan, placing less attention to what happens when the actual treatment ended (Hollande et al., 2016). This may have been a direct indication of the need for the development of a discharge

plan as early in the patient's hospital journey as possible, an issue made evident in a study by Rohatgi and Kane (2018) on determining factors of delayed discharges with especial relevance being assigned to patients' awareness of their estimated date of discharge. Nurses and patients were interviewed for the purpose of this investigation. Rohatgi and Kane (2018) uncovered a tendency for delayed discharges to decrease in cases where both patients and health professionals were aware of the estimated date of discharge, which date was communicated between the parties involved as the discharge plan was drawn from the earliest stages of the patient's stay. This awareness catalysed more efficient resource mobilisation together with faster consultation processes, ultimately resulting in a smoother discharge process (Rohatgi and Kane, 2018). This finding solidified the one put forward by Minichiello et al. (2001) in their attempt to gauge caregiver's perceptions of delayed discharges in an academic medical centre in the U.S. Although caregivers at the same institution perceived different barriers to discharge there was however a general consensus that communication gaps between the different professions existed and strongly contributed to delayed discharge processes.

This literature thread opened the door for yet another delayed discharge determinant, namely interprofessional relations, or more truly the lack of a harmonious dynamic therein. Victor et al. (2000), in their case review from three UK hospitals, uncovered two organisational issues that led to delays, namely lengthy assessment procedures for long-term-care and the health professional conflict ensuing during such assessment procedures. This finding was echoed by Mann (2016) in their study to understand the perspectives of frontline health and social care professionals in relation to delayed discharges. This was carried out by way of a combination of interview sessions and non-participant observation in three separate acute care hospitals in Scotland. There was found to be a very marked difficulty in the relationship between acute and community health staff, with a strong sense of silo working between acute and social care professionals (Mann, 2016). This was accompanied by an overall helplessness

on the part of most health professionals in regard to avoiding delays in discharge. Nicosia et al. (2018) ventured to suggest that such an unfavourable state of affairs was partly due to competing demands and tensions on health professionals, which impacted their time management and general roles in the patient pathway. Despite this unfavourable work environment, Zhao et al. (2018) sustained that effective co-ordination of efforts to provide better care goals and the establishment of follow-up care were crucial for the prevention of delayed discharges.

2.5: Effects of delayed discharges

As already outlined in the introduction chapter the issue of cost had, in recent years, acquired renewed relevance to health care settings and health systems in general (Bauer and Becker, 2014). The delayed discharge phenomenon's effect on acute hospital settings was targeted by several authors in the past decades, but most prominently in the systematic review carried out by Landeiro et al. (2019) on the prevalence and cost of delayed discharges. Landeiro et al. (2019) uncovered a link between delays and morbidity/mortality (especially in older people), primarily due to hospital-acquired complications. Opportunity costs related to bed-blocking and A+E overcrowding were also identified. These findings were in line with the outcomes of another systematic review conducted by Rojas-Garcia (2018) on the impact and experiences of delayed discharges. This review revealed extremely relevant information, in that delays had a direct impact on three separate aspects of patient care, namely: a) the patient (in the form of increased dependence, mortality and depression), b) healthcare professionals (who reported frequent feelings of frustration and guilt), and c) healthcare organisations (due to increased re-admission rates and increased costs related to inefficiency and waste). Rojas-Garcia (2018) concluded that delayed discharges, while being prevalent worldwide, were of

significant financial burden to health systems. The comprehensive nature of the above-mentioned set of findings was targeted as a viable template to carry out and uncover the effects of delayed discharges on acute healthcare settings for the purpose of this thesis.

In truth, the literature yielded a whole spectrum of factors impacting acute hospitals as a direct result of delays. The bed-blocking effect and the resultant Accident and Emergency (A&E) overcrowding issue emerged most prominently from two separate research investigations conducted by Holmas et al. (2013) and Mustafa et al. (2016) respectively. Holmas et al. (2013) aimed their study towards the identification of factors influencing the bed-blocking phenomenon in Norway, with particular focus on the cost factor. In turn, Mustafa et al. (2016) chose to direct their attention towards the relationship of delayed discharges and A&E overcrowding through information derived from a hospital information system over a two-year period. Delayed discharges were found to be the primary cause of bed-blocking and significantly contributed to overcrowding problems and overall inefficiency in the A&E department (Mustafa et al., 2016). They, in turn, resulted in a relatively large share of the total cost of inpatient care (Holmas et al., 2013). Both studies recommended more timely discharge of inpatients experiencing a delay in order to provide faster access to acute hospital beds for patients requiring emergency admission. A research investigation carried out by Quinn et al. (2007), in turn, aimed to assess the effect of prolonged hospital stays (>100 days) on overall bed occupancy, through the analysis of 117,178 admission episodes in a UK teaching hospital over a five-year period. 0.6% of admissions were recorded to have a prolonged stay of more than 100 days, accounting for 11% of overall bed occupancy over a five-year period. This led the authors to confirm the significant impact of prolonged hospital stays on bed occupancy levels, and the resultant hindering of overall hospital efficiency.

Berger et al. (2020) tackled implications of delays in a tertiary teaching hospital in Israel, through the review of hospital data for a nine-month period. Results included a waiting

time of eight days for cases originating from internal medicine wards. Authors outlined the need for an increase in the number of long-term hospital beds, more co-ordination between healthcare facilities, and the identification of potential 'delay prone' cases as early in the hospital stay as possible. Berger et al. (2020) concluded that health systems must learn to adapt to patients' case-mix in order to achieve optimal utilisation of hospital beds coupled with maximal operational efficiency. Godfrey and Townsend (2009) predicted such a set of conclusions, sustaining that the main effect of unnecessary delays was the reduced availability of hospital beds, a phenomenon attenuated by the ageing populations of developed and developing countries.

Such findings complemented the ones from a number of other research investigations on the same theme conducted in the same decade. A scoping review carried out by Everall et al. (2019) aimed to assess the impact of delays on acute hospital settings. Results revealed faulty discharge planning strategies directly affecting length of stay, which in turn gave way to delays, paving the way for a number of negative outcomes. These negative outcomes were composed of a sense of patient isolation (Wilson et al., 2013), a deterioration in patient's dependency levels (Swinkles and Mitchell, 2017; Kulunski et al., 2017), and feelings of inadequacy and guilt on the part of health professionals (Wilson et al., 2013). Everall et al. (2019) concluded that improvements were warranted at an interpersonal level (in the form of information sharing and involving patients in the decision-making process), at a facility level (developing guidelines/policies and training staff), and a systems level (policies to decrease waiting times for destination facilities together with more funding).

Patients were the undisputed primary stakeholders in the hospital process (Ortiga et al., 2012). From a patient's perspective authors identified delayed discharges to have a direct effect on patients' activities of daily living, increasing co-morbidities and overall cognitive impairment (Bo et al., 2016; Challis et al., 2014). Kydd (2008) reported feelings of anxiety,

hopelessness and general worthlessness on the part of frail older people waiting for unresolved delays in their discharge process. Through a series of in-depth interviews with both patients and health professionals, Kydd (2008) sustained that the aforementioned feelings of patient debilitation and abandonment were often coupled with a sense of unawareness and insensitivity on the part of health professionals. More physical ramifications were reported by Rosman et al. (2015) in their study of 104 patient records of cases experiencing an inpatient waiting period after discharge eligibility. A strong relationship was uncovered between delays in patient discharge and morbidity issues, mainly in the form of nosocomial infections, which in turn increased the risk of death and disability (Rosman et al., 2015). Such findings were echoed by Meo and Laio (2019) in their research investigation aimed to measure delayed discharge bed days through the identification of barriers to discharge obtained by clinicians. Findings revealed a higher rate of in-hospital complications compared to 'normally discharged' patients. Other effects revolved around added financial burdens on the hospital system and increased patient general dependency levels (Meo and Laio, 2019). A darker picture was painted by Greene et al. (2017) in their study regarding the rise in mortality rates in the UK after 2015 as being the direct result of an increase in delayed discharges in the same country. Results revealed that for each additional day an acute admission was late being discharged there was an increased risk (0.4%) for death, with the overall numbers pointing towards delays accounting for up to a fifth of mortality increases (Greene et al., 2017). This study concluded that the combination of poor health system performance coupled with adult social care inadequacy were having an adverse impact on the general population health.

The effect of delayed discharges on hospital dynamics was found to be a very real phenomenon, but another study provided a relatively unsettling set of findings. Pellico-Lopez et al. (2022) aimed to investigate characteristics (in terms of delays, length of stay and care context) in relation to patient mortality rates during the course of prolonged hospital stays. To

this end a cross-sectional study was conducted in northern Spain between 2007 and 2015 to compare the characteristics of patients who passed away during their delayed discharge phases as compared with the rest of the patient population. The primary cause of mortality was found to be pneumonia, while in cases of terminally ill patients, acute hospitalisation was found not to conform with the nature of their needs. The findings of this research investigation should serve as an eye-opener as regards the severity of the effects of discharge delays on hospital patients, which effects extended far beyond mere inconvenience.

2.6: Interventions

The literature revealed an effort by several authors to capture instances where healthcare settings attempted to introduce specific measures to decrease the impact of delayed discharges. At this point it would be of benefit to state that the absolute majority of such interventions took place in specific ward environments/specific hospital settings, and in no way reflected a health system approach to utilise these exercises across the board. This could be attributed to the fact that such interventions were operational in nature, which seemed to support the priorly discussed issue of operational definitions of delayed discharges.

A literature review carried out by Thwaites et al. (2015), on emergency admission for older people in the UK, sought to explore the rate of appropriate/inappropriate admissions to reduce the rate of inappropriate admissions and the way these terms were defined in the literature. There was found to be varying rates of ‘inappropriateness’, together with a scarce supply of possible solutions to address the problem. This was coupled by a shortage of literature on patients’ perspectives and formal definitions of inappropriate admissions, both crucial factors in understanding the way around avoidable admissions (Thwaites et al., 2015).

This review did, however, uncover two relevant studies that might have helped to direct the attention of the research arena towards this goal.

Another scoping review carried out by Miani et al. (2014) strived to assess the literature as regards the nature of specific interventions utilised to reduce length of stay in acute hospital settings, together with the impact of those interventions on both patient and system outcomes. This review was coupled with a number of interviews with NHS managers in the UK. The researchers managed to extract a number of dominant strategies from the review, namely interventions related to early discharge planning and multi-disciplinary team working, both on an inter-hospital level as well as between tertiary hospital settings and community care. In turn, nursing-led in-patient units were found to lead to better patient outcomes, and although they did not positively impact length of stay, they however had the potential to result in less re-admission rates. Authors concluded that despite the uncovered findings, the implementation of any intervention aimed at reducing length of stay was very much at the mercy of contextual factors related to patient characteristics and other general needs. It also involved the careful assessment of organisational structures and operational processes that were in place to support the health care professionals involved in the proposed change.

Butcher (2013) attempted to develop a tracking list to utilise on a neurology ward setting, with the intent of identifying specific factors hindering early discharge. This study resulted in better 30-day re-admission rates, and also uncovered a mere third of discharges occurring before 10am on any specific date. The role of health professionals was underlined as being paramount in getting these interventions to achieve their desired outcome. Prior to this study another research investigation by Worthington and Oldham (2006) sought to launch a 'discharge before noon' initiative, which study was echoed by Greene et al. (2017) who promoted the use of a 'discharge facilitation tool' to aide in the achievement of early discharges. Both these strategies achieved varying degrees of success, with the 'discharge facilitation tool'

bringing about 10% improvement in the total discharge rate (Greene et al., 2017) and the 'discharge before noon' policy increasing the number of discharges before noon from 11% to 38% over a one-year period (Worthington and Oldham, 2006). Such positive outcomes came about relatively cheap for the organisation, albeit requiring a multi-disciplinary based effort as regards proper documentation and progress tracking.

As can be noted such initiatives were very setting specific and sought to address improvements in discharge time on the actual date of discharge rather than along the patient's journey through the acute hospital system. Levin and Crigton (2019) tried to bridge this gap by carrying out a study with the aim of measuring the effect of a '72-hour discharge target' on delays in patient discharge. Results yielded particularly positive outcomes, in that this strategy was found to be directly associated with a reduction in the rate of delayed discharges. Another tool developed by physicians in a Yale-New Haven Hospital aimed to trigger earlier discharge steps for patients identified as 'green' or 'yellow', based on their likelihood to be discharged the next day (Mathews et al., 2014). Two separate studies were conducted by the same authors, namely pre and post tool implementation. There was found to be a general improvement across the board in both discharge rates (10.4% vs 21.2%) as well as length of stay and readmission risk. Tool accuracy was however found to be at the mercy of health professional experience and tool placement in daily workflow (Mathews et al., 2014). The standardisation of admission and discharge processes was also explored in terms of its potential to optimize hospital bed capacity and throughput. This was done in a cross-sectional study of a National Health Service hospital in Spain (Ortiga et al., 2012). Admission/Discharge standardisation brought about better length of stay (8.56 days vs 7.93 days), an increase in surgical admissions (from 64% to 86%) and a decrease in cancelled surgical procedures (from 216 cases to 42 cases). These outcomes were indirectly and partially achieved through an overall decrease in delays throughout the patient's journey through the hospital chain of care (Ortiga et al., 2012).

A more recent scoping review of the literature examined initiatives that were developed for delayed discharges from a hospital setting, with the goal of identifying best practices for reduction of delays (Cadel et al., 2021). Findings from this scoping review included strategies like information sharing, guideline setting, practice changes and infrastructure modifications. Information exchange between organisations and overall inter-professional communication were also found to be crucial (Cadel et al., 2021). Two such strategies were the one employed by Adlington et al. (2018), where information was utilised to guide practice changes in bed management and discharge planning, and another one by Caminity et al. (2013), where monthly statistical charts were created for physicians with information related to length of stay and delays in discharge (thereby creating profiles for each particular physician). The importance of a team-based approach was further investigated by Patel et al. (2019) in their evaluation of the impact of multi-disciplinary team-based discharge planning rounds for general medicine patients. This initiative resulted in shorter length of stay, earlier discharge times on the day of discharge, and lower 30-day readmission rates. This set of results provided very encouraging information, in that such positive outcomes came at a very low organisational cost while they, in turn, resulted in significant cost reduction for that same organisation (Patel et al., 2019).

The Avoidance Framework utilized by Burr and Dickau (2017) and Hollande et al. (2016) contained a 12-step strategy framework for organisational assessment, including patient flow though criteria-led discharges and critical pathways together with the highlighting of high-risk (for delayed discharge) patients. Two further initiatives included a 7-day hospital initiative based on evaluating the impact of staff numbers and services on length of stay (particularly on weekends) (Blecker et al., 2015), together with a 'discharge-to-assess' programme launched by Meehan et al. (2018), allowing discharged patients, who were clinically ready but still required support, to be sent home and further assessed there. Overall, patients were very positive about the discharge-to-assess strategy, valuing the experience and support services provided.

However, there were found to be a number of communication gaps that needed much improvement and maximum benefit of the initiative was deemed to be mostly noticeable over time (Meehan et al., 2018).

2.7: Delayed discharges post 2020: the impact of the COVID-19 pandemic

The year 2020 presented an unprecedented challenge to humanity with the advent of the COVID-19 pandemic. This took the world by surprise, catching health systems word-wide off-guard. A majority of affected countries experienced excessive hospital workload coupled with a shortage of healthcare resources (Conti et al., 2020). This calamity changed the overall dynamics of acute health settings, so much so that for the purpose of this thesis, it was deemed both beneficial and logical to treat research investigations on delayed discharges carried out after 2020 (COVID-19 and post-COVID-19 periods) in a section of their own. Conti et al. (2020) sustained that apart from being on the alert for future peaks in a seemingly flattened curve of COVID-19 epidemiological models, healthcare systems will be expected to still feel the negative impact of the pandemic due to hospital overcrowding resulting from delayed care of chronic diseases and late interventions for specific health conditions.

Wu and McGregor (2020) supported this view, affirming that health settings had to be re-designed around this new and undesirable variable, both in terms of care setting and staffing as well as in financial/budgetary terms. This attenuated the need for reducing unnecessary hospitalisations and readmissions through better care co-ordination and transition of care interventions (Wu and McGregor, 2020). This was yet another reason I opted to analyse post-2020 studies on delayed discharges independently from other research, due to there being a new and significant variable (i.e. COVID-19) that was altogether absent before and which could have acted as a strong confounder.

A study carried out by Van den Ende et al. (2023) conducted between 2019 and 2021 aimed to quantify inappropriate patient stays and describe the underlying reasons for delays in discharge in three different hospitals in the Netherlands. The rate of delayed discharge stood at around 21%, with the most frequent reasons being shortage of available spaces in care homes, transfer of care arrangements and patients' age. Factors related to COVID-19 were, in turn, not found to have any effect on discharge delays. A similar study was carried out by Vinci et al. (2024) to quantify the burden of delayed discharges on a single hospital setting in order to estimate costs and the occurrence of resource misplacement. This study was carried out between 2022 and 2023 through the use of medical record analysis. 16% of the total medical records analysed were considered to have experienced a delayed discharge, with the average delays standing at 6.3 days. Results revealed that systematic and organisational issues related to intermediate and homecare facilities stood at the core of such delays (rather than clinical reasons) (Vinci et al., 2024). Factors related to COVID-19 has little to no effect on the investigated phenomenon, a finding which echoed the one uncovered by Van den Ende et al. (2023).

While such findings were encouraging in terms of the impact of the pandemic on the rates of delayed discharges in acute hospital settings, other literature painted a different picture. Hinde et al. (2021) sustained that the drive to discharge patients as soon as possible became more pronounced with the global pandemic, with increased importance being given to free hospital beds to reduce the risk of in-patient complications. This seemed much warranted, even due to the data uncovered by Ooi et al. (2021) in their study on the impact of COVID-19 on acute surgical patients' discharge summaries in one acute care setting in Wales. Authors concluded that the pandemic had very negative effects on work overload, with staff reallocation as a result of pandemic repercussions standing at the core of the problem. In fact, around 38% of total discharge summaries were completed an average of 7-12 days later as a result of such

a combination of resource shortage and work overload. Ooi et al. (2021) concluded that the pandemic had negatively impacted the communication channel between primary and secondary care due to the delayed completion of discharge summaries of acute surgical patients.

These findings were in line with another study conducted by Smith et al. (2022) to identify barriers to and facilitators of shorter hospital stays through patients' and caregivers' thoughts and feelings about the benefits and harms of being in hospital together with decisions made at discharge. The effect of COVID-19 emerged as a very significant issue, particularly as it related to communication problems between health professionals and family members, lengthier hospital stays spurred by fears of discharging patients too soon, and anxiousness of both patients and community caregivers regarding hospital discharge (Smith et al., 2022). The effect of the COVID-19 pandemic on alternate level of care in Canada was explored by Guilcher et al. (2023) in their study to compare changes in patient and hospitalisation characteristics through the analysis of administrative data between 2018 and 2020. Surprisingly, there was found to be hardly any discernible changes in the rate of delayed discharges, even though efforts were made to reduce hospital occupancy during the pandemic (Guilcher et al., 2023). This might have stood behind the fact that the pandemic itself was the variable keeping delay numbers up despite efforts to decrease them, but authors concluded that more research is needed to determine this. Olanipekun (2020) sustained that the COVID-19 pandemic was, however, directly responsible for delays in patient discharge in a variety of ways, mainly due to CDC (Centre for Disease Control) regulations with regards to COVID-19 testing guidelines. Such guidelines often involved long-term care facilities requiring multiple negative test results prior to accepting patients to long-term care, which resulted in patients getting stuck in acute care settings for an additional 2-3 days (and sometimes more), waiting for an acceptable result to ensue (Olanipekun, 2020). Although the author understood the

benefit of such guidelines from an infection control standpoint, he recognised them as being detrimental to patient flow and length of stay.

Encouragingly, the pandemic had given several acute health settings the opportunity to step up and adapt to the new reality by establishing new practices and policies to ensure that they were not overcome by the newly imposed challenges. This was evident as early as 2020, right in the brunt of the pandemic, where a New York medical centre delved in the creation of a discharge command centre allowing for the constant review of impending discharges by addressing barriers to discharged patients as quickly as possible (Martinez et al., 2023). Due to early data showing that patients with hypertension and diabetes were significantly predisposed to mortality from COVID-19 and identifying the reasons (Zhou et al., 2020), this medical centre increased its inpatient medical capacity by 85% and its ICU capacity by 400% (Martinez et al., 2023). This discharge command centre allowed for the partnering of acute medical settings with external medical equipment suppliers in a bid to hasten patient discharge by transferring patient care from hospital to the community as quickly as possible (all while maintaining patient safety and keeping re-admission rates to a minimum). Martinez et al. (2023) concluded that such methods were of huge benefit in the management of possible future COVID-19 spikes.

A very similar approach was introduced in the U.K and became more pronounced with the global pandemic, with increased emphasis being placed on prompt discharge to free acute hospital beds and associated services (Hinde et al., 2021). This was done through an initiative "discharge to assess" model of care, whereby people ready for discharge received necessary assessments of social care within their own homes (rather than in the acute medical facility). This approach ended up being criticized as a "broad-brush" approach to delayed transfers of care, of hastening the discharge process unnecessarily, and of attempting to over-simplify a very complex process (Department Health and Social Care, 2020). A more comprehensive

strategy included the development and implementation of a multi-disciplinary team intervention to overcome discharge barriers for patients with prolonged hospitalisations. Ibrahim et al. (2022) opted to assess the impact of this intervention on length of stay, re-admission rates and health professionals' satisfaction. The activity mainly revolved around a multi-disciplinary discharge co-ordination team who met weekly to raise and resolve patient-related discharge issues for all patients in general medicine wards. Results revealed that this strategy decreased length of stay in the delayed discharge patient population by 41.5% without an increase in re-admissions (Ibrahim et al., 2022). It also identified lack of family support, delays in diagnostic testing and prolonged waiting time to be transferred to a long-term care facility as major causes of discharge delays.

This reality however did not negate the fact that some authors found absolutely no connection between the COVID-19 pandemic and the delayed discharge phenomenon in their research investigations. Al-Yarabi et al. (2023) carried out a study to access the incidence of inappropriate hospital stays and to identify their causes. This study was conducted in a General Medicine Unit in a University Hospital in Oman in the first six months of 2020. The AEP model was utilised to examine hospital admissions that exceeded the average length of stay (855 admissions in total). Results revealed a third of admissions and 9.9% of hospitalisation days were classified as inappropriate. Reasons for such delays varied but procedural testing delays and resource unavailability were identified as being the most common, with an increase in patients' age also emerging as a factor augmenting the degree of discharge delay. Authors concluded that investing healthcare resources on home-based community care was the way forward to promote early discharge and improve inappropriate bed occupancy. There was no reference to the impact of the pandemic on the results obtained.

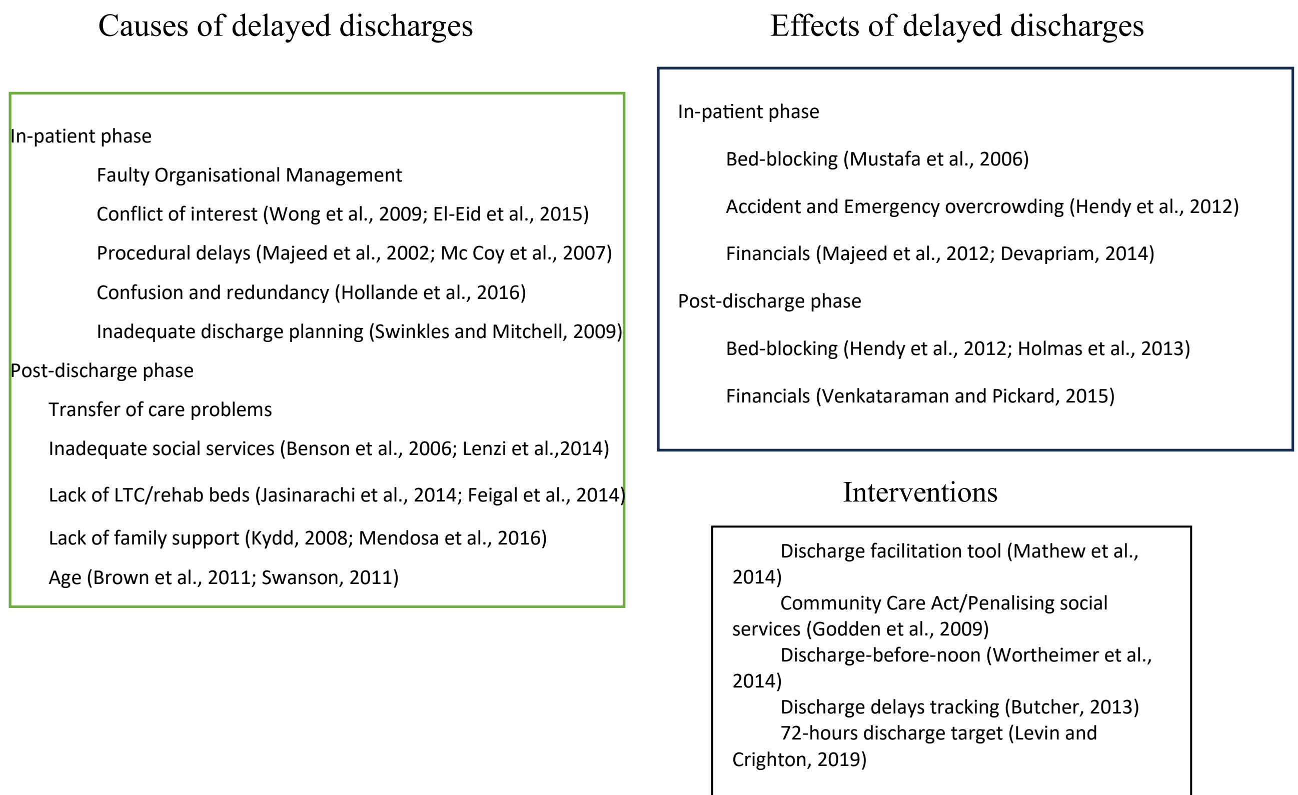
Van den Ende et al. (2023) led a similar study with the aim of quantifying inappropriate patient days and identifying the reasons behind discharge delays. This was achieved through

the use of the Day Of Care Survey (DoCS) tool between 2019 and 2021 in three different hospitals in Amsterdam. 21% of patients included in this research effort were found to be needing acute in-patient hospital care, with the absolute majority of delays (74%) being the direct result of factors outside the hospital (most prominently the lack of available nursing home care beds). The main in-hospital issue that delayed the patient discharge process turned out to be patients awaiting physician reviews/consultations. All in all, researchers concluded that approximately one in five patients occupying hospital beds did not meet the criteria for appropriate acute in-patient stays. Authors sustained that the main improvement needed revolved around better transfer of care arrangements, most particularly through more nursing care bed availability.

Figure 2 (below) represents the findings of this review. The researcher utilised these findings to construct a model of delayed discharges, composed of causes (determinants), effects and interventions related to the phenomenon. This model would be greatly useful in the eventual building of the qualitative research tools used in Phase 1 of this study, where the interview/focus group questions posed to health professionals would be based on the findings from the evidence-based literature. Similarly, the sampling technique for participant selection for Phase 1 was also based on this literature-based model, with participants being chosen according to how they are bound to be involved in the points presented in this model in their daily work life.

Figure 2

Literature-based model for delayed discharges



2.8: Gaps in the literature

Although the literature on the topic is vast, a number of gaps have been identified in the body of knowledge. The first identified issue was that the literature lacked a clear definition of delayed discharges, with different authors opting for different definitions of the term. To this end, the researcher utilised the evidence-based literature to build a common definition of the term from a conceptual standpoint. The lack of an evidence-based model of delayed discharges was also a conspicuous gap in the general literature, driving the research effort in this thesis towards the development of such a model. This also drove the researcher to use the evidence-based model to build his research tools for Phase 1 of the methodology (the qualitative analysis of health professionals' perspectives of delayed discharges) in an effort to

collect pertinent data that would serve to address this gap by way of utilising the newly-constructed model as a base for research tool development.

Despite not being altogether absent, there was limited uncovered literature about delays in patient discharge when it came to non-acute settings (such as psychiatric institutions and rehabilitation facilities) and paediatric settings. These particular research settings were not relevant to the purpose of this study, but it was nonetheless noted that a significant research gap existed in this regard. Most research investigations, in turn, only addressed the issue of delays from a 'systems' perspective, with only few venturing into patients' point of view. It was concluded that if the healthcare arena in developed and developing countries was indeed aiming at a patient-centred healthcare provision scenario, more studies involving patients' outlook on delayed discharges were warranted to fill in this knowledge gap. It was also noted that most studies solely undertook a quantitative or a qualitative effort, with research triangulation involving the same acute health setting being extremely rare (albeit altogether absent), thereby somewhat limiting the rigor of results obtained. This thesis made use of a triangulation research methodological approach, making use of both quantitative and qualitative efforts, in an attempt to capture a more rounded holistic picture of the phenomenon under investigation. In turn, the literature did not reveal any studies involving delays in patient discharge in an acute health setting in Malta. The latter two shortcomings served as the main catalysts behind the development of this research investigation, which can be considered as a completely innovative effort in the country. A lack of a proper derived evidence-based definition of delayed discharges from an operational standpoint also served as a catalyst for delving into tackling this phenomenon from a qualitative perspective by way of medical record analysis (Phase 2 of the methodology).

Chapter 3
Methodology

3.1: Introduction

This chapter presents the phases that constitute the research journey, starting from the theory behind the methodological approach undertaken and how this influenced the methodological choices for this research investigation. The research journey was conducted in two distinct interconnected phases, with the findings from both phases later being compared to construct as clear a picture of the phenomenon under study as possible.

Before the start of the actual data collection process a passive, non-participant observation exercise was carried out to obtain some preliminary data on a typical ward environment in Mater Dei Hospital. This exercise was carried out in an admission unit on an everyday basis for a 7-day period. The researcher limited himself to writing notes about events that occurred, recording the time of action when they happened, acting as a sideliner and in no way contributing to activities taking place around him. Notes were taken in real time as the day progressed, following the activities of one nurse per day and those of the patient/s under his/her care.

This exercise was found to be very useful in obtaining a preliminary rough life sketch of what work dynamics look like in frontline operational areas. This added a degree of perspective and allowed me to place myself in a position for better choice of optimal methodological prowess. A copy of the notes of this passive, non-participative observational exercise can be found in the Appendix section (Appendix 1).

3.2: Justification of methodological approach: theoretical background

A single instrumental case study approach was utilised to investigate delayed discharges of inpatients in an acute general hospital in Malta (Mater Dei Hospital). A case study approach was considered ideal when studying a single, multi-faceted phenomenon involving complex issues in their real-life setting (Orum et al., 1991; Crowe et al., 2011). The case study method was highly prevalent in the healthcare arena (Bergen and While, 2000), mainly due to its potential for research triangulation and the ability to focus on a variety of data collection tools towards the investigation of one particular topic.

There are three main strategies for case study design, namely the Yin, Merriam and Stake approach (each strategy named after its respective theoretical designer). Merriam (1998) sustained that the general literature should guide the research investigation through the development of a theoretical framework. She however opted for a purely qualitative method, which in the context of this study posed a number of limitations on the research techniques utilised and the degree to which a phenomenon can be investigated. The approach undertaken by Stake, on the other hand, proposed a research investigation that is purely guided by research progress, without any prior theoretical background or plan (Merriam, 1998). These two methods were deemed unsuitable for this study. The case study approach described by Yin (2009) was considered to be the most appropriate for this research effort.

Yin (2009) declared that the aim of a case study approach was to study a phenomenon in its natural context, uncovering cause-and-effect links. The post-positivist approach is in line with the Yin method, making use of mixed methodology and research tool triangulation, which ultimately help to counteract the disadvantages of a purely qualitative or quantitative method. Post-positivism asserts that a theory can never be definitely proven correct, and that instead it contends that science moves forward as theories are refined or refuted through careful testing

(Gartner, 1993). It maintains a dependence on observation and measurement to develop strong casual understandings of the world (Leurourneau and Allen, 1999). In so doing, it retains the assumption that there is an objective truth but concedes that it is unlikely to ever be found, particularly because scientists are fallible and subject to external influences and bias. A post-positivist approach is primarily objective but often values subjectivity and multiple stakeholder perspectives (Shumaker and Gomer, 1992). Studies often include qualitative data and mixed methods approaches, with the phenomenon of interest being isolated and data collection/interpretation is based on a relevant theory (Philips and Burbules, 2000). Post-positivism acknowledges that the way a researcher poses questions and interprets findings can be influenced by prior knowledge, comparing derived findings to a given explanatory theory (Ladyman, 2002). In turn, it accepts that bias is unavoidable and that results represent probabilities about human phenomena rather than universal laws of behaviour.

Yin (2003) asserted that methodological triangulation allowed the case to be considered from multiple different realities, thereby gathering a broader information base outside of readily measured variables. It also facilitated result verification through repeatability of observation from a variety of different perspectives (Yin, 2003). Triangulation is particularly useful in case studies involving health services research, where the case is typically complex in nature (Yin, 2009). This allows the researcher to delve deep into the case, while also accounting for social/environmental factors. Yin (2009) insisted that the inclusion of both subjective and objective ontological perspectives paved the way for a more comprehensive understanding of the phenomenon under investigation. For this reason, this thesis utilised a constructivist epistemological approach (Phase 1) to lay the groundwork for a quantitative effort (Phase 2), thereby providing an all-round view of the case.

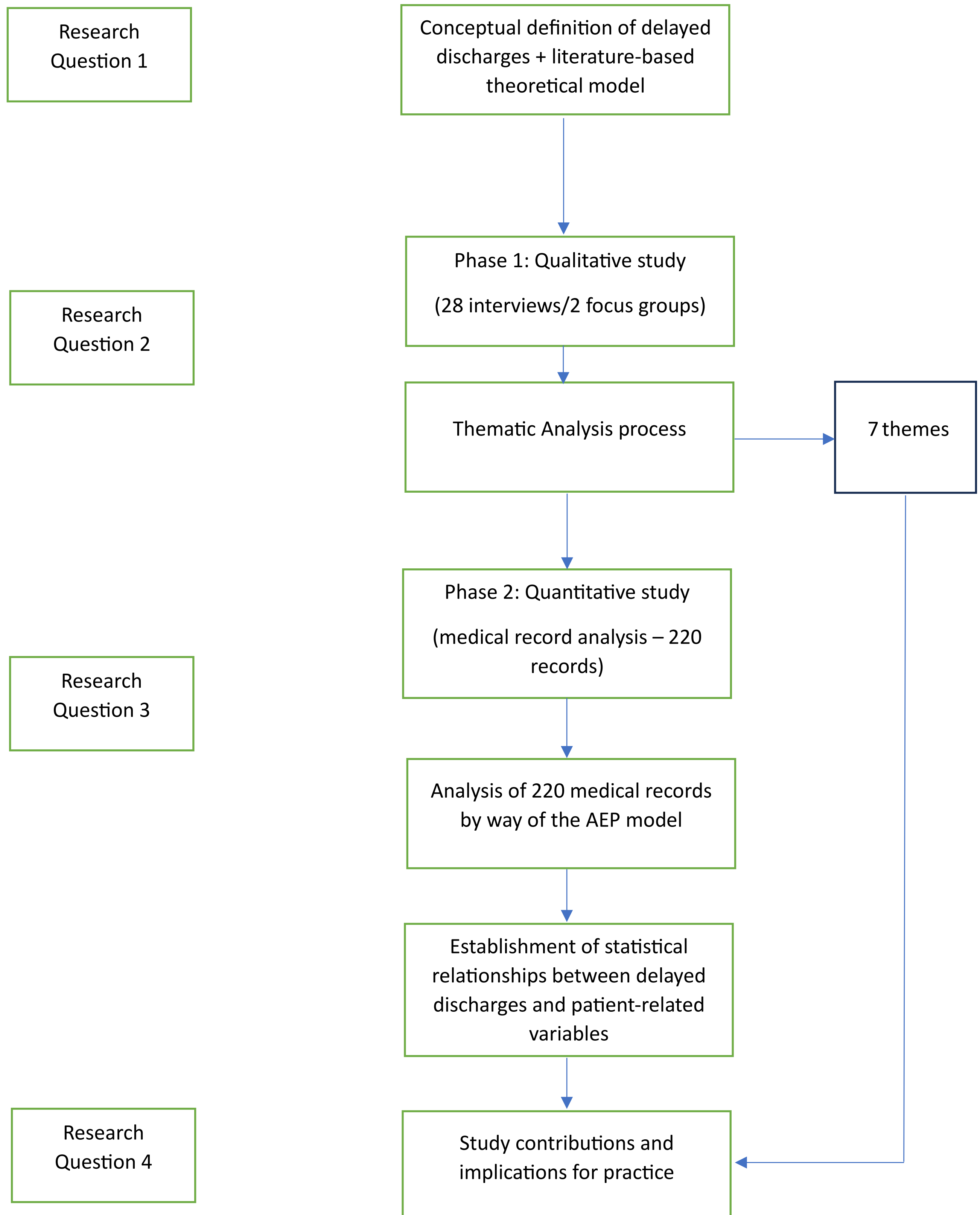
The study was carried out in Malta's primary main acute tertiary teaching hospital (Mater Dei Hospital) between January 2022 and November 2022 (Phase 1) and between

October 2024 and December 2024 (Phase 2). Mater Dei Hospital is the only government-run acute general hospital on the Maltese islands and receives patients from across all medical fields. The 2022 Hospital Activity Report revealed a total of 94,610 patient admissions to MDH, 77% of whom were self-referred. Emergency admissions made up an absolute majority (47%), while elective admissions and day case made up the rest (14.6% and 32% of total admissions respectively). In turn, patients in the 60-79-year age group were by far the most frequent (39%) (Hospital Activity Report, 2022). The report also revealed that the average length of stay for admitted patients was 7.6 days for medicine wards and 6.9 days for surgical wards, with an average bed occupancy rate ranging between 76.36% in surgical areas and 89.13% for medicine wards. (N.B: This data was the reason behind the researcher solely including medical records with a length of stay of more than 7 days in Phase 2 of this case study).

Figure 3 (below) represents an overview of how the methodology will lead to the satisfaction of the research questions. Figure 3 also provides a step-by-step depiction of how the study was conducted and how the various phases build upon each other and are inter-linked.

Figure 3

Methodology steps as they are linked to research questions



3.3: Phase 1 – Interview/focus group qualitative methodology

The qualitative approach is based on the theoretical framework derived from the literature review (See Figure 1 – literature review section). The framework emerged with a cause-and-effect representation of delayed discharges in the context of specific interventional strategies for their avoidance. It was deemed of benefit to gather as much information as possible, providing a holistic picture of the phenomenon under study. The involvement of participants who are themselves stakeholders and actors in real-life situations was the reason behind the sample being chosen from the three main organisational levels, namely: the strategic level, the tactical level, and the operational level. A theoretical sampling technique was utilised, with participants chosen according to the above-mentioned theoretical framework derived from the literature review (See Table 4). For the purpose of this thesis the term 'strategic' will refer to top managerial roles that oversee the whole hospital, 'tactical' will refer to middle management that is involved in the management of specific sections of the hospital, while 'operational' will refer to the lower level that is more involved with task-completion at the floor level.

Table 4

Phase 1 model-based participants' selection

Model Point	Management level	Stakeholders/Participants
Conflict of interest	Operational/Tactical	Doctors (n=8), nurses (n=7), Charge nurses (n=2)
Procedural delays	Operational	Doctors)n=8), nurses (n=7), Charge nurses (n=2)
Redundancy	Operational/Tactical	Doctors (n=8), nurses (n=7), Charge nurses (n=2)
Inadequate discharge planning	Operational	Doctors (n=8), nurses (n=7), Charge nurses (n=2)
Inadequate social services	Operational/Tactical	Social workers (n=2), Discharge Facilitation Team (n=2), Geriatricians (n=2)

Lack of rehabilitation beds	Tactical/Strategic	Geriatricians (n=2), Discharge Facilitation Team (n=2), Social workers (n=2), Departmental managers (n=2)
Lack of nursing home beds	Tactical/Strategic	Geriatricians (n=2), Discharge Facilitation Team (n=2), Social workers (n=2), Departmental managers (n=2)
Social isolation	Tactical/Strategic/Operational	Discharge Facilitation Team (n=2), Discharge Liaison nurses (n=2)
Bed-blocking	Tactical	Bed Management Unit (n=3), Charge Nurses (n=2), Departmental managers (n=2)
A+E overcrowding	Tactical	Bed Management Unit (n=3), Charge Nurses (n=2), Departmental managers (n=2)

This sampling strategy was efficient in promoting a research-based all-round insight and understanding of the phenomenon under study. Table 5 (below) shows the participant stakeholders chosen for the qualitative part of the study. The number of participants in each stakeholder group was proportionately distributed among the managerial strata. Participants were chosen according to how their job description coincided with the points presented in the literature-based theoretical framework presented in the literature review section. Nurses and low-level doctors represented the operational level, charge nurses, social workers, Discharge Liaison Nurses (DLN), and social workers represented the tactical level and geriatricians, Discharge Facilitation Team members (DFT), Bed Management Unit personnel, Departmental managers and the director represented the strategic level. Building the Phase 1 sample according to the theoretical model allowed the researcher to base the data collection process on the evidence-base, which would make study outcomes comparable to existent literature.

Table 5

Phase 1 participant demographics

Participant	Experience (years)	Setting
Nurse	4 – 12	Medical/Surgical/All speciality ward/Admission Unit
Doctor	1.5 – 15	Urology/Respiratory/Nephrology/Surgery/Gastroenterology
Charge Nurse	5 – 15	Medical/All speciality ward
Social worker	8 – 12	Throughout all hospital
Geriatrician	3 – 13	Throughout all hospital
DFT/DLN	5 – 8	Throughout all hospital
Bed Management Unit	Indeterminate	Throughout all hospital
Director	Indeterminate	Throughout all hospital
Departmental Manager	5 – 8	Throughout all hospital

Nurses were chosen from medical, surgical and admission units, while doctors were singled out from a variety of specialities and seniority levels. This was done to build a sample which was as representative as possible, and which covered the points of view of employees across the board. Speciality units were excluded from the study due to these areas functioning under very specific protocols which stand apart from the rest of the hospital. Doctors were, in turn, chosen utilising the firm medical list, which is a frequently updated list of medical professionals, including consultants, High Specialist Trainees (HST), Basic Specialist Trainees (BST) and Medical Officers (MO). The rest of the stakeholder participants were chosen from their respective departments, as they provided services throughout the whole hospital. Participants had, in turn, two to five years' experience in their own individual profession, allowing for the extraction of much valued experience-based information (N.B this was done with the exception of junior doctors who had less than two years' experience but whose participation represented the views of lower-tier medical field employees).

The researcher assumed the role of an inside learner, in that he was familiar with the dynamics of hospital processes. Hanson (2013) argued that a researcher's identity can shift

depending on the situation, and the importance of recognising the significance of his positioning and how others view him is of paramount importance. He also insisted that uncertainties and tension can ensue when individuals undertake research as inside members of the communities that are the subject of their research. This can manifest in the form of ambiguity about their role and can have an impact on the research process and on their role and identity (Hellawell, 2006). In the case of the current thesis, however, this provided the opportunity for a more thorough understanding of the research outcomes and lessened the chances of interpretation bias later on.

The use of semi-structured interviews as the main qualitative research tool of choice allowed for a more humane face-to-face interaction between the participant and the researcher, thereby yielding more reliable and consistent answers. The chronological order of the questions was based on the research model derived from the literature review (See Figure 1). The interview sessions were kept to around 30 minutes long, with an open-ended quality to allow freedom of expression, and in the process enriching the quality of the data collected. It was deemed beneficial to keep the interview sessions concise so as not to lose the participant's concentration and interest. Hence the 30-minute duration of the sessions. Pilot interviews were also conducted. These allowed for the elimination of errors and inconsistencies in the questions posed, allowing interview sessions to flow in a more structured manner (Hill and Williams, 2005). Two pilot interviews were utilised to this end.

All interview questions were conducted in the English language, with the sessions also being in English. All participants were proficient in the English language. Consent letters/Information letters were provided to all participants before the start of the interview sessions, explaining the nature of the study and the right to refuse to take part. Consent was also obtained for audio-taping the interview sessions. Audiotaping also allowed for a more accurate transcription process with less errors of omission.

Two focus groups were also carried out, which Pizzo et al. (2018) describes as in-depth interviews in group form, where participants' purposiveness took priority over representativeness. Focus groups were conducted to investigate the views of different members of the medical field and bed management personnel. The focus group concept is related to participants being chosen for their knowledge on the area of study, as well as the potential of that same group of stakeholders to synergically interact together (Green et al., 2003). Kruger (2000) placed particular emphasis on having group homogeneity in the focus group sample as this provides a more ideal environment for trust and resultant comfortable information sharing. In turn, Kruger (2000) suggested that smaller focus groups show greater potential at yielding a comprehensive set of results due to lesser chances of conversation fragmentation and general confusion. For this reason, both focus groups were kept under 10 members. The researcher could not find any identifiable information from the interview/focus sessions that could contribute to uncover the identity of the respondents. However, to doubly safeguard the respondents' interests he was the only person with access to the audio-taped sessions. Both the interview and focus group questions can be found in the Appendix section (Appendix 1).

The interview session audiotapes were manually transcribed. Being in the English language greatly facilitated the transcription process as there was no need for translation and any resultant potential bias. While the doctors' focus group was transcribed in this way, the focus group carried out on the bed management unit had to be done using another method. This is because no audiotaping was allowed during the session and the researcher had to rely on scribbled notes made by himself and my associate. These scribblings were then organised in the form of questions and answers by close collaboration between him and his associate (a fellow colleague and health professional) in an effort to construct a comprehensive information base in as precise a manner as possible (N.B a copy of the doctors' focus group transcript and the bed management 'question and answer' transcript can be found in Appendix 1).

The use of a thematic analysis process was chosen to analyse the qualitative data set. Thematic analysis consists of identifying, analysing and reporting repeated patterns across the transcribed data set (Braun and Clerk, 2006). This method is very flexible and goes well with a constructivist research approach, allowing for the analysis of a wide range of data, identifying specific social constructs, and ending up with a set of commonly shared meanings (Joffe, 2011). Braun and Clerk (2006) adapted a comprehensive thematic analysis method with a wide utilisation base in the qualitative research arena. It was decided to make use of this method because derived results could be easily compared and contrasted to outcomes of other research investigations utilising the same thematic analysis approach.

The method adapted by Braun and Clerk (2006) involved a number of steps, which were used as a template to analyse the data derived in Phase 1:

- Data familiarisation: The researcher thoroughly read the transcribed data multiple times. The prior manual translation process helped in the familiarisation phase as he became personally acquainted with the views and opinions of study respondents. During the course of the reading process the researcher started labelling pieces of text that shared common traits or meaning. This would serve as a basis for the identification of the codes later on in the thematic analysis process.
- Code generation: A code is defined as a piece of raw data that can be meaningfully assessed with regards to a particular phenomenon (Boyatzis, 1998). Nowell et al. (2017) insisted that it is of the utmost importance that codes do not overlap each other, thereby underlining the indispensability of every code having to be properly defined. The identification and emergence of codes occurred through multiple readings of the interview/focus group transcripts, with the researcher going beyond the identification of common codes, to the grouping of less frequently occurring sections of text data. This was done for the whole transcribed information. Such codes were identified,

differentiating them into inductive or deductive, according to their relation to the theoretical framework the interview/focus group question were based upon (inductive codes) or those originating from the transcript raw data itself (deductive codes). Data sections were labelled with specific codes, with some codes being assigned to more than one specific data extract. Study participants themselves were also assigned codes for ease of representation, while a record was kept regarding which participants referred to which codes. This would help in result interpretation later on.

- Extracting and defining themes: The researcher carefully grouped specific codes, identifying commonalities between them, while constructing themes. A theme is the main product of data analysis and contains codes that have a common point of reference, unifying ideas regarding the subject of inquiry (Vasimoradi et al., 2016). The process of code grouping and code assignment was kept going until all available codes were placed under a particular theme. This information was gathered in tabular form to facilitate interpretation. A third party was also involved to confirm if the process of code grouping and theme formation was done in the correct manner. The third-party was a qualified academic in the health sector with a sound practice base. This double-checking mechanism proved to be very useful in determining where certain doubtful codes would be grouped in terms of themes.

This process was carried out manually by the researcher and the help of another associate. The purpose of a second associate was to aid in the confirmation of code/theme formation through the transcript analysis process. This decreased the risk of researcher bias and wrong interpretation of transcribed data. The thematic analysis process, though time consuming, was relatively easy to use and apply. It, in turn, allowed for the analysis of large and varied data sets. It was, however, recognised that the importance of addressing reliability and validity issues related to this data analysis method could not be overstated. Victor et al.

(2000) defined validity as being the accuracy to which findings reflect collected data, while reliability refers to the consistency of the research methods used. The process of ensuring both validity and reliability is of particular relevance, particularly in light of the fact that Rolfe (2006) sustained that qualitative methods are sometimes criticized for lacking scientific rigor and of being particularly subjective in terms of falling prey to researcher bias. The following table (Table 6) provides an easily understandable representation of how it was ensured that both validity and reliability issues were catered to in this qualitative phase.

Table 6

Validity and reliability of the qualitative phase (Phase 1)

Parameter	Definition	Method utilised
Internal validity (credibility)	Overall trustworthiness of the findings	- sample triangulation - sizeable sample size - varied sample
External validity (transferability)	The degree to which findings can be transferred to other settings/the degree to which results can be generalised	The Braun and Clark (2006) thematic analysis method was utilised (a well-established qualitative data analysis technique)
Reliability (dependability)	The consistency as regards result repeatability, which reflects positively on the legitimacy of the research method	- Use of theoretical sampling method - The maintenance of respondent confidentiality
Objectivity (confirmability)	The objectivity used by the research in data analysis, and how well findings are supported by actual data (free of researcher bias)	- Verbatim transcription of interviews - Third party involvement to verify result interpretation

3.4: Phase 2 – Document analysis of patient medical records

Phase 1 of the methodology laid the ground for a more quantitative approach by providing context as well as introducing the multiple variables tackled in this section. Phase

2, in turn, involved an analysis of patient medical records. This method of data collection was greatly affected by the COVID-19 pandemic due to the measures introduced in Mater Dei Hospital. Although this unprecedented and unfortunate turnout of events could have been regarded as a major limitation, the researcher deemed it to be nothing short of an opportunity for investigating and uncovering new information. COVID-19 had now become part and parcel of every health system worldwide, and Malta was no exception.

The researcher undertook patient medical record analysis from a quantitative perspective. The term ‘document’ was defined as a physical or virtual artifice designed by creators, for users, to function within a particular setting (Prior, 2003). Maxwell (2005), in turn, defined document analysis as a systematic procedure for reviewing and evaluating documents, which can be used to generate questions or supplement other types of research data. Document analysis required that data be examined to elicit meaning and understanding, contributing to knowledge development (Corbin and Strauss, 2008). Although such an approach can be subject to concerns of reliability and validity (Maxwell, 2005), such consequences can be mitigated by using techniques such as triangulation and ample sample sizes. In fact, Bardach and Patashnik (2015) suggested alternating document analysis with interviews and observation as a source of information in research policy, a strategy the researcher has referred to and utilised in this thesis’ methodology. Such a technique was also supported by Harvey (2018), who insisted that utilising various data collection techniques not only enhanced rigor but also provided the researcher with a way of having results from one research tool lead him to another. This approach was in direct line with Yin’s (1994) method, which sustained that document analysis’ strengths resided in its combination with other data collection methods in case study research. Goldstein and Reiboldt (2004) also contributed that document analysis is very cost-effective, less time-consuming and less subject to researcher bias (due to documents being stable and non-reactive).

A revised version of the Appropriateness Evaluation Protocol (AEP) was selected as the tool of choice to analyse patient medical records in this research investigation. Originally the AEP model was developed by Gertman and Restuccia (1981) in their effort to assess unnecessary days in hospital care. Since then, the model had been revised on multiple occasions. For the purpose of this case study the research carried out by Vijay (1999), in his application of the AEP model to a multi-speciality hospital, was deemed as pertinent because it was very much in line with the research setting of this thesis. At this point it would be beneficial to state that the AEP model is a very prevalent and wide used quantitative research tool in the study of delayed discharges by way of medical record analysis (as can be noted in the literature review chapter). It's used in this study not only serves to provide a reliable (pre-tested) tool for measuring delays, but it also allows study findings to be more easily compared to the ones in the general literature due to the AEP model's wide utilisation. The version of the AEP model utilised by Vijay (1999) was thereby chosen for analysing patient medical records in MDH. A copy of this AEP version can be found in the appendix section (See Appendix 2).

Winterhalter et al. (1991) sustained that the AEP data collection tool assessed the relevance of an admission or of a hospitalisation day through explicit and pre-defined criteria, which were related to care but stood independent of the pathology. The protocol consisted of three kinds of criteria, namely: related to medical activity, related to nursing activity, and related to the state of the patient. The revised AEP model specified that for every inappropriate day, the reason for inappropriateness had to be provided, as this was pivotal in identifying the main cause of delay and could thereby serve as a basis for action. An inappropriate day consisted of: a) a patient still needing acute care and is waiting for it or b) a patient at the end of his acute care and is waiting for discharge. The AEP criteria would then be utilised to assess the appropriateness of each hospital day, namely:

a) 11 items related to medical services

b) 7 items related to nursing/life support services

c) 9 items related to the clinical characteristics of the patient

Vijay (1999) also sustained that there may be instances where the AEP model's evaluation criteria may not be in line with the person making the assessment or the setting in which the patient is receiving care (as each health setting is unique and functions under different rules and guidelines). This can lead to a picture that is not reflective of reality. The 'comment' section described the day-by-day activities performed during the course of the patient's journey through the hospital system. In turn, the 'LOS' column stated the total length of stay (in days) for each patient from admission to discharge, while the 'Extra LOS' column represented inappropriate days as per AEP model criteria, including also those not detected by the AEP model. Special attention was paid to the 'undetected' phenomenon, so much so that an extra column was added to the AEP model to depict delays that would otherwise have been missed by the tool.

Two admission units' admission books were utilised to choose patient medical records. These wards received patients from the following specialities: medical, surgical, urology, orthopaedic, and vascular. The sampling process involved taking a part of the population for the purpose of making inferences (Anieting and Mosugu, 2017). A sample size calculator was used to estimate the number of records to be included in the study, which estimate was calculated based on the total number of admissions for the year (with a margin of error of 6.5%). The combined total number of patients admitted in the designated wards for 2024 (until the time of the study) was three thousand five-hundred and eleven. The sample size calculator, which was adjusted for 95% confidence interval (and a margin of error of 6.5%), yielded a number of two-hundred and sixteen medical records needed for quantitative analysis. Two-hundred and twenty medical records were therefore examined for this phase of the research.

For the purpose of this quantitative phase a quota sampling technique was utilised, where records were identified and selected when they fell outside of a pre-determined set of criteria of importance (Wisdom et al., 2015). Admission book records were analysed twice a week from the start of October 2024, with records being chosen chronologically. All chosen patients were approached for consent and were followed through their medical records from admission to discharge. Records which involved less than 7 days length of stay and those which fell under specialised specialities (which were very few) were excluded from data collection. This was done so as to filter out records involving patients with a high probability of being accommodated in specialised areas, which function under very specific guidelines and protocols, which stand apart from the rest of the hospital. Choosing records with a length of stay that exceed 7 days was, in turn, effective in attempting to isolate ones that were more prone to discharge delays. The '7-day' length of stay exclusion criterion was implemented due to the Hospital Activity Report of 2022 having uncovered the average length of stay for medical and surgical patients in MDH as ranging from 6.9 days to 7.6 days, thereby averaging a total of 7 days. This process went on until the desired sample size was reached. (ie. 220 records). Figure 2 (below) represents the gender groups of the quantitative sample, while Figure 3 and Figure 4 (also below) respectively provide a picture of the age groups and speciality of the same quantitative sample.

While the sample was predominantly male (57%), the absolute majority of the sample was also above 70 years old (55%) and admitted under the 'medicine' speciality (67%). This could have been due to an ageing population which was prone to have a whole myriad of chronic medical conditions, leading the absolute majority of admitted patient brackets to consist of very specific age demographics with shared medical conditions.

Medical records in MDH were made up of physical files and the degree to which Information Technology (IT) had been applied to create digital records of medical information

was very limited. The relatively recent introduction of a digital patient dashboard was a step in the right direction, but for the purpose of this thesis physical medical records were utilised to analyse patient pathways in the hospital system as they related to delays in discharge. An intermediary was identified to analyse the contents of medical files, after written informed consent was obtained from patients upon admission. The intermediary was a health professional working in MDH and already had access to patient medical information as part of her job. She was instructed about the nature of the research and the AEP tool and was able to analyse medical records in a way as to extract delays in the patient's journey, recording the nature and the duration of such delays on a specially designed spreadsheet. The intermediate read records thoroughly, covering both physician and nursing entries, together with the contributions of the allied health team. This was done for each patient from admission to discharge.

This information was then anonymously relayed to the researcher, who inputted the derived numerical data (in the form of days) in the AEP tool, together with the notes taken by the intermediary in the 'Comments' section. Another separate spreadsheet was constructed with this data for all the patients included in this quantitative analysis (See Appendix 2). In this spreadsheet it can be noted that each item of the AEP model was coded for ease of representation. The table below (Table 7) provides an explanation of the items of the AEP model and how the researcher made use of such items.

Table 7

Definitions of AEP model terms

Section	Item	Explanation
Medical Services	*Procedure in operating room*	An intervention in theatre needed on the day
	Scheduled for procedure in operating room the next day (requiring pre-consult/evaluation)	An intervention in theatre due the next day (patient 1 day before for pre-op)
	Scheduled for procedure in theatre (or other intervention) on the day	An intervention in theatre is due on the day
	Medical imaging procedure on the day	Any medical imaging procedure done in the medical imaging department
	Pre-operative control of a medical condition prior to a surgery	Pre-op management due to a pre-existing medical condition (such as diabetes, CHF, renal impairment or hypertension)
	Any test requiring dietary control	A specific test/intervention (non-surgical) that requires some degree of dietary control
	Referral to another speciality unit	Referral to another speciality unit on the day. For the purpose of this thesis the author utilized this solely for referrals relation to the medical condition of the patient: firm consultation, SLPr/v, TVN r/v etc…. Researcher excluded non-medical referrals such as geriatric r/v, Social worker R/v, Occupational therapy r/v etc…
	Essential close monitoring by a doctor/nurse on a daily basis	Ward rounds done by a senior member of the firm on a daily basis
Nursing/Life support services	*Respiratory care – intermittent or continuous respiratory support or inhalation therapy*	This primarily involved the use of Oxygen therapy on a continuous bases (including nebuliser therapy). Inhaler therapy not included
	Parental therapy including continuous/intermittent fluids or treatment	This included al intravenous continuous or intermittent medications or supplemental fluids
	Essential vital signs monitoring by nurses	This included any vital sign frequency that exceeded 'the once daily'. This is because all patients in MDH get their essential vital signs monitored at least once daily according to the EWS score protocol.
	IM or subcut injections (excluding insulin) at least two times a day	This included all IM/subcut medications (insulin excluded). Clexane subcut medication was also excluded because this medication is

		given (more often than not) as prophylaxis rather than actual treatment
	Input/output measurement required by doctors	Input and output charting needed via urinary catheter, stoma, nasogastric tube, drains etc…
	Major surgical wound or drainage care	Any activity related to wound care (applied to surgical or non-surgical wound care)
Patient condition factors	*Inability to void or move bowels (more than 24 hours) not attributable to neurological disorders*	Patient unable to pass urine (urine retention) or unable to open bowels
	Potentially serious condition suspected	
	Transfusion due to blood loss	Transfusion due to bleeding or some other condition
	ECG evidence of acute cardiac condition	An acute cardiac-related event (evidenced by ECG changes)
	High fever of more than 100F if patient was not admitted with fever	Fever spike event in a patient not admitted/admitted with fever (as no patient ever gets discharged with a fever in progress)
	Low GCS score	Newly developed low GCS scores
	Acute confusion (not alcohol or drug related)	Acute confusion (including cases requiring constant watch care). Also includes non-acute confusion which for some reason deteriorated in severity
	Acute haematological disorders	Severe symptoms or fluctuations in haematological values (such as anaemia, low platelet count etc…)
	Occurrence of a new acute serious situation	The occurrence of an unprecedented medical situation which is catastrophic and life-threatening

At this stage it would be appropriate to state that a standard set of bloods were typically taken for almost all hospitalised patients on a daily basis. In turn, on admission all patients had a chest X-ray taken together with an ECG (ElectroCardioGram) and a complete blood panel, regardless of the admission complaint. The researcher opted not to include these events in the AEP model record evaluation because (as they are done for everyone across the board) they

were not relevant to the phenomenon under investigation and would have had significant confounding potential to affect derived results.

3.5: Methodology: strengths and limitations

This thesis investigated the phenomenon of delayed discharges in a case study of an acute hospital setting. It made use of a Yinian approach, utilising methodological triangulation, through a blend of qualitative and quantitative research tools. This allowed for a more robust set of findings that tackled the phenomenon from various different perspectives, deriving a more complete picture of delayed discharges. The qualitative data collection tools were, in turn, based on an extensive and exhaustive review of the literature (published as a scoping review), while the quantitative tool was composed of the widely used (and pre-validated) AEP model. The use of multiple methods allowed for cross-verification of the results. For example, the qualitative insights on system inefficiencies were supported by the quantitative data on the frequency and causes of delays. The application of these methods led to the development of a robust methodological approach, with the Yin method demonstrating flexibility and leveraging the strengths of both research fields, effectively compensating for each other's limitations. The fact that the study was conducted in two separate phases and separated by a two-year time period gap may have also had some effect on result comparability between Phase 1 and Phase 2. The fact that data involved information from a post-COVID scenario added relevance to the derived findings and also allowed some degree of comparison. In turn, the researcher identified himself as an inside learner and this placed him in a better position to analyse and decipher findings. This research investigation can be used both as a basis for further in-depth research in the area as well as a template for MDH management to extend the analysis of delayed discharges throughout the whole hospital setting.

Despite the above-mentioned study strengths, the researcher recognised a number of limitations that may have impacted the overall research investigation dynamic and (to some extent) research findings. The fact that the medical record analysis excluded specialised wards and paediatric settings prevented derived findings from being generalised to the whole of MDH. In turn, there were instances where the AEP model was unable to adequately assess a medical record for inappropriate days due to a particular wide set of variables involved. To rectify this drawback, the researcher made use of the 'undetected delays' column and the 'comments' column of the AEP model to explain or uncover instances when the AEP model would have otherwise failed. From a qualitative perspective it was deemed that respondents shared a general lack of knowledge about the topic phenomenon under investigation, and thus their feedback might somehow have been limited by this. The fact that the researcher was an inside learner may have also affected respondents' answers one way or another, thereby possibly contributing to some degree of researcher bias. The researcher was also aware that due to continuous changes brought about by an ever-dynamic COVID-19 situation, results in future research efforts may vary and be significantly different from the ones derived from this study. For this reason, it is greatly encouraged that further research into delayed discharges in MDH be undertaken, not only to monitor the progress of the phenomenon, but also to expand and explore the issue from perspectives not included in this research study. In turn, the study solely addressed health professional stakeholders (Phase 1) and did not delve into the views involving patients' as regards delayed discharges. Future studies that tackle this issue are also recommended.

3.6: Ethical considerations

Ethical approval was obtained from the University of Malta Board of Ethics prior to the start of this research investigation. A description of this study was provided to the board together with a detailed account of the methodological approaches to be used, after which the thesis was green-lighted by the board (See Appendix 3). MDH management was also approached before the study was launched. The CEO and the nursing director of MDH were contacted and a detailed account of the research proposal was provided, with especial emphasis on the sample stakeholders and which hospital wards were to be included. A formal e-mail correspondence was also carried out and permission for the study was granted by the Data Protection Officer of MDH.

In turn, human right principles for respect for autonomy, beneficence, non-maleficence and justice were adhered to at all times. All collected Phase 1 and Phase 2 data were kept confidential and shared solely with the pertinent tutoring parties, maintaining respondent anonymity throughout. All Phase 1 and Phase 2 participants were also provided with written consent letters explaining the aims and objectives of the study. They were assured about confidentiality issues and informed that they were free to refuse to take part at any time. Participants were also informed that the audiotaped interviews would solely be handled by the researcher himself, and that after the research investigation was completed the audiotapes would be discarded. As regards Phase 2 of the methodology, an intermediate was chosen (a health professional who works in MDH and has access to medical files as part of her job) to act as a proxy and access medical files on his part. This was done so as to preserve anonymity, allowing information to be gathered by the intermediate and passed on to the researcher in the form of numbers and notes. Informed consent was obtained from every patient who took part in Phase 2 of this research prior to medical files being accessed. In turn, no medical record

was taken out of hospital premises. A copy of all ethical approvals and related paperwork can be found in Appendix 3.

Chapter 4
Findings

4.1: Introduction

` The aim of this chapter is to represent the findings of both Phase 1 (qualitative) and Phase 2 (quantitative) sections of this research study. The researcher made use of various tables and charts to provide an easy-to-understand visual picture of the data analyses results. This section was completed with the aid of an expert statistician, whose professional advice guided the choice of statistical tools (particularly in the case of quantitative data) and consequent data analysis and presentation. The findings from the two phases of the study will be presented separately in this chapter. These phases took place separately in two different time periods. The findings will then be amalgamated and compared, deriving commonalities/differences and establishing trends through repeatability of observation. The discussion chapter will further address these issues later on.

4.2: Phase 1: Findings from mixed method qualitative methodology

This phase aimed to qualitatively explore the views and experiences of health professionals in Mater Dei Hospital with regards to delays in patient discharge. This was done by carrying out a combination of semi-structured interview sessions and focus groups. Thematic analysis was utilised to generate findings and emerged with a set of comprehensive themes (both inductive and deductive). Inductive themes included those which emerged as a direct specific finding from this thesis, while deductive themes were those which were already noted in the general literature (and utilised by the researcher to construct the qualitative research tools based upon the evidence-based model). The interview/focus group transcripts

can be found in the appendix section (See Appendix 1). In total, 28 interviews were conducted in conjunction with 2 focus group sessions. Figure 4 (below) provides an overview of how codes were grouped into themes through the process of thematic analysis.

Figure 4

The process of grouping codes into themes

Theme	Related codes
Long-term care/social cases as a cause for delayed discharges	• Long-term care/flagging delay problem • Long-term cases concentrated in 'medicine' wards • Delayed discharges and bed-blocking • LTC problems leading to staff alienation • Bed-blocking as related to nursing home availability • LTC/rehabilitation bed availability as related to delays
Faulty system which is open to abuse and inefficiency	• Patients kept in hospital for convenience • Faulty system which is open to abuse • A + E gatekeeping issues • Link between re-admissions and system abuse • Management shortcomings linked to political interference • A+E overcrowding as related to delayed discharges • Shortcomings of hospital lounge • System flaws that extend length of stay • System abuse by staff • Complicated patients' stays

Impact of the COVID-19 pandemic	• The impact of COVID on delays • Link between COVID and nosocomial infections
Stakeholder suggestions to management	• Initiatives proposed to decrease delayed discharges
Inter-stakeholder interactions	• Work redundancy • Role confusion • Interprofessional collaboration • Management support for health professionals adhering to hospital protocols • Tasks specific to professions as related to slower work processes • Lack of inter-professional co-operation
The impact of external factors on delayed discharges	• Availability of social services in the community • Family support at home • Lack of proper resources • Treatment in the community
The impact of procedural delays on delayed discharges	• Procedural delays as part of daily work life • Most common form of procedural delays • Discharge planning as a source of delay • Delay problems on day of discharge • Procedural delays as related to nosocomial infections • Down-staffing of DLN team

A total of 7 themes (n = 7) were identified from the thematic analysis process. These themes were then described in detail and then further discussed and compared to the general literature later in the discussion section. The following figures (Figure 5 – Figure 11) represent how each theme was constructed from groups of codes derived from interview/focus group transcripts.

Figure 5

Theme 1 breakdown: Long-term care/social cases as a major cause of discharge delays

Theme 1: Long-term care/social cases as a major cause of discharge delays	**Codes**	**Strategic Level**	**Tactical Level**	**Operational Level**
Theme Description		(Number of respondents / % of total respondents) (Breakdown by profession)		
This theme is inductive in nature, in that it emerged from the literature and was utilised in the mixed-method qualitative methodology aspect. It was consolidated with the emergence of 7 codes, linking it to the delayed discharge	Long-term care/flagging delay problem	2 / 11.7% (DFT1, DFT2)	3 / 17.6% (HST1, HST2, Ger1)	12 (70.7%) ((Nurse2 – Nurse6), BST2, MO1, CN1, CN2, BST3, MO3)
	Down-staffing of DLN team	0 / 0%	1 / 33.3% (HST1)	2/ 66.6% (BST1, MO2)
	Long-term care cases concentrated in medicine arena	0 / 0%	2/ 33.3% (HST1, HST2)	4/ 66.6% (MO1, MO2, BST2, BST3)
	Delayed discharges and bed-blocking	0 / 0%	0 / 0%	5 / 100% (Nurse4, Nurse6, BST1, CN1, BST3)

phenomenon as a major antecedent.	The link of re-admissions to long-term care cases and system abuse	0 / 0%	1 / 25% (DLN)	3/ 75% (BST2, Nurse2, Nurse5)
	Bed blocking as related to nursing home unavailability	0 / 0%	0 / 0%	4 / 100% (Nurse1, Nurse2, CN1, CN2)
	Relocation problems	1 / 25% (Ger2)	1/ 25% (SW1)	2 / 50% (Nurse6, BST3)
	Quotes			
	"The process is a bit long and there are a lot of health p7rofessionals involved…and the process if very bureaucratic and filled with a lot of steps and paperwork. To get a patient declared as a social case takes weeks of consultation with various health professionals" (Nurse 5: Operational level) *"….it involves countless reviews by geriatricians, social workers, occupational therapists and DFTs…and these take a long time to come, and they must come in a specific order and then there are some re-reviews, and then perhaps relatives don't agree, and then they change their mind…or the patient gets sick and has to be un-discharged medically. And the process must start from scratch"* (Charge Nurse 2: Operational/Tactical level) "*It's not the paperwork that keeps us back mainly. It's more the relatives and the shortage of staff on the part of social workers and occupational therapists mainly. Due to shortage of staff these health professionals can take many days to see the patient and we cannot just resume the process without seeing the patient first. So the whole process ends up being delayed"* (Discharge Facilitation Team 2: Tactical/Strategic) *"All I know is that once a patient is admitted and he is in the system then it is very difficult to get the patient out of the system if he and his relatives do not want to leave. I mean, that's why the DFT and DLN services were created. The amount of social cases are on the rise because of the elderly population*			

	and this problem is getting bigger everyday" (Departmental Manager 1: Tactical)

The long-term-care/social case problem was identified as a concern for the majority of respondents. Such an issue seemed to revolve around both the waiting time needed for a flagged patient to be transferred to a long-term-care facility as well as the lengthy (and often complicated) process of having a patient flagged for long-term-care. The latter delay revolved around the intertwined bureaucratic sequence in which health professionals (such as geriatricians and social workers) had to review the patient. When this process was coupled with the time it took for such reviews to be carried out, it resulted in inevitable system clogging and longer length of stay/transition periods.

Some patients, in turn, although clear candidates for long-term-care failed to meet the necessary criteria for flagging, delaying the process even more. An interesting finding was that while respondents working at the operational and tactical levels (such as nurses, doctors and charge nurses) seemed to be primarily concerned with the delays related to the flagging process, higher managerial strata (strategic management such as the director and the bed management unit) were more troubled by the actual time it took a flagged patient to be transferred to a long-term-care facility. This finding underlined the reality that employees were mainly concerned solely with the issues directly falling under their own particular professional jurisdiction.

A number of respondents (around 45%), in turn, identified the age of the patient as having a direct impact on the long-term-care flagging process due to this variable affecting the

individual's dependency levels and overall general care needs (which may not have fit the care capacity that can be provided by specific long-term-care facilities). All this led to further the bed-blocking effect of these cases, which directly impacted general hospital dynamics, most particularly the A+E department. Respondents, in fact, identified bed-blocking and A+E overcrowding as being both inter-related and inter-consequential (ie. one is the direct cause of the other). Patients waiting for rehabilitation did not seem to raise much concern, although respondents also voiced concern about significant shortcomings in this regard. Participants across the board were in agreement that the long-term-care problem was by far more pressing than inadequacies related to rehabilitation waiting time.

Figure 6

Theme 2 breakdown: Faulty system which is open to abuse and inefficiency

Theme 2: Faulty system which is open to abuse and inefficiency	**Codes**	**Strategic Level**	**Tactical Level**	**Operational Level**
Theme Description		(Number of respondents / % of total respondents) (Breakdown by profession)		
This is a deductive theme and is based solely based on the findings of the qualitative analysis, being altogether absent in the general literature. This theme (made up of 9 codes) makes	Complicated patient's stay	0 / 0%	1 / 33.3% (HST1)	2/ 66.6% (BST2, Nurse4)
	Patients kept in hospital for the convenience of health professionals	1 / 7.6% (Ger1)	2/ 15% (HST1, HST2)	10 / 77.4% ((Nurse1 – Nurse7), BST2, MO2, CN2)
	Discharge planning as a source of delay	2/ 11.7% (DFT1, DFT2)	4/ 23.5% (HST1, HST2, Ger1, Ger2)	11 / 64.8% ((Nurse2 – Nurse6), BST2,

reference to aspects pertaining to faulty system dynamics and their role as direct contributors to delays.				MO1, CN1, CN2, BST3)
	Faulty system which is open to abuse	2/ 14.2% (DFT1, DFT2)	3 / 21.4% (Ger1, Ger2, SW2)	9 / 74.4% (Nurse1, Nurse2, Nurse3, Nurse4, Nurse5, Nurse6, CN2, BST3, DLN)
	A+E gatekeeping failure	0 / 0%	3/ 50% (HST1, HST2, DLN)	3/ 50% (Nurse4, Nurse6, BST3)
	A lack of proper admission protocol and hospital management coverage	0 / 0%	0 / 0%	1 / 100% (BST1)
	Management shortcomings linked to political interference	2 / 40% (DFT1, DFT2)	1/ 20% (HST2)	2/ 40% (Nurse5, BST1)
	A+E overcrowding as related to delayed discharges	0 / 0%	0 / 0%	2/ 100% (Nurse3, MO3)
	System flaws that extend patients' length of stay	1 / 11.1% (DFT1)	3/ 33.3% (Ger1, SW2, DLN)	5/ 55.6% (Nurse5, Nurse6, Nurse7, CN1, BST3)
	Quotes			
	"People know how to abuse the system and they do it by dumping their elderly on the system. And the system is powerless" (Charge Nurse 2: Operational/Tactical level)			

	"There are no strict criteria for admission. In Malta politics affect everything" (Basic Specialist Trainee 1: Operational level) *"But I think the discharge process is surely to blame. I mean I get calls from charge nurses sometimes who tell me that certain patients have been seen by their consultants for a number of day"* (Departmental Manager 2: Tactical/Strategic level)

This theme referred to the apparent existence of a faulty hospital system dynamic and its effect on discharge delays, as it is particularly related to the system's susceptibility to abuse by parties who made use of it. Respondents blamed system abuse on a variety of factors, ranging from faulty (or altogether lacking) discharge planning practices (n = 17) to a shortage of appropriate admission protocols at the A+E department (n = 6). In turn, they identified both patients and their relatives as standing at the centre of such system mishandling, particularly as it related to the flagging of long-term-cases, the admission process and the overall pressure on health professionals to extend the patient's overall length of stay (n = 14).

Respondents seemed to agree that the involvement of third parties (outside the circle of the MDH health professional team) by relatives was a significant common occurrence, spurred by Maltese culture and the widely accepted custom of having politics very closely intertwined with issues of everyday life. This can be linked to some respondents sustaining that hospital management sometimes failed to adhere to its own devised protocols, especially when it came to admission criteria and the flagging of long-term-care patients. This involved the frequent 'bending of rules and regulations' in the strive to appease specific cases, thereby bypassing/ignoring well-established hospital protocols.

This made it difficult (and often dangerous) for health professionals to perform their duties and often resulted in feelings of hopelessness and frustration. Although operational level

participants (ie. doctors and nurses) identified a faulty discharge system as being pivotal in the creation of unnecessary discharge delays, tactical stakeholders (ie. charge nurses and discharge facilitation nurses) also listed system abuse as forming a part of their daily work activities in some form or another.

Figure 7

Theme 3 breakdown: The impact of COVID-19 on delayed discharges and hospital dynamics

<table>
<tr><th>Theme 3: The impact of COVID-19 on delayed discharges and hospital dynamics</th><th>Codes</th><th>Strategic Level</th><th>Tactical Level</th><th>Operational Level</th></tr>
<tr><td rowspan="5"><u>Theme Description</u>
A theme directly related to the COVID-19 pandemic and its effects on delayed discharges. As the literature on this issue is relatively limited, especially as it pertains to delays in discharge, this 2-code theme was considered as being deductive in nature, with the</td><td></td><td colspan="3">(Number of respondents / % of total respondents)
(Breakdown by profession)</td></tr>
<tr><td>The impact of the COVID-19 pandemic on discharge delays</td><td>0 / 0%</td><td>2 / 16.6% (HST1, DLN)</td><td>10 / 83.4% ((Nurse1 – Nurse6), BST1, CN2, MO3, BST3)</td></tr>
<tr><td>Link between COVID-19 and nosocomial infections</td><td>0 / 0%</td><td>1 / 33.3% (HST2)</td><td>2/ 66.6% (MO1, MO2)</td></tr>
<tr><td colspan="4">Quotes</td></tr>
<tr><td colspan="4">"…this was much felt because we needed to have a swab test before every transfer and before every procedure…and as only doctors could book them countless procedures were delayed because swab tests were not ready on time"
(Nurse 5: Operational level)</td></tr>
</table>

emerging information being relatively novel in the area.	*"Patients ended up with delays that spanned several days because they needed a swab, or they were found to be positive and had to be quarantined for a number of days. There were a lot of logistical complications apart from the medical problems"* (Medical Officer 3: Operational level) *"…this was much felt because we needed to have a swab test before every transfer and before every procedure…and as only doctors could book them countless procedures were delayed because swab tests were not ready on time"* (Nurse 5: Operational level) *"Patients ended up with delays that spanned several days because they needed a swab, or they were found to be positive and had to be quarantined for a number of days. There were a lot of logistical complications apart from the medical problems"* (Medical Officer 3: Operational level)

As previously outlined in the literature review section the COVID-19 pandemic exerted an unprecedented and equally unexpected effect on secondary healthcare facilities worldwide. The findings emerging from the qualitative part of this case study provided some insight as regards the effects on Malta's primary acute health facility (Mater Dei Hospital). This theme, thereby, emerged as a direct result of the COVID-19 pandemic. The pandemic was regarded by a good proportion of interviewed respondents (n = 12) as having had a disruptive effect on practically all hospital activities and as having been of detriment to all stakeholders involved. Findings revealed that delays in in-patient discharge were not exempted from this.

The main problem at the operational level seemed to primarily consist of delays related to the waiting time needed for a negative swab test prior to most patient-related activities, resulting in both procedural delays as well as transfer delays between certain hospital departments (both within MDH as well as other external entities). Respondents sustained that this resulted in an increase in patient length of stay across the board, a situation made worse by

COVID-19 protocols keeping patients in quarantine for days on end. The bed management unit and charge nurses were particularly impacted by such protocols due to their bed-blocking effect, the extensive bed occupancy, and the logistical setbacks that such protocols exerted. Departmental managers also voiced difficulties related to staffing problems encountered in several ward settings due to newly created ward areas needing human resources in conjunction with countless health professionals being sent home on forced quarantine for days/weeks on end.

The COVID-19 vaccine was welcomed by all participants as a major positive development. Operational level respondents, particularly nurses and charge nurses, voiced concern over the constant transfer of COVID-19 positive patients across ward departments, a sentiment shared by members of the bed management unit. There was a general agreement among respondents that now in the presence of a vaccinated population there is little point in segregating COVID-19 positive patients anymore, with the resultant wasted bed space and associated procedural delays such measures inevitably entailed. In fact, there seemed to be a general consensus among respondents that there should be a complete discontinuation of COVID-19 restrictions throughout the whole hospital and that the system should resume with the pre-COVID-19 dynamics.

Figure 8

Theme 4 breakdown: Stakeholder suggestions to management to counteract delayed discharges

Theme 4: Stakeholder suggestions to management to counteract	**Codes**	**Strategic Level**	**Tactical Level**	**Operational Level**

<table>
<tr><td>delayed discharges</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Theme Description</td><td></td><td colspan="3">(Number of respondents / % of total respondents)
(Breakdown by profession)</td></tr>
<tr><td rowspan="5">This theme was considered to possess both inductive and deductive aspects. While its premise knows its origin from the general literature, it primarily consists of initiatives put forward by study respondents in an effort to counteract the effect of delayed discharges in the context of the case.</td><td>Initiatives proposed to decrease delayed discharges</td><td>4 / 19%
(DFT1, DFT2, Ger1, Ger2)</td><td>4 / 19%
(HST1, HST2, SW1, DLN)</td><td>13 / 62%
((Nurse1 – Nurse7), MO2, BST2, CN1, CN2, SW1, MO3)</td></tr>
<tr><td>Shortcomings of discharge lounge initiative to counteract delayed discharges</td><td>0 / 0%</td><td>0 / 0%</td><td>3 / 100%
(Nurse3, CN1)</td></tr>
<tr><td>Delay problems on day of discharge</td><td>0 / 0%</td><td>2/ 25%
(HST2, DLN))</td><td>4 / 75%
(Nurse4, Nurse7, CN1, CN2)</td></tr>
<tr><td colspan="4">Quotes</td></tr>
<tr><td colspan="4">“The way forward is the community. More human resources in the community. Services we have, but to get those services and make them more efficient and faster you need more people” (Nurse 5: Operational level)
“The discharge process must start on the date of admission. We need an algorithm, a plan sort of. For example, a fracture hip patient can be organised as a plan according to age group. A 40-year old hip fracture patient has different needs than an 80-year old patient with the same condition. Some need rehab more readily than others” (Director: Strategic level)

“So you have check lists at the emergency department, that's the input part of it. I am not talking about turning patients away, but just allowing doctors to do their job properly at the emergency department and if they think the patient does not merit to be admitted then their decision stands. Getting social cases who are not fully dependent into their own home with a roster of carers going to and from their homes all day is how you increase the output” (Nurse6: Operational)</td></tr>
</table>

	"I would think revamping the nursing homes would be a very useful change….I mean making the nursing homes more equipped to take care of even more acute patients. Old people are sent too often to MDH from nursing homes just because they cannot cope with even the smallest of medical problems. They need more help. If they can deal with some basic stuff it will greatly help with MDH admissions as well as with the relocation problem" (Geriatrician 2: Tactical/Strategic)

This theme emerged inductively from a direct interview question posed to all stakeholders who took part in the interview sessions. One thing that became immediately apparent was that respondents' answers as regards system improvement in the cases' setting (ie. MDH) involved changes throughout the whole hospital or the health system at large. This contrasted greatly to initiatives worldwide uncovered by the literature, which initiatives predominantly involved specific ward settings, with suggested changes consisting of small ward-based easily manageable interventions to lessen the impact of delays in patient discharge.

Respondents at the tactical/strategic level placed particular emphasis on the importance of strengthening the shift from hospital care to the community, lessening the burden on acute care settings through less bed-blocking and general bed occupancy waste as a result of long-term-care patients and patients waiting for transition to rehabilitation. This also included better (and earlier) discharge planning and a rigid admission protocol at the A+E department to strictly filter out genuine individuals seeking (and deserving) medical care from other cases who are out solely to abuse the system through entering it with the intention of getting stuck therein indefinitely. In turn, participants at the operational level expressed concern regarding the timing of discharge letter completion.

A comprehensive suggestion to improve discharge letter timing revolved around the assignment of a daily team of doctors on a shift bases, whose only job would be to go through

ward departments to complete discharge letters. Such an initiative, apart from the intended benefit of having beds vacated earlier on in the day, would also have resulted in firm doctors having more time to focus on patient care and other duties. Medical professionals also highlighted the need for faster online consultation use (rather than paper-based ones) to trigger quicker and more-timely consultation processes. From a ward management perspective charge nurses voiced some degree of concern about bed cleaning time prior to admission, as a direct result of human resource problems from the cleaning services front. Oftentimes this fact was reported as preventing more efficient admission processes, which when coupled with delays in the transportation of discharged patients from hospital to other care facilities (such as nursing homes) gave rise to unnecessary and significant drawbacks.

Figure 9

Theme 5 breakdown: Inter-stakeholder interactions

Theme 5: Inter-stakeholder interactions	**Codes**	**Strategic Level**	**Tactical Level**	**Operational Level**
Theme Description		(Number of respondents / % of total respondents) (Breakdown by profession)		
This theme revolved around the effect of health professional relationships (or lack thereof) on delays in the patient pathway and subsequent	Management support for health professionals adhering to hospital protocols	1 / 20% (DFT2)	1 / 20% (SW1)	3/ 60% (BST1, CN1, Nurse7)
	Tasks specific to professionals as related to slower work processes	1 / 40% (DFT1, Ger2)	1/ 20% (HST2)	2 / 40% (Nurse2, Nurse5)
	Role confusion	1 / 25% (DFT1)	2 / 75% (SW1, SW2)	0 / 0%

discharge. While it was inductive, this theme was built upon 7 codes, as it was tackled from multiple different perspectives from study participants	Lack of inter-professional co-operation	1 / 50% (DFT2)	1 / 50% (SW1)	0 / 0%
	Delays of medical professionals in acting	1 / 50% (DFT2)	0 / 0%	1 / 50% (Nurse5)
	Long-term care problems leading to staff alienation/demotivation	0 / 0%	1 / 33.3% (DLN)	2 / 66.6% (CN2, Nurse6)
	Inter-professional collaboration	1/ 20% (DFT2)	4 / 80% (Ger1, Ger2, SW1, SW2)	0 / 0%
	Quotes			
	"And most doctors, especially junior ones, don't really know what specialities like social workers, occupational therapists or geriatricians are exactly for. So they end up making wrong consultations and summoning health professionals that have nothing to do with the task involved" (Social worker 1: Operational/Tactical level) *"They confuse us a lot of with the DFTs…doctors confuse us a lot. DFTs are involved when the patient is not discharged. We are involved when the patient is to be discharged to his own home but there is something that may be making it difficult. The doctors keep referring us and the DFTs by mistake"* (Discharge Liaison Nurse: Operational/Tactical level) *"Doctors keep forgetting this…they confuse us with the DLN and with other health professionals and they immediately refer to us when they think the patient will have difficulty returning home. For us to review the patient, first the patient needs to have been reviewed by a geriatrician first and declared not for rehab. A social worker review also needs to have been done before we come, and the patient needs to have been discharged from medical point of view"* (Discharge Facilitation Team 2: Tactical/Strategic)			

This theme was created as a direct result of a combination of inter-stakeholder politics and lack of optimal collaboration between different health professionals. Respondents across the board reported a general lack of communication and role confusion which directly impacted their work and often resulted in the unnecessary creation of delays in the patient's care pathway. Operational level employees agreed that there was a degree of an unnecessary bureaucratic element to patient care (especially with regard to the long-term-care process) which prevented the timely provision of care. This included the fact that almost everything required a medical professional's go-ahead to take place, which clogged the speed of work-related transactions. When such a shortcoming was coupled with an element of role confusion (in the form of consultations being sent to the wrong health professionals), it inevitably led to even greater delays in the patient's journey through the hospital care system. Tactical stakeholders, most particularly the bed management unit, reported regular communication breakdowns between them and ward departments and the A+E department, leading to the redundant assignment /transfer and re-transfer of patients and the resultant delay in treatment provision.

Figure 10

Theme 6 breakdown: The impact of external factors on delayed discharges

Theme 6: The impact of external factors on delayed discharges	**Codes**	**Strategic Level**	**Tactical Level**	**Operational Level**
Theme Description		(Number of respondents / % of total respondents) (Breakdown by profession)		
This theme consisted of 5 codes and was inductive in	Availability of social services in the community	1 / 5.5% (DFT1)	4 / 22.2% (SW1, HST2, Ger1, Ger2)	13 / 72.5% ((Nurse1 – Nurse7), MO3, BST3, BST2,

nature, in that it had a very strong presence in the general literature. It mainly deals with the direct/indirect effects of delayed discharges on all stakeholders involved.	and the impact on delays			CN2, SW2, DLN)
	Family support at home	3 / 17.6% (DFT2, SW2)	4 / 17.6% (Ger1, Ger2, HST2)	11 / 74.8% (BST1, BST2, (Nurse1 – Nurse6), CN1, MO3, DLN)
	Age as a factor impacting delayed discharges	0 / 0%	3/ 25% (HST2, SW1, DLN)	9 / 75% ((Nurse1 – Nurse6), CN1, CN2, MO3)
	Long-term care beds' availability as related to delayed discharges	3/ 37.5% (DFT2, Ger1, Ger2)	0 / 0%	5/ 62.5% (Nurse2, Nurse4, Nurse5, MO3, BST3)
	Lack of proper resources	2/ 40% (DFT2, Ger2)	2/ 40% (SW2, DLN)	1 / 20% (MO3)
	Quotes			
	"One very common problem is lack of resources in the community. I mean here in hospital you have a lot of resources like doctors, nurses and social workers. But when you go to the community you find nothing. Even medical things, like equipment, we have everything here in hospital like the beds and physiotherapy equipment. But when you go to the community you find nothing" (Social Worker 2: Operational/Tactical level) *"First of all there are no beds in long-term care…no available bed I mean. Nowadays it takes about a week to find a bed in rehab, which is very good"* (Nurse 2: Operational level) *"Then the patient is flagged for long-term care relatively fast but then it may take months before an actual care home is found…so the process is fast, but it is useless without finding a care home equally as fast"* (Geriatrician 1: Operational/Tactical level)			

	"They either need the human presence or they need to know that people are but a phone call away. For example in day care with the day surgeries, patients are very often reluctant to be discharge home the day after surgery. They tell you what shall I do if I have pain or I encounter a difficulty. The fact that they are told that a nurse will check on them the following day or that they can phone with a difficulty at any time, or better yet that somebody will phone to check on them. It helps a lot and it makes people feel safe and it makes them not mind staying at home rather than in hospital" (Director: Strategic)

This theme pointed towards the impact of factors outside the case study setting on delayed discharges. Participants shed light on a number of factors that played a direct/indirect role on the phenomenon under investigation from outside the parameters of the case. Respondents seemed to unanimously agree that the shortage of long-term-care/rehabilitation beds was the primary cause of bed-blocking in MDH, and the resultant discharge delays ensuing due to flagged long-term-care cases not being transferred for weeks/months on end. Social worker and discharge liaison staff, in turn, placed great emphasis on both human resource shortage as well as lack of equipment (such as motorised beds and lifting equipment) and supplies in the community. This lack of resources in people's homes, and in some cases even in long-term-care facilities (like naso-gastric equipment and care) oftentimes resulted in patients getting stuck in hospital for long periods of time. Discharge facilitation team respondents agreed with this assessment, also insisting that there was in some cases an altogether lack of family support. The problem revolved around both the capacity, and at times even the will, of the patient's family members to contribute to the care of their loved one in his/her own home (even with the help of the many available existing community-based services).

Although community services were, in turn, recognised as being adequate by most respondents, the issue of not having constant human presence at home was greatly reported as

affecting the probability of an elderly person to opt to live in his/her own community. Discharge facilitation team members also mentioned the time it took for a community service to kick off and start serving people in their own homes sometimes led to delays in the discharge process. At this point it would be of benefit to state that almost all participants recognised that a delayed discharge, however short, placed a patient in harm's way in terms of contracting a nosocomial (hospital-acquired) infection and resorting to higher dependency levels (more so in elderly patients).

Figure 11

Theme 7 breakdown: Procedural delays directly impacting delayed discharges

Theme 7: Procedural delays directly impacting delayed discharges	**Codes**	**Strategic Level**	**Tactical Level**	**Operational Level**
Theme Description		(Number of respondents / % of total respondents) (Breakdown by profession)		
This theme addressed procedural delays as contributors to delays in patient discharge and the overall patients' stay in hospital. It is strongly present in the general literature and was thereby inductive in nature.	Delayed discharges as part of daily work life	0 /0%	1 / 16% (DLN)	5 / 84% (MO1, Nurse3, Nurse 5, CN1, Nurse 7)
	Procedural delays as park of daily work life	1 / 6% (Ger 1)	1 / 6% (HST2)	13 / 88% ((Nurse1 – Nurse6), MO1, BST1, CN1, CN2, MO3, BST3, SW2)
	Most common form of procedural delays	0 / 0%	1 / 25% (HST1)	3 / 75% (BST2, Nurse4)

However, it emerged with a variety of different codes that were altogether deductive in nature, adding relevance to the theme				
	Work redundancy as part of daily work life	1 / 7.6% (DFT2)	1 / 7.6% (HST2)	11 / 84.8% (MO1, MO2, (Nurse1 – Nurse7), CN1, MO3, BST3)
	Procedural delays as being speciality specific	0 / 0%	0 / 0%	2 / 100% (Nurse2, Nurse4)
	Procedural delays as related to nosocomial infections	0 / 0%	1 / 25% (DLN)	2 / 75% Nurse2 – Nurse4)
	Quotes			
	"…when it comes to X-rays, they are very easy to get but CT scans are especially hard sometimes, as sometimes I have patients getting to stay in hospital just waiting for the CT scan to be done" (Geriatrician 1: Operational/Tactical level) *"But ortho surgery is not as efficient as the rest. Patients wait for a lot of days…the urgent trauma cases…as they get to be operated on if there is space in between the scheduled elective cases. It's a very complicated and frustrating system…"* (Charge Nurse 2: Operational/Tactical level) *"The social workers and the geriatrician take a long time to review the patient and the flagging process takes long to do. I am all for the charge nurse of the ward flagging the patient rather than the DFT because it saves a lot of time and it is in the interest of MDH to flag the patient as quickly as possible because it saves on bed waste and also on finances"* (Director: Strategic)			

This theme emerged both from the literature as well as from the findings of this case study. Respondents at the operational level (ie. nurses and doctors) identified a system that was very loaded with bureaucracy and excess paperwork for consultations to be done. Delays related to medical imaging were not uncommon (especially for MRIs) as were other delays

pertaining to theatres (most particularly in the case of urgent orthopaedic surgery). Charge nurses mentioned transport delays on more than one occasion, together with the excess time it took for discharge letters to be completed on the day of discharge. On a tactical level the bed management unit voiced concerns related to logistical problems in relation to patient transfers in between wards as well as between the A+E department and ward areas.

Phase 1 findings provided a wide repertoire of points of view from a vast number of health professions as regards delays in patient discharge from a systematic and procedural standpoint in the case under study. This was in line with Research Question 2, where the researcher aimed at utilising the qualitative effort to extract data from MDH health professionals through their everyday work experiences. This data will be amalgamated with the one derived from Phase 2's quantitative research effort in the discussion section.

4.3: Phase 2: Findings from medical record analysis

Phase 1 findings provided a very solid foundation via a detailed and in-depth qualitative outlook on delayed discharges, based on the experiences of health professionals. This offered a multi-stakeholder perspective, and although it consisted of relatively subjective views, the wide variety of participants involved greatly contributed to mitigate such a shortcoming. In this next section the outcomes from a quantitative medical record analysis effort were presented. The results from both phases of the research, in relation to how they compared to each other, were discussed in detail in the discussion section. At this point it sufficed to reiterate that the use of this method of research tool/methodological triangulation formed the basis of the strength of this study, where the rigor of research outcomes was consolidated through a system of result repeatability/reproducibility from both research phases.

The data collected from the medical record analysis was organised in an excel sheet, as already described in the methodology section (See Appendix 2). Males made up the majority of the sample (57%), perhaps partly due to the fact that overall males typically made up the majority of total hospital admissions (Hospital Activity Report, 2022). The absolute majority of the sample's age, in turn, was above the 66-year age group (93.1%). In addition, average length of stay seemed to increase with patient's age, while being more pronounced in the medicine and orthopaedic speciality patients (23.5 days and 25.1 days respectively). The proportion of inappropriate days as a factor of total days spent by the quantitative sample stood at approximately 50%, with the absolute majority of the sample consisting of patients under the care of 'medicine' firms (65.9%), followed by surgical patients (17.7%). The following table (Table 8) provides a demographic outlook of the sample, together with average length of stay and proportion of assigned inappropriate days according to each demographic parameter.

Table 8

Phase 2 sample demographics in relation to average length of stay and frequency of inappropriate days

Gender		**Frequency (% of total)**	**Average length of stay (days)**	**Inappropriate days frequency (% of total)**
	Male	127 (57)	24.7	1543 (61.7)
	Female	93 (43)	19.8	962 (38.3)
Age (years)				
	<25	0 (0)	0	0 (0)
	26-35	4 (1.8)	9.7	7 (0.28)
	36-45	9 (4)	11.6	23 (0.92)
	46-55	23 (10.4)	14.8	47 (1.89)
	56-65	31 (14)	14.1	123 (4.96)

	66-75	53 (24)	22.9	561 (22.6)
	76-85	67 (30.4)	23.9	780 (31.5)
	>86	44 (20)	33	966 (39)
Speciality				
	Medicine	145 (65.9)	23.5	1969 (79.5)
	Surgery	39 (17.7)	19.3	279 (11.27)
	Urology	7 (3.1)	17.2	22 (0.88)
	Orthopaedic	7 (3.1)	25.1	118 (4.8)
	Vascular	22 (10)	20.2	119 (4.8)

Each record in the data set was also examined, recording the cause of delays in each record and the duration of that delay. This process was carried out for all the records in the sample. Table 9 (below) represents the cause of inappropriate days and the duration of those delays for each patient included in the quantitative medical record analysis. At this point it would be beneficial to state that the researcher also included delays undetected by the AEP model, which were typically those that fell within the confines of an ‘appropriate day’ but which nonetheless were present. These undetected delays amounted to 343 inappropriate days and were primarily composed of delays related to medical imaging procedures (103 days), waiting for consultation (85 days) and waiting for geriatrician review (59 days). The following table (Table 9) provides a tabular representation of how each cause of delay related to patient’s age, gender and the speciality under which the patient was admitted. As can be noted, inappropriate days seemed to be mainly concentrated in the ‘Medicine’ speciality, while also increasing with the patients’ age group. This variable was, in turn, not found to be sensitive to patients’ gender.

The patient’s medical condition was not included in the course of this thesis, as regards its effect on delays in discharge. Although this by no means denoted that such a variable was

not significant in the context of the study, it was however deemed to be a very potentially strong confounder when it came to data analysis and resultant research findings. This is because patients included in this study had a very high propensity for co-morbidities (mainly due to the sample consisting primarily of elderly patients). Although the researcher could have involved the presenting admission complaint as the 'patient condition' variable, and used that to compare statistically against the frequency of appropriate/inappropriate days, that would have led to a very misleading set of results. The fact is that it is very difficult to determine which one of the vast number of patient co-morbidities (very often unrelated to the presenting admission complaint) would have been responsible for any incurred delays, particularly in the context of this medical record analysis relying solely on physical (and often inaccurate/incomplete) medical notes rather than well-updated digital information. For this reason, it was deemed as being overall in the best interest of the outcomes of this research investigation to altogether abstain from analysing the 'patient condition/presenting admission' factor in the context of delays. In spite of this issue, the researcher strongly recommends future research efforts to delve into this very pertinent aspect of research, perhaps utilising different research methods based on the future existence of more reliable and comprehensive digital medical record keeping (which would hopefully be less likely to be prone to risks related to confounding).

	Total (% of total) of inappropriate days	**Gender** (Frequency (% of total))		**Age Range (years)** (Frequency (% of total))								**Speciality** (Frequency (% of total))				
		Male	Female	<25	26-35	36-45	46-55	56-65	66-75	76-85	>85	Medical	Surgical	Orthopaedic	Urology	Vascular
Awaiting long-term care	**1140 (45.4)**	23 (65.7)	12 (34.3)	0 (0)	0 (0)	0 (0)	0 (0)	2 (5.7)	8 (22.8)	8 (22.8)	17 (51.3)	31 (88.5)	3 (8.5)	0 (0)	0 (0)	1 (3)
Awaiting rehabilitation	**365 (14.5)**	12 (50)	12 (50)	0 (0)	0 (0)	0 (0)	1 (4.1)	0 (0)	2 (8.2)	13 (45.1)	8 (32.8)	11 (41.3)	5 (20.8)	1 (4.1)	6 (12.3)	1 (4.1)
Awaiting DFT review	**30 (1.16)**	4 (50)	4 (50)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (25)	2 (25)	4 (50)	8 (100)	0 (0)	0 (0)	0 (0)	0 (0)
Awaiting social worker review	**115 (4.59)**	13 (46.4)	15 (53.6)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	6 (21.4)	10 (35.8)	12 (42.8)	24 (85.7)	3 (10.7)	0 (0)	1 (3.6)	0 (0)
Awaiting geriatrician review	**122 (4.89)**	19 (55.8)	15 (44.2)	0 (0)	0 (0)	0 (5)	1 (2.94)	0 (0)	4 (11.7)	12 (35.2)	17 (50.3)	25 (73.5)	3 (8.8)	0 (0)	5 (14.7)	1 (3)
Awaiting consultation	**154 (6.13)**	23 (52.2)	21 (47.8)	0 (0)	1 (2.2)	1 (2.2)	6 (14.2)	6 (14.2)	13 (29.5)	12 (26.4)	5 (11.3)	36 (81.8)	4 (9.4)	1 (2.2)	3 (6.6)	0 (0)
Awaiting theatre	**7 (0.28)**	8 (72.7)	3 (27.3)	0 (0)	0 (0)	0 (0)	2 (18)	1 (9)	3 (27.3)	5 (55.7)	0 (0)	1 (9)	5 (45.7)	0 (0)	2 (18)	3 (27.3)

Awaiting relocation	**25 (0.85)**	2 (50)	2 (50)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (25)	3 (75)	4 (100)	0 (0)	0 (0)	0 (0)	0 (0)
Awaiting Medical Imaging	**175 (6.93)**	27 (50.9)	26 (49.1)	0 (0)	1 (1.8)	2 (3.6)	6 (11.3)	8 (14.4)	15 (28.3)	17 (32)	4 (7.2)	28 (52.8)	14 (26.4)	5 (9.4)	3 (5.6)	3 (5.6)
Awaiting relatives meeting	**14 (0.16)**	2 (50)	2 (50)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (50)	1 (25)	1 (25)	4 (100)	0 (0)	0 (0)	0 (0)	0 (0)
Management red-tape	**29 (1.13)**	4 (100)	0 (0)	0 (0)	0 (0)	1 (25)	1 (25)	2 (50)	0 (0)	0 (0)	0 (0)	3 (75)	1 (25)	0 (0)	0 (0)	0 (0)
Awaiting oncology transfer	**11 (0.43)**	2 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (50)	1 (50)	0 (0)	2 (100)	0 (0)	0 (0)	0 (0)	0 (0)
COVID-19 related delays	**240 (9.56)**	11 (42.3)	15 (57.7)	0 (0)	0 (0)	2 (7.6)	1 (3.8)	4 (15.2)	9 (34.6)	4 (15.2)	6 (23.6)	18 (69.2)	4 (15.2)	1 (3.8)	0 (0)	3 (11.8)
Awaiting speech Language Pathologist review	**28 (1.10)**	7 (70)	3 (30)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (10)	3 (30)	6 (60)	9 (90)	0 (0)	1 (10)	0 (0)	0 (0)
Awaiting dietitian review	**44 (1.72)**	3 (42.8)	4 (57.2)	0 (0)	0 (0)	1 (14.3)	0 (0)	0 (0)	1 (14.3)	3 (42.8)	2 (28.5)	7 (100)	0 (0)	0 (0)	0 (0)	0 (0)

Table 9 : *Causes of inappropriate days in relation to patients' gender, age group and medical speciality*

All medical record analysis data was then transferred to an SPSS spreadsheet, which is a statistical software specifically designed to compute accurate statistical analysis. This study, as already stated in the methodology chapter, made use of a quota sampling technique, meaning the sample was non-random and the derived data did not follow a normal distribution. This is because medical records were chosen according to a specific (and pre-determined) set of criteria and they were chosen as they occurred in a 'real life' situation. It was deemed as being highly beneficial to analyse the quantitative data in terms of how causes of delayed discharges were statistically related to patient demographics (ie. gender, age and medical speciality), thereby testing this relationship for statistical significance.

Statistical significance denotes that if in reality there was no difference between the studied groups, findings would randomly occur at most more than once out of 20 trials (characterised by a p-value less than or equal to 0.05) (Heston and King, 2017). The term 'p-value' in turn denotes the probability that a particular statistical measure of an assumed probability distribution will be greater or equal to observed results (Greenland et al., 2017). A p-value of less than or equal to 0.05 was typically considered to be statistically significant, in which case the null hypothesis should have been rejected. A p-value of more than 0.05 meant that deviation from the null hypothesis was not statistically significant, in which case the null hypothesis is retained (Greenland et al., 2017). Before carrying out this exercise the parameters of the null and alternative hypothesis were set, namely:

- Null hypothesis: There is no statistically significant relationship between the number and cause of inappropriate days and the patient's age, gender and medical speciality. This means that the 'inappropriate days' variable remains the same across all areas of the 'age', 'gender', and 'medical speciality' variables.

- Alternative hypothesis: There is a statistically significant relationship between the number and cause of inappropriate days and the patient's age, gender and medical speciality. This means that the 'inappropriate days' variable does not remain the same across all areas of the 'age', 'gender' and 'medical speciality' variables.

The use of non-parametric statistical tests was deemed as being pertinent to the needs of this research for the comparison of the dependent variable 'inappropriate days' with the independent variables 'gender', 'age', and 'medical speciality'. Chavan and Kulkani (2017) defined a non-parametric test as being the statistical significance tool of choice when dealing with a population that does not follow a normal distribution, particularly in the absence of a random sampling technique. An expert statistician was consulted for the purpose of identifying which non-parametric test best suited which variable comparisons, in terms of deriving the most reliable statistical values. This was done as follows:

- The 'gender' variable was compared with the 'inappropriate days' variable using the Mann-Whitney U test.
- The 'age' variable was compared with the 'inappropriate days' variable using the Spearman Rank Correlation test
- The 'medical speciality' variable was compared with the 'inappropriate days' using the Kruskall-Wallis test

Table 10 (below) provides an overall representation of the results obtained.

Table 10

Statistical significant relationships between causes of inappropriate days and patients' age, gender and medical speciality

Cause of inappropriate days	Inappropriate days frequency / % of total (standard deviation)	Gender (p-value)	Age (p-value)	Medical Speciality (p-value)	Confidence interval (95%)	
					High	Low
Awaiting long-term care	1140/45.4 (15.54)	0.059	**<u><0.001</u>**	0.121	4.6	8.76
Awaiting rehabilitation	365/14.5 (6.11)	0.453	**<u><0.001</u>**	**<u><0.001</u>**	0.98	2.62
Awaiting Discharge Facilitation Team	30/1.16 (0.56)	0.823	0.062	0.523	0.021	0.17
Awaiting Geriatrician	122/4.89 (1.15)	0.672	**<u><0.001</u>**	**<u><0.001</u>**	0.26	0.57
Awaiting consultation	154/6.13 (1.13)	0.714	0.51	0.33	0.32	0.63
Awaiting theatre	7/0.28 (1.52)	0.159	0.21	**<u><0.001</u>**	0.10	0.50
Awaiting relocation	25/0.85 (2.47)	0.874	0.006	0.770	0.26	0.63
Awaiting Medical Imaging	175/6.93 (1.45)	0.863	0.26	0.002	0.40	0.79
Awaiting Oncology transfer	11/0.43 (1.05)	0.186	0.571	0.925	0.05	0.22
Awaiting relative meeting	14/0.16 (0.67)	0.479	0.361	0.852	-0.02	0.15
Management red-tape	29/1.13 (0.83)	0.06	0.58	0.944	-0.01	0.21
COVID-related delays	240/9.56 (2.76)	0.480	0.978	0.118	0.51	1.24
Awaiting Speech Language Pathologist	28/1.10 (0.44)	0.145	0.002	0.383	0.014	0.13

Awaiting Dietician	44/1.72 (0.64)	0.361	0.29	0.283	-0.02	0.19
Awaiting Social Worker	115/4.59 (1.21)	0.589	**<0.001**	**<0.001**	0.28	0.60
Awaiting Discharge Liaison Nurse	0/0 (0)	0	0	0	0	0

Table 10 (above) uncovered the extent of statistical significance in the relationship between inappropriate days and patient demographics (namely gender, age and medical speciality). Patient's gender and inappropriate delays were not found to be statistically significant across the board, meaning that the delays identified in this study were not based on whether a patient was male or female. There was, in turn, found to be a very strong statistical significance (p-value < 0.001) between some cases of (awaiting rehabilitation, awaiting geriatrician, and awaiting theatre) inappropriate days and medical speciality. Patients' age was also found to be very closely linked (p-value < 0.001) to long-term care and rehabilitation delays and the related health professional delays (ie. awaiting for geriatrician and social worker reviews). Due to the low number of delay occurrences for some causes of inappropriate days (namely awaiting theatre, awaiting oncology transfer, and awaiting relative meeting), the derived statistics may not have been reliable enough to reflect reality. This drawback could be mitigated in future research by employing larger sample sizes.

Although inappropriate days (ie. delays) were at the core of this thesis' research efforts, the way the representation of appropriate delays derived from the medical record analysis sample were disseminated was also given due attention (Table 11 below). It is important to note that the percentage values represented below did not add up to 100% due to the fact that the sample patient medical record may have fallen under multiple sub-headings in the AEP model. As can be noted, the absolute majority of appropriate days fell under the 'Nursing/Life

Support' section of the AEP model (4537 days), with IV therapy, vital sign monitoring by nursing staff, and essential close monitoring by doctor/nurse emerging as the most common causes of appropriate days. The 'medical services' section of the AEP model was the second most prevalent (1891 days), followed by the 'patient condition factors' section (116 days).

Table 11

Causes for appropriate days as per AEP model results

Section	Item	Days (% total appropriate days)
Medical Services	Procedure in operating room today	324 (13.2)
	Scheduled for procedure in operating room the next day	63 (2.5)
	Scheduled for procedure in theatre on the day	49 (2.0)
	Medical imaging procedure on the day	240 (9.8)
	Pre-operative control of medical condition prior to surgery	18 (0.73)
	Any test requiring strict dietary control	21 (0.86)
	Referral to another speciality unit today	154 (6.31)
	Essential close monitoring by a doctor/nurse on a daily basis	1022 (41.9)
	Total for 'Medical Services'	**1891 (77.5)**
Nursing/Life Support Services	Respiratory care – intermittent or continuous respiratory support or inhalation therapy including chest PT	352 (14.4)
	Parenteral therapy including continuous/intermittent fluids or treatment	1476 (60.5)
	Essential vital signs monitoring by nurses	1667 (68.4)
	IM or subcut injections (excluding insulin) at least two times a day	236 (9.68)
	Input/output measurement required by doctors	602 (24.7)
	Major surgical wound or drainage care	204 (8.37)
	Total for 'Nursing/Life Support Services'	**4537 (186)**
Patient condition factors	Inability to void or move bowels (more than 24 hours) not attributable to neurologic disorders	10 (0.41)
	Potentially serious condition suspected	7 (0.28)
	Transfusion due to blood loss	52 (2.13)
	ECG evidence of acute cardiac condition	13 (0.53)

	High fever of more than 100F if patient was not admitted with fever	27 (1.10)
	Low GCS scores (especially if newly developed)	17 (0.69)
	Total for 'Patient condition factors'	**116 (4.75)**

The 'Comments' section of the AEP model was analysed in detail, considering the day-by-day activities of each patient from admission to discharge for the medical records sample. The result of this analysis was organised into a spreadsheet (See Appendix 2). This exercise was very effective in depicting a map-like outline of the day-by-day activity dynamics, uncovering trends associated with the tendency of identifying which delays occurred at which stage (or day) in the patients' stay. (See Figure 12 and 13 below). These activities were then replaced by actual numbers, with each number representing activities that occurred on that particular day.

The purpose of this exercise allowed for the tracking of peaks and valleys in patient activity throughout his/her stay in MDH, uncovering which days saw most activities (from Day 1 to Day 20) during the course of the patient's stay in hospital. The level of patient activity tended to decrease (gradually or otherwise) as length of stay progressed, with delays being more easily identifiable with the passing of the days. The researcher also analysed the same spreadsheet for inactive days through the course of the patient's stay (from Day 1 to Day 20). Inactive days denoted the presence of delays, and the significance of this exercise was to identify at which stage in the patient's stay were delays the most prevalent. It could be clearly noted that the number of inactive days increased in a directly proportional manner along the length of stay continuum.

Figure 12:

Patient-related activity from Day 1 to Day 20 in the patient's hospital stay

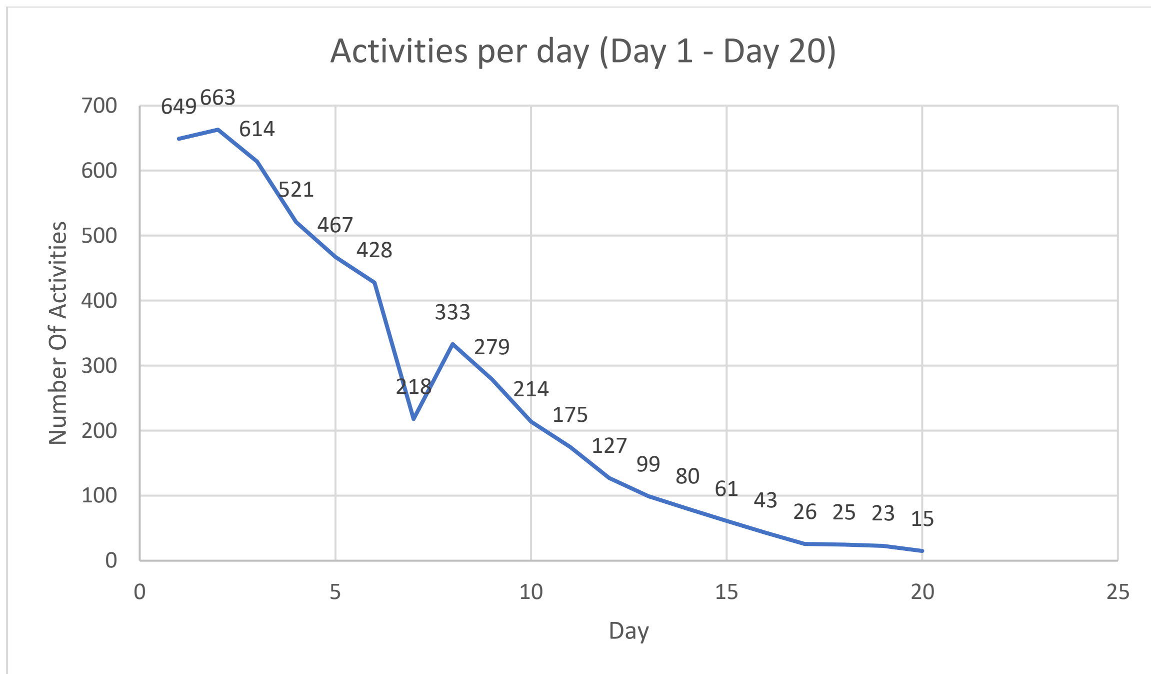
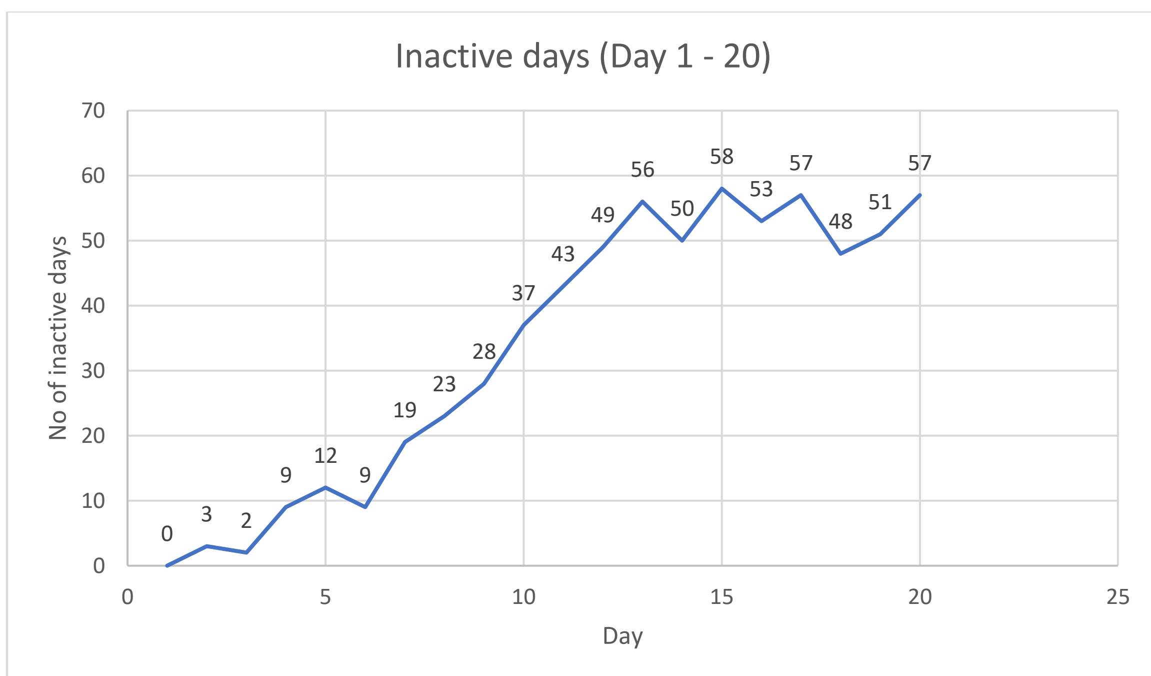


Figure 13

Frequency of inactive days from Day 1 to Day 20 in the patient's hospital stay



The case study findings were deemed as being catalysts in improving MDH patient flow dynamics and a very effective tool in jumpstarting a system aimed at assessing, evaluating and (to some extent) predicting delays in patient discharge. In this section the acquired quantitative findings were utilised, more particularly the causes of delays, to extrapolate the needs emerging from the two specific admission units for the whole year. As was already explained in the methodology section, the quantitative medical record sample was chosen chronologically from the admission books of two admission units in MDH, excluding records where patients did not exceed a length of stay of 7 days and those falling under specialities that function apart from MDH's general ward protocols. This chronological quota/criterion sampling technique yielded 220 medical patient records (with the data collected spanning from October to December 2024).

An expert mathematician was consulted and together it was agreed that the only way to determine yearly quotas of delays and their associated costs was through the process of extrapolation, by adjusting the values derived from the sample according to the proportion of the year represented. So, for the year 2024, where the chronological collection of data took place between October and December, thereby covering 3 months (ie. one-forth) of the year, derived values were multiplied by a factor of four. While the accuracy limitations of this method were recognised, this strategy was however deemed to be beneficial in the construction of a costing structure revolving around demand and supply issues related to delayed discharges. Table 12 (below) represents the extrapolated values for the causes of delays for 2024 in the two specific admission units utilised for this research investigation. These values only represented a picture for patients admitted to the admission units utilised for quantitative medical record analysis and could not be generalised to the whole of MDH. However, similar methods could be used throughout various ward settings in MDH in an attempt to derive a general overview of yearly needs and demands.

To effectively convey the significance of discharge delays to higher levels of health management, the researcher converted the delay values into monetary terms, representing inappropriate day frequencies as estimated annual financial costs. This was done through the application of hospital bed cost/day. The bed costs/day only covered specialities used in this thesis and reflected solely sub-speciality areas. The researcher also did not investigate the cost per procedure but concentrated his efforts on the cost per day of length of stay. For this reason, the cost values quoted in Table 12 were not accurate and did not reflect a detailed account of a 'procedure by procedure' costing method but an overarching 'number of bed-days' based system. The MDH billing section was contacted and the researcher was informed that the cost/day of a bed in MDH (in a normal medical/surgical ward setting) was €256.25. This amount seemed to be in line with the one quoted by Fearne (2018), standing between €163 and €347. This value (€256.25) was utilised as the basis for calculating the annual expenses related to each cause of delayed discharges (in the two admission units included in this study) for 2024.

Table 12

Costing for inappropriate days for Phase 2 sample

Over-arching cause of delayed discharges	Associated causes	No. of inappropriate days (actual)(annual)	No. of records (actual)(annual)	Associated cost (actual)(annual) (€)
Waiting for Long-term care/rehabilitation problem				
	Awaiting long-term care	(1140) (4560)	(35) (140)	(292,125) (1,168,500)
	Awaiting rehabilitation	(365) (1460)	(24) (96)	(93,531) (374,125)
	Awaiting Discharge Facilitation Team	(30) (120)	(8) (32)	(7,687) (30,750)

	Awaiting Social Worker	(115) (460)	(28) (112)	(29,468) (117,875)
	Awaiting Geriatrician	(122) (488)	(34) (136)	(31,262) (125,050)
	Awaiting Relocation	(25) (100)	(4) (16)	(6,406) (25,625)
	Awaiting meeting with relatives	(14) (56)	(4) (16)	(3,587) (14,350)
Health professional/procedural delays				
	Awaiting consultation	(154) (616)	(44) (176)	(39,462) (157,850)
	Awaiting Speech Language Pathologist	(28) (112)	(10) (40)	(7,175) (28,700)
	Awaiting Dietician	(44) (176)	(7) (28)	(11,275) (45,100)
	Awaiting Theatre	(7) (28)	(11) (44)	(1,792) (7,168)
	Awaiting Medical Imaging	(175) (700)	(53) (212)	(44,843) (179,375)
COVID-19-related delays				
	Quarantine delays/Swab delays	(240) (960)	(26) (104)	(61,500) (246,000)
Other managerial issues				
	Management red-tape	(29) (116)	(4) (16)	(7,431) (29,725)
Total				(640,544)(2,550,193)

Note: 'Actual' values denote values derived directly from Phase 2 data (reflecting data gathered from October – December 2024). 'Annual' values denote values extrapolated from Phase 2 data to reflect estimates for the whole year of 2024.

Table 12 (above) demonstrated that costs were directly related to the number of inappropriate days spent in hospital. The causes of delayed discharges were grouped under 4

common headings, based on the extrapolated yearly values pertaining to the admission units included in this study, allowing for an easier representation of the issues. Patients waiting for long-term care and rehabilitation (most particularly long-term care patients) by far registered the absolute bulk of the total cost for 2024, with social worker and geriatric review delays greatly contributing to the overall long-term care/rehabilitation problem. Procedural delays and COVID-19-related cost delays were also very prominent, most particularly those involving Medical Imaging/theatre/consultation delays and quarantine-related delay issues respectively. The cost of patients stuck in hospital for the sole purpose of intravenous antibiotic therapy administration was significant, a statistic worthy of particular attention.

The findings presented in this chapter provided a very thorough view of delayed discharges in the confines of the case under study. They also align with the Research Question 3 which denoted the measurement of delayed discharges through the use of the AEP model in an attempt to study the phenomenon from an operational standpoint. Though subject to a number of limitations, the research outcomes revealed a solid baseline for the complexity of the phenomenon and the occurrence of delayed discharges in an acute health setting. The multi-method approach allowed for result repeatability/reproducibility, thereby enhancing research rigor and confirmation of specific outcomes.

Chapter 5
Discussion

5.1: Introduction

This chapter discussed the research findings, exploring differences and similarities between Phase 1 and Phase 2 of this research investigation. These findings were also compared to the general literature. The implications of the main findings were highlighted, outlining the strengths and limitations of methodological decisions. Key recommendations as a direct result of derived findings were put forward, together with suggestions regarding future research efforts and a summary of main research contributions (also see Conclusion chapter).

5.2: Comparing findings with the literature-based definition of delayed discharges

In the first part of this thesis a review of the literature was conducted to derive a common definition of delayed discharges, namely "an instance where a medically-fit patient is needlessly kept in hospital due to internal organisational/operational factors or where a patient is flagged as in need of alternate level of care and is delayed because of deferred transition of care and/or lack of external transfer-of-care arrangements". This definition, as previously outlined, was constructed by utilising the definitions put forward by various authors in the literature through the years. Although the researcher made no presumption that this definition was an all-encompassing definition of the term, nonetheless it was the most comprehensible attempt to bring several views under one banner according to the frequency of occurrence of certain terms (as described in detail in the literature review section). However, this definition was an essential starting point to better understand, analyse and discuss how the findings of this thesis compared to the above-mentioned research-derived definition of delayed discharges.

From a qualitative perspective the derived themes seemed to align strongly with this definition. Although respondents varied as regards their knowledge about the phenomenon of delays in patient discharge, responses strongly reflected the issues included in the definition, namely problems related to patients being kept needlessly in hospital, organisational dynamics and transfer of care issues. Other factors emerged which were not in line with this definition (system abuse and COVID-19 related issues among others). This was attributed to the subjective setting of the case and the cultural properties of the population under investigation (except for the COVID-19 issue which was just a matter of an unprecedented series of events that could not have been predicted pre-2020). This was deemed true since the above-mentioned themes were not reflected in the literature at all (and could thereby only be deemed as pertaining to this particular research investigation).

This issue was complex to assess from the derived quantitative data. This was due to the fact that the research tool utilised for Phase 1 of the study was based on the findings of the literature review, while Phase 2 (ie. the quantitative part) data was gathered from medical record analysis, through the utilisation of the AEP model. It was evident that waiting times for transfer of care arrangements (whether to long-term-care or rehabilitation facilities) emerged as the factors mostly responsible for inappropriate days (a combined 59.9% of total inappropriate days attributed to waiting for long-term care and rehabilitation), followed by procedural delays of various kinds. Although this may have been interpreted as being congruent with the definition of delayed discharges, there were however several factors uncovered that stood apart, and as in the case of qualitative data analysis, could be attributed to the specific case setting and the health professional culture therein. This included waiting for specific health professional reviews and medical procedures. These aspects were further discussed in detail in the next section.

From this analysis I managed to extract a very important conclusion. Although the literature-based definition of delayed discharges was found to be present in the case study findings, those findings were by no means solely limited to the confines of the definition. They in fact went beyond the definition, adding a subjective value which was unique to the case. Prior to delving into discussing study findings, it would be useful to state that oftentimes the various managerial strata (ie. strategic, tactical and operational) were found to overlap in terms of which health professionals occupied which stratum. It was, in fact, evident that the same health professionals may have found themselves occupying different managerial levels according to the issue involved. For this reason, these professionals were represented in different strata during the course of this discussion.

As already stated in the Findings chapter the qualitative effort yielded seven themes, derived from the thematic analysis process. The quantitative part of this research study, in turn, made use of the AEP model to extract information about the patient's journey through the hospital system through medical record analysis. In this section the results (pertaining to determinants and effects of delayed discharges) derived from the quantitative analysis, and at every stage the qualitative aspects will be evaluated, based on how they compared/contrasted with the specific quantitative findings.

5.3: Appropriate days: findings and justification

Before analysing the phenomenon of the 'inappropriate days' concept any further, the researcher deemed it prudent to first address what constituted the proportion of appropriate days (ie. days spent in hospital which were deemed appropriate by the AEP model), even though such data was not the primary scope of this thesis. These made up a little less than half (49.3%) of the total number of days for the medical record analysis sample. Table 11 (See

Findings chapter) provided a clear representation of this phenomenon. The 'Nursing/Life Support' services and 'Medical' Services sections of the AEP model accounted for most appropriate days (1891 and 4537 appropriate days respectively). The three major AEP model reasons for appropriate days were a) 'Essential close monitoring by a nurse/doctor on a daily basis (1022 appropriate days), b) Parenteral therapy including continuous/intermittent fluids or treatment' (1476 appropriate days) and c) 'Essential vital signs monitoring by nurses' (1667 appropriate days). Fluid output charting and medical imaging procedures were also significantly dominant in this regard (602 and 240 appropriate days respectively). These findings seemed to suggest that for the majority of the appropriate days recorded for this specific medical record sample, reasons for keeping patients in hospital revolved around routine monitoring by doctors/nurses (through daily ward rounds, routine parameter recording and routine treatment regimens), with very little acute care being provided. This absence of acute level care is further evidenced by a low appropriate day score in the 'Patient condition factors' of the AEP model (devoted to the occurrence of unprecedented urgent acute care), with a mere 116 appropriate days recorded therein, primarily characterised by transfusion episodes and the incidence of high pyrexia events (52 and 27 appropriate days respectively).

These findings pointed towards a system that was extremely 'nursing intensive', with the absolute majority of appropriate days revolving around routine nursing activities (81.8% of total appropriate day activities), with physician activities accounting for 18.4%. In turn, the dominance of routine, 'low medical intensity' activity was congruent with the demographics of the sample chosen for Phase 2. As described above, this sample was pre-dominantly composed of elderly 'medicine' speciality patients with a high average length of stay (23.1 days) and a high rate of inappropriate day occurrence (50.7% of total days). This added perspective to the relative imbalance in the AEP model findings (as regards appropriate days),

providing a baseline for the next part of this discussion chapter, namely inappropriate days and related delays.

Medical record analysis revealed that the majority of admissions were under the care of 'medicine' consultants (65.9% of total sample). This finding seemed to be in line with Mater Dei Hospital Activity reports of 2020 and 2021, where the 'medicine' department received the bulk of total hospital admissions (31.7% and 30% respectively). The 'medicine' speciality patients also recorded the highest number of inappropriate days (79.5% of total inappropriate days). Hospital Activity reports, in turn, provided evidence that the vast majority of admissions and length of stay days were attributable to the 'over 70' age group (Hospital Activity Report 2021; Hospital Activity Report, 2022). This was in line with the findings revolving around the absolute majority of the sample being in the over-66-year age group (74.4% of total sample), as did the prevalence of recorded inappropriate days (91% of total inappropriate days). These delays were found to be directly proportional to patient age-groups, meaning that the proportion of inappropriate days increased as patient's age increased. Inappropriate days, in turn, accounted for 50.7% of total length of stay for the medical record analysis sample included in this study.

While such findings warranted some degree of concern, they were however not surprising, particularly in light of the literature and the Maltese population demographics (namely characterised by an ageing population and related co-morbidity issues). The 'medicine' speciality seemed to be the most impacted by delays, perhaps even because it was also the speciality under which most of the sample was admitted. This finding was in line with the outcomes of past Hospital Activity Reports, which identified this speciality as being particularly overburdened (Hospital Activity Report, 2021; Hospital Activity Report, 2022). An inflated average sample length of stay of 23.1 days, while concerning, was however attributed to the fact that the sample was made up solely of patients with a length of stay of

more than 7 days and only from specific specialities (as specified in the methodology chapter), thereby not providing a true picture for the whole hospital.

5.4: Inappropriate days: determinants and effects

The identification of delays in patient discharge was considered to be one of the most important objectives of this research investigation. For this reason (as already stated in the methodology section) methodology triangulation was used through a blend of quantitative and qualitative data collection methods. This had the desired effect of decreasing the disadvantages of each methodological effort, leading to a set of comprehensive findings as regards the overall impact of delayed discharges on the case of this thesis. While Phase 1 yielded an in-depth perspective on the views and experiences of a variety of health professionals on the phenomenon, Phase 2 provided an unwavering picture of quantitative data from a post-COVID-19 perspective. This was the main strength of utilising a mixed method triangulated approach, with the methodological analysis methods complimenting each other in such a way as to uncover missed issues by making up for each other's weaknesses.

This study also delved into statistical significance tests as regards patient characteristics as they related to inappropriate days. Although the achievement of statistical significance was successful in some cases, there was however several instances where this was not attained. A lack of statistical significance between two variables did not, by any means, denote a lack of relationship between those same variables (particularly in light of the fact that very clear proportional relationships were established in a number of cases). It simply meant that the relationship was not as strong as it would have been, were it to be statistically significant.

Both phases of data collection and related findings homed in on the chronic problem of long-term cases (LTC)/rehabilitation cases waiting for transfer to a long-term

care/rehabilitation facility. The quantitative medical record analysis made this calamity more evident as 45.4% and 14.5% of total inappropriate days were attributed to delays related to LTC/rehabilitation transfer delays respectively. Such delays were particularly dominant in the 'medicine' speciality (88.5% and 41.3% of total inappropriate days respectively) and were primarily composed of elderly patients in the over-75-year age group (74.1% of LTC delays and 77.9 of rehabilitation delays). Phase 2 data, in fact, uncovered a statistically significant relationship between patients' age and recorded inappropriate days waiting for transfer to an LTC ($p < 0.001$) and rehabilitation facility ($p < 0.001$). Such relationships were also uncovered between medical speciality and delays attributed to waiting for geriatrician review/social worker review ($p < 0.001$) and subsequent rehabilitation transfer ($p < 0.001$).

These statistics were echoed by respondents in the qualitative interview/focus group sessions, where the focus of the problem turned out to be two-fold, namely, delays related to the flagging process and those pertaining to the actual transfer to a nursing home. While the latter issue was very commonly found in the general literature, no studies were uncovered in the literature that identified the flagging process as being a major source of delay. This finding was also absent from the statistical data derived from Phase 2, mainly due to the fact that the AEP model would not have been able to detect such delays due to their occurrence primarily prior to the patient being medically discharged (and thereby within range of what the AEP model considers to be an 'appropriate day'). There was found to be particular congruence between the delays incurred by various health professionals in Phase 2 and the feedback provided by those same health professionals during the course of the interview sessions (Phase1). From a strategic viewpoint, DFTs ($n = 2$) and Geriatricians ($n = 2$) were particularly vocal about a lack of a timely and efficient consultation system regarding LTC cases, together with a particular propensity for such cases to accumulate in 'medicine' specialities. Phase 2 sample data revealed that delays related to the reviews by the above-mentioned health

professionals were considerable, with inappropriate days attributed to delays in the DFT, social worker and geriatrician consultation process (which are typically called the 'LTC package') amounting to a collective total of 10.64% of total inappropriate days. This led to the conclusion that this issue inevitably impacted the flagging process to some extent. A degree of bureaucracy and managerial red tape was also identified by strategic Phase 1 respondents as slowing down the flagging process and delaying the patient's journey through the hospital system.

From a tactical/operational level, interview respondents identified a number of factors related to slower LTC/rehabilitation transfer process. While there seemed to be a general consensus that delays related to LTC transfer by far surpassed those for rehabilitation (an observation that also became evident from Phase 2 findings), participants (most particularly nurses (n = 6) and first/second line doctors (n = 8)) identified a high degree of related bed-blocking (in the 'medicine' speciality in particular) due to the inadequate and untimely provision of LTC/rehabilitation beds and the subsequent ensuing discharge delays. Such findings were in line with those emerging from the general literature, where delays related to social cases seemed to be a common denominator in studies addressing delayed discharges.

This supposition was further strengthened by Phase 1 respondents' propensity to refer to the general presence of system abuse by patients and relatives, which abuse was especially evident when processing individuals for long-term care or rehabilitation. Although Phase 2 did not provide any evidence related to this issue (due to the latter's inconsistency with the qualitative method), nonetheless this finding was consistently present in the absolute majority of health professionals' feedback. While interviewees at the strategic level (mainly DFTs (n = 2) and geriatricians (n = 1)) revealed a faulty discharge planning coupled with some degree of external political interference as standing at the core of such abuse, tactical/operational respondents (most particularly HSTs (n = 2), nurses (n = 4) and charge nurses (n = 1)), also

identified health professional convenience as being somewhat relevant (in addition to a flawed discharge planning process). Once again, issues related to system abuse were altogether absent from the general literature. While it stood to reason that this by no means absolved other settings from abuse, or somehow isolated MDH as being alone as an acute health setting to be subject to abuse, nonetheless it seemed to point towards a scenario where perhaps routine system abuse was more prevalently widespread (and strangely accepted as the order of the day) than other settings elsewhere. The fact that the interviewees seemed to agree that such a state of affairs ranged from admission (in the form of 'elderly people dumping', made easier by the lack of proper admission guidelines/protocols) to discharge (in the form of refusal to accept patients back home) was testament to some degree of overall system failure.

The effects of this phenomenon on the discharge process were considered to be inevitable, a consideration made all the more evident by both Phase 1 and Phase 2 findings. The presence of a faulty discharge process was, in fact, evident from respondents' answers in the form of a lack of discharge planning and the absence of a 'discharge mentality' from an early approach in the patient's hospital journey. The general literature identified the lack of proper discharge planning in terms of timing (Godden et al., 2009; Bryson, 2011) as having a direct impact on delayed discharges, with the effect of such a state of affairs extending to patients, health professionals and the overall operational processes of the acute hospital setting itself (Hollande et al., 2016; Rohatgi and Kane, 2018). Although the researcher was not able to derive a patient's perspective on the issue (due to the case study not addressing patient views), health professionals' feedback (from all three strata of management) provided ample perspective on the issue which could be extrapolated to generate a picture of the system effect. Phase 1 findings suggested an overall focus on the medical condition of the patient, with other factors relating to getting the patient back home taking a back seat and being addressed relatively late in the patient's stay (or not at all). This finding was also echoed in Phase 2 data,

where the proportion of inappropriate days seemed to increase as the patient's length of stay increased (See Findings chapter). These outcomes pointed towards shortcomings related to the discharge process itself and suggested an element of 'lateness' in its addressing. Various factors may have contributed to this. As already stated, respondents attributed delays related to lack of family support, lack/shortage of long-term care/rehabilitation beds and an over-complicated long-term care flagging process as being an unrelenting reality. This finding may have also uncovered a general shortcoming when it came to the culture of health professionals ignoring issues related to discharge until it was too late for them not to result in unnecessary delays, a reality which was hinted at by some interviewees.

The case study findings by no means singled out health professionals as being the sole actors in the creation of delayed discharges, as data also revealed a myriad of other factors responsible that stood well beyond the control of case study stakeholders. These factors presented themselves in the form of in-hospital procedural delays and problems related to variables outside of MDH. The general literature did not particularly focus on the element of procedural delays as a direct cause of delays. However, Phase 1 findings of this case study uncovered a promiscuity of delays related to medical imaging procedures, theatre procedures, discharge letter and transport delays, and the general movement of patients between ward departments. It would have been amiss not to point out that interviewees' addressing of these issues greatly varied according to the managerial stratum of their profession. While strategic level respondents (namely Geriatricians (n =1), DFTs (n = 2) and Bed management staff) were mostly concerned with issues related to availability of social services, LTC/rehabilitation bed availability and the lack of proper resources in the community, tactical level stakeholders (namely HSTs (n = 2), social workers (n = 1) and DLNs (n = 1)) focused their answers around work redundancy as it related to the consultation process, the impact of delays on the occurrence of nosocomial infections, and how lack of family support impacted the discharge

delay phenomenon. In turn, at the operational level work redundancy was by far identified as being the culprit that led to most procedural delays by both nurses (n = 7) and MOs/BSTs (n = 4) alike. This redundancy mainly revolved around tasks that could only be accomplished by way of a single health professional, namely doctors (such as the booking of nose swabs, urine samples, sputum samples etc…), when they could easily be delegated to the nursing profession (thereby speeding up the process).

As already discussed, Phase 2 findings while helping to consolidate delay problems related to the consultation process as being partly responsible for overall procedural delays, it also uncovered procedural delays related to medical imaging (6.93% of inappropriate days), theatre (0.28% of inappropriate days) and overall bureaucratic inefficiency in the form of managerial red-tape (1.13% of inappropriate days). Some tactical/operational phase 1 respondents (namely nurses (n = 3), charge nurses (n = 2) and BSTs (n = 1)) even went as far as to identify more specific scenarios that directly resulted in procedural delays. Among these was the propensity of emergency orthopaedic surgery being postponed multiple times, the long intravenous antibiotic therapy issue, and the 'warfarin' issue. Although the warfarin issue had been addressed by the general literature (Tan et al., 2007; Venkataraman and Pickard, 2015) as being a contributor to longer length of stay, specific speciality theatre issues and extensive antibiotic-induced length of stay setbacks seemed to be specific to this case. Phase 2 findings confirmed these outcomes to some extent, with theatre-related delays (most particularly in orthopaedic surgery) amounting to 7 inappropriate days and patients kept in hospital solely for intravenous antibiotic administration amounting to 237 days (considered appropriate due to their falling within the criteria of the AEP model). (N.B: theatre-related delays may have been low in the Phase 2 sample due to surgical patients making up a mere 34.1% of the medical record analysis sample). These findings, although undesirable, are beyond health professionals' control and clearly reflect system deficits that result in unavoidable setbacks.

The fact that respondents managed to home in on specific delays in specific instances (such as the emergency orthopaedic surgery problem) was considered as a very positive outcome due to its potential to be addressed by hospital management. Such outcomes were not evident in the general literature (Micallef et al., 2022).

Interviewees' particular focus on the need for community care reform also spurred a variety of delayed discharge determinants related to external factors (ie. factors that exist outside the hospital setting). This ranged from equipment and human resource shortage in the community to issues related to lack of family support and long-term/rehabilitation bed insufficiencies. Respondents, most particularly at the tactical level (namely bed-management staff (n = 2) and DNMs (n = 2), reported the effect of resultant delays on bed-blocking and emergency department overcrowding. The general literature reported external factors as being a contributor to the creation of delayed discharges, especially in the elderly. These included problems related to housing status (Feigal et al., 2014), socio-demographic characteristics (Sarfo et al., 2017), and a general inability of the family to cater for the needs of their loved ones (Mendosa et al., 2016; Bryan et al., 2006). Both Phase 1 and Phase 2 findings seemed to suggest that such external factors may have also been present in the context of the case, as evidenced by the strong presence of patients waiting for long-term care and the very high number of geriatric and social worker reviews uncovered in medical record analysis. Although social worker interviewees (n = 2) did manage to shed some light on this issue (in the form of inadequate provision of both human resources as well as pertinent equipment in the community), it could be concluded that the best way to derive such information was through the involvement of patients themselves in the case study analysis, an issue that could lay as the foundation of further research in the area. However, respondents agreed that a sense of teamwork between stakeholders was indispensable, in that all health professionals needed to strive towards the same common goal.

To this effect, difficulties were uncovered when it came to communication between acute health care and community care, a finding also echoed in the general literature in studies related to interpersonal relations between health professionals within the confines of the same acute health setting (Mann, 2016; Victor et al., 2000; Nicosia et al., 2018). Phase 1 of this case study identified a number of factors related to this calamity as interviewees across the board poured their opinions regarding a lack of inter-departmental communication and communication between different professions as standing at the core of the problem. Operational/tactical (social workers (n = 1), DLNs (n =1), nurses (n = 3) and MOs (n = 2)) employees reported a sense of role confusion and health professional over-involvement in the tackling of relatively simple tasks as slowing down the progress of patients through the system. Bed management participants and departmental managers (who form the backbone of tactical management) also drew attention to problems involving a lack of proper and accurate information exchange between ward departments and the emergency department, leading to the redundant and unnecessary movement of patients in between ward settings, delaying the start of specific medical treatment. This issue was also highlighted by charge nurses (n = 2) who reported imprecise information being shared regarding the patient's medical condition, which often led to the physical re-assignment of the patient to and from specific departments.

A general sense of resentment and incompliance on the part of operational employees was, in turn, reported by higher management participants (namely bed-management staff and DNMs) in the form of mis-reporting bed statuses and outright delaying the patient process deliberately to avoid or postpone patient progress through the system (with the aim to avoid additional workload). These findings provided ample food for thought, as the latter mentioned factor was altogether absent from the literature and seemed to be particular to the case under investigation. The issue seemed to be multi-faceted and could not be confirmed by findings from Phase 2 data, due to the fact that these factors could not be detected using the AEP

quantitative analysis method. However, this by no means decreased their relevance. In truth, a managerial problem may have been partially responsible for the general lack of teamwork where health professionals (especially those sharing different managerial levels) felt threatened by each other rather than kinks in the same chain, working towards the achievement of the same set of goals. This was in line with the findings of Nicosia et al. (2018) who stated that competing demands and tensions between health professionals directly impacted the patient's progress and ultimate discharge. Although issues relating to role confusion, miscommunication and inefficient health professional involvement were concerning, this deductive finding of 'deliberate inefficiency' was deemed worthy of particular attention. This is because such a shortcoming directly pointed towards insubordination, leading to the unethical (and borderline criminal) misuse of hospital resources that directly/indirectly led to patient harm. Such a finding was altogether absent from the general literature.

5.5: Controlling delayed discharges: strategies and interventions

The literature guided the study to inductively address the health system pushback against delayed discharges. The literature review uncovered a number of strategies employed throughout various health settings to tackle delays, which triggered the investigation of the issue in the context of the case. Phase 1 revealed what health professional stakeholders' perspectives on existing interventions looked like. One thing that this investigation was immediately able to pick upon (from Phase 1) was a general lack of knowledge on the part of respondents across the board as regards strategies (both existing and suggested) to slash delays, both on a local as well as on an international level. Despite this observation, respondents mentioned developments taking place during the course of the past few years that may or may not have been in the best interest of the elimination of delayed discharges.

The most prevalent proposed initiative revolved around the need for a shift from acute hospital care to community care, especially for the elderly and the chronically ill. Operational health professionals (most particularly nurses, lower-level doctors and DLNs) were particularly adamant about the impact of chronically dependent elderly patients being stuck in MDH due to lack of a care framework in their own homes (whether due to lack of proper family support or lack of resources). Phase 2 findings supported this claim as there were found to be major delays related to patients waiting for long-term care, leading to the creation of inappropriate days on a large scale (as already priorly mentioned in the last section). When this state of affairs was considered in light of a depleted DFT/DLN service, many respondents at the tactical/operational level felt that the situation was only prone to get worse over time. Although the investment in a relatively newly introduced home-based intravenous treatment service was considered as a positive step in the right direction (and indeed it was when considering the number of in-patient bed days solely for intravenous antibiotic treatment amounted to 237 days in the Phase 2 sample), the service was seen by respondents as being spread too thinly, so much so as to impact its overall efficacy.

Phase 1 interviewees from both tactical (HST (n = 1) and DLN (n = 2)) and operational levels (Nurses (n = 3) and charge nurses (n = 2)) also made reference to the Hospitality Lounge, which was originally aimed at hastening the vacating of beds by discharged patients on the day of discharge. Charge nurses and members of the bed management unit (from the strategic level) were particularly in favour of the setting but claimed that now, almost a decade after its creation, the Hospitality Lounge was not being utilised as it should have been, mainly due to the rigid patient acceptance criteria and limited-service time. As to the issue of discharge letter completion, although operational respondents (nurses (n = 2) and charge nurses (n = 2)) observed significant improvement as regards this variable, it still seemed to stand far from the ideal. Respondents' feedback seemed to point towards a system attempting to gain some

ground in the discharge delay prevention battle, but ultimately falling short due to a blend of resource shortage and lack of proper planning.

Perhaps such a finding may have stood behind stakeholder suggestions put forward by health professionals being more system-based rather than consisting of ward-based micro-changes as was more prevalent in the general literature. There may have been a number of reasons behind this finding, with possibly the main culprit being that government work settings coupled with Maltese culture and mentality played no small part. In fact, interviewees' answers in general seemed to consistently always point towards the solution residing in a realm outside of their work setting and professional responsibilities. This may have partially accounted for nurses and charge nurses suggesting more comprehensive discharge planning and the shift of care to the community, and medical officers opting for clearer protocols and guidelines from higher management. While the validity of such proposals was recognised in the management and prevention of delayed discharges, nonetheless the tendency of health professionals to shift the burden away from the boundaries of their job description could not be ignored. However, tactical employees (namely HSTs, BSTs and DNMs) did point towards the possible introduction of a roster-based medical professional rotation system for discharge letter completion and faster consultation processes. This finding was evident of these employees indeed having a partial finger on the pulse of the problem. In light of these findings, it was decided to attempt to compare interventions carried out in the general literature to the context of the case under investigation. The aim of this exercise was to assess the theoretical implementation of similar changes in MDH in terms of their potential for success.

Trying to predict how a particular managerial strategy aimed at decreasing delays would work on the case of this thesis was not an easy feat, and these attempts were deemed as being subject to scrutiny and multiple subjective interpretations. Strategies like the "discharge before noon" initiative (Wortheimer et al., 2014), the "72-hour discharge policy" (Levin and Crighton,

2019) and the “discharge facilitation tool” method (Greene et al., 2017) were all ward-based initiatives that yielded some degree of positive outcomes as regards discharge delays in the general literature. Although these methods required their fair share of multi-disciplinary teamwork, it would be safe to assume that compared to what changes in acute hospital operations usually entailed, they came about at a relatively low price. Could these methods be implemented in MDH? The researcher could find no evidence to the contrary. With proper piloting and gradual incremental implementation methods such strategies could exert a positive impact (however limited) on delays at the operational level, provided a “one-size fits all” approach to patient care does not become a matter of daily routine.

More tactical-based approaches involved the development of tracking lists (Butcher, 2013), the “Avoidance framework” (Hollande et al., 2016; Burr and Dickau, 2017), and the “discharge to assess” programme (Meehan et al., 2018). Both the use of tracking lists and the Avoidance framework required a very customised IT system coupled with well-researched performance indicators and standardised discharge planning procedures. For this reason, these methods were considered as being something MDH may strive to aim for in the future but was altogether not equipped to reap the benefits of just yet. As to the “Discharge to Assess” programme, MDH already partially made use of such a strategy (to a lesser extent) in the form of community services carrying out a general assessment of the needs of discharged patients in the community. This strategy must however be strengthened by a stronger DLN team presence to pave the way for a smoother transition and improve communication between acute care and community care. The literature, in turn, stressed the importance of a multi-disciplinary teamwork approach to discharge planning and the discharge process (Caminity et al., 2013; Patel et al., 2019), and in this regard the situation in MDH seemed to have serious shortcomings. This is because from the derived findings health professionals across the board seemed to be particularly concerned about their own set of professional responsibilities and

may have interpreted the crossing of professional boundaries as being imposing and unprofessional. This may in turn have led to potential conflict. It was concluded that in this regard some degree of cultural change was warranted, something that was not so easy to attain.

Despite this, it could be deduced that if interventions to lessen the impact of delayed discharges were implemented, such changes would work best if carried out from a bottom-up approach (ie. from the operational level to the tactical level and then on to the strategic level). This made sense both from an implementation as well as from a financial perspective. In fact, the literature was not particularly rich in studies involving strategic measures to counteract or prevent delays in patient discharge. The most prominent of these research investigations was the one conducted by Godden et al. (2009), which aimed to assess the effect of penalising social services for discharge delays stemming from acute hospital settings in the UK (as per the Community Care Act of 2003). Such a strategy invariably failed due to most shortcomings being linked to in-hospital problems rather than ones in the community (Godden et al., 2009). Although Godden et al.'s (2009) study was not particularly being relevant to the case under investigation (ie. MDH), it did however provide some perspective on the impracticality of intervening using a top-down approach to address the delayed discharge problem.

5.6: The COVID-19 pandemic and delayed discharges

The COVID-19 pandemic placed enormous pressure on healthcare settings around the world (El-Beheraouic et al., 2020). Data showed that at the peak of the pandemic the load on hospital resources in the U.S and the EU was well beyond health system capacity (El-Beheraouic et al., 2020). Problems ranged from ventilator and protective equipment shortage to actual human resource shortcomings, leading to staff mobilisation/relocation procedures (Hong, 2020) and a surge of increased hospital bed capacity issues (Claudia and Maier, 2020).

Although the public health emergency associated with the COVID-19 pandemic had ended, challenges remained, especially in vulnerable communities (Hsieh et al., 2023). Hsieh et al. (2023) also stated that individual challenges across counties as a direct impact of the pandemic included a widespread disruption in healthcare and medication shortages, which challenges were associated with worse disease and mental health outcomes.

Stating that the impact of the pandemic was evident in Malta is a great understatement. The case investigated in this thesis, being the primary acute general (government-run) hospital on the island received the full brunt of this calamity. The findings of this research investigation reflected upon the situation two years (Phase 1) to four years (Phase 2) after the first cases of COVID-19 were recorded (ie. 2022 and 2024). This was important to note because the fact that data was collected after a respectable amount of time, rather than at the break of the pandemic, added more perspective to the findings. This was because while respondents from Phase 1 could retrospectively reflect on events, Phase 2 data allowed the researcher to 'Zoom In' and uncover a more comprehensive view of pertinent variables.

While the literature seemed to be divided as regards the impact of the COVID-19 pandemic on acute hospital settings, the findings of this study clearly pointed towards the pandemic significantly affecting the case on all levels. Although the pandemic resulted in fewer yearly hospital admissions for the first two years in MDH (96,382 admissions in 2020 and 115, 068 admissions in 2021, amounting to a 31% and a 19% drop in admissions from 2019 respectively) (Hospital Activity Report, 2021), nonetheless the impact on delays in patient discharge was particularly evident, especially when compared to the general literature. All respondents from Phase 1 reported some degree of disruption of practically all hospital activities, with especial emphasis on staffing problems (charge nurses and DNMs), bed occupancy issues (HSTs, DFTs and social workers), logistical setbacks (Bed Management Unit and charge nurses), and factors related to swab test waiting times and quarantine periods

(nurses, MOs and BSTs). These findings were further supported by the outcomes of Phase 2, where discharge delays related to quarantine periods were of particular relevance in the quantitative data set. Quarantine delays accounted for an added burden of 176 days, while COVID-19 swab delays were responsible for 35 extra days in the medical record analysis sample (and this close to four years post-COVID-19, when these infection control measures were greatly downgraded). While the literature did report some degree of operational setbacks as a direct result of the pandemic (Guilcher et al., 2023; Hinde et al., 2021; Olanupetun, 2020), there were a number of research studies on delayed discharges post-2020 that did not seem to have been affected at all, as far as outcomes go, by the COVID-19 pandemic (Van den ende, 2023; Vinci et al., 2024). There may have been various reasons for this discrepancy.

The fact that Malta is a relatively small and a highly populated country may have contributed to higher levels of cross-infection, particularly due to the fact that MDH is the primary (and only) government-run acute general hospital on the island. This meant that the degree to which COVID-19 patients who happened to be in hospital could be isolated was very limited, as was the impact on bed occupancy rates. This may have resulted in the effects of the pandemic being more acutely felt in MDH on all levels, and why every health professional respondent reported some degree of resultant work-life disruption.

Despite this evident reality the pandemic spurred health systems to affect changes that allowed them to counteract the impact of discharge delays (and delays in general) (Smith et al., 2022). It was discovered that such changes varied from one acute health setting to another but altogether commonly aimed at eliminating factors that precipitated discharge delays resulting from the pandemic. Respondents seemed to be particularly perplexed as to the ways the MDH case lacked initiatives to overcome the delay problems brought about by COVID-19, leading the study to conclude that perhaps such initiatives were not given particular relevance in MDH. Although a number of measures did come to light (such as a decrease in overall managerial

paperwork in favour of online options and the creation of a patient dashboard system that was aimed at increasing the efficiency of access to patient-related information from all health professionals across the board) their impact on the overall increase in COVID-19-related delays were dubious at best. The objective efforts seemed to revolve more around decreasing the contact between patients and employees working in MDH as much as possible to prevent cross-infection, as made evident by the highly exponential increase in bedspace to cater for the new separation protocols.

This was in contrast to a number of findings in the general literature, where initiatives during the pandemic were directly pointed towards alleviating the effects of delays in patient discharge, which due to the urgent need for acute beds, led to the issue acquiring renewed relevance. Martinez et al. (2020) identified a New York initiative involving constant patient reviews in an effort to address discharge barriers as early as possible. This was echoed by another study employed by Ibrahim et al. (2022) to investigate the effect of the introduction of a new multi-disciplinary approach (through health professional weekly meetings to assess patient-related issues that prevented timely discharge in medical wards) to patient discharge. Results revealed a 41% decrease in length of stay through faster discharge times. When such initiatives were compared to the ones employed in MDH during the course of the COVID-19 pandemic, a number of factors inevitably cropped up. One would have thought that Malta's very small geographic properties would have been utilised as a decisive advantage in addressing the urgency of the pandemic to implement more efficient (and relatively cheaper) strategies to hasten the discharge process and lessen delays in an attempt to optimise bed occupancy rates. As already outlined, although the pandemic resulted in an overall decrease in admission rates, nonetheless respondents confirmed that the infection control patient segregation protocols, coupled with quarantine issues, exerted a very negative impact on daily

bed capacity rates. However there doesn't seem to have been any particular collective effort to introduce protocols related to getting patients discharged more quickly to the community.

The pandemic even spurred some acute healthcare settings to adopt more aggressive approaches to address delayed discharges. A "discharge to assess" model was introduced in the UK (Hinde et al., 2021) with the aim of assessing patient needs in the community post-discharge (in their own homes) rather than in the acute hospital setting. Such an initiative prevented unnecessary bed occupancy and increases in overall length of stay by bypassing the discharge phase involving community care arrangements and discharging the patient at the exact moment he/she did not need any more medical care. Martinez et al. (2020) went on to discuss the creation of a discharge command centre created in a New York medical centre which went as far as to make arrangements with private suppliers for specific equipment to be provided for discharged patients in the community. This measure, albeit arguably controversial, had the capacity to highly quicken discharge time and lessen delays related to lack of proper provision of equipment resources in the community. Several Phase 1 respondents reported a complete breakdown in the provision of community services and a very marked drop in patient transfers to long-term care and rehabilitation facilities. This turnout of events resulted in a more pronounced emergency state in the brunt of the COVID-19 pandemic, which still apparently lingered at the time of data collection (ie. almost 2-4 years post-pandemic). All respondents, in turn, predictably confirmed that the vaccine had somewhat improved operations, but most still claimed that unless COVID-19 protocols and restrictions were lifted (which some agreed was the whole point of administering the vaccine in the first place) delays in patient discharge would remain aggressively impacted indefinitely. Such effects were seemingly felt more on a tactical/strategic level, especially from a bed management perspective.

5.7: Costing issues and related recommendations

As already outlined in detail in the methodology section, Phase 2 findings were utilised to extrapolate the yearly needs of the two admission units where quantitative medical record analysis was carried out. The inappropriate day frequencies were adjusted to represent a yearly picture, and the daily MDH bed cost (€256.25) was used to calculate costings related to inappropriate days (ie. delays) for every identified cause. These values were represented in tabular form in the methodology section (Table 12). Although the derived costs could not be considered as being accurate or absolute, this exercise was useful in providing a framework for calculating the monetary costs associated with specific delays in patient discharge from acute health settings, thereby acting as a template for future managerial endeavours. In this section the outcomes of this exercise will be discussed in detail, as they related to the various causes of delays, while also providing possible solutions/ recommendations to mitigate the occurrence of unnecessary costs and related resource waste.

The long-term care/rehabilitation issues were by far the most prominent in terms of cost (as can be noted in Table 12). The waiting process for an empty long-term care/rehabilitation bed carried the absolute brunt of overall cost (around 70%, amounting to a joint cost of €1,542,625 annually), most particularly long-term care beds (€1,168,500 annually). Even if these costs' accuracy was limited and only reflected the extrapolated costs of delayed discharges from two admission units, a rough proportional idea of how high incurred expenses added up could be built. As already discussed in prior sections, delayed discharges related to long-term care/rehabilitation problems in two main ways, namely a) delays related to waiting for an empty bed and b) delays related to the flagging process. Rectification of these issues involved different approaches and the addressing of a relatively unrelated set of shortcomings.

An overall increase in long-term/rehabilitation beds was deemed to be the obvious short-term solution to decrease costs related to waiting times in MDH. Based on the findings of this study the annual number of patients waiting for long-term care/rehabilitation for 2024 (for the two admission wards under investigation) were 236. This would have entailed the amount of new extra long-term/rehabilitation beds needed to neutralise associated costs. Were such requirements applied to the whole of MDH the cost of such an endeavour was bound to be enormous. As pointed out by a number of respondents in Phase 1 of the study, an increase in community care was the long-term solution of choice, focused as it was on less input of patients in MDH rather than more output to long-term/rehab facilities. This would have involved a more patient-centred (rather than system-centred) approach.

Delays related to the flagging process mainly consisted of those involving geriatrician and social worker consultations, which incurred the most delay-associated costs (€125,050 and €117,875 annually respectively) and inappropriate days in the year under study. This finding was worthy of particular attention even because the other causes of delay in this category were relatively low. This seemed to signal some form of profession-related problem associated with geriatricians and social workers. During Phase 1 of the study, participants from these particular health professions did indeed refer to human resource problems in their respective departments which affected their work and its outcome to some extent. A lack of proper human resource provision and a general staff shortage may have been indeed responsible for these particular delays and their associated costs. There could also have been a discrepancy between the time a consultation was requested and the actual moment the consultation reached the pertinent party, even due to the paper-based system and the fact that such requests were typically handed in by phone (rather than made online). It was concluded that the flagging delay issue was relatively a more tenable problem for MDH management to tackle because it did not depend on external variables and could be successfully rectified by a combination of faster online

consultation processes and an increase in or a reallocation of workforce-based resources. In return, based on Phase 1 respondents' feedback, clearer health professional job description information dissemination may have been warranted to decrease the number of incorrect consultations put forward.

A good portion of the total cost seemed to revolve around expenses related to medical consultation delays (€157,850 annually) and delays related to theatre-associated causes (€7,168 annually). While the theatre delay problem might be attributed to a variety of factors (namely lack of human resources, lack of theatres available or conflicting emergency/elective lists), consultation-related delays might just have had a common denominator. Phase 1 respondents, as already priorly discussed, shed some light on procedural delays related to patients waiting for whole days for their surgery to be done (most particularly emergency orthopaedic surgery) and medical consultations (mainly in the form of ward-based patient reviews) taking days to complete. These findings were echoed in the Phase 2 quantitative medical record analysis, singling out procedural delays as being an issue of particular significance. This fact was deemed to be highly relevant for MDH management, both from a logistical bed-blocking perspective as well as from a cost point of view. The consultation delay dilemma, as suggested by multiple respondents, could be moved towards a more online presence rather than being purely paper-based (as has already been done in the case of other health professional reviews). This was composed of delays in both informing the medical team involved as well as the actual time it took for the review to occur. The online option would neutralise the delays related to get the request across to the firm and hopefully help to decrease some of the associated cost. The theatre delay problem turned out to be a more challenging scenario to address. This was due to the greater number of stakeholders and overall variables involved, not to mention the actual system structure by which surgeries across different specialities were prioritised and scheduled. It was concluded that extensive stakeholder meetings were warranted in an effort

to identify pertinent system gaps that led to delays related to surgical procedures for MDH in-patients.

It was estimated that from the study setting inappropriate delays attributed to the pandemic amounted to €246,000 for the year 2024. Although the accuracy of this value was subject to debate, quarantine and COVID-19 swab delay issues seemed to stand at the core of this expense. At this point it would be of benefit to state that more than three years had passed since 2020/2021 and the guidelines/protocols related to the COVID-19 pandemic had greatly changed in MDH since then. As Phase 1 respondents suggested, getting patients to complete their quarantine periods at home was a major step in the right direction, together with less reliance on COVID-19 swabs prior to every hospital procedure and transfer, with more emphasis on strict infection control guideline adherence rather than excessive swabbing. The arrival of the vaccine in 2021 provided a much-needed reprieve from COVID-19 protocols (both in MDH and the community), supposedly greatly helping in bringing these costs under control.

Although it was not considered by the AEP model to be the focus of inappropriate delays, the issue related to patients kept in hospital solely for the administration of intravenous (n = 237) antibiotic therapy was also addressed. This was because these cases were considered as being of potential importance by managerial entities. The number of patients kept in hospital for IV antibiotics (for the two admission units included in Phase 2) was estimated to be 948, ballooning associated costs to an estimated €242,925 annually. This issue was directly related to the Home Antibiotic Team (HAT), which consisted of a handful of people, whose job description entailed administering intravenous antibiotic treatment (together with some other intravenous medications) in the community (which included patients' homes and some long-term care facilities). This team operated under a number of restrictions, namely due to a human resource problems, which greatly limited the number of community clients covered. While the

most obvious solution to mediate this problem was to increase more staff in the HAT initiative, the issue may also have involved some degree of hesitancy on the part of MDH health professionals (as well as the patient and his/her relatives) to resume intravenous treatment in the community. This was mainly due to the inevitable presence of an intravenous access line in the community, with the various risks this carried with it. That being established, it was deduced that much of the above-mentioned costs could be altogether prevented with relatively low managerial effort, mainly through an increase in HAT human resource and a set of policies regarding patients who qualify for intravenous treatment outside of MDH.

Inevitably issues related to clinical governance with relation to delayed discharges caught the attention of the researcher and were considered to be worthy of addressing. Clinical governance was defined as a framework that holds organisations and staff accountable for delivering high quality, safe and effective patient care (Specchia et al, 2010). This is typically done through the establishment of a system for continuous improvement, transparent responsibility and risk management in order to ensure clients receive patient-centred, high standard care (Allen, 2000). Anton et al (2007) insisted that the continuous evaluation of of efficient hospital utilisation is an essential issue that must be considered to increase the quality of provided care, with unjustified hospital admissions and stays not only increasing costs but also resulting in poor health outcomes. A study conducted by Specchia et al (2015) sought to verify the likely relationship between clinical governance and appropriateness of hospital stay by comparing the results obtained from a clinical governance tool (OPTIGOV) and results obtained from an AEP-analysis of medical records. This study was deemed to be of especial relevance in the context of the research investigation carried out in this thesis. Specchia et al (2015) uncovered a tendency for inappropriate days to be inversely correlated to almost all the dimensions addressed by the clinical governance analysis tool. This was especially more pronounced in relation to the ‘evidence-based medicine’ (based on the integration of the

physician's clinical experience, using the best scientific methods as applied to each patient's unique features) and the 'clinical audit area' (based on the systematic examination of one's own activity and results by comparing these with explicit standards to improve health quality and outcomes) aspects of the OPTIGOV analysis tool. While it tended to be difficult for the researcher to determine how the findings of this thesis would compare to an analysis by a clinical governance tool such as OPTIGOV, this issue could provide a basis for future research in the area. The concept of clinical governance is still in its infancy in Malta's healthcare arena, but is nonetheless prone to be at the core of managing the waste and inefficiency exerted by delays in patient discharge.

5.8: Major proposed innovation for MDH

The efficient flow of patients through the system was central to minimize delays and reduce the occurrence of related complications (Vissers et al., 2005). The streamlining of patient flow allowed for the optimisation of hospital capacity to keep up with demand, while improving overall patient outcomes (Bertisemos and Pauphilet, 2024), thereby boosting efficiency and cost-effectiveness. The results of this thesis uncovered a very clear (and in some cases statistically significant) proclivity for delayed discharges being primarily composed of patients waiting for transfer of care arrangements (namely waiting for long-term care and rehabilitation) within the confines of the case under study (45.4% of recorded inappropriate days attributed to patients waiting for LTC and 14.5% of recorded inappropriate days attributed to patients waiting for rehabilitation). This was especially true for 'medicine' speciality patients (79.5% of recorded inappropriate days).

Focusing on this particular determinant of delayed discharges, instead of targeting all sources of delays across the board, could be deemed beneficial towards the launching of a

prediction exercise in MDH, even because it would allow for the piloting of an innovative tool while focusing on the largest identified shortcoming that formed the basis of delays in the Phase 2 sample. Identifying individuals at risk of becoming LTC/rehabilitation cases as early as possible along the patients' hospital stay was crucial in promoting a more optimized patient flow dynamic based on better resource allocation (Kuluski et al., 2020). Such initiatives also allowed for the anticipation of both patient and organisational needs, paving the way for more effective planning and related decision-making opportunities (Little et al., 2015).

The proclivity of machine learning in the prediction of health-related issues was not particularly widespread because it remained primarily focused on specific patient diagnosis groups and was very limited when it came to broader patient populations (Ghazalbash et al., 2021). In fact, very few machine learning studies took a holistic approach, opting instead to solely concentrate on specific patient cases with specific diagnosis (such as patients with hip fractures) (Elbattah and Molloy, 2018). This was yet another reason behind solely addressing the LTC/rehabilitation issue for the purpose of this exercise.

A study conducted by Pahlevani et al. (2025) aimed at exploring the implementation of an integrated predictive tool that identifies factors contributing to the early detection of patients requiring transfer of care arrangements, thereby supporting practical and pro-active interventions. This was done through the use of machine learning, a concept which was relatively novel in the healthcare arena. This study made use of an online patient database including patient demographics, diagnosis and relevant procedures. These parameters were entered in a machine learning statistical package, eliminating values in the extremes to maintain the overall central tendency of the data. Data with missing values were in turn removed. This initial admission data were analysed by a series of different learning software packages and the patients were assigned an 'alternative level of care needed' (or not) flag on admission, on the basis of probability. The authors concluded that this method allowed for a relatively reliable

assessment of patients' characteristics at the admission phase, which continued during the course of the patients' stay in hospital. Similar studies were conducted by a number of other researchers (Barnes et al., 2016; Chuang et al., 2023).

Can such models be applied to the MDH case? In the next section the researcher will provide a description of how this can be achieved in the context of the case's limitations. The researcher will outline what needs to be changed and how this strategy can be successfully implemented and eventually launched in practice.

The electronic patient dashboard will stand at the core of this proposed initiative. The purpose of this tool was to have a central patient information centre that could be accessed by all health professionals in MDH. The electronic patient dashboard contains patient information related to demographics, medical laboratory tests, medical imaging results, procedures done and consultations carried out. Up to the point of this thesis the absolute majority of nursing and medical notes were still being done by the pen-and-paper method and stored in the patients' physical file (with the exception of some specialities such as neurology and psychiatry). As of recent there have been renewed efforts to include further pharmacy-related covering letters in this electronic tool. But there remains a vast amount of patient-related information which is still not electronically stored, leading to a current incomplete electronic picture of the patient's progress through the hospital system. Admission A+E reports are however electronically stored, as are discharge letters.

Consultation processes are partially carried out electronically (such as social worker and occupational therapy consultations), but the vast majority of consultations are still being done through a paper-based system/phone system. All in all, MDH is in the transition process (since 2020) to convert a paper-based system to an electronic dashboard modus operandi, which process has been steadily progressing but is still far from reaching completion. The degree to

which health professionals are knowledgeable about this electronic system remains questionable as work culture and traditional everyday work dynamics tend to be hard to change (even because during the course of the Phase 1 interview/focus group sessions the electronic patient dashboard was barely even mentioned at all by respondents). In the context of this 'semi-transitioned' patient information storage system, it would be extremely difficult to theoretically implement an all-round hospital-based initiative involving a prediction model for LTC/rehabilitation patients (or any other patients) based on either a manual or an electronic system (as both systems were undergoing a transition period).

For this reason, it was proposed that the exercise would only be launched in two small ward units. This would serve as a pilot and would impact as small a number of patients and health professionals as possible. Before the launch of this initiative both these small pilot ward units have to be completely converted to a purely electronic reliant system dynamic (including electronic storage of medical and nursing notes together with consultation processes). At this point it would be of benefit to state that such an initiative (ie. a paper-less system) was already being piloted successfully in two specific ward areas. In turn, the strong presence of a vast number of IT devices (namely tablets and desk computer stations) would be warranted to power and guide this innovation.

The model will be divided into the 'admission' phase at the A+E department and into the 'hospital stay' phase. The variables selected for the purpose of this initiative are based on both the literature review findings as well as the typical data collected in MDH as part of the daily work routine. Figure 11 (below) depicts how the patient information gathered at the A+E department will trigger the generation of an 'LTC/rehabilitation' percentage score (LTC/Reh score) for every admitted patient (at the admission phase).

Figure 14

A+E assessment model for possible need for LTC/Rehabilitation

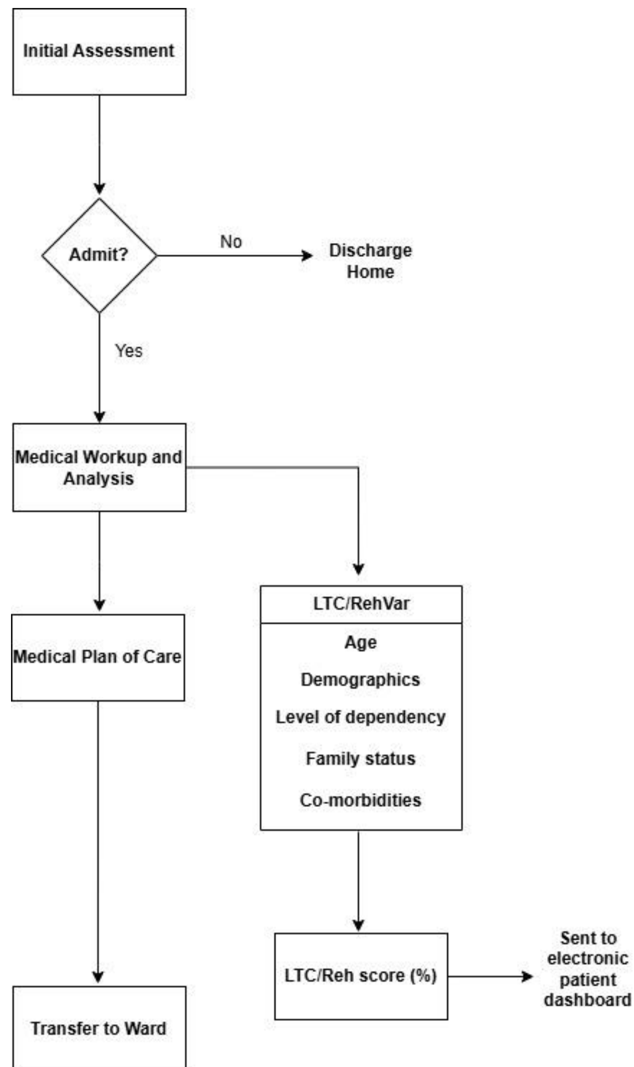


Figure 11 (above) provides a clear representation of the variables (LTC/RehVar) utilised to arrive at the score upon which the initial LTC/Reh score is based. The electronic admission notes contain most of the information, but the admitting doctor will have to access an icon and tick the LTC/RehVar on an available checklist after the admitting notes are ready. This will take the admitting doctor approximately 30 seconds to complete. The generated percentage score will be automatically attached to the patient information on the electronic dashboard

system. A tentative discharge date could or could not be added by the admitting doctor (not mandatory).

Admitted patient LTC/Reh scores would be divided in three sections, namely a) <30% chance, b) 30% – 70% chance, and c) >70% chance (according to how they scored in the variables mentioned in Figure 11). The system will immediately flag patients who were in the '30% - 70%' and '>70%' brackets as subjects who are at an increased risk of becoming future LTC/rehabilitation cases. If the patient's residence is a nursing home (rather than a private residence) the model is suspended and the patient is altogether excluded from the algorithm. Patients will then be moved to their respective ward areas and the next stage of the model will kick in. Figure 12 and 13 (below) depict how this model guides the patient process during the course of the 'hospital stay' phase.

Figure 15

'In ward' assessment for possible need for LTC/Rehabilitation for admitted patients with an LTC/Reh score of < 30%

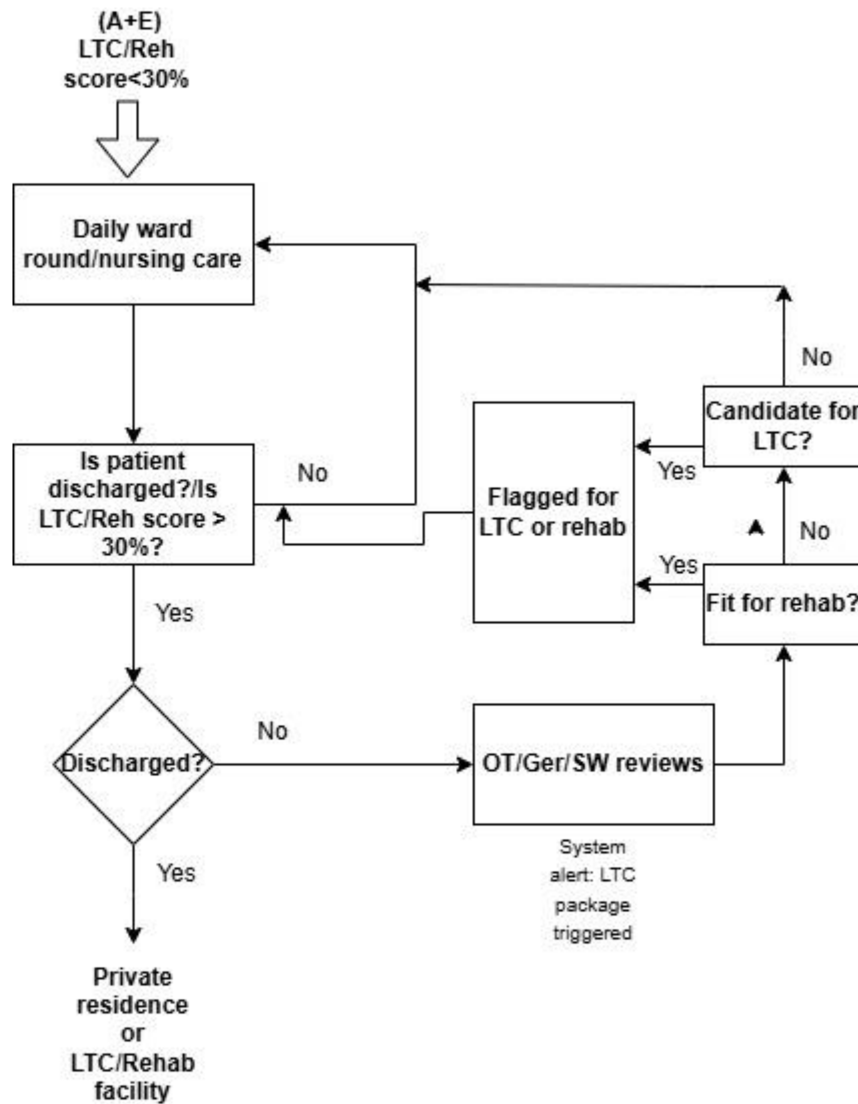
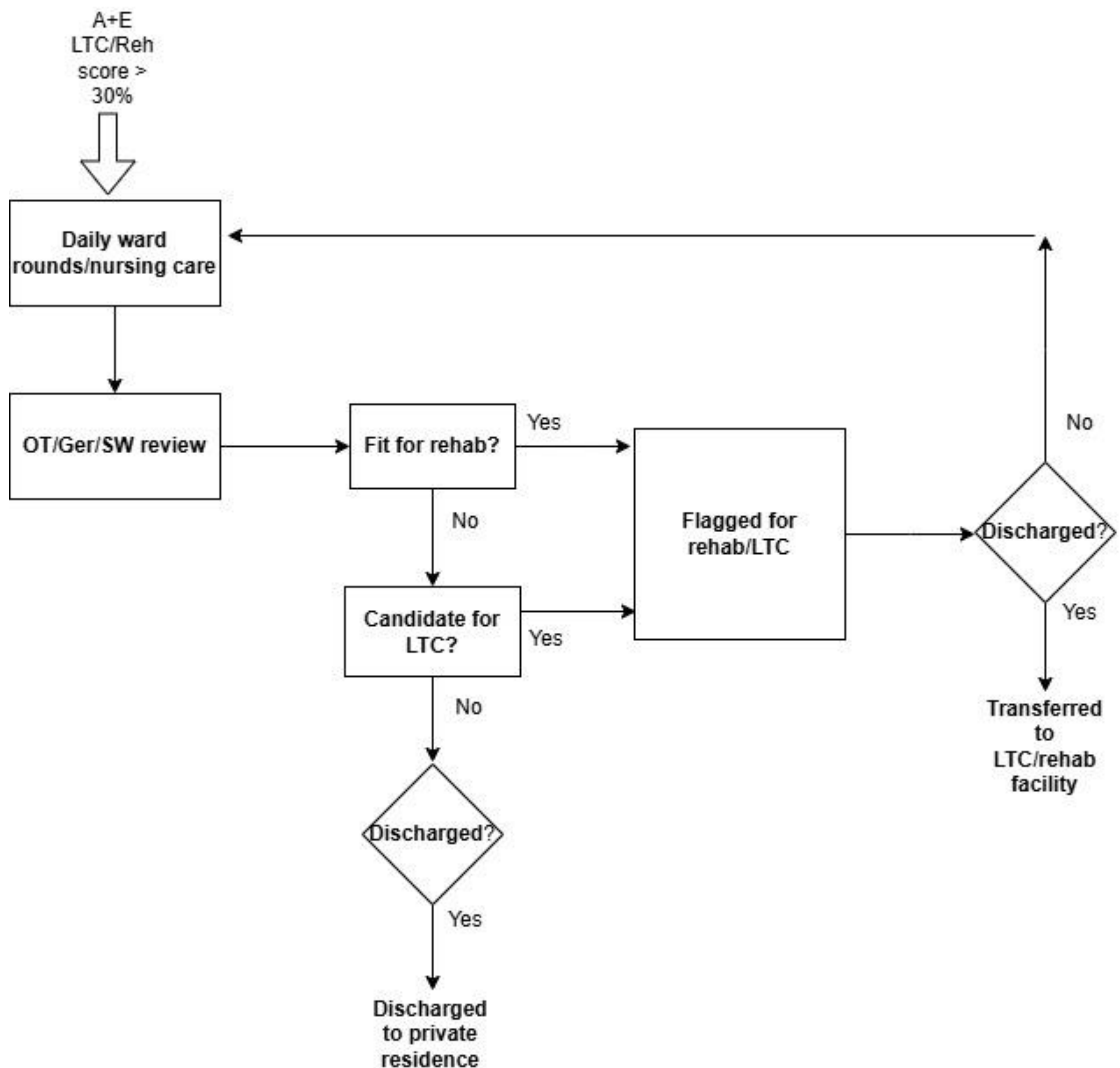


Figure 16

'In ward' assessment for possible need for LTC/Rehabilitation for admitted patients with an LTC/Reh score of > 30%.



Note: The cases which have an LTC/Reh score of > 70% will be given priority by the 'LTC package' health professionals over those that fall in the '30% - 70%' bracket

The model will manage admitted patients according to the percentage score brackets they fall under. This is due to the different urgency levels defined by each bracket, which

represent the level of increased risk for the patient to end up as a social case or rehabilitation case. The DFT will have direct access to this information at all times, with the system alerting these health professionals about patients that fall under the high-risk brackets at the admission phase (ie. before the first official firm ward round takes place). The daily ward rounds/daily nursing assessments stand at the core of a daily system refresh where every patient in the hospital (irrespective of the percentage score brackets they fall under) will be evaluated for any changes that would reflect positively or negatively on their respective LTC/Reh score (apart from the obvious medical-related assessment).

For patients in the high LTC/Reh score brackets the 'LTC/rehab package' will be triggered by the firm from Day 1, where consultations are issued for geriatric, social worker and occupational therapy reviews (the LTC/Rehab package). If the firm, for some reason or another, fails to trigger this series of consultations the DFTs will take over this task by issuing these consultations themselves (an action made possible due to the DFTs having had the system alert them about patients possessing high LTC/Reh scores from admission). These consultations will be issued online. Allowing ward nursing staff to trigger the 'LTC/Rehab package' may also be of benefit in certain cases, when neither firm nor DFTs are available (such as on certain feast days/weekends) or if they are too busy or short-staffed to treat this issue with the required urgency. Involving the 'LTC/Rehab package' health professionals will allow for the LTC/RehVar set in the admission phase to be assessed as follows:

a) The occupational therapist will assess for dependency levels and liaise with the physiotherapy team to determine the potential level of improvement
b) The social worker will assess the home situation of the patient, also as it related to family support, housing and overall financial status

c) The geriatrician will assess the patient for rehabilitation potential and will ultimately decide if the patient is a candidate for transfer to a rehabilitation facility post-discharge from MDH

The aim is to complete these reviews by the time the patient is medically discharged so DFTs can immediately weigh in and flag the patient for LTC on the same day. This allows for the sorting of LTC/Reh scores-related issues in parallel with the addressing of medical issues. Both the firm and the DFT will be expected to amend the LTC/RehVar set that determined the LTC/Reh score according to the assessment carried out by the 'LTC package' health professionals. The objective is to have zero patients who are medically fit for discharge but who either have no further plan of care or who still possess pending health professional reviews related to their LTC/rehabilitation status and subsequent flagging. This will hopefully eliminate delays associated with the flagging process (a delay both Phase 1 and Phase 2 of the study strongly hinted at). Once the patient is flagged for LTC/rehabilitation the model will immediately alert the system that a bed is being blocked by a medically fit patient waiting for an available bed in LTC/rehabilitation.

As the potential for shortage of staff issues for health professionals in the 'LTC/Rehab package' may ensue (due to the exponential increase in workload this model might incur), priority will always be given to patients falling in the '>70%' bracket, followed by those in the '30% - 70%' bracket. Patient changes between these brackets will be affected through the addition or removal of ticked items in the variable list and the percentage scores will be update in real-time throughout the system. In this way patients can move from one bracket to another according to their changing needs and circumstances, thereby triggering the pertinent level of attention. If a patient is, in turn, unexpectedly successfully discharged home or regrettably passes away he/she will be immediately removed from the system.

The dilemma is bound to reside in the circumstance where a patient has been successfully flagged for LTC or rehabilitation (and has been thereby declared medically fit for discharge), but due to an unforeseen sequence of events is taken ill again. This can be due to the acquisition of a nosocomial infection, a by-product of an existing co-morbidity or a purely acute unrelated medical event. In such a case the flagging status would be revoked as the medically fit status is reversed, meaning that the patient has to be electronically re-defined (in terms of his/her LTC/Rehab list criteria), taking into consideration the parameters of the new medical circumstance and any reflected changes this may have exerted on the LTC/Reh score bracket.

Although an LTC/rehabilitation flagging system already exists in MDH this proposed model is aimed at tracking the potential need for LTC/rehabilitation, follows them through the assessment and flagging processes and attempts to prevent delays related to late consultation processes and resultant post 'medically-fit' delays. This initiative is relatively cheap to implement, it is easy to use and not time consuming to navigate and update. In turn, the electronic real-time nature of the model provides a comprehensive picture of the progress of the patient through the pathway and is a potentially useful tool for both strategic and operational/tactical management. Also, LTC/rehabilitation risk patients are assessed on the basis of urgency and from a very early stage (ie. the admission phase). On the downside, this system is very IT intensive and may also require more robust human resource provision when it comes to health professionals related to the 'LTC/Rehab package', namely geriatricians, occupational therapists, social workers and DFTs (which may not be always easy to achieve). This model cannot, in turn, prevent the actual delays related to the availability of bed space in LTC/rehabilitation facilities and the waiting lists ensuing from such shortcomings. It also does not adequately address the problem of relocation cases.

In this section the researcher aimed to provide some insight on the general dynamics of the thesis, the outcomes, and the derived conclusions. A brief delineation of the study's contribution to knowledge and implications for practice in the context of the case study setting itself were then provided. The extent to which originally set aims and objectives were met were also discussed.

5.9: Contributions to knowledge and implications for practice

The researcher chose to utilise this section to outline how the findings of this study added to the overall knowledge in the field, as well as to the initial knowledge he had about the phenomenon before the start of this research investigation. This provided a picture of how findings contributed to the general literature and improved upon it. The researcher also utilised this section to point out how derived findings could be utilised to impact the general dynamics of the case and what they meant in terms of what changes could be implemented to decrease the occurrence of delayed discharges or mitigate their impact when they happened.

Main study contributions to knowledge included:

- Two separate derived themes that added to the items listed in the literature-based model discussed in the literature review section. These themes were linked to a faulty system which was open to abuse by health professionals and clients alike and the impact of the COVID-19 pandemic on delays in discharge. While the pandemic developments would have been expected, the same could not be said about the abuse issues, which were altogether absent from the general literature. Flagging delays related to long-term care were also identified as being knowledge absent in the general literature. Although such findings were specific to the case under investigation, they underscore the multi-factorial

nature of delayed discharges. At a minimum, they indicate that each case is characterised by a distinct set of criteria influencing the contributing factors.

- The AEP model employed for Phase 2 medical record analysis was found to be particularly susceptible to delays in patient discharge occurring within the length of stay deemed appropriate by the model. Consequently, a minor extension was introduced, referred to as the 'undetected' column, to capture delays that the model had overlooked but were nonetheless present throughout the patient's hospital journey. The use of the AEP model in this study allowed for the study to be comparable to other research due to the model being very widely used in the study of delayed discharges. In this case the AEP model was ideal to quantitatively investigate delays from medical record analysis as the derived results were then available for comparison to those derived from the qualitative effort conducted in Phase 1.
- The evidence-based definition of delayed discharges from the scoping review conducted during the literature review phase was highly consistent with the findings of this study. However, the study revealed that issues related to delayed discharges extend well beyond the definition. This insight is crucial for future efforts to develop new definitions of the phenomenon. This definition, together with the derived literature-based theoretical model, guided qualitative research tool development and the sampling strategy employed (with participants being chosen according to their relationship with the various items listed in the theoretical model). Having the literature review so tightly knit to the study's methodology was considered to be a very valid contributor to overall rigor and reliability of results. This was further enforced by the triangulation effect of having a quantitative medical record analysis for delays in patient discharge,

which offered outcome confirmation through the process of repeatability of observation.

The implications and recommendations for practice were organised according to their respective managerial stratum, as follows:

- Operational level: From an operational perspective the main take-away from findings revolved around a combination of faster consultation/review processes by health professionals at ward level together with a stronger sense of teamwork among stakeholders. The need for proper and clear job descriptions between health professions was also warranted, ultimately resulting in smoother consultation processes and more accurately placed referrals for pertinent medical professionals. These themes were regarded as integral to a cost-effective strategy for addressing certain discharge delays in the case under study. This could be achieved through increased integration of online IT systems and reduced reliance on traditional inter-professional communication methods, such as paper-based documentation and telephone correspondence. While some health professionals adopted this approach, the effective utilisation of the system required a greater presence of IT hardware at ward level.
- Tactical/Strategic Level: The main implication at this particular managerial stratum was deemed to be built upon the long-term care problem that was very strongly evident from study findings. With medicine wards seemingly standing at the core of this issue, findings identified the flagging process to be to blame for delays along with the more conspicuous waiting time delays for long-term care beds. The main recommendation that could be provided was a combination of more long-term care beds and less people being admitted from the A+E department (through more comprehensive admission protocols and discharge

planning initiatives). The findings highlighted a pressing need for a more person-centred community care system to support potential long-term care patients in remaining in their own homes, thereby reducing unnecessary admissions to acute hospital settings. Staff mobilisation (most particularly contractual care worker staff) might also be in order to achieve this objective, moving these employees out of acute care into community care. As regards the prolonged delays related to the flagging process, the researcher uncovered a connection related to the operational implication involving the time taken for consultation and review processes to take place at ward level. More timely geriatrician and social worker reviews were found to be sorely needed (as suggested by study findings) to improve delays in the flagging process. These changes might come in the form of more human resources provided for the pertinent consulting professions or through better logistical human resource allocation and rostering. The issue of patients being kept in hospital solely for intravenous antibiotic administration was also recognised as meriting attention. Although it was recognised that this issue has to be addressed on a case-by-case basis, related discharge delays could be greatly reduced through a broader HAT team to transfer intravenous antibiotic therapy for certain patients in their own homes (but on a much larger scale). The current team was greatly limited by human resource restrictions and the case study uncovered a hefty associated cost with this issue. A portion of this cost might have been avoided through a stronger HAT team presence. From a purely strategic perspective, it could be reiterated that the need for further research in the area, most particularly from a patients' perspective, thereby focusing on a patient-centred (rather than a system-centred) approach. Such research efforts could then be utilised to assess

the effectiveness of certain interventions employed in other countries in an effort to counteract the effects of delayed discharges. Such strategies had to be adequately piloted before launch, but more studies were warranted about the phenomenon on this particular case study setting to ensure both safety and sustainability.

- The findings of this study can be utilised, or better yet, replicated using larger samples than the ones used in Phase 1 and Phase 2, which can pave the way for the application of a clinical governance tool (as carried out by Specchia's et al (2015) study outlined in the discussion section) to identify pathways in which all strata of management (operation, tactical, and strategic) can adhere to clinical governance guidelines and thereby improve efficiency and reduce waste. While the researcher recognises that the system still requires important structures to be implemented (such as a hospital-wide IT system that governs all hospital activity) before an effective clinical governance system can be successfully put in place, the literature is highly suggestive of this perspective as being the future of healthcare management.

5.10: Recommendations for future research (based on study limitations)

Along the course of this thesis, a number of study limitations were identified at various stages of both the methodology and the discussion sections. In the context of such constraints, a number of research-related recommendations will now be put forward, which proposed ventures both build on the current strategy as well as expand upon related issues in an effort to provide a more holistic approach to delayed discharges.

- A larger quantitative medical record analysis sample size would allow for the establishment of clearer statistical relationships between variables, while also including a wider spectrum of patient specialities. Specialities which were not included in this study can also be addressed, ranging from paediatric and psychiatric fields to more specific medical arenas (such as cardiology, neurology and oncology). Studies which were conducted in other research settings and which involved medical record analysis, sometimes included very large data samples. This was very often carried out by whole teams of researchers and involved a co-ordinated effort over time. Such an approach was not possible in this study where time was of the essence and the researcher human resource amounted to just one researcher.
- Future studies can also address the 'patient condition' variable. As already explained in the methodology section this variable was excluded from the study due to its potential to fall prey to confounding factors, catalysed by an inability to identify which specific co-morbidity was responsible for a particular delay (due to most elderly patients suffering from multiple co-morbidities). The exclusion of this variable can be considered a study limitation, even if carried out for a good reason. A research effort that focuses specifically on the 'patient condition' variable as it relates to delayed discharges would be ideal to exclude all other contributing factors. Such a study, while taking into consideration the presenting admission complaint, also focuses on the prior pre-existing co-morbidities the patient might suffer from and attempt to uncover any existing relationship between each factor as it contributes to total delays.
- This study does not address patient's perspectives as regards delayed discharges but only tackles this phenomenon from a system point of view. This limitation

could spur future researchers to address delayed discharges from the point of view of system users (ie. patients) could also turn out to be a viable future research direction. This can be achieved through a qualitative investigation of views and perspectives of hospital patients as they relate to delayed discharges and the ensuing negative effects residing therein. The outcomes of such a study could then be compared to the qualitative findings uncovered from this thesis (pertaining to health professionals), thereby emerging with a more holistic picture of the phenomenon as it related to all system stakeholders.

- The strategy utilised to cost delays in patient discharge in this thesis revolved solely around a cost per day and did not involve a 'procedure-by-procedure' rendition fee. This was mainly because it was deemed to be very difficult (albeit impossible) to derive such information from an IT-transitioning hospital system which relied on a combination of physical medical/nursing notes (stored in files) and a dashboard-based software system that was only utilised for (as yet) a limited amount of information storage. To this end, before this research recommendation can ever be put into practice the MDH system has to be converted into an entirely IT-based system. This would allow for the accurate and efficient collection of cost-delay-related data that would ultimately lead to a truer costing estimation of delayed discharges. Although this issue could be classified as a limitation, the researcher deemed it to be inevitable as long as the system was not completely IT-based.

5.11: Concluding statement

Revisiting the study objectives was considered beneficial to assess the extent to which each objective was met and addressed by the study findings. As outlined in the Introduction, this thesis aimed to explore delayed discharges in an acute hospital setting. Below, the study original research questions are presented alongside a brief evaluation of their overall attainment.

Research Question 1: What defines delayed discharges conceptually and operationally?

This objective was deemed to have been sufficiently met, as the available literature was diverse and extensive enough to provide the study with both an evidence-based model for delayed discharges and a comprehensive theoretical definition of the term. Although certain knowledge gaps were identified, the objective was successfully achieved within the context of the proposed case study. From an operational standpoint, no clear operational definition could be derived from the literature as such definitions varied from study to study, so much so that no comprehensive common definition emerged. To this end, the researcher utilised the results from research question 3 to partially fulfil this shortcoming.

Research Question 2: What are the perspectives of health professionals regarding systematic and procedural factors contributing to delayed discharges in an acute general hospital in Malta?

This research question was addressed through the use of twenty-eight interviews and two focus groups. Thematic analysis provided seven themes (See Findings section). This qualitative research phase allowed for the extraction of a vast amount of information from different stakeholders in MDH. The fact that both the sample and the research questions were based on the findings in the general literature added further relevance to the derived information and provided a qualitative 'systems' perspective on delayed discharges. Although

the information extracted was sometimes limited by the respondents' knowledge base, the researcher managed to qualitatively analyse the phenomenon successfully.

Research Question 3: From an operational perspective and considering the hospital case study, can delayed discharges be measured through patient's medical records?

The quantitative analysis of patients' medical records (n = 220), by the use of the AEP model, allowed for the analysis and quantification of delays in two specific ward settings. Despite the limited generalisability of derived results and some identified drawbacks related to the AEP model as a quantitative tool to assess for delays in discharge, the study emerged with a comprehensive set of results involving causes of delays as they related to length of stay and associated costs. This exercise provided the case study with a tangible picture of the effects of the phenomenon on hospital processes and operational dynamics. Despite a number of underlined limitations, the patient medical record analysis yielded highly pertinent outcomes that clearly satisfied the parameters of this objective.

Research Question 4: What valuable research-based managerial recommendations can be put forward for the case under study?

The study provided several contributions to knowledge, and implications for practice. The researcher provided feasible changes to minimize delays in patients' discharges that could be implemented within the context of the case study. The contributions to knowledge primarily centred around new theoretical insights and advancements in research data collection methodologies. These contributions were largely confined to suggesting result-based changes that are practical to implement and tailored specifically to the case study setting.

The extent to which this objective was achieved remains open to debate. Although this thesis established a robust foundation for measuring delayed discharges in an acute health setting, further research is necessary to develop a comprehensive discharge delay tracking tool

capable of monitoring all delays and eventually predicting them. Such a tool would need to differentiate between various ward settings, for example whether specialised or unspecialized, adult or paediatric. This thesis is intended as a step forward for the Maltese health system's action against delays in patients' discharge and a very solid framework for the creation of an acute hospital dynamic that is designed around delayed discharges and their prevention.

This thesis proposes a framework for discharge prevention that involves the development of an electronic model to track patients at risk for long-term care or rehabilitation from admission to discharge. This model aims to identify and address potential delays early in the patient's hospital stay. It enables real-time delay prediction and aims to eliminate delays related to the flagging process by assessing patients' for LTC/rehabilitation needs before they are declared medically fit for discharge. Key components of the framework include: i) Electronic Patient Dashboard that utilises an electronic system to store and access patient information, including demographics, medical tests, imaging results, procedures and consultations, ii) Admission Phase Assessment at the A+E department, where patient information is used to generate an LTC/Rehabilitation percentage score (LTC/Reh score) based on specific variables. This score helps identify patients at risk of requiring LTC or rehabilitation, iii) In-Ward Assessment, where patients are monitored and reassessed daily during their hospital stay. Those with high LTC/Reh scores trigger consultations with geriatricians, social workers and occupational therapists early in their stay to expedite the flagging process for LTC or rehabilitation needs, iv) Real-Time Updates with the system that continuously updates the LTC/Reh scores based on changes in the patient's condition, ensuring timely and accurate assessments, v) Prioritization, namely that patients with higher LTC/Reh scores are given priority for consultations and reviews to prevent delays in the flagging process, and vi) Integration with the DFT that is alerted to patients with high LTC/Reh scores from admission, allowing them to proactively manage the discharge process and reduce delays.

Although this model, based on a machine learning approach, is limited to addressing delays related to the LTC/Rehabilitation process, it is highly relevant for tackling the most significant determinant of delayed discharges identified in this thesis. In conclusion, by streamlining the discharge process, reducing unnecessary delays, and improving overall patient flow within the hospital, delayed inpatient discharges can be minimized, ensuring that acute beds are appropriately utilised.

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Appendix 1a: Transcripts

2 MO, 2 BST, 1 HST

Interviewer: Thank you for agreeing to take part in this study. Can you kindly state years of service and job description please

MO1: I have been a houseman for the past 8 months and am currently working in urology

MO2: I have been working as a houseman for 1 year 3 months and am currently in respiratory

BST1: I have been a doctor for 4 years and a BST for 1 year 6 months. I am currently working in a nephrology firm

BST2: I graduated as a doctor 5 years ago and have been a BST for 3 years. Am currently in general surgery

HST: I have been a doctor for 12 years and have been specialising in *******

Interviewer: Thank you. I am now going to ask questions in relation to delays in patient discharge. Feel free to interject and offer your opinions. I will try to prompt you in an effort to link this issue to your particular speciality. Worldwide literature has revealed that delays in discharge are a very real day-to-day occurrence. Would you say such a statement is true?

BST2: In the local setting for sure, yes.

MO1: I encounter it in my everyday work. They are not necessarily all delays in discharge…more like delays that keep work from moving forward. They ultimately of course result in delays in discharge

Interviewer: Would you say procedural delays made a part of this?

MO1: Of course. It sometimes takes us ages to manage to book specific procedures like CT scans because radiologists don't approve readily. Even blood results are sometimes delayed

BST1: Yes, lab results are especially to blame, particularly urine and sputum sample results. Sometimes such samples also take nurses a lot of time to collect and sometimes they are contaminated and have to be retaken

HST: The patient's hospital stay is very complicated and involves too many health professionals and I think this leads to most delays

Interviewer: Can you please elaborate on that?

HST: There are too many health professionals involved from admission to discharge, and the process is very bureaucratic, involving a lot of paperwork and rigid consultative procedures…it takes ages

BST2: Yes its true. There are loads of paper form to fill for everything…SLP, physio, SW, OT…I mean, and then you have to wait for the nurses to reach them and then you have to wait for them to come to the ward

Interviewer: This can also be considered as a procedural delay then? What would you say is the more common form of procedural delay and which impacts delays in patient discharge the most?

HST: It's hard to say. In my opinion the most common has to be reaching other health professionals in a readily manner.

MO2: I think it's a combination of things. Medical imaging and lab delays are I think mainly to blame, and with this COVID it's has gotten worse. You need swabs before you can do anything, which usually delays things by a full day

BST1: Yes very true. We often end up keeping patients in hospital for multiple days, while waiting for a report for a CT or MRI too.

Interviewer: Would you say that sometimes patients also get to be kept in hospital needlessly by consultants for their own convenience? I interviewed some nurses and most seemed to agree that firms do have a tendency to delay discharge, for instance by keeping patients over the weekend just because….or to facilitate specific medical procedures. Do you think this holds some truth?

HST: It depends. I don't think such a statement is true though. We don't keep patients in hospital for convenience. If anything we try to discharge them as quickly as possible

BST2: Yes I don't think that's true either. I think nurses are not aware of certain details in the patient's medical condition, and maybe they think the patient is being kept needlessly in hospital

MO2: What most don't realise it that firms are at the mercy of other health professionals and nurses, and even patients, sometimes think that delays only happen because of the firm's actions but that's not the case…..firms often wait for other professionals to give their input and a lot of time is lost this way

Interviewer: Do you think that a blend of redundancy and excess paperwork contributes to incur delays in inpatient discharge?

MO1: Paperwork is certainly excessive. I mean, for a houseman like me I got tonnes of paperwork to fill everyday. And also lots of repeated phone calls to and from wards…and other doctors

MO2: It's a nightmare. And I think we houseman get to experience it the worst. The system is very beaurocratic, it involves a lot of paperwork and the passing of paperwork from one professional to another. We usually give consultations to nurses for instance, who then have to phone and get in touch with the person involved and give him the paper.

HST: Yes the junior doctors experience this redundancy the most. But the whole firm I think suffers from the consequences

Interviewer: Can you give examples where such redundancy exists and how it leads to delays?

BST2: This problem was more pronounced when I work in the medical field. It's the worst there because the patient's stay is full of delays. I mean the worst thing is to get the patient flagged for long term care. It takes weeks sometimes

MO2: Yes, first he/she has to be seen by a geriatrician, which takes a couple of days to come to the ward. Then when the geriatrician flags the patient as 'not fir for rehab' a social worker has to come and assess the patient. This takes even longer because social workers are very often short of staff. Then we have to physically write 'discharge from medical point of view' on the file before the discharge facilitation team comes to flag the patient for LTC. This takes around 10 days to complete

HST: Sometimes the patient develops another infection while this process is taking place and has to be 'un-discharged' and the process has to start all over again. I mean, and there is paperwork to do for every stage of this process

BST1: There are just too many health professionals involved. The process takes ages and the bed stays occupied for weeks. And this is just to get the patient flagged. He/She then has to wait for many many weeks to actually find a bed in an LTC facility

Interviewer: I see. So there exists a very real redundancy problem here and there also seems to be some degree of role confusion. What about discharge planning from the firm's end? Would you say that discharge planning is lacking and contributes to delays?

HST: Of course it does. But I don't think one can blame it solely on the firm. I mean…it's very complicated and we as firms don't have complete control over the patient's duration of stay sometimes

BST2: Discharge planning cannot start when we would like it to start.

Interviewer: Yes, but why? It is common knowledge that the sooner the patient is prepared for discharge the better

BST1: We oftentimes cannot even get hold of relatives before it's late in the patient's stay. And many times patients don't speak about a potential problem for them to return home also until its late.

MO1: And again when a problem arises it takes a long list of other health professionals to get the job done. Particularly now that the DLN team has been removed

Interviewer: Yes I heard about that. The DLN team no longer exists

HST: That's very inconvenient because these people used to pave the way for an effective and more timely discharge process. They communicated well with relatives and gave them access to various services in the community to make it more possible for them to keep their relatives at home. Why they removed the service I cannot understand

MO2: Now their job has gone to the DFT team, who are already too busy with the LTC problems. I don't think they have time to manage this as well

Interviewer: But do you think the DLN were so pivotal in preparing early discharge planning?

BST1: Yes. Of course it wasn't only them. But they were directly involved. I mean, their job was specifically on this issue of making it easier to patients to return home as early as possible

MO1: From the little I have experienced their work they come in very handy in negotiating with relatives, using community services as a way to convince the patient to return home.

Interviewer: Social services in the community….do you think there is a lack of them, so much so that discharge is delayed?

MO2: I wouldn't say that.

HST: I honestly don't know. Such services very often change from time to time. During the worst of the pandemic many of the services were not working at all.

Interviewer: Yes, I am aware of that. But now that things have somehow returned to normal.

BST2: I think it's not social services that are lacking. Its more the patient's family at home. Nobody is at home to take care of the patient in the community. Many times these involve old people with mobility limitations. They are somehow still dependent on others for many things

BST1: We have an ageing population nowadays and it's not medical care that is most needed for a lot of people but home-based care in ADLs

BST2: I think sometimes even people's expectations are a bit too high. I mean, some people expect a lot of from community services, like CommCare. They want everything arranged according to their personal needs, which is impossible

MO2: Sometimes they refuse all help offered as well. They just want no strangers in their house

MO1: Yes that's true. And we cannot really do anything. It's their decision

HST: Here in MDH, in Malta as a whole, patients are allowed to do whatever they like too much. The system has very little power to make people obey laws and regulations

Interviewer: What do you mean?

HST: The DLN and DFT services have made this thing a little better but the problem is still there. There is a lot of politics involved and people resort to third parties outside the hospital to get what they want. In my experience I have seen many examples of people who are allowed to go against the system, like for instance occupy a bed for a long time, be made to go to long term facilities when they don't qualify for them etc…

MO2: The usual politics in Malta

HST: Yes. Such problems still exist and health professionals sometimes feel powerless to do anything. It actually demotivates us because what's the use of making an effort when then the system itself turns against you

Interviewer: I see. Yes, I understand

HST: At least such things are not so common nowadays but you still see them from time to time

BST2: The patient's family sometimes have other interests as well. They want to inherit at times or claim the patient's house etc… So it's not always because they cannot take care of the patient but because they don't want to…for such reasons

MO2: It's very sad to see these things. Sometimes the patients know what is happening

Interviewer: How often do you think such things happen?

MO2: They occur mostly in the medical arena because here the patients are mostly old

MO1: Yes, in the medical for sure. In surgical patients come in for a specific purpose most of the times and then they go home normally. But in medical many times there is no real reason why patients are in hospital…I mean nothing specific.

HST: Yes I think this is a major problem. Patients are often admitted too freely from casualty, and yes they are almost always admitted in medicine. This has been a problem since forever

MO2: Yes I have heard many seniors complain about this

HST: It is very hard to make patients leave hospital once you allowed them to get admitted. I think the solution is not to admit them in the first place

Interviewer: So, you are saying it is better to concentrate how admissions are seen in casualty?

HST: Yes. Once they enter the system then it's too late. Problem is in Casualty they are very busy and have very little time to properly assess the social history and social problems of the patient. They

mainly look at the medical results and have to admit if they find something deranged, which they will because no old person will have perfect blood tests.

BST2: And the amount of re-admissions in medical is very high. It's many times the same people over and over again

Interviewer: So you think in medicine the problem is bigger than in other areas?

BST2: Yes for sure. Because other areas have very specific criteria as to what patients are admitted under their care, while in medicine anything goes. It's like a dumping ground.

HST: Yes this is very true. I have worked in multiple specialities along the years. There are no specific criteria for the medicine section

Interviewer: To what extent do you think delays in discharge contribute to bed-blocking in MDH?

BST1: I think bed-blocking is a very real problem here. I mean…..it's complicated in many ways. For sure delays are to blame in many ways, and for sure also you cannot really point your finger on one particular thing as being only to blame for this. For me, from my experience, I think social cases are the greatest problem…there are too many of them, people with nowhere to go.

MO2: Yes the amount of social cases in MDH is very high. In medicine of course it's much higher than in any other speciality I have been in.

BST2: Most medical wards have no more than a handful of patients who are actually in hospital for an acute problem. The rest are all chronic condition, re-admissions and people with social problems.

HST: Yes social problems contribute a lot to delays and bed-blocking. But since this COVID thing started it has gotten worse. COVID contributes a lot to bed-blocking because of having to do swab tests for everything, and these take time to work in the lab. Also there are a lot of quarantine patients in the hospital all the time, and these stay blocking beds and not being discharge for a week or so

BST1: Yes COVID has complicated things and delays have gotten worse. Our firm census has frown larger because of it, with roughly a quarter of patients on it waiting for quarantine to finish or for a swab to come out. When you add this to the social cases most of the patients we see everyday have no medical reason to be in hospital

MO2: True…very true. It has gotten much worse in the past year or so. Hopefully the effect of COVID will start to be less felt soon

Interviewer: So, you are all of the opinion that COVID has made it worse, from the point of view of having more delays?

MO2: Yes. Very much worse. And it's a vicious cycle. We had a case who had been in hospital for almost a month treating an infection. Close to discharge date he was sent on quarantine as he was near a positive patient. During the quarantine days he caught another infection and he cam out of quarantine and had to do another 3 weeks in hospital to treat the new infection. It would not have happened if he was not sent on quarantine. The longer you stay in hospital the more risk of getting another infection

MO1: Yes we had a very similar case not long ago. The patient ended up spending almost two months under out care. And it was preventable…quarantine was to blame.

BST2: I also want to tell you about some patients who keep returning to hospital for no medical reason. They keep being admitted from casualty and spending weeks in hospital for nothing. Listen…this happens mostly in medicine. Hospital management are aware of these patients but doctors at casualty keep admitting them and they have no choice. I am not saying its's their fault.

HST: Yes but nothing can be done about that matter

BST2: I know. But that's only because in Malta doctors are not properly covered to do their job properly. They are afraid to discharge patients too quickly at casualty in case they get sued. Or someone complains on television

BST1: There are no strict criteria for admission. I mean, yes, improvement has been made in Casualty as regards specific admission methods and pathways but much is needed still. Once again it all depends on politics…in Malta politics affects everything.

Interviewer: In what ways are politics involved though? I haven't understood fully

BST1: In Malta everything makes the news very fast. If a patient was refused admission and something happened to him afterwards it will be on all the media…especially political media. That's why doctors are afraid to do their job properly.

HST: That is true but I don't think it contributes all that much to bed blocking. The bulk of blocked beds are because of social cases I think

Interviewer: Would you change something in the overall current system at MDH to lessen delays in discharge, and do you think efforts are underway to achieve this?

HST: The DLN and DFT services are all I can think of as methods to lessen discharges. And also the hospitality lounge to make discharge letter time affect less bed blocking.

MO1: DLN team has been removed now.

MO2: As a houseman I would change the way discharge letters are done. We take long to do them because we have too much workload. Why not have two or three houseman on a rotation everyday just to do discharge letters? I mean…so the rest can do the rest of the duties and patients will not have to wait long for them

HST: That's an idea I have had in the past.

MO2: I think it can work.

MO1: I do as well

BST2: I don't think it's the system which has to change mainly but the mentality. To challenge the mentality you need someone with guts…who will not be afraid to provide a safety net for doctors to do their job properly. Hospital management has to work hand in hand with us so we are a united front when it comes to handling relatives and patients

BST1: Yes the fact that management almost always sides with the patient and family is a drawback. It demotivates us greatly. Very often management even goes against its own protocols to do this. It can make you wonder why go to the effort to uphold these protocols. For example we had a patient not long ago who was discharged home but would not leave the hospital, even though he was independent. He did not qualify for LTC or rehab. After a lot of quarrelling with the patient and family from us and the DFT team, management decided to keep the patient in hospital.

MO2: Yes that happened to us as well once

HST: We all need to pull one rope together and appear united in front of the patient and relatives. That is one thing which is currently failing. The solution to the bed problem is never to have more beds available….that's just a temporary solution. It's to keep patients in the community and in their own home

BST2: We have been proposing such things for decades now but the problem does not seem to be getting better. If anything, with this COVID situation, it has been worse

Interviewer: But as regards the MDH dynamics inside the hospital, do you think anything can be done to better off the situation?

HST: As things stand right now I don't see how more can be done besides what we have already suggested

Interviewer: That's it from my end then. I thank you all for your kind participation.

Nurse 1

Interviewer: Good morning. You are a female nurse as I understand. How many years of experience?

Nurse: 4 years experience

Interviewer: Age?

Nurse: 25

Interviewer: You have direct patient contact tight?

Nurse: Yes

Interviewer: Please describe the ward environment you work in.

Nurse: A 20-bedded mixed ward females and males, admitting from emergency. Mainly unfortunately we are…**pause**

Interviewer: So the patients you receive are from all over the spectrum?

Nurse: Yes. Yes,

Interviewer: Not medical only?

Nurse: No from all over the spectrum. But lately we have been receiving a lot of old people and they are here for ltc. Because of social issues

Interview: This interview will revolve around unnecessary delays in patient discharge. Are you familiar with the term?

Nurse: Yes, I have heard of it somewhere. For me it means discharges that are not done for some reason in time, and that can be avoided. It means they take too long to do

Interview: That's right delayed discharges are those discharges that are unnecessarily delayed. That's the focus of this study. How would you link this term to your work setting?

Nurse: Yes, a lot.

Interviewer: In what respect?

Nurse: Patients are sometimes kept needlessly in hospital for several days. It is sometimes the fault of the system and sometimes the fault of professionals

Interviewer: How so?

Nurse: For instance they keep patients needlessly over weekends or public holidays. For instance on Saturdays they don't discharge patient post-op but keep them there till Monday to be more safe, just because of Sunday they don't do ward rounds.

Interviewer: So patients stay 1-2 days extra for no purpose?

Nurse: Yes that's right

Interviewer: Does this happen very often you think?

Nurse: I believe a lot of consultants keep them over the weekend just in case something happens, to avoid discharging them a day earlier because on Sunday no ward rounds are done

Interviewer: As regards delays regarding procedures, such as medical imaging or theatres, or blood tests, contribute a lot to unnecessary delays?

Nurse: Yes. For instance sometimes patients have to wait a week for surgery, such as orthopaedic surgery

Interviewer: Why?

Nurse: Because they are postponed and then they have to wait in hospital and then they are there for nothing. They sometimes end up with an infection and the surgery is then further postponed

Interviewer: What about medical imaging delays?

Nurse: They wait for results to come out such as CTs, which often take a day or so for reports to come out sometimes, and then surgery is postponed because no imaging is available

Interviewer: So sometimes the procedure will be done in medical imaging but the report takes a long time to come out?

Nurse: Yes, especially MRI's. sometimes these take a whole week for the report to come out, and the patient is sometimes discharged in the meantime. Doctors have to keep chasing the radiologist to get the report, especially is patient is for a surgical procedure

Interviewer: With regard with this new covid reality, do you think this has made it worse?

Nurse: Yes obviously. We have to wait for covid swabs to come out, for surgery for instance

Interviewer: It will not be done without a covid swab?

Nurse: No, not only surgery but many a times also medical imaging procedures themselves, especially with a pending covid swab. You have to also understand that every time a potential covid patient goes to surgery or medical imaging it takes a lot of time to don/doff and also to clean the room with ultraviolet afterwards. This also can contribute to further delays that affect all the procdures afterwards, so many a times it is better to skip the patient until confirmed negative.

Interviewer: It will result in less delays that's way?

Nurse: Exactly

Interviewer: So covid has made it more complicated?

Nurse: Yes. You have to wait for the swabs or for patients to come out of quarantine etc…

Interviewer: Would you consider you have a lot of redundancy in your work such as repeated tasks, repeated paperwork, certain beaurocratic structures and procedures that make the process longer?

Nurse: Yes. Of course

Interviewer: In what respect? For instance, even to do something you need multiple persons involved and you need to go through a whole process

Nurse: For instance even to get a supply of antibiotics, just to get a covering letter it will involve waiting for the consultant. During the night you have to call a senior and if he does not come the patient does not receive the treatment in time…

Interviewer: So the patient ends up starting treatment one day late…

Nurse: Yes. And then you have to stay in hospital one day more.

Interviewer: From you end would you say that discharge planning suffers from pitfalls at ward level? And how? By pitfalls I mean, where discharge planning is involved do you think that is effective, or in the first place do you think there is a discharge plan to begin with?

Nurse: Rarely is there a discharge plan. Although they say that discharge planning should start from admission , I believe that in our hospital there is no appropriate plan.

Interviewer: So from casualty you don't receive, for example, a patient with a specific length of stay plan, like saying 'we plan to discharge the patient in 4 days?

Nurse: No they don't. they just transfer the patient and then its up to the doctor to decide. But the thing is, that some patient don't need to be admitted, for instance long term care patients, so there is no discharge plan because they end up staying hospital for months.

Interviewer: And this lack of a discharge plan, then when a discharge does come along…

Nurse: The patients are not prepared for it because even though…some patients are just waiting for some tests such as an ECG or a blood test and they will tell you, but I am still feeling sick…how can I go home?'

Interviewer: So they don't understand what is going on

Nurse: No. There is no preparation for the patient and there is no plan in reality.

Interviewer: In your view, are discharge delays sensitive to age, for example the older the patient is the more complicated the discharge gets?

Nurse: Yes I think so, because younger patients don't require a lot of assistance at home

Interviewer: Meaning they are independent..

Nurse: They are independent yes, so if the patients are in an elderly home their discharge planning will not be that difficult because we liase with the nurses in the home, but if you need to discharge the patient and there is nobody to care for them at home, and they are old, then there is an issue

Interviewer: It takes longer?

Nurse: Yes

Interviewer: With relation to this, would you say that we have adequate social services in Malta, to cater for the elderly community especially?

Nurse: I think services like CommCare are doing a really good job but however these patients require more intensive and personalised care, for example just giving them the treatment and washing them is not enough. They need more than a packed meal…

Interviewer: So they need round the clock care?

Nurse: That's exactly it…they require more. I don't think the need someone 24 hours to stay with them, they will be able to sleep on their own for example, but I think even to go to the bathroom, sometimes they need help. And then this is what happens, they end up living alone and they manage for a month or two, then they fall and they end up here in hospital again.

Interviewer: I see. Do you think lack of nursing home/rehab space contributes to delays?

Nurse: I think the main issue that MDH suffers a lot from is lack of available beds is because nursing homes that very long to accept new patients, because there is no space

Interviewer: How frequent do such occurrences happen?

Nurse: I think that the major issue is during Winter, but our winter is wrong so from November till April for sure. We are stuck in those months

Interviewer: So it happens frequently enough?

Nurse: Yes.

Interview: What about social/family support? Obviously today everybody works or had kids. Do you think patients end up in hospital unnecessarily just because they have no support at home?

Nurse: The majority of times that's the problem, because they have no one to take care of the at home.

Interviewer: Which is why they need a nursing home?

Nurse: That's it. I think we are living in a very busy life and we have no time to care for the older generation, and unfortunately, that's what's happening. It's a burden on the hospital and it affects everyone at the end of the day.

Interviewer: How do you think these delays contribute to emergency delays and overcrowding? Do they affect the organisation any other way?

Nurse: Yes. Because even if the consultant decides to discharge the patient and says 'the patient will wait for LTC from home' the relatives come with the patient again to casualty, and a lot of casualty patients are in fact re-admissions involving social cases coming for a place to sleep and someone to take care of them.

Interviewer: All right.

Nurse: If it was up to you, what would you change in MDH to lessen such delays? For example in the past the hospitality lounge and the DLN team were created for this purpose.

Interviewer: I think I would start off from the casualty dpt. I would identify social cases, and if a social case…I think by admitting these cases to a particular ward, not all over MDH but in one particular ward…

Nurse: There are already a couple of wards for that purpose…

Interviewer: Yes but it's not enough. Moreover at casualty they need to be seriously considering whether to admit the patient or not because they just admit them without thinking

Nurse: Because if you take a blood test of an old person you are bound to find something deranged at any point in time so they end up having to admit the patient…

Interviewer: Yes and then they are stuck in hospital…once they are admitted then to discharge them it becomes difficult, and the aim of these relatives is to get them admitted and then abandon them here. So if they identify them from emergency and just don't admit them, or else create a department out of MDH , which would be much better..

Nurse: Like a transit area?

Interviewer: That's it. It would be much better. In reality rehab is not an answer…most patient don't need rehab. They need a place to stay.

Nurse: Thanks for your co-operation.

Nurse 2

Interviewer: Hi. Thank you for coming for this interview

Nurse: My pleasure

Interviewer: Please state your gender

Nurse: I am a female nurse

Interviewer: Years of service?

Nurse: 8 years

Interviewer: How would you describe your workplace?

Nurse: We receive patients from casualty….**pause**

Interviewer: From a specific medical field or from all over the spectrum?

Nurse: Medical only

Interviewer: Are you an admission unit or a specialised one?

Nurse: No, a medical ward which receives patient from casualty and also other wards, especially patients who are CRE/VRE positive

Interviewer: What do you do with these patients? Isolate then?

Nurse: Cohort them into different rooms….so they will not infect each other. Beds are saved in this way in the hospital

Interviewer: As regards discharge delays…what does the term mean to you as a nurse?

Nurse: It means discharges that take long to happen and that…make the patient stay in hospital for a very long time

Interviewer: Do you think such delays occur in your workplace?

Nurse: I think so yes

Interviewer: In what form? Can you please clarify?

Nurse: Well I mean…patients are very often kept in ward not for reasons that are medical…they don't need to be in here, but have nowhere to go or are waiting for a particular thing that must be done

Interviewer: Research has shown that worldwide delays are very much related to certain procedures taking long to complete (such as blood results, medical imaging procedures, surgeries etc…). What are your views on this with regards to MDH?

Nurse: Yes these are very common here. Lab results don't take long to work I think, they just take long to order, and especially urine cultures etc…take long also to work. COVID swabs also are a very big hassle as they must be done before every procedure and also before every transfer

Interviewer: So you are saying more timely lab test orders can be more responsible for delays than actual time for results to come out?

Nurse: Yes. Unfortunately nurses are not allowed to order any tests by themselves, not even ones which are common (like urine, sputum culture, COVID tests etc…). This means that even if the doctor does order them on the file it take the nurses a long time to remind the doctor to order the tests online so they can be sent to lab with the bar code sticker

Interviewer: I see

Nurse: Doctors are very busy but they are also very negligent sometimes. They forget to book tests or book them late. This can cause delays

Interviewer: What about other departments? Or other procedures?

Nurse: Well I think theatre procedure do have some drawbacks at times. I think general surgery is very efficient and the problem is more about orthopaedic surgery mostly.

Interviewer: How so?

Nurse: Well, it's not the doctor's fault I think. Emergency ortho patients with emergency trauma get placed in between elective list and are only done if the elective list allows for it on a particular day. This makes these emergency cases sometimes wait for days on end to be operated, and the patient is starved every night for several nights in case the surgery is done the next day

Interviewer: This is very inefficient and also risky for the patient

Nurse: Yes, of course. The patient gets angry sometimes and he is also at risk of infection because he is spending more days in hospital than he needs.

Interviewer: Is MDH management aware of this?

Nurse: Yes they are. This has been happening for a very long time and many complaints have been filed by patients over the years. I think it cannot be solved

Interviewer: I see

Nurse: You mentioned the medical imaging department. This department is very much linked to delays as well. And also to surgery delays because if CT reports/MRIs are not reported or done on time the surgeries cannot be done.

Interviewer: Do you think this is the case in many instances?

Nurse: No when the patient is for surgery, usually there is less waiting from the medical imaging department. But in medical cases, in the medicine section, delays on these things are very common. Patients sometimes wait for days/weeks for a CT scan and consultants also sometimes keep them for weeks on end in hospital just to get that CT scan. Because if they are discharged that CT will then be done at a very later date

Interviewer: So if I understand well at times patients are kept just to expedite imaging dates?

Nurse: Sometimes, yes.

Interviewer: This keeps beds blocked for day on end I would imagine.

Nurse: It does, yes. And the patient is often frustrated. It can lead to more hospital related complications such as infection and more delays in that respect. Not to mention cost and redundancy in work

Interviewer: Do you find redundancy to be a major contributor to delays?

Nurse: In what sense?

Interviewer: excessive paperwork, repeated paperwork, excessive division of labour that makes a task take longer to complete….

Nurse: Well if you mean bureaucracy then yes we do have much of that. Everywhere in the government sector is like that. There is very much paperwork to do….too much. I mean it always increases with time, year after year. And in Malta most of the work is manual…we write everything manually not on computer. So it takes a long time to complete a task or process

Interviewer: Can you please give me an example?

Nurse: For example when we know a patient is unable to go home. We need to flag him for ltc. Doctor has to do referrals for geriatric and social worker, and to this involves paperwork and telephones. It then takes days/weeks for these people to come over and they major then refer to OT. To get a patient flagged for LTC, then also with the DFT after all this it takes weeks.

Interviewer: I understand

Nurse: Even in general to get anything done you need a doctor to write you a paper or book a referral…the nurse can do nothing on her own so it always takes a lot of time

Interviewer: So you think delays would improve if the nurse was given more access to do certain tasks and not rely so much on the doctor

Nurse: Yes yes, exactly. Even for blood tests and other tests…more than taking long to be worked at the lab I think they take longer to book by the doctor especially during the day when they are so busy

Interviewer: Would you say such redundancy affects the discharge planning process?

Nurse: Discharge planning…well…

Interview: How would you describe the discharge planning situation in MDH?

Nurse: It varies across specialities I think and even different consultants have different methods. Overall I think it is not so good

Interviewer: Do you think it has an impact on delayed discharges?

Nurse: I think we need more discharge planning and from before…from early I mean. It is not easy to do it…for doctors I think because an admission involves a lot of people and it is very difficult t know from before when certain procedures will be done for sure

Interviewer: So you are saying that a major barrier for good discharge planning is the fact that the patient's admission involves many players and it is not easy to know when certain things will be done

Nurse: Yes it involves a lot of health professionals….in different departments. There are some people who say the date of discharge should be known on admission but that is not realistic I think. But yes a rough date can be set early on in admission process

Interview: And is this being done? Planning I mean.

Nurse: I think the situation has improved a bit in the last few years. At least we are all aware of it now. And there are efforts by some doctors sometimes to do discharge planning. Even with the COVID situation things I think are going better

Interviewer: Did the COVID situation affect this process and delays in discharge in general?

Nurse: I think because of the COVID discharge planning improved a bit, mainly because COVID swabs have to be taken in advance many times and so we know on what day the patient will be discharged about 3 days in advance. But COVID I think has made delays worse because of quarantine periods mainly…people come in with one thing and end up in quarantine for days and that wastes a bed

Interviewer: Were quarantine situations bad these past months?

Nurse: Yes a lot. But soon these things will hopefully not be done anymore and we will return to normal

Interviewer: Would you say that patient's age contributes to delayed discharges?

Nurse: Well yes I think. The older a patient is the he is has delays.

Interviewer: Why?

Nurse: Because of dependency and help he needs at home. Or when he lives alone with nobody to take care of him. A lot of things have to be done before discharge, like arranging services and making agreement with family members how things are going…are going to be arranged

Interviewer: What's the biggest setback you find when trying to arrange for an older person to be returned home?

Nurse: It's that they live alone and they cannot take care of themselves. But many times they are not bad enough to go to ltc. So they are like caught in between. And the DFT cannot keep the patient in hospital and many times the patient even wants to go home.

Interviewer: But there are many community services to help the patient in his home right?

Nurse: Yes there are a few. And we use them a lot, like Commcare for example, and the social worker can apply for the patient to use other services that bring him food or other utilities.

Interviewer: Would you say there are enough community services to cater for these aged people?

Nurse: Yes I think so. At least we have never phoned Commcare and they told us they are not available or full-up. Except when there was the COVID problem last year

Interviewer: What about rehab space and ltc care? Do you think they are lacking?

Nurse: Yes….but listen, ltc beds will always be in short supply…no matter how many you have you ill not have enough. I think we should increase the number of rehab beds available but not the ltc beds

Interviewer: Why?

Nurse: As a country we have to shift care to the community not ltc. We have been saying it for many years but I don't think we have addressed this issue seriously yet. We keep investing in ltc beds and then every time finding we always need more. Even because sometimes these beds are also used badly, for people who don't deserve them but they talk to people high up and arrange

Interviewer: So as regards rehab beds…you think we need more? Does this lack contribute to delays in MDH?

Nurse: Yes, of course. Patients end up waiting for rehab beds or ltc beds for weeks and sometimes months. In that time they sometimes get an infection and have then to be treated for it, many times the process for rehab/ltc has to start from scratch. Sometimes they send them home to wait for ltc there but this is not always possible because the patients are dependent and have no relative to take care of them at home. That's why they are for ltc in the first place

Interviewer: Lack of relatives at home are a problem in these cases I would imagine

Nurse: Yes of course

Interviewer: To what extent do you think lack of proper family support contributes to extend delays in discharge?

Nurse: It contributes a lot. In today's world nobody has the time and there is never anybody at home. Old people are on their own. That is why they prefer hospital. But there is no space for them. I think there is abig problem of people stuck in hospital because nobody can take care of them at home. And they don't need a lot of care….just someone to be with them.

Interviewer: But there is nobody there

Nurse: No. And then some simply don't want them for other reasons. Because of money issues, or their property or other family things

Interviewer: Do you think efforts have been done to lessen delayed discharges in MDH in the past?

Nurse: Yes, yes. But as I said the thing which is needed is to keep people out of hospital, the people who are at risk of becoming social cases for ltc. Keep them in their houses unless they are really medically sick. It's useless having more beds.

Interviewer: Thank you

Nurse 3

Interviewer: Good morning

Nurse: Good morning

Interviewer: Please state your gender and workplace

Nurse: 4 years experience, female

Interviewer: Age?

Nurse: 23

Interviewer: How would you describe your workplace?

Nurse: It's mostly routine, where ward rounds are done, we act according to the doctor's plan, take care of our patients…

Interviewer: Where are patients received from?

Nurse: Accident and Emergency and also other wards

Interviewer: And is it from all over the medical spectrum?

Nurse: Yes

Interviewer: I am going to ask you some question about delays in patient discharge, which is what this study is about? Are you familiar with this term?

Nurse: It means delays which keep the patient…make him stay in hospital for long periods of time

Interviewer: So, the patient stays in hospital unnecessarily

Nurse: Yes

Interviewer: Do you think this term applies a lot to patients in MDH and to your workplace?

Nurse: Yes, without a doubt. Delays are very common here and patients are kept for a long time sometimes, waiting for things to happen

Interviewer: And do you think there is a specific cause for them?

Nurse: Well, it's complicated. Social cases are very common, and these are people who have nowhere to go and are kept in hospital for very long periods of time.

Interviewer: Research has shown that sometimes health professionals can cause delays due to conflicts of interest that lead to the patient not being discharge when he should. Do you think this is true in MDH?

Nurse: Am not sure I understand….

Interviewer: Do the actions of health professionals sometimes cause delays? I mean, do they sometimes choose convenience over what's right and does this cause delays?

Nurse: Yes, I think this sometimes happens. It depends on the patient and the case. For example if the patient has an outpatient appointment a day after the discharge, for example they say let's keep

him here' another day so he doesn't have to come and go, especially if he doesn't have any transport available. And then there are some who want to discharge them quickly, especially now that we have this crises of COVID. So we see them them, we treat them, he's ok, let's go.

Interviewer: So COVID you feel has changed things?

Nurse: There are some consultants who have changed and then there are some who remained the same. It depends…

Interviewer: Overall you think patients are being discharged faster now in these COVID times?

Nurse: Again it depends on the patient, on the consultant and the mentality. There are some who want them to go home in tip-tip shape and there are some who say we can discharge him and maybe he will come back for an outpatient. It depends…But in general discharge take long

Interviewer: How would you rate procedural delays vis a vis causing delays in discharge?

Nurse: Yes they do, especially if there is a problem if bloods are sent late or if there was clotting issues of the sample, and they will have to be retaken and therefore it will take longer to come out…

Interviewer: And what do you think is the main problem, for example is it a lab problem or a medical imaging problem….

Nurse: It depends on the waiting lists when it comes to CT scans for example….they don't have a lot of delays in the lab, I mean mostly such delays are because of the sample delivery getting to the lab, or it is lost in the tube, or it is labelled incorrectly, or it is soiled….I mean there are many reasons

Interviewer: What about the medical imaging department?

Nurse: Well in this department there are long lists of patients, and they sometimes take long because those lists have to be vetted and put in order of priority. And then they have to see how to carry them out.

Interviewer: How severe are these delays?

Nurse: Well it depends once again. It also depends on who books them….some radiologists bully some young doctors and don't want to vet it for them but then they will immediately vet it if a senior talkd=s to them.

Interviewer: So there is some politics involved?

Nurse: Not politics…more like I think sometimes there is some laziness. The system does not work very well sometimes

Interviewer: What about theatre cases?

Nurse: Theatres have been delaying procedures for ages. But again, it's not all theatres. General surgery for instance have less delays. The worst is orthopaedic, especially for urgent trauma cases

Interviewer: Why?

Nurse: The fact is that urgent trauma cases are operated in between slots of electives, and so they have to be sort of lucky to get it done. Patients sometimes get their surgery postponed for weeks because of this. We end up starving them for surgery everyday for a week or so

Interviewer: That is not good

Nurse: No of course. Patients end up frustrated because they are in pain from the trauma. And sometimes they end up getting some hospital infection because they have stayed a lot in the ward, and then they are treated for that infection and the surgery takes longer to do. And we nurses sometimes have to deal with both patient and relatives complaining about the delays when it is not our fault

Interviewer: I understand

Nurse: And they are right to complain because the system is inefficient in this case

Interviewer: Research has revealed that redundancy makes up a good part of discharge delays. Would you say this is the case in MDH? By redundancy I mean repeated tasks, extra paperwork etc…

Nurse: Yes very much, especially when they have to do the discharge letters, they have to repeat COVID swabs and sometimes they forget and have to be done late by a day or so…

Interviewer: So this is the case since COVID started…

Nurse: Yes, but even without COVID there is a lot of extra paperwork in day-to-day work which is sometimes unnecessary.

Interviewer: Can you provide examples?

Nurse: Getting a patient flagged for LTC for instance takes weeks and weeks. There is paperwork to be filled for every health professional to visit the patient, then the geriatrician, social worker and OT and DFT have to come one after the other and then leave handover for each other. The whole process takes a very long time. Even to reach certain health professionals like psychiatrists, psychologists or podiatrists takes a long time and effort, a lot of phone calls and papers. And these people don't work on feasts and public holidays so the delays are longer

Interviewer: And has COVID affected this?

Nurse: Yes, a lot. Some professionals were not coming into the ward at all, some homes were not accepting patients or if they accepted the had to be with very recent COVID swabs so swabs had to be taken. So restrictions are slowly decreasing but the swabbing still continues. The managers of these entities are very afraid of outbreaks

Interviewer: Would better discharge planning help to counteract these problems?

Nurse: It would help yes

Interviewer: How is the discharge planning process in MDH? In your workplace?

Nurse: Mostly admissions are admitted, investigations are done and the discharge is not given attention until it actually happens. So there is no way of knowing

Interviewer: So you will not know in advance when the patient will be discharged?

Nurse: In some cases yes, especially if the discharge is complicated and requires a lot of communication with other entities, sometimes we know a day or two in advance. But in the vast majority of cases no prior planning is done

Interviewer: And no plan for discharge is done as early as in the admission phase from casualty?

Nurse: No, no. I mean, there is no reference to the discharge process on admission, just a plan of medical care which is then updated daily by the consultant.

Interviewer: Would you say that delays in discharge are sensitive to age? Meaning are delays more prone to happen if the patient is old?

Nurse: Depending on the way the discharge is happening. For example if he is an independent patient who can easily have the discharge letter and go out of the hospital…younger patients are discharged more quickly but then it depends on their case. For example if you have an elderly patient which requires transport booking and transfer to other facilities, yes they do take longer.

Interviewer: So, if I understand correctly, it's more the dependency level that matters more than age, with regards to delays in discharge

Nurse: Yes exactly, but of course dependency levels increase with age so….age matters as well

Interviewer: Literature has shown that delayed discharges cause overcrowding in the emergency department due to lack of available beds in wards which are blocked due to patients taking long to be discharged. This happens a lot abroad. How real is such a situation in MDH?

Nurse: Yes it is

Interviewer: It happens very often?

Nurse: It happens every day. I work in emergency department sometimes, overtime duties and the problem is very real. Emergency ends up clogged, especially during the night when the big bulk of patients come in.

Interviewer: So it's worse at night?

Nurse: Yes, because in the evening the patients start coming in in bulk and by late evening available beds are usually full up, so the problems begin, and it is not until after ward rounds the next morning that the problem starts to get better….during discharges.

Interviewer: I see. And does it happen every day? Or is it seasonal

Nurse: Well, before it used to be worse in Winter but recently it doesn't seem to matter which season we are in…it happens frequently enough on a weekly basis

Interviewer: As you can imagine delays incur a lot of extra expenses for the hospital. What do you think can be done to decrease delays at a ward level?

Nurse: There is a system which a particular ward uses, where the patients are given a very quick discharge and then they receive the discharge letter at home by post, so they don't have to wait here for the discharge letter…they don't have to wait till late in the afternoon after being discharged early in the morning. What we can do is prepare the patient, give him everything he needs for the discharge, give him a very quick discharge summary and if need be medicine etc…and we send him home and then they send him everything by post

Interviewer : Something of the sort was done by the creation of the discharge lounge. You think that is not enough

N: But that is a drawback because if the patient is diabetic we cannot send him to the discharge lounge, or if he has a nappy, or if he is less than completely independent.

Interviewer: Ok so the discharge lounge has very rigid criteria

Nurse: Exactly. He has to be fully independent without any co morbidities, which is very rare because patients are usually very ill and they came in just for that reason. So there is the discharge lounge, yes, but you cannot send the patient many times and he ends up staying the ward, blocking the bed

Interviewer: All right. I understand

Nurse: So what we can do is discharge him early from the ward as I explained and him the full summary by post later on some other day

Interviewer: From your experience in your ward area would you say inadequate social services in the community contribute much to delayed discharges?

Nurse: In their own homes?

Interviewer: Yes

Nurse: Not exactly. No.

Interviewer: You don't think they are a problem?

Nurse: No

Interviewer: So you would say they are adequate

Nurse: They do have faults but I think many times it's patients that don't accept them., and we should know about these things before the discharge date. It is only on the day of discharge that we very often begin to ask patients about such things and many times it is too late by then. This should be done way before…even as early as admission, where some things can be determined…some needs I mean can be seen

Interviewer: What about nursing home/rehab space? Do you find these are contributors to delays?

Nurse :Yes that is a problem. There are no empty beds in these places and many times patients have to wait for weeks and months to get there. This is an acute hospital and we are getting a lot of patients with LTC occupying beds here…lots of them. This takes up space for people who actually need it. In MDH people should make use of the bed, get better and go home. Instead, especially in medical wards most beds are taken by people who are medically ok but cannot go home for some reason

Interviewer: Does this happen very often?

Nurse: Yes, everyday…for months on end, and this affect the emergency department problem we discussed earlier and the cost involved due to beds being blocked for long periods of time

Interviewer: To what extent do you view family support as contributing to delays? Do you think we lack this in Malta?

Nurse: Life has changed in the last twenty years and everyone is working now. There is just nobody at home. And nobody can take care of anyone because nobody is at home…it does not matter if you are married or not. I think this contributes a lot to old people having to stay in hospital because they cannot live in their own homes alone. And nobody can take care of them. Also, many people just don't care about their elderly relatives and don't feel they owe it to them to take care of them. It's a combination of factors, but for sure lack of family support is an important factor. But to make up for this I think the amount of social care services has increased, as well as having people sent to your home to do certain tasks as well….I mean they don't make up for family support but at least they help a little

Interviewer: Thank you very much

Nurse 4

Interviewer: Good morning. Please state your gender and age

Nurse: I am a male nurse, 32 years old

Interviewer: Years of service?

Nurse: 10 years

Interviewer: Can you please describe your workplace please and also the nature of your work?

Nurse: I work in a medical ward and here we get patients with many different conditions

Interviewer: So patients from all across the board?

Nurse: Yes.

Interviewer: I am going to ask you questions as regards delays in discharge based on what the research has shown to be relevant in this field of study

Nurse: Ok

Interviewer: What do you understand by the term 'delayed discharges'?

Nurse: Well it delays that sort of should not be there and which prevent a patient from going home as early as possible

Interviewer: That's right. Do you encounter such situations at your workplace?

Nurse: Many times yes.

Interviewer: Can you explain?

Nurse: We have a lot of patients everyday who get stuck in hospital. They are delayed for a lot of reasons.

Interviewer: Such as?

Nurse: Well most are social cases with nowhere to go or take care of them. They get stuck here for weeks and months sometimes. It's very difficult to discharge them home. It has always been like this, ever since I can remember

Interviewer: Are these people receiving any medical care?

Nurse: Not a lot no. I mean…basic nursing care like washing them and giving them their treatment, yes. But no active intervention. And then they end up with some nosocomial infection while in hospital and we have to treat them, but still they stay here. It's like a never ending cycle

Interviewer: So what keeps these people in hospital mainly? Are tends up these delays connected to anything?

Nurse: It's very difficult to say. Mainly I think it is all the fault of our ageing society. There is nobody to take care of old people because nobody has the time. And many people don't want to either.

Interviewer: So you view it as the problem is on the outside of the hospital?

Nurse: Well there are many problems in here as well.

Interviewer: That lead to delays in discharge?

Nurse: Yes. The system has many flaws I think.

Interviewer: From your workplace what do you think are the main problems in this regard?

Nurse: Well it's difficult to say. There are many things to contribute to delays on the ward setting.

Interviewer: Let's start with health professionals on the ward level. Do you think some delays can be attributed to these employees?

Nurse: There are some situations where this can be the cease, yes. For example, a patient's journey through hospital involves a vast number of health professionals. And these take time to come and see the patient, especially if they are overloaded or short of staff or they just don't visit certain wards because of shortage of staff. Most of these delays happen for these same social cases, like social worker, OTs and geriatricians. They take ages to come and when they do there is a system where unless the consultations are done in a particular order the patient cannot progress

Interviewer: So, let me try to understand. On a ward level most delays happen due to these health professionals you just mentioned taking too long to see the patient?

Nurse: Yes, in the matter of social cases for sure this is a problem. You see, before the DFT can flag the patient for LTC so he can go to a nursing home these professionals must review the patient….and then they must discuss him in their meeting. But this takes a lot of time to do and many times the patient ends up with some other hospital related complication and the whole process must start again. Because for the patient to be flagged he must be medically fit. So you see the problem

Interviewer: Yes I do.

Nurse: And then there are discharge letters which are done late and the patient takes a long time to go home. I mean they are very busy, not their fault. But there is not a system in place that makes the discharge letter writing efficient

Interviewer: And this delays the patient's stay?

Nurse: Not the stay per se….it takes longer for the patient to leave the ward on the day of discharge. The patient is discharged in the morning during ward rounds and it takes till afternoon for him to actually leave. And that is when there are no further preparations to be done, like transport or handovers to other places like nursing homes….when that happens it takes even longer. There have also been rare occasions when the patient could not be discharged because the discharge letter was done so late that no transport could be organised so late…so the patient ended up spending the night…an extra night in hospital. With the COVID it has become a bit worse as well

Interviewer: Yes, I can imagine. Is it that much worse because of COVID?

Nurse: Yes a bit because you have to take the swabs and wait for the result.

Interviewer: I see

Nurse: And even other examples like when a patient needs a psychiatric review for instance….they take ages and they will not come on feast days. This is very common, and the patient end up being kept in MDH for nothing, even if he is discharged medically, and not sent to MCH or straight home until the review is done

Interviewer: It seems health professionals of various kinds do incur delays. What about nurses?

Nurse: Well, nursing has changed. There is more paperwork involved now. And more phone calls to be made…clerical work, yes that is the word. Nurses have a lot of clerical work to do, because of new protocols and new medico-legal guidelines etc…These I think also involve delays. Nurses are also very understaffed and procedures in the ward may take more time to do, and even to get admissions from the emergency department may take longer because there is not enough nurses to man the ward

Interviewer: I see. Do you get many out of ward procedures? Do these get delayed sometimes?

Nurse: Yes of course.

Interviewer: What procedures are most commonly delayed?

Nurse: There are certain procedures that have a tendency to be delayed more than others. Certain theatre procedures like ortho surgery get delayed…the trauma urgent ones, sometimes take several days, they get postponed, to the detriment of the patient who gets stuck in hospital for more days than necessary. This sometimes leads to infections that are avoidable and other complications.

Interviewer: So theatre delays are common?

Nurse: Yes, ortho theatres in particular though. General surgery is usually done as per time plan. Maybe it's because they have less electives and more urgents I don't know

Interviewer: What about medical imaging procedures and lab investigations. Research worldwide has shown these two to be responsible for a significant amount of delays in hospital. Does this apply to MDH in your opinion?

Nurse: Again there are certain procedures that often get delayed more than others. Simple X-rays usually take more time to do because there are more of them to do throughout the hospital. As to CT-scans and MRIs sometimes they get delayed because they have to be vetted by the firm and this requires permission from the radiologist, who may not agree with the CT to be done.

Interviewer: How long are we talking? Days?

Nurse: In some cases yes, especially MRI and PET CTs for instance. Patients sometimes are kept in hospital just for the MRI, which doesn't make sense.

Interviewer: Is that so? But why? Can't they come from home?

Nurse: Yes exactly. Sometimes firms keep them in hospital just for that purpose.

Interviewer: And do patients not complain?

Nurse: Patients rarely know what's happening, especially if they are old. I mean, I think it's up to management not the patient to see these things and tell doctors not to keep patients in hospital for nothing

Interviewer: I understand. Lab results….what about those? Any delays there?

Nurse: Not so much. I think all in all the lab is very efficient. Results come out in a timely fashion…problem is with the COVID the lab had too much to do and delays were not avoidable.

Interviewer: So all in all the lab is not responsible for significant delays in patient care and eventual discharge?

Nurse: I don't think so, no

Interviewer: You priorly said that nurses have a lot of paperwork involved nowadays. Would you say you are also burdened with repeated tasks or redundant procedures that take a lot of your time and ultimately result in delays for the patient?

Nurse: For sure we have a lot of repeated tasks, but I don't know if I can relate it to having an impact on delayed discharges.

Interviewer: Can you provide examples of repeated tasks?

Nurse: The thing that comes to my mind is when we have to flag a patient for ltc. The process is so long, and we have to involve the same 3-4 health professionals multiple times until the patient is seen by the dft. Even doctors complain about this as they are stuck with patients for weeks on end. Then there is endless paperwork to be done for every nursing task done on the ward…I know these are all good things and I agree with good documentation but we just don't have the manpower for it anymore

Interviewer: Does this affect discharge planning on the ward setting?

Nurse: Of course. Not only affects it I think…it makes it a bit impossible to know when the patient will be discharged, at least for those with ltc. And I don't think discharge planning is taken very seriously here

Interviewer: You find discharge planning to be lacking in your ward?

Nurse: Not only in my ward…I worked in other wards in the past…discharge planning is not strong in mater dei.

Interviewer: Any reasons why this happens?

Nurse: Reasons vary I think. But I think there is not a culture in Malta yet of doing a discharge plan. I think it's a cultural thing…we are so used to use the hospital as we see fit and doctors and other staff don't have any interest in making the process efficient because it is risky as well

Interviewer: Please can you elaborate on this? Risky, how?

Nurse: Well, people don't talk much about this because it is not nice to hear. Doctors are afraid to make decisions here, especially to discharge patients as early as possible, they are just nit covered legally and they will be all over the news, and politics will be involved. Patients abuse of the hospital because they know they can I think. Discharge planning is sort of ignored because it involves telling patients they have a limited time in hospital and it's not what most patients want to hear…we are entitled as a nation

Interviewer: I see…so you think lack of discharge planning here is due to this hesitancy on the part of doctors?

Nurse: Yes, especially in the emergency department where they admit everyone…I mean, they admit no questions asked sometimes, just because they are afraid the relatives or the patient will complain.

Interviewer: Does age play a role you think in delaying the discharge process?

Nurse: Yes very strong role I think. The older the patient the more complicated the discharge because it involves a lot of different health professionals, more arrangements in the community as regards services etc..

Interview: Do you think community services are sufficient in Malta or are patient's discharges delayed because there simply is not enough services outside?

Nurse: I think they are sufficient, yes. But I think the main problem is we want to use them for things they were not designed to cater for. If the patient is too dependent and has many needs, or needs 24 hour care then community services cannot cater for such demands. I mean, we must be realistic.

Interviewer: So you are saying that unfortunately there are too many patients that require ltc and cannot be discharged home, no matter what community services exist?

Nurse: Yes, exactly.

Interviewer: What about long term care space in nursing homes or rehab space…are patients delayed frequently just waiting for beds in these facilities?

Nurse: Of course, a lot. The hospital is full of such patients, who cannot be discharged and are just waiting for a bed. It has always been like that, nothing new. On my ward we always have around half of the ward beds occupied because of this reason

Interviewer: I see. Do you think COVID has made it worse…I mean…do you think delays in discharge have been made worse in these past two years?

Nurse: Not really, no. I don't think COVID has had an effect on delays at all. The problem is very long standing

Interviewer: Well, if you had to have the ability to make serious changes to the system here in order to lessen delays in patient discharge what would you do?

Nurse: It's a bit difficult to say because the blame cannot be assigned to any one particular thing. I think the problem has to be tackled before it occurs, so in the emergency department. Admission/discharge protocols have to be done to guide doctors and allow them to feel safe to do their duty properly and not be afraid to send medically fit people back home. Or if they admit they identify the potential of the patient to have serious delays as early as emergency so the step could be taken to tackle these as soon as possible.

Interviewer: Thank you for your co-operation

DFT 1

Interviewer: Good morning

DFT: Hi. I am a discharge facilitation team member in MDH

Interviewer: Can you please state your age, gender and years of experience

DFT: I am 52, female and have been in this position for the good part of 5 years now

Interviewer: Can you kindly describe the nature of your work? What does the discharge facilitation team do?

DFT: Well, we are made up of a handful of people. Our work does not involve only one thing but various tasks

Interviewer: You have no direct patient contact?

DFT: No, or very seldom. Our work mainly involves dealing with patients who are for long term care. We identify them and together with the help of other health professionals we assess them to see if they are fit for ltc. It's a complicated process and it takes some time.

Interviewer: So your work solely involves the process of ltc….choosing who qualifies for it and reaching a decision with other health professionals?

DFT: Yes, although recently we have also been assigned the job of the discharge liaison team, which I don't know we can cope…the workload is not endless

Interviewer: Ok. Let's take this step by step…..Describe the process of getting a patient ready for ltc and I will ask you about potential instances where delays in the process might be possible. We will start with the DFT part, and we will get to the DLN later

DFT: Ok. So first we usually get a call from the nurses of the ward to see a particular patient. When this happens we immediately ask if the patient has been already seen by a geriatrician and rejected for rehab, and also by a social worker. We also ask if the patient is on constant watch and if he is medically discharged.

Interviewer: I see. So before all those criteria are met you cannot review the patient?

DFT: No. And those criteria have to be met for sure…I mean…there are no exceptions.

Interviewer: Do you think there are delays to get those criteria in order?

DFT: I would think so, yes. It takes time for doctors to find out the patient is going to be problematic to discharge…usually the relatives inform them at some point. Then they have to do the paperwork for the geriatrician and social worker, who will review the patient roughly within 3 days. Then these have to write notes on the file and the geriatrician has to confirm that the patient is not for rehab. This can take more than one review to determine and the geriatrician may come and go a number of times, each time reading the physio handover.

Interviewer: So a geriatric review can take a while to complete?

DFT: Yes. Sometimes it is straight-forward, if the patient is very sick and highly dependent…I mean, but sometimes patients are border line independent and it is not easy to immediately know for sure.

So, when the geriatrician finally decides, and the social worker has seen the patient…then it is up to the doctors to discharge him from their care and write this clearly in the file. Again….we will not review the patient unless this is clearly indicated

Interviewer: What about if a patient is constant watch? Why do you not review him for ltc?

DFT: The protocol dictates that we don't…I suspect they don't have the man power to take care of constant watch cases at nursing homes

Interviewer: Constant watch is considered treatment right?

DFT: Yes, I think so

Interviewer: So wouldn't this mean that…sort of…if the patient is on this particular treatment, constant watch, he doesn't qualify for ltc?

DFT: Yes, they are removed from constant watch for them to be accepted…just for that purpose

Interviewer: But isn't that unsafe?

DFT: Yes, I think so too.

Interviewer: Ok.

DFT: We have discussed this issue with some ward managers and also nurses on some occasions. Nurses and ward managers sometimes feel that it is so unsafe to remove the constant watch status that the patients are left on constant watch and not accepted for ltc.

Interviewer: And they are left occupying a bed for this reason?

DFT: Yes, exactly. But in the big picture it doesn't matter that much. I mean it is unfair on the patient of course…that is true. But bed-wise there are so many patients waiting for ltc that you just end up choosing another from somewhere else. Seems harsh to say and unethical but it's what happens

Interviewer: I see. So this is a major source of delay. Does this happen often?

DFT: Not so much, no. On the majority of cases the constant watch status is removed

Interviewer: So assuming all these factors are satisfied you finally get to review the patient right? How long do you reckon this takes…I mean the time period between when the firm starts process for ltc and when you finally review the patient?

DFT: Well, it depends. But I would say a week for sure…usually more I think.

Interviewer: That's a bit of time

DFT: Yes, because so many people are involved and so many factors to meet

Interviewer: So here we are talking about a patient who is already medically discharged and occupying a bed for nothing right?

DFT: Yes, exactly.

Interviewer: And what do you think holds the process the most?

DFT: I don't really want to assign blame here. The geriatrician takes a day or two usually but the social worker takes the most time. I think they are often understaffed so it's not their fault as such

Interviewer: I see

DFT: Look it's a very political thing…I mean, the geriatrician and the social worker, much depends on them and they are like…they are all the time careful what to right in case the other one takes advantage of it

Interviewer: I don't understand

DFT: It's a bit complicated because nobody talks about it. Look, the social worker communicates with the family to get their input. The family very often say they cannot cope and the social worker so that he/she does not quarrel with them all day just say 'ok' that we will keep the patient in hospital. She then writes a note saying that the patient is for query ltc. When the geriatrician sees this he immediately rejects the patient for rehab and the patient is automatically stuck in hospital until we review him. When we do, no matter what we find it's like the future of the patient has already been decided because we cannot now convince the family that with services the patient can be discharged (as the social worker has already told them he is staying hospital), and we cannot convince the geriatrician that with some rehab the patient can go home. So there is often nothing left to do but to flag the patient for ltc

Interviewer: So you don't meet between you…you and the geriaction and social worker?

DFT: We communicate with the social worker via phone and yes, we have a meeting with the geriatrician every so often

Interviewer: And you don't discuss these issues between you?

DFT: Yes we do, but very often it's the social worker input that is missing. We work well with the geriatrician sort of, but the social worker seems to be on her own, and very often that is where we fail when it comes to prevent a patient from become an ltc…the social worker chooses the easiest way out and caves in to what the family wants. And it's too much of a hassle to challenge that, especially vis a vis the relatives. It involves a lot of arguments and fighting, and family issues get in the way, and anyway…in Malta you know how it is. It's mostly to do with financial issues and money, and wills etc…After that amount of fighting and arguing the family can just go to the minister and have all our decisions bypassed and have their own way anyway

Interviewer: Really? That happens as well?

DFT: Yes, occasionally…well…often sometimes I think. It has always been like that. In Malta things are done like that in government departments. It is very demotivating for us when it happens because the rules are set by the department and we go to great lengths to enforce them sometimes, and it's not nice to have someone higher up break the rules like that. A

Interviewer: What are the main problems you encounter with relatives when it comes to trying to prevent a patient from being needlessly flagged for ltc?

DFT: Relatives do what is best for them and cannot be blamed…it is up to the department to work as a unified front and stand up to the rules. It's a great headache and we get into a lot of family issues and disputes…and believe me there are a lot of these. The patient is very often caught in the middle of it all

Interviewer: That's a tough call to make and it involves a lot of wasted time until a final decision can be taken

DFT: Yes, it takes time.

Interviewer: So is that the whole process of getting a patient flagged for ltc?

DFT: Yes, more or less. Of course every case has its own set of difficulties and sometimes we veer from normal protocol. We carry out a Barthel score on the individual, which is a score mechanism that sort of measures the dependency level of the patient. The doctor, in turn, conducts an MMSE which is a tool used to measure the ability of the patient to make decisions. Personally however, I think the MMSE should be arranged better or removed altogether because it does not truly reflect the capacity of a person mentally

Interviewer: Yes, I understand. It is too superficial you think?

DFT: Yes, not only superficial. The questions do not reflect the thing which we are trying to measure here…a perfectly normal person can fail and vice versa.

Interviewer: I see. So besides this job you are now also assigned with the responsibility of the DLN team, which now does not exist anymore right?

DFT: Yes, we are now doing that job

Interviewer: What does it entail exactly?

DFT: Well, as I already explained the DFT is responsible for flagging patients for ltc. The DLN is concerned with paving the way for patients who can actually go back to their own private homes. It involves exploring services and offering them to patient….and listening to their problems that are not allowing them to go back home. So it's like the opposite role of a DFT

Interviewer: I see. How do you go on about it?

DFT: Well, we receive a phone call from the wards…usually there is a consultation by the firm who see fit that the patient be reviewed by us as he/she would need facilitation at home. The process is not complicated at all…not like the DFT. We just go to the ward and review the patient there, and maybe get a phone call with the relatives and discuss the issue together. But no other health professionals are involved….we may apply for some services at home or tell the nurses to refer the patient to CommCare on discharge with the necessary services

Interviewer: So it is much easier yes….I assume your response to consultation is swift…does not take you long

DFT: It depends but no, compared to DFT it is quite short. The problem is that most referrals are done very late during the patient's stay…very near the discharge date, when the firm suddenly discovers that the patient cannot cope alone at home without help. So we get called very late in the patient's stay and by the time the patient is discharged not all arrangements are ready…so the patient has to stay extra time in hospital.

Interviewer: So in this case there are delays which could have been easily prevented had you been called on time?

DFT: Yes, that's it. But then, most of the arrangements needed are taken care of by nurses…except for example when it come to supply of oxygen cylinders at home etc… This takes time to organise, there are a lot of form to fill and phone calls to make. It takes time. which is why we always stress the importance of the consultation to be done as soon as possible if needed.

Interviewer: Yes, that makes sense. How are the community services…are they enough you think, and able to cater for the needs of the patient?

DFT: Yes, I think they are. The only problem is that some of them, like the meals on wheels for instance take time to kick in after you apply for them. So you cannot apply for them today and they start tomorrow, That is even more reason for the firm to prepare the discharge plans before the date of discharge….well before so these things can be arranged

Interviewer: That makes sense. Well, what would you change in the current system?

DFT: From the DFT standpoint? I cannot really comment fully on the DLN thing because I have only been doing for a shirt time and don't fully know the hiccups in the system

Interviewer: All right, from a DFT standpoint what would you change? Especially changes related to decreasing unnecessary delays in patient discharge to other ltc entities.

DFT: First of all get rid of the current MMSE…I mean it doesn't work as intended, as I already explained. Another tool can be used or the current MMSE can have some questions changed and made better, at least to reflect the intended purpose. So, that the first thing. I would also urge nurses on the ward to use less nappies on their patients as it very often mentally impactful on the patient and it makes him more dependent, and over time lead to longer stays in hospital and eventually consideration for ltc.

Interviewer: You think the other drawbacks you mentioned earlier cannot be adjusted?

DFT: They can but it will take longer…much longer because it involves culture and the way people do things in general in this country.

Interviewer: Thank you for your contribution

Nurse 5

Interviewer: Good morning and thank you for accepting

Nurse: A pleasure

Interviewer: Can you kindly state years of experience please

Nurse: 12 years

Interviewer: Please describe the place where you work?

Nurse: I work in a surgical ward…general surgery. We receive patient for surgery both elective and urgent…and we have medical patients as well.

Interviewer: This interview is mainly about delays in patient discharge. I understand you are familiar with the term?

Nurse: Yes. It means delays which prolong the patient's stay for no reason….therefore it results in more length of stay and more complications related to such things

Interviewer: Yes, exactly. How prominent are such delays in MDH and in your ward setting in particular?

Nurse: I don't know about the rest of MDH…but in my ward they are very common. I mean, they happen everyday, especially with old people as there are complications about their discharge due to a variety of different problems.

Interviewer: Research worldwide also suggest that different factors are responsible for delayed discharges. I would like to compare how these international factors compare to the local setting.

Nurse: When considering that ageing populations are a reality in all of Europe I think delays are present everywhere

Interviewer: So you think the ageing population is mainly the factor that leads to delays in the local setting?

Nurse: Without a doubt, yes.

Interviewer: Can you explain

Nurse: Well, it is very obvious here in MDH. Old people make the majority of admissions….in my ward for sure. People over 75 years mainly, and some of them highly dependent. They come to hospital with some problem and end up not leaving when discharged because of other problems…social problems or other infections. The problem is recurring and it has been there for a long time

Interviewer: So the creation of social cases is the main problem?

Nurse: That's what I think. There are too many of them and you cannot get rid of them…in Malta the hospital is much too lenient with patients…and relatives. They all do what they want

Interviewer: That is a strong statement. Please explain

Nurse: The patient and relatives have too much power and doctors feel intimidated…they cannot make decisions because they are afraid relatives will report them to some close powerful friend in

politics…or report them to the media, which is also all politics. So if a patient does not want to go home, or if a relative does not want him home…doctors very rarely go against the decision. So patients stay in hospital for nothing, even those who don't need it

Interviewer: So you think doctors are not free to discharge patients when the time for discharge comes along?

Nurse: Not always, no. And it has always been like that. But recently the social case numbers I think have gone up because the ageing problem is getting worse every year. Not only in Malta I think…but everywhere in Europe

Interviewer: Yes there are similar problems abroad…even beyond the EU. But please, take me through the process that leads to the types of delayed discharge you mentioned…in a way so we can together identify the instances where delays are incurred along the process.

Nurse: Ok I will try. The process is a bit long and there are many health professionals involved…and the process if very beurocratic and filled with a lot of steps and paperwork. To get a patient declared as a social case takes weeks of consultation with various health professionals, who must come in a specific order and write specific notes. In that time the patient may once again develop new illnesses and the whole process has to start again because the patient has to be discharged from medical side for the process to start

Interview: Ok, I understand. And do the actions of health professionals worsen the situation or do you think health professionals have no part in making delays worse

Nurse: Yes and no. I think there is lack of proper teamwork, which makes the process slower. I worked in KGH in the past and there most decisions are taken by the multi-disciplinary team but here the doctor decides when the patient is discharged…I mean the doctor alone

Interview: You think there is no teamwork?

Nurse: Not in the management of social cases, no. And I am saying this because I have worked in KGH, where there is this teamwork there…so I can notice the difference. Doctors don't consult here…they just manage the cases alone, ordering this and that, and then expect the process to run smoothly.

Interviewer: Do you think there is a conflict of interest on the part of the medical team to run things this way?

Nurse: No, I don't think so. I think it's more of a cultural thing…things have always been done that way. There have been some improvements in certain areas but no real change that makes a difference.

Interviewer: I see

Nurse: This thing also applies to other things as well, not only to social cases. For example sometimes you try to catch the attention of the medical team about something involving the patient, and it takes ages for them to do something about it. For example something a nurse or a physio has noticed….the doctors will not take it too seriously if they have not noticed it themselves…the it take a lot for the decision to be made and for investigations to be done

Interviewer: How do procedural delays contribute to delayed discharges in your opinion? Procedural delays related to lab, medical imaging, theatres and procedures etc…

Nurse: It depends. The online systems lab tests and medical imaging tests are booked is very fast but sometimes some tests need to be vetted and it takes time for approval. Also only the doctors can book

all tests across the board so if they forget or take a long time to book them online the test is not taken…or taken late. So once again it is all centred around the doctor…nurses cannot book even the simplest of tests online, not even tests the doctor would have ordered on paper during ward rounds.

Interviewer: I understand

Nurse: So patients end up being delayed because of this…even care ends up being delayed. And of course discharge. In the COVID pandemic this was much felt because we needed to have a swab test ready before every transfer and before every procedure…and as only the doctors could book them countless procedures were delayed because swab tests were not ready on time.

Interviewer: So it seems like the same problem here? Too much reliance on the medical team?

Nurse: Yes. Too much. It slows down the system greatly because obviously they cannot keep up. The tests themselves do not take too long to work out in the lab…I think we got a very efficient lab in MDH.

Interviewer: What about medical imaging and other procedures in theatre for instance?

Nurse: It depends. Some theatres are delayed more than others because they work with different systems. For instance ortho theatres take the longest…the trauma ones due to elective procedures overtaking the whole process. Medical imaging procedures? Well, it depends again. MRIs and CTs take the longest to organise, mainly because doctor has to go through the approval of a radiologist and they don't always accept all requests…depends on which radiologist is on call on that day. But on the whole I think it's pretty smooth. The only problem is that sometimes firms don't discharge patients because for example they have an MRI on a specific date…and they are kept in hospital just to get that MRI many days later.

Interviewer: Really? How often do such things happen?

Nurse: Unfortunately very often. I don't know why they do it because the patient can easily come for the test from home…no need to occupy a bed in hospital and risk getting an infection.

Interviewer: Exactly. What can you tell me about the discharge planning process in MDH?

Nurse: Again, compared to KGH it is very lacking. The multi-disciplinary teal is hardly approached…it all once again revolves around the doctors alone. This comes with a lot of difficulties because of problems at home, which we get to know about when it is too late…I mean too near the discharge date. This postpones the discharge on many occasions. Or the patient gets to be discharged into the unknown…which is risky and many times leads to re-admission of that same patient after a few days because he/she cannot cope at home.

Interviewer: So the faulty discharge planning process not only leads to delays but also re-admissions, which is a bit worse I think

Nurse: Yes. Re-admissions are very common. They are not always the fault of faulty discharge planning but many times they are. I mean, either the relatives find out the patient cannot cope at home or the patient is found on the floor alone, or there is some other difficulty which we could have known about if proper and early planning was done. Unless this is done very early in the patient's stay in hospital I think it cannot be done at all…even as early as admission in some cases, which we know are going to be problematic to go home.

Interviewer: Do you think these problems are related to patient's age? Do you think delayed discharges in general are related to age?

Nurse: Of course, yes…for certain. I think the majority of cases we have problems with are all over 65 years of age. The older the patient the more complications there are and the slower the discharge process. This is not because of the system…it is because of the way things are. Old people are less independent and have more needs in the community. So more preparation is needed

Interviewer: I understand, yes. Do you think there is adequate social services in the community to cater for the needs of these people, or do you think there is a lack which contributes to delays in discharge?

Nurse: I think there are enough services There are not enough human resources to man them many times though. So this affects the speed of delivery more than anything. But as services, there are enough I think.

Interviewer: What about rehab beds/ltc beds? Do you think lack of these beds contribute to having patients stuck in MDH?

Nurse: Without a doubt, yes. That's the main reason why we have social cases in MDH. And lots of them. They are waiting for an ltc bed. Many are also waiting for rehab beds in KGH. There is apparently only one rehab ward there…so we need for sure more rehab beds in KGH. The rest of KGH is more or less ltc beds…or very near that.

Interviewer: Really? I did not know that. But that does not make sense. It's a rehab hospital there

Nurse: Yes. I thought so too, but it's not the case. Only one ward is used purely for rehab purposes. The rest are patients who cannot be discharged…originally patients were not accepted there unless they were sure to go home after 3 weeks. Don't know what happened to that protocol. Now they sort of get lost in a ton of family meetings and home visits and nothing really gets done in terms of sending patients home. Patients and relatives have too much power over the system

Interviewer: Do you think lack of social/family support contributes a lot to delayed discharges in MDH?

Nurse: Yes, a lot. I think this greatly contributes to the creation f social cases. And the problem is complicated and cannot be blamed on one specific thing. I think it somehow has also to do with age and lack of discharge facilities. Nobody is at home in todays world. Everybody is at work. Life is very fast and nobody has time. And in some cases people also don't want to take care of their elderly relatives and you cannot blame them…you cannot force anyone to do it.

Interviewer: Yes I agree. So you think this contributes a lot to delays?

Nurse: Well yes, it contributes a lot to people not being able to go home because nobody can take care of them. And with a faulty discharge planning system it gets even harder because it is more hard for relatives to prepare in advance to accept the patient home

Interviewer: Do you think MDH is taking steps towards lessening the occurrence of delayed discharges?

Nurse: I don't think we know the true root of the problem of delayed discharges. And I think there are a lot of factors involved and you cannot just put something in place and they will stop. Small efforts were done in the past to introduce certain work protocols that would make the process faster a bit, but the difference is very small. The big problems are still there.

Interviewer: What do you think is the way forward? What would do?

Nurse: The way forward is the community. More human resources in the community. Services we have but to get those services and make them more efficient, more fast you need more people. Even

we have to be careful who to admit to hospital…I mean at casualty. Doctors admit without a thought…for various reasons we discussed. Once people are admitted it is difficult to discharge them if there are problems. I know this is easier said than done but to solve these problems there is no easy solution

Interviewer: Thank you for your input.

Charge Nurse 1

Interviewer: Good morning. Kindly state your rank and place of work

Charge Nurse: I am a charge nurse working in an admission unit.

Interviewer: For how long?

Charge Nurse: I have been in charge for close to 15 years but worked in this particular setting for the past 6 years or so

Interviewer: Kindly describe your work setting…your work environment

Charge Nurse: My ward setting is very hectic…and receives patients from every sphere of health care. Mainly however it's medical patients with cardio-respiratory problems, and they are not in good conditions. They come to us for monitoring…it's like we are between casualty and cardiac wards, only we receive too much of a wide variety of patients, who also are not cardiac. It is very difficult to exactly explain this

Interviewer: I see, so your ward is very unpredictable and highly dynamic

Charge Nurse: Yes, indeed. Patient turnover rates are very high, as are admission rates. And the ward setting is enormous and not as well designed as we would like it to be.

Interviewer: This interview will tackle delayed discharges, something I think you may have come across in your experience throughout the years

Charge Nurse: Delays in discharge are something constant throughout MDH, but in the case of my ward, which is an admission unit we consider such delays in a much more negative light than the rest of the wards

Interviewer: Really? How so?

Charge Nurse: Admission units were created to act as a transition between casualty and the rest of the medical/surgical wards and all the rest of MDH. The purpose of these wards is to admit patients who had a good prospect of being discharged in the following one or two days, thereby leaving the long term wards in MDH to cater for those admissions needing long admissions. It was originally hoped that by making use of these ward in this way, short-admission patients do not get into the long-stay wards, but rather enter the admission ward, get tested and then go home from there.

Interviewer: Not a bad idea. It was designed to save beds I think? Long-stay beds I mean

Charge Nurse: Yes, exactly. It was supposed to make the admission/discharge process faster for those patients who do not need a lot of medical care, therefore lessening the burden of such low intensive patients from the rest of the wards

Interviewer: How is such a protocol working? Is it adhered to?

Charge Nurse: There was much enthusiasm at the start when the admission units were opened but now….all that is gone. No, protocols are not adhered to. We don't even remember what the original protocol was….we just admit whatever bed management gives us, day or night.

Interviewer: So, you are not being utilized to admit patients with a good prospect of discharged within 48 hours anymore?

Charge Nurse: No. It's just what happens to be the next admission on the casualty sheet. Since we have a dozen monitor beds we also end up admitting patients from other wards sometimes because they need a monitor. So, we are not only not functioning as an admission unit by preventing patients from going to long stay wards…long stay wards are actually giving us admissions sometimes because there are no monitor bed anywhere else

Interviewer: So to wrap this part up…what role does your ward currently play as regards admissions?

Charge Nurse: Right now we admit mainly from casualty…no attention is given to the type of patient given in terms of prospect of early discharge possibility. We also admit from other wards at times if patients there need a cardiac monitor and they cannot find it anywhere else in the cardiac wards. Same applies for non-invasive ventilation BIPAP machines. Patients need monitors for a very vast number of reasons and these range from cardiac and neuro events to drug overdoses…the cases are very different and we, as nursing staff, are very often expected to be masters of every field…because we receive patients from all fields…patients who belong in specialised areas

Interviewer: How would you describe the discharge process in your ward? I know this is a difficult question but please try to answer as plainly as possible. I will ask questions if something is not clear

Charge Nurse: Ok. The discharge process is the same as in all the other wards. Firm reviews patients in the morning and if found to be medically fit he is discharged home.

Interviewer: All right. Do you think delays exist that impede timely discharge in that process?

Charge Nurse: Yes. Well, one thing is that the discharge is decided on that day and we very often are not prepared…the patient and relatives I mean. Most of the patients are old people and have dependency problems. Many find it difficult to return home. So we need time to prepare arrangements and services before we discharge them. It would help if we knew the discharge date before because then when it comes along problems arise and the patients ends up staying in hospital for nothing

Interviewer: Yes I understand.

Charge Nurse: Social cases are a real problem in our ward, and in the whole hospital. I think you that

Interviewer: They were mentioned in many of the interviews, yes

Charge Nurse: In my ward we have our fair share but as it is an admission unit with monitor beds we tend to have some of them shifted to long term wards to make way for patients needing a monitor. That is not saying we don't have beds blocked for weeks due to such social cases, but at least their number is somewhat limited

Interviewer: That surely decreases ward based delays

Charge Nurse: Am not sure about that because we have other things that result in delays. For example the monitor beds come with a lot of problems with them. We spend a lot of time shifting patients to and from monitor beds because there simply are not enough of them. Patients from the same wards or from other wards are often shifted on these beds…problem is when patients don't need monitor bed anymore there are no empty beds to shift them and so they end up wasting that monitor bed for a number of hours until a bed is found.

Interviewer: This is difficult to manage for you as charge nurse I presume

Charge Nurse: Not difficult but I get caught in the middle of many situations. Bed management want one thing, doctors want another….and I have my nursing team to take care of as well. Finding a balance is very challenging. Bed management is all the time phoning with new admissions and many times beds are not ready in time because getting people on and off monitor takes time and man power. Even discharged patients waiting for a discharge letter, because we cannot send most to discharge lounge due various reasons….they add to the problem of ward dynamics which cannot run smoothly

Interviewer: I see. It seems complicated

Charge Nurse: It's not complicated. There is just not much order and planning involved so it gets confusing. Add to that the phone calls and the paperwork involved behind these dynamics….it takes even longer to get things moving. Beds have to cleaned and prepared and it takes time…not to mention that with staff shortages being what they are man power is lacking. We are always understaffed

Interviewer: Are redundancy problems and procedure delay problems that incur delays in your ward in your opinion?

Charge Nurse: Without a doubt, yes. There are many forms that this exists. Mainly paperwork I think and phoning various health professionals for consultations that take too long to do. From a ward management perspective this creates a lot of problems because it makes patients get stuck in the ward and it also slows down nurses in their work, especially the excess paperwork. I know there are a lot new legal obligations involved and I know the paperwork stems from there, but I also think some paperwork is also created to provide some pdn's with something to show at the end of the year. It is a useless waste of time and nobody benefits from it.

Interviewer: So you think excess paperwork is created for unfounded reasons?

Charge Nurse: I think so, yes. If something is working fairly well why change it? Certain changes in this regard are done for no reason that we can find and it reflects badly on ward dynamics.

Interviewer: What about procedural delays? What's your perspective as ward manager? This includes medical imaging procedures, theatres, lab results etc…

Charge Nurse: Well, it depends. I don't get a lot of theatre procedures on my ward setting because there are few surgical cases involved. But we have plenty of medical imaging procedures and blood test investigations every day, and also procedures like ascitic taps, pleural taps, lumbar punctures etc…I think the main problems is certain medical imaging procedures….not all of them, things like MRI and certain CTs take a lot of time to vet and perform. Sometimes patients wait for day just to get a specific MRI because if they were discharged and did it from home it would take much longer to do. So they are kept as in-patients to speed up the test. Otherwise things like simple X-rays etc are done very fast. And I don't think blood tests are a problem…the lab is very efficient.

Interviewer: I see. Research worldwide has shown that there are discharge planning problems throughout health care settings in developed and developing countries, which shortcoming directly contribute to delays in patient discharge. Do you think this is a reality in your ward?

Charge Nurse: Yes there are problems that lead to delays. Discharge letters take too long to complete many times and beds are blocked for no reason for multiple hours. These are monitor beds we are talking about sometimes, and it directly affects other wards and the emergency department as well. Patients are blocked and cannot be transferred. The hospitality lounge applies very little to us because

the patients do not fit their rigid criteria. There are a few social cases as well but these usually get transferred to other wards

Interviewer: Do you get a lot of patients waiting for rehab or long-term facilities? You say most are transferred to other wards.

Charge Nurse: We still get quite a bit yes. Those who are on monitor are transferred to other wards so as not to waste the monitor bed but those who occupy normal beds are not moved for weeks sometimes. Both rehab beds and ltc beds are not enough because patients wait for a long time to be transferred there. But I don't think more beds in these places is the answer….I think if you increased a thousand beds they will still be filled up and you will need more all the same.

Interviewer: So where do you think the solution is?

Charge Nurse: Keeping the patients at home. Keeping them in their own house…instead of employing carers in hospital, employ them in people's houses to take care of them there. Very few nurses will be needed in many cases…carers mostly. And only if the patient is very severely ill will he be admitted in a hospital. Of course this will be very hard to do because in Malta there will be politics involved and many people will not like it because the mentality is to go to hospital and stay there.

Interviewer: Do you really think that will solve the social case problem?

Charge Nurse: It will greatly help the situation. And yes, I think if planned well it can solve it. Other countries do it….and Malta is small which means it is easier to implement. And think of it….carers are already being employed in MDH…if they are shifted into the community they will end up caring for pretty much the same people they are caring for in hospital…only it will be in their homes instead. You will need less carers in hospital. Of course it has to be well planned and costed but you understand what I am saying>

Interviewer: Yes it does make sense when you think about it.

Charge Nurse: Too many beds are blocked by social cases in MDH…I mean a lot of beds. I have worked in a variety of wards in the past and the problem is constant and it exists in every ward in MDH. Whole wards are blocked for weeks, if not months, and whole sections are turned useless because of this.

Interviewer: Yes, I understand. Do you think an ageing population is to blame for this and do you think patient age plays a role in increasing discharge delays in your ward and in MDH in general?

Charge Nurse: Yes of course. Old people are the problem. They were highly dependent and they have nobody to watch over them at home. Most live alone or with another elderly person so they cannot help each other. That is why they end up in hospital and can never leave. Most of our patients are elderly and in fact we very often have problems how to use the monitor beds because as there are not enough of them, doctors find difficulty on how to assign them.

Interviewer: You mentioned elderly people often get stuck in hospital because they are alone at home. Do you think lack of family support contributes a lot to delayed discharges?

Charge Nurse: Yes life has changed and there is just nobody home anymore. Everybody is at work. Old people are left alone and they cannot cope, and you cannot blame their relatives because everyone has their own lives. That is why I suggested the carer system in their own homes. I don't see any other way.

Interviewer: Do you think MDH management is doing enough to counteract delayed discharges….do you do anything as a ward to do this?

Charge Nurse: Efforts to make discharge letters faster have been implemented and indeed, compared to the past discharge letters are done faster nowadays. Having many things converted to online also speeded up the process as well, such as lab results and medical imaging results. The hospitality lounge helps a little bit but the real problem are the social cases unfortunately….and little can be done about them without drastic changes like the one I mentioned. As wards, and as employees there is very little we can do. And we cannot expect the situation is resolve itself…it will be decades before ageing population subsides.

Interviewer: Thank you for your contribution

Charge Nurse 2

Interviewer: Good morning

Charge Nurse: Good morning. I am a charge nurse working in a medical ward for the past 5 years.

Interviewer: Can you please describe your ward environment?

Charge Nurse: I am a charge nurse in a 23-bedded medical ward. We receive patients mainly from the emergency department, but also from other ward areas sometimes, particularly from high intensive units like ITU, CCU and plastics. Plastics is currently being utilized for non-invasive ventilation patients.

Interviewer: Are you familiar with the term delayed discharges?

Charge Nurse: I have heard the term in the past but the words themselves explain their meaning I think

Interviewer: In this research study this term will be used to denote unnecessary delays in discharge brought about by various factors related to patient care, which may include the actions of patients, health professionals or other stakeholders

Charge Nurse: Yes, I understand

Interviewer: Do you delayed discharges are prominent in MDH in general…and do you think they may be present in your ward?

Charge Nurse: Yes, of course. Delays are very common. Some are directly related to discharge and other indirectly. It is very complicated and there are many instances when this happens

Interviewer: What would say was the main problem involved?

Charge Nurse: Like I said it is very difficult to put it all down to one problem. For me the most problematic thing are the social cases for sure…I mean they are the main reason we don't have enough beds and why the hospital cannot function as it was meant to

Interviewer: Can you explain further?

Interviewer: Well, not a ward functions as it should in MDH….and the main reason for that are the social cases….they are everywhere, in every ward and they occupy beds for weeks and months, even years sometimes. And you cannot discharge them because even if by some miracle you do manage to do it, they will be re-admitted the following day. The system is broken in this regard, it does not work….it never worked…for decades now.

Interviewer: And why do you think the system is not working in this regard?

Charge Nurse: Again, there are many reasons for this. Partly the system is to blame, partly lack of planning, partly it's the fault of the various health professionals involved. There are many health professionals involved in social cases issues….too many, just it takes weeks to process a case…and this is just processing a case, we are not talking about actually finding a bed in ltc. It involves countless reviews by geriatrics, social workers, firms, ots, and dfts….these all take time to come, and they must come in a specific order and then some of them want re-reviews, and then perhaps relatives don't agree and they change their mind, or the patient changes his mind….or the patient gets sick and has to be un-discharged medically…and the process must start from scratch. It's not just frustrating…it handicaps the whole system.

Interviewer: All right. I understand. It seems social cases are a common denominator when we tackle the subject of delayed discharges…I mean everyone immediately mentions them

Charge Nurse: It's because they are the most obvious and conspicuous. They are also the most costly…both in bed occupancy number and actual human resource.

Interviewer: How the situation in your ward in this regard?

Charge Nurse: Suffice it to say that around 75% of my ward bed state is occupied by social cases. That means that my ward only has around 25% capacity for actual cases for admission….we only have around 25% potential for admission at any one time. The rest are old people waiting for ltc or rehab.

Interviewer: That is an overwhelming statistic

Charge Nurse: It demotivates employees greatly I can assure you. These delays make the ward stagnant…they kill the work drive…they make the work sluggish, and sometimes nurses feel like their work is not nursing anymore…it's care of the elderly, sort of like a nursing home

Interviewer: You implied that social cases however are not the only source of delay on your work setting? Can you think of any others?

Charge Nurse: Well there are of course delays related to everyday work activities. Some cannot be avoided but others can. For instance, the discharge letter problem…it has gotten better in the past 5 years or so but the problem still exists. The discharge letters take long to do…and the patient ends up staying around 5-8 hours extra in the ward for nothing, until his papers are done. Quick discharge notes are rarely used and the discharge lounge although it helps is not enough…too many things they will not accept there. So I think discharge letters are a source of short-term delay on the day of discharge for sure

Interviewer: Research worldwide has identified procedural delays and redundancy in work activities as being of major concern in the causing of delayed discharges. Would you say this is true in your ward?

Charge Nurse: Yes, but not to the extent as to really affect discharge dates a lot. I mean, yes you do get the occasional patient who is allowed to occupy a bed for weeks just waiting for some test or medical imaging scan….but that is very rare. Normally tests in the lab are done at once and very efficiently worked….as are medical imaging scans. Some take a bit longer cause they need vetting etc….but if they are taking a long time to schedule patients are usually sent home to wait for them there with appointment.

Interviewer: So if I understand correctly both lab and medical imaging are not a major source of delays in your opinion?

Charge Nurse: No, not at all

Interviewer: What about theatre cases, or other procedures such as angio-suite procedures or ward procedures like ascitic taps etc…

Charge Nurse: They are generally not subject to significant delays. Of course there is a backlog, especially theatre cases but if the procedure is deemed urgent it is done very quickly. In general surgery it is quick for sure, as In vascular. Those are the most surgical cases we have in our ward, even though we are supposed to be medical. But ortho surgery, we rarely have those, is not efficient as the rest. Patients wait for a lot of days…the urgent trauma cases…as they only get to be operated on if there is space in between the scheduled elective cases. It's a very complicated and frustrating

system…patients end up being starved everyday for days on end in case there is space for them for theatre.

Interviewer: That is very concerning. Do you think health professionals sometimes do things in a way that suits their own convenience, and in so doing contribute to delays?

Charge Nurse: That is very difficult to say. And it tends to be made up of speculation. Yes, though I do believe that sometimes it happens. And I think it's mainly doctors that do it mostly, because they are the only ones that can.

Interviewer: Do you think you can give some examples?

Charge Nurse: Well sometimes private practice and government work collide and at times firms may act in a way as to benefit their private practice by abusing their public one. I am not really comfortable talking about such things….this is one of those things everybody knows about but nobody mentions.

Interviewer: Ok…we will leave it at that sometimes private practice conflicts with public practice and results in delays….am I correct?

Charge Nurse: Yes. Something like that

Interviewer: What is your view on the discharge planning process on your ward?

Charge Nurse: There is much to improve there. I mean, firms usually discharge patients as fast as they can before they become social cases, in the case of the elderly, and this rush often results in things being forgotten because there is no planning from beforehand. For example sometimes there are catheters to remove or long term oxygen therapy at home to organise. These things take time, there is a lot of forms to fill and specific people to contact so they can organise them. In the case of long term oxygen there are often problems because these are not available and the patient ends up stuck in hospital for weeks because of this

Interviewer: I understand. And do you think the age factor makes it worse?

Charge Nurse: To get patients discharged, yes, for sure. The elderly have a lot of needs, and when they get sick their dependency is affected a lot. It's why firms are in a rush to discharge them…because if they stay in hospital then they are at risk of not being able to be discharged due to lack of mobility or because they get an additional infection that makes them get stuck

Interviewer: I understand that there are a lot of social services which they can benefit from at home. Would you say that these services are adequate?

Charge Nurse: Yes, I think so. These services have increased over the years to meet the demands of an elderly population. Commcare caters very well to the needs of people. I think many times the problem is with the patients and relatives because they either don't want the services offered or they just don't want to leave the hospital because they keep saying they are not fit to be home. I think that decision is up to the doctor…this is an acute hospital…and he should have the power to discharge patients no questions asked

Interviewer: Do you think this is a problem?

Charge Nurse: Yes, of course. A big problem. Relatives have big power and doctors are very afraid to make decisions…or if they do these decisions are bypassed. In Malta patients resort to get what they want by going to people higher up and cheating the system that way.

Interviewer: Does this happen often?

Charge Nurse: Well, yes it happens. And health professionals are powerless to do anything about this. But this is not a major contributor to delays I think…I mean, it happens for sure but not on such a scale as to have a major impact

Interviewer: I see.

Charge Nurse: I think many times it is the daily small things that make a difference. For example it takes too much time, in my opinion, to clear a bed when a patient is discharged.   I already mentioned the discharge letter problem…but then the bed has to be cleaned and in the case of my ward many times the room also needs to be treated with ultraviolet radiation to kill of all cre and vre. This takes roughly 1 hour…as the cleaner has to come from other areas and the process is lengthy. The process takes even longer after the ward cleaner finishes work because in that case you have to phone the cleaning department twice…once for cleaning and once more ultraviolet. The process can easily take close to two hours.

Interviewer: I understand

Charge Nurse: Meanwhile the bed management would be phoning all the time with pending admissions from the emergency department or from other wards, and we just cannot accept them because the beds are not ready yet, even though the patient would have left for a long time. Even patient transport sometimes takes long to come…they are too busy and when especially the patient needs a stretcher to be transported they take even longer because ambulances and transport vans are in short supply.

Interviewer: So this contributes directly to clogging of patient is in the emergency department

Charge Nurse: Yes, of course. And it's not only my ward who suffers from this thing…only my ward more commonly does because we have more infectious patients on average than other wards, so we have more rooms for ultraviolet

Interviewer: Do you see a way around this problem?

Charge Nurse: Well, not really, no. Nobody can be blamed….the cleaners work very hard and when considered the cleaning company tries its best to keep up. The process is lengthy. Maybe I would keep ward cleaner in the ward, even after hours to make the process more speedy. But that would involve extra cost to the cleaning company and I don't know about the cost effectiveness of such a decision.

Interviewer: Do you think COVID had an impact on delays in patient discharge?

Charge Nurse: Yes, of course. Now things are settling down again. COVID swabs had to be taken before every procedure, before every transfer. Even nursing homes and rehab facilities stopped receiving patients during COVID, while CommCare services had stopped going to the community. This practically hindered a large amounts of patients from getting discharge to ltc facilities and into the community as well.

Interviewer: That must have blocked the whole system

Charge Nurse: Yes it was very bad…but at least during the worst of COVID the number of admission had decreased because people were afraid of coming to hospital so that like balanced a bit the whole thing

Interviewer: Do you think MDH is doing enough to counteract the negative impact of delayed discharges, and what would you do as an initiative to make things better in this regards?

Charge Nurse: Well…..things have improved over the years. Discharge letters used to take much longer to do. And even things like the discharge lounge and the DLN/DFT teams have helped a lot. But there are much too many social cases…the problem is still there. I would invest more human resources in the community to keep patients in their own homes, especially those social cases who can cope at home. Doctors also need to be covered by the system to make the decisions they need to do without fear of repercussions.

Interviewer: Thank you for your contribution

Nurse 6

Interviewer: Good morning

Nurse: Hello.

Interviewer: Please introduce yourself and your job description

Nurse: 33 year old staff nurse. 11 years experience and I work in an admission unit

Interviewer: As you know the focus of this interview is delayed discharges. Are you familiar with the term?

Nurse: Yes. It refers to those delays that prevent a patient from getting discharged after he is medically ok.

Interviewer: Exactly, yes. Can you relate such a term to your workplace and to MDH in general?

Nurse: Yes a lot. It's difficult to begin from somewhere because there are many instances when this happens. I mean….waiting unnecessarily and waste of time is all over the place

Interviewer: Do you mean during the phase when the patient is receiving treatment and care or after the patient is fit for discharge?

Nurse: Both. Even from the admission process itself….there is no real plan for a quick and efficient journey through the hospital system. It is just get the patient admitted and then the firm will decide later on….even as regards whether the patient merits admission or not. A big chunk of patients should never be admitted

Interviewer: So you think the problem begins as early as admission?

Nurse: Yes. I mean I don't understand what wrong with this place. For instance before when a patient was admitted with chest pain we based our results on 3 CPK blood tests and ECGs….then we came up with the Troppnin solution, where only one blood test was required and it was specific to the heart. In this way chest pains could be tested and discharged if well from emergency without even seeing the inside of a hospital ward. You know what we did…we started treating Troponins like CPK and also are taking 3 tests…requiring the patient to stay 2 to 3 days in hospital all the same. This is but one example of things I do not understand

Interviewer: I see.

Nurse: So a patient stay that can be resolved in a couple of hours in the emergency department still takes 2-3 days now.

Interviewer: Why do you think such things occur?

Nurse: Because doctors are afraid to take decisions in case something happens and they get sued. It has always been like that especially in the emergency department. So they play it safe and admit almost every patient that comes to A+E. More so if it is a chest pain case….almost all chest pains are admitted.

Interviewer: Is it safe to say there is a lack of discharge planning then?

Nurse: In most cases yes. Although to be fair some improvement was done in the past years, even big communication problems between doctors and nurses…they don't tell us their discharge plans and when they do we cannot meet those plans and the patient ends up stuck in hospital for more days.

Interviewer: I understand

Nurse: There is much to be prepared for discharged especially if the patient is old and lives alone for example. There are services to organise and the family has to be involved…it's very complicated at times. Some firms just come In one day and say the patient is discharged. Of course the patient cannot be discharged and then it takes longer to organise things

Interviewer: Do you think certain in patient procedures contribute to delays…blood tests, X-rays, COVID procedures…etc…?

Nurse: Some of them yes. COVID tests for sure. This is where communication between us and doctors is important…if we don't know the patient's plans we cannot anticipate what needs to be done before…and in most cases COVID tests are one of those things. Sometimes because we don't know anything the day of some procedure comes along and we discover no COVID test was done and the procedure has to be postponed for hours or even days…this applies to discharges to specific nursing homes as well, which discharges have to be done later due to lack of COVID tests. Such things can be easily avoided if nurses are aware of doctors' plans.

Interviewer: I see.

Nurse: You mentioned the medical imaging department. Yes there are delays there but most are due to long queues and the fact that doctors sometimes have a hard time booking things like CT scans and MRIs, especially on call doctors on week ends or feast days. On call doctors are not respected a lot…most radiologists only respond to senior firm doctors in my opinion

Interviewer: Is that so?

Nurse: Yes. So sometimes patients have to wait longer just to have their medical imaging test booked.

Interviewer: What about your day to day work as a ward nurse? Do you find there are instances where the way you conduct your work brings about delays…for instance is there redundance in your work, like repeated tasks and excess paperwork for instance that delay things unnecessarily?

Nurse: Well yes there is. Extra paperwork for sure. The fact is work has changed over the years and the increase in paperwork is I think a reality that has to be. It comes with the increased professionalisation of nurses. The problem is that MDH, although improvements have been made, is still very much reliant on paper and not so much on computers. So it takes longer to do everything…referrals are on papers, documentation and a million other things

Interviewer: I see

Nurse: There is talk about the development of a dashboard system where we as nurses, and everyone else can access patient information online and do documentation and do everything there. It would be a good system but it will need very strong IT support and people have to get used to it. But we need it a lot

Interviewer: so you think the current system is poor in IT support and this can contribute to delays?

Nurse: Yes it slows things down a lot

Interviewer: Would you say that patient's age is a variable that results in more delays?

Nurse: I think so, yes It's not age per se…it's the dependency levels that come with getting older. The elderly need more preparation, more services at home, need more support from their families as well. Getting an old person discharged is one big headache in this hospital

Interviewer: I see. Please elaborate?

Nurse: We have a lot of social cases here…people who cannot be discharged even though they are fit medically. They either have nowhere to go, cannot live alone or are abandoned by their families. Patients end up getting stuck in hospital for weeks and even months.

Interviewer: And what do you think is to blame for this…is the problem coming from the hospital itself, or perhaps services outside the hospital?

Nurse: The problem cannot be blamed on any one thing in particular. The system is built in a way that can be abused and exploited. The system is flawed

Interviewer: How so?

Nurse: People come with silly excuses to emergency but the real reason is they want to stay in hospital forever until they find a nursing home. Problem Is as I said emergency doctors admit everyone, especially the old for fear of being put into trouble by the relatives and the media. So they admit everyone and once people are admitted it is very hard to discharge them if they don't want to be discharged

Interviewer: So they stay in hospital?

Nurse: Yes, they know the system well and they know the system allows them to exploit it. Finding a nursing home takes a lot of time and in that time the patient many times contracts an infection or becomes confused and has to be put on constant watch, and every time such things happen the whole process is put on hold and has to start all over again. This results in patients staying in a ward for months just waiting for a nursing home bed

Interviewer: What about rehab beds? Are they readily available?

Nurse: No that's another problem. This situation is the same as the nursing home problem. It takes ages to find a bed there. Sometimes patients are also kept in hospital waiting to be relocated from one nursing home to another because for some reason either they don't want to stay there or the nursing home does not accept new levels of dependency.

Interviewer: So there is a problem when it comes to both rehab and nursing home beds?

Nurse: Yes there is. And in the society we are living In the problem can only get worse for now because people are living longer, we have an ageing population and almost nobody can take care of their elderly at home due to everyone being at work etc… So obviously people are going to bring their elderly to hospital and leave them there unless they are completely independent, which they rarely are

Interviewer: I understand your point

Nurse: We still hold the mentality that the answer building more beds and more nursing homes, but you can have thousands more of those and still they will get filled up. Unless we keep the semi-dependent and independent people in their own homes, with the help 24 hour carers, the problem

cannot be solved. But in Malta things are very much political and if you suggest such things the political backlash will be huge and the media will make a huge deal about it

Interviewer: What about those patients who have needs but are nonetheless being discharged to their own homes? Do you think local social services and home care are adequately available for those who need them?

Nurse: I think they are adequate in most cases yes. I think the problem is more getting the patient to accept such services. Many patients just refuse them and relatives don't encourage them to accept them because on many occasions they want them to remain in hospital for good. Commcare services are particular good…but have the flaw of now including any supplies with them. I mean for example if a patient has a change of dressing daily the CommCare services have no dressing supplies and the patient has to buy everything…and patients rarely buy such supplies either because they cannot be bothered and their health does not allow them to get out of the house. So they end up not receiving the care needed

Interviewer: That's not good.

Nurse: No it is not indeed. But all in all I think services at home are very good and I have no doubt they are stretched and need more human resource

Interviewer: Do you view bed blocking as being a reality in your ward setting? Do you think it impacts the emergency department in any way?

Nurse: Social cases are mostly responsible for blocked beds and there are a lot of them everywhere I think. Such cases take weeks to vacate beds and they are very common. I mean I have been working for a while and I have never noticed the situation any better. The emergency department is of course affected because the number of available beds at any one time is very limited in the hospital.

Interviewer: You reckon social cases are solely responsible for bed blocking?

Nurse: Probably not but they make up the biggest chunk for sure. And I think they are the thing we should be addressing if we want to solve this problem. It's useless going after the small things. The social cases problem is the most difficult to tackle because it gets political and relatives resort to higher powers to get their own way. It's a problem everybody knows about but nobody seems too keen on addressing. Efforts are done sometimes but they are not very effective because they are not designed to eradicate the problem.

Interviewer: What would you do to address this?

Nurse: Rigid rules. A list of criteria is needed, bullet points that can be adhered to by firms, and especially admitting doctors at the emergency department. The point is to decrease social case input and increase their output.

Interviewer: I see

Nurse: So you have check lists at the emergency department, that's the input part of it. I am not talking about turning patients away, but just allowing doctors to do their job properly at the emergency department and if they thing the patient does not merit to be admitted then their decision stands. Getting social cases who are not fully dependent into their own home with a roster of carers going to and from their homes all day long is how you increase the output. Of course this is easier said than done but Malta is small and I think it can be done

Interviewer: Thank you for your co operation

Nurse 7

Interviewer: Good morning

Nurse: Hello

Interviewer: This interview, as already explained, will address delayed discharges in acute care at MDH. Please state your age, workplace and years of service please

Nurse: I am 32 years old, female, and I work in an admission unit

Interviewer: Please describe the work dynamics of your work environment

Nurse: We receive patients from the emergency department mainly, but also from other ward areas for cardiac monitoring. Ideally the patients do not stay long at our ward, as the function of admission wards is to receive patients with very good chances of being discharged within 2-3 days and then are transferred home or to another long-term ward. But ideally long-term patients are directly admitted to long-term wards and do not pass through our ward

Interviewer: That's clear. What sort of patients do you receive?

Nurse: We get patients from across the board but mostly not surgical. It's mainly medical patients we get. Some needing a monitor bed and some not. Cases range from cardiac and respiratory cases mainly but there is no hard and fast rule

Interviewer: I see. I am mainly interested in investigating pitfalls related to delays and waste of time in your ward setting…in relation to delayed discharges. I have defined the term for you…can you relate it to your work setting?

Nurse: It is complicated and there is a lot of things that I can think about. Work is messy and there is much disorganisation and therefore waste and delays cannot be avoided

Interviewer: Let us narrow it down a little….make it simpler. If you had to go through your typical day as a nurse in your head, what instances would you find where delays occur…I mean you can start in the morning and go through the day bit by bit

Nurse: Wow I never considered doing it like that. Yes, we can do that

Interviewer: All right, take your time and start when you want

Nurse: Well in the morning we start with patient handover and bed bathing the patients, together with charts and some early treatment. There will be without a doubt some admission case still pending from the night shift

Interviewer: Always?

Nurse: Almost yes. During the night admissions come in bulk…because patients are discharged from the emergency department in bulk. They are seen at one go by the senior there so you can get a whole night duty without any admissions and then get 5 all at once at a specific time frame

Interviewer: I see. Must be hectic when that happens. Any reason why such a thing happens?

Nurse: Probably for doctor's convenience but I don't know exactly how the emergency department work

Interviewer: All right please continue

Nurse: After the patients are settled we wait for ward round and start some documentation. Ward rounds come haphazardly and in no specific order…they take all morning and sometimes they continue into the afternoon. Patients may be placed on monitor or off monitor during ward rounds, treatment regimes are changed and patients are discharged.

Interviewer: So there are no specific ward round times?

Nurse: No, for medical patients for sure not. Sor surgical patients they are usually seen very early in the morning because the surgeons need to start their theatre lists. So surgical patients are officially seen and discharged much before medical ones. Sometimes, especially when they are post admission, medical firms take as long as 3pm to come along for the ward round. You can imagine when the patients end up going home with the discharge letters ready

Interviewer: I can imagine. Do you think haphazard way for ward rounds to be conducted contributes to delayed discharges on a particular day?

Nurse: Yes it affects the time the bed is vacated for sure, especially if the patient has then to wait for the discharge letter complete later that evening. Quick discharge letters are very rarely used because they don't have detail and doctors have to do the proper paperwork later anyway. And they are always never sent by post because certain things have to be explained to the patient. But I wish they would create a system where 3 or 4 doctors are on a daily roster basis doing just discharge letters for the various firms. It will make the process so much faster and free the firm's junior doctors so much

Interviewer: Yes I think that would be a very good idea

Nurse: During the ward rounds of course there may be admissions coming in from emergency department and from other wards sometimes as our ward although an admission unit also accepts patients who need a monitor bed from all over the hospital. This is I think one of the major ways the system fails because every time we accept a patient from another ward that is one less bed available to the emergency department. It defeats the whole purpose of an admission unit

Interviewer: Yes, I understand and I agree with you. Why does this happen?

Nurse: Because there is not place in other cardiac wards and also because unless the patient is a under the care of a cardiologist he cannot be admitted to a cardiac ward, so he ends up in one of the admission areas.

Interviewer: I think this is not a good thing. This results in clogging the emergency department as it reduces the number of beds in the admission units and therefore patients who are fit for the admission wards are then forced to go to other long term wards

Nurse: Yes, exactly. That is exactly what happens, and we are then stuck with patients coming from long term wards getting stuck in our ward for weeks, because even when they get off monitor there is then no available bed for them in other wards. The system starts working the other way round

Interviewer: Yes, I see your point. Does the documentation aspect of your work contribute to delays?

Nurse: Yes, and not only documentation on the nurses' part but also on the doctors' part. There are papers to fill for everything we do and the situation is getting worse as we go along. More PDNs are everywhere and all want to show they are doing their job and then all come up with some sort of paperwork thing to add for us. It makes life more difficult and there is much waste of time. An online system is being developed we are told which may make things easier in the future

Interviewer: What about certain procedures such as those related to medical imaging, theatre, labs, and other services which are apart from the ward setting?

Nurse: Delays are inevitable in all departments but I think the work being done is these departments is excellent. Lab results are worked out efficiently and delays there are mainly due to doctors not booking bloods on time or print bar code labels until hours later. Some medical imaging procedures take some time to perform because they have to be vetted and there are internal political issues involved that may prolong the time it takes for a radiologist to accept to do some procedure like an MRI or CT scan

Interviewer: Political issues? Like what?

Nurse: Well, from what I can understand some radiologists are very hard to accept to do procedures and unless they have a good relationship with the doctor they will not accept. Others don't accept procedures to be ordered by junior doctors so if no seniors are available at the time the procedure will not be done until hours later. It is very complicated and it delays things unnecessarily.

Interviewer: Yes, of course. What about theatre procedures?

Nurse: Well, it depends. We don't receive a lot of surgical patients in our ward but I have worked in surgical wards before. General surgery seems to be the most efficient but the situation is terrible when it comes to orthopaedic cases, particular emergency trauma ones. They end up having to wait for days and days until surgeon manages to find a slot for them in between elective cases.

Interviewer: I see. We have talked mostly about delays happened due to factors inside the hospital, but what about factors outside of the hospital keeping patients from getting discharged? I am talking about social services, patient home services, nursing homes and rehab beds etc… What is your view from your experience about these factors? Let's start from patient home services etc…

Nurse: Well it's difficult to say. Getting some patients to go home is difficult at times, although in my ward social cases are not so common because we tend to transfer them. But I have worked in other wards in the past and we sometimes do have social cases as well. Old people mainly. I don't think social services or home help services or lack of them can be blamed for these cases from leaving the hospital. I think the services are wide and adequate, even though perhaps more human resources are needed. In the worst of the COVID months all such services were stopped and there we knew exactly how precious they were because all patients got stuck in hospital as no help was available in the community. So once you get to know what it's like to be without community services you realise how good they are

Interviewer: Yes I understand that

Nurse: The problem is not that the services are not enough. It's that people want too much out of them and there is simply no family support at times and it all ends up on the lap of the community services. And this is not what such services are designed for. I think such services have to be aided by other community services aimed at providing 24/7 carer support to people in their own homes.

Interviewer: I see your point

Nurse: But I think social cases are mostly affected by lack of rehab beds as well as nursing home beds. Patients sometimes leave our ward waiting for a nursing home and then return after several weeks with a new malady, still waiting for that same nursing home. The process is long and complicated and it involves a lot of different health professionals. Patients end up getting a nosocomial infection and

have to start over again. It takes too long. But in truth I am not so familiar with social cases a lot because we don't get them that much in my ward

Interviewer: Ok. Well, let us concentrate on factors you may be more familiar with. To what extent do you think that delayed discharges impact bed blocking factors and emergency overcrowding?

Nurse: It is not easy to say exactly why these things happen and I think several factors are responsible for them. Some of it is due to delays but most of it I think is because of general disorganisation, which leads to delays. Bed management phones ward at haphazard random times, ward round come at haphazard random times, discharge letter are done later than usual and everything has no order I think. A major problem is I think that bed management assigns admissions when bed is not yet available so that when emergency phones us we don't have the bed ready for hours on end, but as the patient is assigned to us from hours before he ends up having to wait in emergency for hours as well

Interviewer: That is not a good system

Nurse: No, and it has been with that same problem for years. We complained about it many times but it's all in vain.   Admissions should be assigned in real time when they are ready from the emergency department to whichever empty bed is ready at the time. That way no waiting is done. Another problem is having admissions getting discharged to ward from emergency in bulk, due to doctors seniors doing the round once every few hours. This results in hours of idleness and then time periods of sheer hectic activity. Patients end up waiting for hours to be discharged from emergency and when they do they then have to wait for the ward to get them up because the ward cannot get all patients up all at once when they are discharged in bulk

Interviewer: I get your point, yes. All these problems directly result in overcrowding in he emergency department, and most of these situations are avoidable and can be solved

Nurse: Yes, I think so

Interviewer: What about bed blocking from your end in your ward? Apart from the occasional social case problem do you experience bed blocking in any other form?

Nurse: One thing that I can think of is having monitor beds getting blocked for days or weeks by patients sent from other long term wards, and therefore not from the emergency department. Even when the patient is no longer on a monitor bed many times we can no longer transfer him back to a long term ward because there is no bed available, so he ends up stuck in our admission ward for a long time. This is all wasted space that could be used to admit people from the emergency department

Interviewer: What would you do differently to make the situation better as regards delays in discharge in your ward area?

Nurse: I would move the bed management unit into both the emergency department as well as the admission units. I would place a member of the bed management unit in every hospital block and have them manage a number of wards each. Proximity is very important because it lets us see with your own eyes the situation in a particular area and allow you to better manage with more accuracy and efficiency even when it comes to time issues. I would also limit the number of cases brough to admission units from long term wards

Interviewer: Thank you for your time

Social worker 1

Interviewer: Good morning

Social worker: Good morning

Interviewer: Can you kindly state your occupation, age, and years of experience please

Social worker: I am a social worker. 38 years old and have been in this position for 14 years

Interviewer: Always at Mater Dei Hospital?

Social worker: For the past 8 years yes…before I was with a private organisation

Interviewer: I see. As I explained before the start of this interview the topic under study is delayed discharges in MDH. I am trying to collect as many viewpoints as possible from as many health professionals as I can. Can you kindly describe the nature of your work in MDH?

Social worker: My work has a lot of lose ends….it's a bit difficult to describe. I will try to link what I do with the inpatient situation.

Interviewer: Yes, just speak your mind please. Nothing you say is irrelevant

Social worker: My work mainly involves creating a link or a bridge between the patient, the relatives and the health professionals at the hospital. It is very messy and complicated. We are very short staffed at the moment…we need more social workers at MDH.

Interviewer: Have you been long in this situation? And how dire is it?

Social workers: Yes it's been like this for a while and it got worse in the past 2 years or so. Perhaps it got worse with the COVID, even because during the worse of the COVID we were working from home and the shortage was absolute…very difficult to work like that. Since then it seems we haven't really gone back to normal again

Interviewer: But you are working on the field again right?

Social worker: Yes, yes of course. So we try to create this bridge between these three parties and it's not always easy.

Interviewer: Ok. So let's try and link this discussion to the discharge process of an acute patient in MDH. When are you called to help?

Social worker: I am consulted for a variety of reasons and they all revolve around the discharge process. First of all I must say that sometimes I am consulted through force of habit…when doctors don't know what to do they just write 'SW review'. This happens quite often and as we are already short of staff it tends to make our social worker supply even thinner because we end up wasting time on cases that don't need us

Interviewer: What do you think makes doctors do this? And in what cases do they do this?

Social worker: I think there are a lot of misconceptions regarding the discharge process and although it is gaining importance, doctors still don't assign to it due importance. The focus is still mainly on the hospital stay and treatment. And most doctors, especially junior ones, don't really know what specialities like social workers, occupational therapists and geriatricians are exactly for. So they end

up making the wrong consultations and summoning health professionals hat have nothing to do with the task involved.

Interviewer: So it's a question of lack of aware ness and knowledge mainly?

Social worker: A good portion is that yes. But then there are also situations when we get called on site it is for something that has nothing to do with us.. it's like doctors brushing over the burden of having the patient kept in hospital needlessly on to us.

Interviewer: If I understand correctly there are many political issues between doctors and social workers

Social worker: It's not politics as such. It's that doctors don't know exactly what we do as a profession and therefore sometimes they try to use us for things that we don't do. It is a bit frustrating. But it happens not so often all in all….I mean only sometimes

Interviewer: I understand

Social worker: The most legitimate reasons for us to be called on the ward is to review patients who have difficulty to get back home, or are prone to find difficulty. Doctors do a consultation for us, usually us and the geriatrician together…we tend to be consulted together. Such cases usually involve reviews either for query long term care or else for rehab, but which will probably encounter problems when they are discharged from rehab later on

Interviewer: I see. How many such consults would you say you have?

Social worker: I am unsure about the number but there are several new ones every day. Unfortunately MDH is full of potential social cases…most patients are very old and frail and once they enter hospital for whatever reasons, they start to find it difficult to go back home. I suspect sometimes they enter hospital on purpose so they can stay and not return home.

Interviewer: Thereby abusing the system?

Social worker: Yes. Sometimes it's not the patients but the relatives who encourage this. Either they cannot take care of them at home or they don't want to. That's the first thing we do when we respond to a consultation. We study the file thoroughly and get to know the case. Then we immediately contact the relatives to see how the situation stands.

Interviewer: I see. How does that go?

Social worker: It varies. Sometimes it is like relatives are ready for the phone call. I think they would be expecting it and thy would already know what they are going to say…like it is already planned out. Other times they don't know what they are going to say. Sometimes nobody pucks up the phone as well

Interviewer: All right, let us go through this slowly. What feedback do you mostly get from patient's relatives?

Social worker: Again, it depends. Sometimes they are very militant and immediately push back, saying over and over that they cannot accept the patient home anymore. This may be due to lack of an available carer, the patient's frailty and inability of the patient to live on his own. Sometimes such concerns are genuine and true…I mean majority of cases are indeed very frail and cannot cope.

Interviewer: What do you do when you meet these genuine cases? How are they handled?

Social worker: We discuss the case between us and the geriatricians, who decide if the patient is fit for rehab or not. If not then the geriatrician also decides if the patient is for svpr (in cases of high dependency) or if he is fit for a normal nursing home. The problematic part is talking to the patient many times. If the patient is alert and oriented many time he would refuse going to a nursing home, and if he is found to be fit to take decisions nobody can actually stop him from returning to his own home, even if it is unsafe to do so and he cannot cope.

Interviewer: I imagine it is difficult for the patient to accept this new reality

Social worker: Many times, yes. But sometimes they are prepared for it already as they would have applied from their own home and are waiting for a place in a nursing home. It is a bit complicated sometimes…there are a lot of variables involved, together with feelings and emotions. There are time when tempers run short and we end up quarrelling. Patients quarrel with relatives because they feel betrayed and relatives quarrel with us because we don't always do what they ask us to

Interviewer: It does appear very complicated and messy. What happens when you finally reach an agreement or when relatives co-operate with the patient and your team?

Social worker: If and when we reach an agreement it usually takes time. It takes a lot of reviews and phone calls and agreeing with other health professionals to help us out, especially DFTs, geriatricians and OTs. Once all is in place we communicate with the firm and the DFT wither flags the patient for long term care or else the patient has services organised for him to go back home

Interviewer: I see.

Social worker: Sometimes we also are responsible for relocation events between nursing homes. We get involved a lot in such situations together with geriatricians. These events lead to patients having to stay in hospital for long periods of time, especially when the nursing home from where the patient is being relocated cannot support the needs of the patient from the point of view of medical care needed (such as oxygen supply, ngt feeds etc…)

Interviewer: From your perspective what's the most common reason patients are kept needlessly in hospital post-discharge? I mean, from your view as a social worker, what seems to be the major hold-up that prevent timely discharge?

Social worker: It is difficult to identify exactly what the major reason for delay is, as there are many without a doubt. I think much is to blame of the beaurocracy of the process…meaning it takes a long time to alert the proper health professionals to take action because the process has to follow a very specific path. And it does not start from admission…problems are almost always identified when the firm starts thinking about discharging the patient. It takes time for the consultation to be done and it also takes time for us to respond to it. Delays result due to a combination of these factors I think.

Interviewer: Would you say health professionals themselves are sometimes to blame for delays or is it the system that creates them?

Social worker: There are instances when consultations are done very late, either through problems being overlooked or I don't know, for other reasons. But I think the system should make health professionals start thinking about the discharge process as far back as admission. The patient should have a shell of a discharge plan with his admission notes, and if needed we should be called as early as possible. So should geriatricians and OTs. I am not blaming doctors here. We sometimes come late ourselves because we are so short of staff so that would also be a reason.

Interviewer: Yes, I get your point. Does the way your work is structured hinder you from performing efficiently as a social worker? Do you think there is extra redundancy or perhaps excess paperwork?

Social worker: It takes too long for our team to reach a decision I think. Our team consists of geriatrician, DFT and OT mainly…together with the doctors of course. We go to and from for very long, referring the patient from one to another and each of us taking time to review every time. Also it is a very big headache to tackle issues with the relatives and it takes very long to do so. I think our health system gives relatives a lot of lee-way so they can abuse the system a lot. Relatives many times bypass the system by resorting to greater powers outside the system, very often political people. This renders our work useless and is very demotivating

Interviewer: I can imagine. Does this happen often?

Social worker: Unfortunately it happens quite often. Especially when the relatives or patient don't get their way because of some factor or other. Most frequently it is when the relatives want the patient o go to a nursing home and the patient is independent and can cope at home. From our standpoint and from the standpoint of the geriatrician and DFT the patient can be sent home as he or she is not fit for a nursing home. But going through these back channels the relatives almost always manage to get the patient to a nursing home despite our input. It's a lost battle.

Interviewer: I see. That's very frustrating I presume.

Social worker: Yes

Interviewer: What about services outside of hospital? You have outlined sources of delay in hospital from your perspective. What about delays due to factors outside of the hospital setting? Like services in community for instance?

Social worker: I think community services are satisfactory. I seldom encounter a case that gets to stay needlessly in hospital due to lack of proper community service support. As regards community services I think many times it is the patients and relatives who very often refuse them because they don't want strangers in their homes. Of course such services have their limitations but never have nurses told us they were refused services, and when we apply for things like 'meals on wheels' etc…never have we been refused either. Problem sometimes is patients want to abuse the system….they see their friends have the system work for them and they want it for themselves as well, even though they don't need it. So sometimes for this reason they are refused the service, not because it is not available but because they want to abuse it.

Interviewer: I get your point, yes. What about nursing home beds and rehab beds?

Social worker: Yes these are a problem. It already takes a long time for a patient to be flagged for rehab or long term care. But then to wait for the actual bed….it takes a very long time. There are simply never enough beds in both cases. Especially long term beds…it takes months for patients to move there, occupying acute beds for a long time and very often deteriorating while they do so, in which case the process has to start over again. Even in cases of rehab beds…these are lost if patient deteriorates. Not to mention the union directives that sometimes hinder these places from receiving patients during different times of the year.

Interviewer: Has this been getting worse or better in recent years?

Social worker: I think the problem has been there for the past decade or two and has remained stable. I think it has to get worse before it gets better…during the past 20 years countless new nursing homes have opened with countless new beds and still the problem persists. It is the effect of the ageing

population on the health system. And you can build a thousand more beds and the problem will still be there.

Interviewer: What would remedy the situation in your opinion? Or at least make it better?

Social worker: For the situation to get significantly better, and this may sound unethical and cold, the current elderly population above 65 years of age must pass on and die. So it will take around 15 more years for the situation to naturally remedy itself. This will bring a change in the population age ratio, resulting in a younger average population age. Not only in Malta, mind you, but in all of the EU. As to the current situation and what would make it better…well keeping old people in the community is a good idea but it is much easier said than done to be sure. Not because it cannot be done but because patients and relatives do not always want to do it…so the system must change, it must be more disciplined and not so open to abuse

Interviewer: I get your point. You are right.

Social worker: I don't want to make this appear as a simple thing. These issues are very complicated and they are different for each individual. But standards and rigid one, have to be set and these standards have to be adhered to. Not everyone has the same needs and therefore not everyone has the same right to a service. We also need more social workers working both on the outside as well as inside hospital because as things stand right now there are simply not enough.

Interviewer: Thank you for your contribution

BMU

Outline your job description

The general job outline seems to revolve around the co-ordination of beds in MDH in a way to be as efficient as possible. The BMU is responsible for seeing that beds are available for anything that may crop up during both day and nights, even if they are not physically present as a unit during the night. It is a very difficult task because the demands of a hospital are unpredictable and there are endless factors involved with a lot of demands from different specialised and non-specialised units. Both participants stated that their job often involved conflict between them and ward units and health professionals in general.

Can you provide you're a description of what you do in a typical day at work?

All days vary greatly. Participants stated that it is very different from day to day but they try to stick to a timetable to give some structure. They give handover (and take handover from the night managers) about bed availability in the morning and what type of empty beds are available. This takes some time because the handover is very detailed. So for the first hour or so of work they do not take phone calls and close themselves in their office to discuss and outline the handover and how they plan to organise their day. Then they consider what patients are waiting in the A+E department from the night shift and how long they had been waiting there. These patients will be given high priority for admission. Normally the night shift tries not to leave any such patients pending but this is not always positive. Normally in the morning there is not so much rush in the emergency department and this tends to release some pressure of the BMU so early in the day. As such, the day progresses according to the demands from emergency department. From the prior day BMU would have planned where certain elective surgical cases would be placed, together with planned ITU beds for certain high risk surgical procedures. It is a very extensive and complicated process that takes a lot of planning and participants had difficulty in exactly describing the intricacies involved. The most hectic part of the day is in the afternoon where BMU has to keep track of new admissions, discharges and unplanned consequences of surgery. There are also unplanned transfers that have to be done in between ward units depending on the severity of the case involved (due to new investigative results, medical imaging discoveries etc…). This is the most difficult part because as these incidences are not planned the BMU cannot always meet the demands involved. When this happens they either work on a 'per priority' basis or else put pending cases on a list to be tackled as soon as possible the following day. This is where typically there is conflict created between BMU and various ward settings/health professionals/patients and their relatives.

What's your view on the discharge process in MDH?

BMU participants agreed that the discharge process is sometimes smooth and sometimes very messy and time consuming. It has a lot of pitfalls. There is a lot of waste of time and due to lack of proper planning. Some delays are due to systems failure and some because ward units cheat and lie sometimes so as not to get admissions. This is a very real problem and BMU have tried to counteract it by getting signals when discharge letters are done online by doctors. BMU participants outlined this to be a very serious issue because we should all be working as a team and not against each other. Social cases were identified as being of major significance in this matter. BMU identified them as being

mainly responsible for the chronic and daily shortage of available beds in MDH. At any one time BMU estimate there being 100 or so beds wasted in this way every day, especially in medical wards which wards also happen to be the most utilised in terms of demand from the emergency department. There is a discrepancy between the time patients get discharged, the time when the discharge letter is done, and the time when the patient actually leaves the hospital and the bed is empty. This discharge lounge helped a bit in past years as regards this issue but most patients are not fit to go there to keep the bed full and not receive admissions. This cheating attitude is very frustrating to the BMU team and sometimes they resort to informed departmental managers about it so as these can inquire ward managers what is keeping them from vacating the bed. Other pitfalls in the discharge process the BMU participants mentioned included no proper discharge planning involved from the part of physicians and the tendency to admit too freely at the emergency department, especially re-admission cases (or frequent fliers as they call them), which are patients who visit the hospital very often and for no good medical reason, which cases finally inevitably result in new social cases

What's your take on bed-blocking situation in MDH? How does it relate to delays in discharge?

Both participants agreed that bed-blocking was a reality in MDH and that the main culprit for this was the number of social cases that existed throughout the hospital. This mainly consisted of elderly people who were medically discharged but had nowhere to go and nobody to care for them in the community, and who had varying degrees of dependence. This was a long-standing problem and had existed for a very long time. Bed-blocking was directly related to delays in discharge because once caused the other. According to BMU bed-blocking severely prevented them from carrying out their work effectively as it crippled the hospital's capability to dynamically perform the processes that are needed to work seamlessly. However, there are many other problems beside bed-blocking that result in delays. One bed manager confirmed that some beds, although empty, cannot be utilized at times due to severe nursing staff shortages, which has resulted in unions not allowing emergency admissions if certain staff compliments are not met.

Would you say there is a lack of communication between departments that contributes to delays?

Both BMU participants agreed that this was sometimes the case for a variety of reasons. More than lack of communication the problem at times consisted of mis-information or wrong information given. This was due to the hectic nature of the work and the fast pace usually involved, especially when it came to the emergency department. Sometimes there was a communication breakdown about the nature of the admission as regards diagnosis or complaint. When this happened the patient risked being placed in the wrong ward setting and would have to be re-transferred again, resulting in waste of time and human resources. Lack of communication was also sometimes present when transferring patients in between wards, where either ward nurses omitted some very important factor in handover or else BMU staff misunderstood the handover given. As far as BMU was concerned these factors did result in some measure of delay but not a significant amount that would affect the patient's length of stay.

Do you experience much A+E overcrowding and do you think this is linked to delayed discharges?

A+E overcrowding turns out to be a reality in MDH according to both BMU participants. They stated that normally there are very specific times that such an overcrowding situation occurs, especially in the afternoon and late evening. The situation usually resolved until the morning and was at its best

up till around midday. One BMU participant sustained that this pointed towards very specific times when people came to the emergency department and provided the BMU with some degree of predictability to their job as it signalled a pattern they could follow to some degree. One bed manager however was not sure if delays in discharge were particularly responsible for emergency overcrowding. Both BMU participants agreed that the vast number of blocked beds by social cases indeed contributed to having patients getting stuck at the A+E department for hours on end, waiting for available beds to vacate, which beds would have been available if such social cases were not there. However, as regards specific ward delays on a day to day basis (such as the time it takes for the patient to leave the hospital after being declared discharged), BMU participants were not in full agreement. One participant was of the opinion that while some degree of delay was present in this case such a delay could not be prevented because logistically organising the physical discharge was time consuming in itself.

Do you think extrinsic factors like social services and lack of rehab/ltc beds are to blame more for delayed discharges than intrinsic factors?

Both BMU participants agreed that rehab/ltc beds were the main problem in this regard. In fact, LTC beds were more of a problem than rehab beds. Patients ended up waiting for weeks (sometimes months) to get transferred to LTC facilities, blocking beds for a very long time and creating big logistical problems for the bed management unit. One bed manager stated that sometimes the situation gets so dire that they are forced to refer to higher channels to actually get things moving in terms of LTC transfers because MDH would not be in a position to cater for any more acute emergency admissions due to lack of available beds. Although such a situation does not occur very often, the pressure exerted by social cases waiting for nursing homes was a constant challenge that limited their work to a great extent. Lack of social services in the community was not identified as being a major hindrance in the discharge process, although one bed manager admitted that she was not up to date with what actually existed in terms of services in this area. But from the feedback she got from ward managers there never seemed to be a delayed discharge problem that could be attributed to inadequate to lack of proper needed services that could be provided in the community.

Does the DLN/DFT service facilitate your work?

Both BMU managers agreed that these two teams greatly helped to hasten the discharge process. DLN/DFT teams did not have direct contact with the bed management unit as their communication mainly took place with ward nurses, patients, and other health professionals on the ward setting itself. One bed manager however confirmed that she had been present at a number of inter-professional meetings where DFT/DLN members were able to discuss patients' discharge process and factors hindering those processes from being carried out in a timely and efficient manner. Although both managers found it hard to determine if the DLN/DFT team's effort were effective during the worst of the COVID pandemic they however agreed that these services greatly paved the path in situations which seemed dire in terms of patients ever being discharged successfully.

What's the impact of COVID on your work? How does your current work compare to pre-COVID times?

BMU participants confirmed that the whole structure of the hospital had changed with the arrival of the COVID-19 pandemic. MDH was divided into two: COVID wards and non-COVID wards. While they agreed that the extent to which this structure limited the flexibility of their work had decreased as

compared to 2020, they however said that MDH was still working within those parameters, only to a smaller scale. Dividing the hospital in this way involved wasting a lot of beds, whole ward areas are daily sacrificed to keep COVID positive patients in a separate setting than non-COVID ones. This has greatly affected hospital dynamics and resulted in increased delays in medical care provided and also a waste in human resources, time and bed availability. MDH had, in fact, to create new ward areas to cater to this new need, which wasn't easy mainly due to the severe and chronic nurse shortage that MDH had been suffering from for the past few years. Patients on quarantine were still an issue at present, blocking beds for weeks on end. BMU sustained that the vaccine helped a lot because it both decreased cases per day as well as decreased the quarantine period to only one week. COVID has also resulted in a shortage of both monitor beds as well as single room beds, and this has impacted the work of the BMU unit a lot. In fact, both bed managers agreed that MDH had experienced great shortages when it came to catering for other conditions (especially cardio-respiratory conditions and certain infective/immune-compromised cases). Such a calamity was not so pronounced anymore but although the worst of the pandemic was over, COVID cases still used up a substantial number of beds in this way and still hindered the smooth running of monitor beds and single room beds.

What would they suggest to be changed in MDH to lessen the impact of delayed discharges?

One bed manager stated that they needed a member of the BMU unit to be placed in every hospital block to monitor ward bed states and patient flow through the wards. This would give them a clearer picture of the hospital bed state and avoid unnecessary delays related to inefficiency and cheating. A step had already been taken in this direction in the past few months as one member of the BMU team is physically placed daily at the emergency department. This allows him/her to get a real time account of the state of the emergency department, monitor the state of patient admissions and place them in more adequate ward settings according the nature of the medical condition, and also to keep the BMU unit updated on emergency department overcrowding, thereby promptly identifying delays in discharge at the ward level. The participant insisted that if such a thing was introduced in every hospital block it will provide an excellent way to closely monitor patient flow throughout the whole hospital and not only in the emergency department. Another suggestion put forward was to introduce a small bed management team to take over during night shifts. As things currently stood nursing managers also acted as bed managers during the night. This overburdened these managers because they were expected to act as bed managers in addition to taking care of ward staffing issues and other difficulties that arose. This often resulted, through no fault of night managers, with the BMU unit facing great problems in the morning due to sub-optimal bed management decisions taken during the night. Assigning a small night team of managers to manage and allocate beds at night would prevent such mishaps while also relieving night managers from their current burden.

Doctor 1 (MO)

Interviewer: Good morning

MO: Good morning

Interviewer: Can you kindly state your age and years of experience please

MO: I am 28 and am a house officer for the past 2 years

Interviewer: Which field are you currently working in? And can you briefly describe the nature of your work?

MO: I am currently working in the medical field. Nephrology. My job has many aspects…it's not so easy to describe. I am a junior doctor with a nephrology firm.

Interviewer: This interview is about delayed discharges in MDH. Are you familiar with this term?

MO: I haven't studied the subject but I know what delayed discharges are

Interviewer: Research have revealed a number of areas which are directly related to this concept but I would like your opinion and views depending on your day-to-day work. If you had to consider a typical work day for you…I mean from the moment you come in to work to when you go out…at what points in the day are you likely to encounter delays in your work? I know this can tend to be difficult to do but if we go through your day a little bit at a time we can identify delays as we go along

MO: Yes we can try to go through the day bit by bit

Interviewer: I will also interject with research points from time to time so we can related your experiences to the literature

MO: Ok

Interviewer: So what's the first task you do as you come in to work?

MO: I come in and search results of our patients so I will have everything on point when the seniors come in. I print all results and organise patient list to make it faster and easier during ward rounds

Interviewer: Ok. What next?

MO: We meet the firm and start rounds.

Interviewer: You need to wait for all the members to start rounds? Or do you just start them before the whole team comes along?

MO: It depends. You need a senior to start. Especially if you are going to ITU or CCU

Interviewer: I see

MO: So then we start the ward rounds, seeing the patients one at a time. Some patients take more time than others….we usually leave the social cases and the less urgent cases till the last

Interviewer: How many social cases do you normally have on a typical census?

MO: It varies. I would say about 30% or something like that.

Interviewer: That's a lot. These patients are medically discharged right?

MO: Yes, they are fine medically but have nowhere to go. Most are waiting for a nursing home

Interviewer: How long does this usually take?

MO: Again, it depends. Weeks, even months sometimes

Interviewer: This results in a lot of waste of time and bed space I presume

MO: Yes, of course. Even also because sometimes while they wait these patients get sick again or have some acute episode and end up becoming patients again, and the whole process has to start all over again

Interviewer: That is very frustrating I should imagine

MO: Yes and time consuming. For us housemen, we usually end up seeing these non-urgent cases everyday and it takes a lot of time. And we are very busy with organising other things such as medical imaging tests, blood tests, consultation and discharge letters. We are usually the ones who have the most work to do

Interviewer: Do such tests take a lot of time to organise?

MO: Some, yes. Because you have to call a lot of people in cases of medical imaging tests. Blood tests you just book on computer. But you need permission and vetting for CT scans and these things.

Interviewer: So time is lost in such things?

MO: Yes. And during ward rounds there is no time to lose because the whole firm is in a hurry due to patient workload.

Interviewer: I understand you have tablets assigned to each firm to hasten the work?

MO: Yes, but they are not always available. Most firms don't have them and this drives us to rely only on ward computers which are always busy with nurses and other staff. Also, you cannot write discharge letters on the tablets so for those you still need a proper desktop computer. The computer problem is a real problem for us especially for discharge letters which take a lot of time to complete

Interviewer: Do you use the quick discharge letters?

MO: Only very rarely. Consultants almost all prefer the full discharge letters on the very day of discharge so we have to make use of those. And sometimes we have plenty on any given day. It's very time consuming and sometimes patients end up waiting for hours to be send home…till the afternoon.

Interviewer: So this factor is, in your opinion, a major contributor to delays on the day of discharge?

MO: It is a bit yes, although things have gotten a bit better over the past two years

Interviewer: Do you think there is too much in terms of paperwork and general redundancy when it comes to organise something from your end?

MO: The paperwork has decreased over the part years, especially since COVID hit because extra paperwork was eliminated to prevent the virus from spreading and some things were transferred online. But still, even then, much paperwork is needed to consult with different health professionals especially who all have their own specific form, like social workers, physios etc…And all this takes place during ward round typically which is the time where we are most pressed for time and in a hurry

Interviewer: I see.

MO: As a houseman this is a reality. Even the constant watches issue, you have to renew the constant watch online everyday or else it will automatically stop. And then you have investigations to book etc…I think we should make use of the tablets we have been assigned. I think we have a tool and are not using it

Interviewer: I understand. How do you feel about the discharge planning process in MDH? Research has shown that the discharge process is directly linked to delayed discharges on the international stage

MO: It has got better in some aspects but there are still much more to be done. It is still being started very late in the patient's journey through hospital. A couple of days before the actual proposed discharge date as best

Interviewer: I see. What are the consequences of this?

MO: We end up with not discharging the patient at all on the proposed date most of the times. The elderly especially need a lot of preparation outside the hospital, especially if there are going to be discharged back to their own homes. And especially in some areas of speciality like the medical field or the ortho field where the conditions are either chronic or they will take a lot of time to heal. There are also many professionals outside the hospital that have to be told to organise their services to take care of the patient in their own homes, and they take a lot of time to organise and for the services to kick in. So things are typically not ready on discharge date because they would have been started too late

Interviewer: Why are they started late you think?

MO: It's difficult to assign blame. I think some of the blame is on us as health professionals and some are also on the patient's relatives because oftentimes they don't tell what they will be needing at home until it is too late.

Interviewer: Ok, so you think relatives themselves do not speak up until it's late

MO: Yes, we don't know what is on their mind. And many times they don't want the patient to go back home, for whatever reason, and are afraid or shy to say so

Interviewer: I see. Is this relative situation very effective in delaying patient discharge? And how frequent is it?

MO: It is very frequent. Very common. We are suffering from an ageing population and the local dependency levels are very high. Admissions and re-admissions mostly consist of elderly people from nursing homes or their own homes and it is often very difficult to send them back. Even to nursing homes because if their dependency levels change the nursing home may not accept them back and they end up in MDH until they get relocated. I think nursing homes should be equipped better. Imagine, catering to the very old and not be equipped to take care of an NG tube or Oxygen. It does not make sense. Guess it's because they are for-profit organisations and cannot afford to employ many health professionals.

Interviewer: What is your stance on the A+E overcrowding problem and the bed-blocking problem as it is linked with the delayed discharge issue?

MO: They are very directly linked obviously. The social case problems is a very real one and I think it is the main one to blame in this regard. I mean, there are currently roughly just over 100 beds occupied

by social cases in MDH and this is very much constant. It's like the hospital cannot work how it is supposed to at all…never

Interviewer: So you attribute the A+E overcrowding and the bed blocking problem entirely on social cases?

MO: Almost entirely yes. There are other aspects that do not help the situation but the social case problem is by far the most constant and unchanging chronic factor that is always there.

Interviewer: What are the other aspects?

MO: Well, it depends. Sometimes firms can keep patients in hospital for certain procedures for weeks on end, and I don't agree with that. This is not very common but it happens, such as MRIs or some endoscopy procedures. Perhaps in some cases discharging the patient would place the appointment back or else they don't trust the patient to adhere to something at home or sometimes there is no apparent reason.

Interviewer: So this keeps the patient in hospital with no medical reason

MO: Yes. The COVID epidemic also made things much worse. Patients ended up with delays that spanned several days just because they need a swab or they were found to be positive and had to be quarantined for a number of days. It is still not over yet. We still have patients who are quarantined either because they have COVID or because they were near a patient with COVID

Interviewer: Can you elaborate on the effect of COVID on delayed discharges?

MO: COVID has been very tough on this process. There were a lot of logistical complications, apart from the medical problems. The hospital's management changed the whole layout of the hospital and the usual way the hospital worked was also changed. For the firms this presented a lot of problems. Patients kept being rotated round the hospital to make way for what was needed to accommodate the new COVID layout and this sometimes resulted in patients being placed in settings that did not agree with their diagnosis.

Interviewer: So the actual way the hospital was, and still is, divided logistically affected delays? How?

MO: Now it is much better because we are not that stringent anymore because patients and staff are all vaccinated and CVOID rates and deaths are very low and controlled. But having GMA and MARPA areas placed some patients who required certain specialised care in areas where staff was not specialised on that particular area. And this sometimes created medical complications that could have been avoided if specialised staff were taking care of the patient

Interviewer: I understand

MO: This still happens but now management are more flexible with the way they move patients and so it is very rare and the hospital is much nearer to what it used to be before COVID

Interviewer: What is your view on the social services provided to patients in the community outside hospital? Do you think they are enough or are they a contributor to delays in discharge?

MO: I don't have a very informed opinion on this because I am not very familiar with these things. But I have not come across a situation where a patient was not discharged because some services were not available. I mean, yes, sometimes the needs of the patient are not fit to be handled in the community but it is more because of the very high patient dependency than because of the lack of services

Interviewer: So you find services to be adequate?

MO: I think so yes

Interviewer: What about lack of nursing home beds and rehab beds and their impact on delayed discharges?

MO: Yes, this is a problem. Rehab bed problems are getting better lately and the waiting times for rehab have decreased significantly I think. It does not take more than a couple of weeks for this to happen. But I think patients are hard to be accepted for rehab because if they are too dependent or too independent they are not accepted and then they usually end up for long term care

Interviewer: I see

Interviewer: But long term care beds are very much in scarce supply. Patients wait for weeks and months to get a bed in long term care.

Interviewer: Why do you think this is?

MO: There are many reasons I think. The process is very complicated. And it takes long to even kick start, and you need a lot of health professionals like geriatricians, social workers, dfts and etc… So to even start the process for long term care takes a couple of weeks, even because relatives very often complicate the process because they either have not decided yet or if the patient is refusing or if for example there are union directives in some long term facilities that prevents them from admitting new patients. And in some cases some nursing homes are not properly equipped for some dependency levels of patients which leads to patient getting stuck in MDH.

Interviewer: Wow that's a lot reasons you gave me there

MO: Yes long term issues are very complicated and there are several things to be blamed for it. There Are currently around 100 social cases waiting for long term care in MDH and that is no joke. Firms have a significant percentage of their daily census made up of such cases

Interviewer: Do you see a solution to this problem?

MO: No, honestly I don't. This is a problem that has been present for a long time and the ageing population is not going anywhere. If anything I think it will get worse with time

Interviewer: In your opinion what would you do differently in order to lessen delays in discharge in MDH?

MO: I am still a young doctor and I don't have the experience or the insight to give a viable answer to this question. I honestly have no idea how to make things better on the big scale. But from a houseman point of view the best I can do is to give us more time to do our jobs and not get lost in chasing time. What I mean is we have much too much on our plate and we have no actual time to do anything efficiently…it's a self defeating system.

Interviewer: Thank you for your contribution

BST

Interviewer: Good morning

BST: Good morning

Interviewer: Kindly state your age and years of service. Also please briefly describe the nature of your occupation in MDH

BST: I am 36 years old, 10 years of service as a doctor in MDH, with a couple of years done in another hospital. I am currently a BST in nephrology but we rotate firms every few months or so.

Interviewer: In this project I am interviewer all MDH stakeholders in the delayed discharge process to get as much an all round view as possible. Doctors undoubtedly are one of these stakeholders. Are you familiar with the term delayed discharge?

BST: I have not studied the area but I know what the term refers to.

Interviewer: I conducted an extensive literature search on the subject and several factors emerged that are very strongly related to delayed discharges vis-à-vis acute care settings. How do you think your work right now as a BST compares as to when you were a houseman?

BST: It's different in a variety of ways. There is more responsibility now…I have tasks that before did not use to be given to me. I can compare the current firm because I was also in nephrology at one point when I was a houseman. A houseman is definitely more hectic but a BST has more heavy tasks to complete…same as an HST is when compared to a BST.

Interviewer: What is your view on the discharge process in MDH? From the point of view of a BST I mean.

BST: That is a very complicated question. Because it depends on the patient…the condition of the patient and the type of admission involved. Let's just say there is no formal discharge process in place that is used for every patient admitted to MDH. So the process is sort of different for every patient and there is no path a firm can follow to get there.

Interviewer: Do you think this is a drawback? Do you think this can be a contributor to delays?

BST: Of course. The discharge process should be clearly defined and should start right from the start, at the emergency department. I have worked in MDH for quite some time and this issue was never seriously addressed and I don't think any progress was ever made in this regard.

Interviewer: So you think there is a general lack of discharge planning?

BST: Well, discharge planning does not really happen formally I think, no. I mean, there is some semblance of planning in terms of what is to happen to the patient once he is medically discharged and when that is to be. But there is never an actual date or tentative date or time period of any sort that the firm has to somehow aim for. I mean the firm is completely free to keep the patient in hospital for whatever time period it decides with no medical reason or otherwise, and nobody asks any questions

Interviewer: So if I understand correctly the lack of a discharge plan is a real issue. How can this shortcoming lead to discharge delays in your view?

BST: It's very simple. When we get to discharge the patient…when we get to that point, we suddenly encounter a lot of difficulties. These difficulties could have been tackled and foreseen much earlier in the patient stay and maybe solved successfully. This happens mostly in the case of elderly people with high dependency levels. And it happens mostly in the medical arena. It's not so common in the surgical part because patients there tend to be more acutely ill and less dependent. I mean they have a problem there and it gets solved. I was in surgical firms before now. But in the medical field we are mainly dealing with chronic conditions and patients gets re-admitted a lot over and over again.

Interviewer: Are you talking about social cases?

BST: Yes, but not only social cases. I am talking about before they actually become social cases. Because then it is too late. And I think this lack of proper discharge planning is responsible for the creation of social cases in the first place. Also, it's not 100% the fault of the firm or the hospital I think. A lot also comes from the patient's relatives and the patient himself. They don't life a finger to help the situation I think many times, and they are out to abuse the faulty system the best way they can

Interviewer: Please elaborate on this

BST: It's a complicated situation because we are dealing with people. Sometimes patients and their relatives come to hospital with the intent of not leaving and become a social case. Which sort of reflects badly on the emergency department for not detecting these things, but then again emergency department cannot be blamed completely because the elderly patient's bloods are rarely good anyway so it's not always possible not to admit. But with a little thinking it is very possible to identify potential social cases right from the emergency room.

Interviewer: Ok. I understand. Will shifting your attention to your everyday work as a BST. A typical work day for you…and delays in your work day that have the potential to result in discharge delays. Research worldwide reveals that a number of factors directly contribute to this. One of them is procedural delays and a tendency for redundancy in everyday work life in acute hospital settings. By redundancy I mean an overcomplication of processes and the beaurcratic way hospital dynamics work. Would you say this is a reality in your work at MDH?

BST: Yes I think it is. In more ways than one I think. Paperwork has decreased in truth, but there is still plenty left. And although many procedures are now booked online there is still much to book all the time. It is usually up to the houseman to do these things but the whole firm suffers because of it, and as a consequence of course also the patient. Consultations, medical imaging tests, blood tests…they take time to book and we have tonnes of them on a daily basis. The houseman wastes a lot of his time of the day chasing these or booking them. I don't think most of this can be prevented but they do present delays that affect the patient's stay

Interviewer: So is there anything that can be preventable or are they a necessary evil, sort of part of the work that cannot be prevented?

BST: An initiative to provide firms with tablets lessened this to some extent, for those firms who used them. But there are even things for us BSTs and HSTs….for example they removed the firm pharmacists and we spend a lot of time researching doses or phoning pharmacy to confirm doses during ward rounds. Radiologists take time to vet procedures and consultations involve much paperwork and take ages to take place, especially if they involve other firms to review the patients, especially firms outside the medical field.

Interviewer: You mean consultations like surgical, ortho etc…?

BST: Yes, when it involves inter-field consultations they take a lot of time to do, if they are done at all at times. Sometimes it takes a week or more…and major disagreements and confrontations are common between firms. Problem is everything gets dumped on the medical field for the silliest of reasons. We get to cater for surgical patients with a clear surgical problem but also with a low sodium for example…as if a surgical firm does not know how to correct that low sodium. Or if for example a patient has a clear urology or an ortho problem but is not for surgery for some reason or other, he gets dumped onto medicine who just cannot refuse the patient. This leads to a lot of patients being under medical care who should be under other firms

Interviewer: How does this affect delays?

BST: It affects delays because these patients sometimes then get 'abandoned' sort of. They are left without a clear firm to care for them and are just under medical field just because. This is another contributing factor to the creation of social cases,,,cases like these where the patients are caught in between firm politics and nobody seems to want to care for them. Please not I am being very blunt here and am only speaking like this because this interview is in full confidence and is anonymous.

Interviewer: I realise that and I assure you it is. So office politics are also to blame for discharge delays?

BST: Yes of course. As a BST I became more aware of this because you get a first hand part in these interactions. And it's a pity because apart from being highly unethical it gets the patient stuck in limbo for weeks on end and sometimes they end up as social cases because their dependency levels go up or they get a nosocomial infection and so on.

Interviewer: During the past couple of years, and even up to this day, what is your view on the effect of the COVID epidemic on delays in discharge?

BST: COVID was horrible and obviously delays in discharge suffered because of it. But I would not dwell on that too much because the added delays imposed by COVID, while real, could not be prevented and there was nothing anybody could do about it. It is nobody's fault. The hospital had to be divided in the way it did, and COVID swabs had and still have to be taken as they did. Although now that everybody is vaccinated I think we should stop with the COVID restrictions, except perhaps mask wearing. Now that numbers have gone down and the pandemic is practically over, now those delays are worse because we don't really need the restrictions and those delays have now become sort of preventable.

Interviewer: So you saying that the current COVID restrictions are sort of needless and are impacting delays without the need for it?

BST: Yes, indeed. I think that is the case

Interviewer: Would you consider local social services in the community to be adequate to cater for people or do you view them as a major hindrance in the discharge process?

BST: I don't think I am well informed on this area. But the CommCare services I think does miracles everyday and paves the way for us to discharge patients back into their homes with the help they need. I think there is no lack of social services, of course we can always improve service provision. All in all from my experience current social services are working fine and they hep a great deal in getting patients who would other be stuck in MDH back into their own homes

Interviewer: What about waiting times for rehab or nursing homes and long term care. How do these impact your day to day work in terms of discharge delays?

BST: That's a different matter. The process of getting people to rehab or worse yet, nursing homes, is very lengthy and complicating involving several health professionals in chronological succession. It takes a lot of time to actually get the patient flagged for rehab and long terms care and that is when the waiting actually begins

Interviewer: Ok. So you are saying that the process is over-complicated in itself?

BST: Yes, plenty and more so for long term cases. The rehab process just typically involves a geriatrician visiting the patient and determining is he is fit for rehab or not. So that is not so complex. The patient has to then wait a number of days to be transferred which is a much better situation than before. Because before it used to take much longer

Interviewer: So the process of getting a patient to rehab takes less time now?

BST: Yes. I think improvements were made in that area

Interviewer: What about long term cases?

BST: These are a real problem. You have to involve social workers, geriatricians, occupational therapists and DFT members as well. Not to mention the relatives. The process takes weeks just for getting the patient flagged because there are multiple problems. Sometimes the patient doesn't want to go to a nursing home and sometimes the relatives are not in agreement with the wishes of the patient. The social workers and the other health professionals have a hard time co-ordinating the work, even because much depends on the relatives and their will to make the process easier for them and the patient

Interviewer: I understand your concern. So it takes long for the actual flagging process to occur

BST: Yes it does. Whole weeks. And in the meantime the patient has to be medically discharged which is also difficult to achieve because oftentimes we are talking about elderly individuals here with several co-morbidities which are chronic. And should they relapse and deteriorate later on, even after the flagging process they can lose the flagging and have to start the process all over again

Interviewer: That's very frustrating and very self-defeating

BST: Yes, very. And then there are other system factors that make the process even more difficult and for me don't make any sense. For example if a patient is on constant watch he cannot be flagged for long term care. This is just stupid for me because constant watch status is treatment and so, essentially what they are telling us is that for a patient to be accepted and flagged for long term care we have to stop some of his treatment, meaning the constant watch status. This puts the patient in danger because the constant watch would have been in place typically because the patient would have been a danger to himself or others. And even for us as a firm it becomes sort of liability to remove the constant watch status because it would look as if we would have deemed the patient to be safe without it, when it is not like that. We would have done it simply for the patient to be flagged for long term care. Are you understanding?

Interviewer: Yes I am. And you are right. It does not make sense and it does put the patient in danger. And also you as a firm. How do you go about this? You actually remove the constant watch status then?

BST: Sometimes we don't, no. It is too dangerous. In that case the patient is not flagged and remains in a kind of MDH limbo, with nobody really having any plans for him and nothing in motion as regards the process of getting the patient into a nursing home. This is a major delay that can be easily avoided

Interviewer: I agree with you. What about the relatives? How do they affect the process of getting patient into long term care or rehab?

BST: Relatives can help you or they can make life more difficult. It all depends on their intentions. Things that hinder us from discharging patients to long term care is when relatives demand specific homes or if they demand relocation in between homes.

Interviewer: Yes I have heard of this before. But does not this waiting time for relocation etc…take place in the patient's own home?

BST: It depends. And no most times it doesn't because the patient would have very high dependency levels. It makes sense for relocation time to take place at the prior nursing home where the patient was at but again, this is not always possible because nursing homes are sometimes not equipped enough to cater for the new equipment the patient would need due to deteriorating condition like NGT, CPAP machines. So the patient has to wait for relocation in MDH. If the reason for relocation is genuine it would not matter so much but sometimes relatives demand relocation simply because they would have quarrelled with the management of the prior nursing home or they want the nursing home to be nearer to their homes. And this is unacceptable. The system should reject such requests outright as it leads to long delays in discharge and sometimes the patient ends up being stuck in MDH till he dies due some hospital acquired complication

Interviewer: That is indeed a serios matter.

BST: As a BST I now tackle these issues more than when I was a houseman because many times relatives want to talk to senior doctors to make their demands known.

Interviewer: And how do you tackle these issues?

BST: We cannot really tackle them because sometimes relatives also resort to higher powers and bypass out authority on the matter. You know how it is Malta, if you know someone high enough you can get anything done.

Interviewer: I have heard that expression before, yes. Many times. Have you ever worked at the A+E department?

BST: Yes, in my houseman years mainly

Interviewer: In your view, even now as a BST, how do you think delays in discharge at ward level impact the A+E department vis-à-vis the bed blocking phenomenon?

BST: It's difficult to determine the extent of this. But suffice it to say that at any one time in any given day there is always a substantial number of beds in MDH which are automatically blocked and not available to the emergency department. These are the social cases of course. It's like an anchor we have to drag as a hospital all day every day. And I don't really think we will ever solve this because it has been around many years and it has only gotten worse I think. The ageing population is getting worse every decade and will be this way for the next few decades

Interviewer: And how is the emergency department impacted by this?

BST: It gets clogged on a daily routine. These social cases block a hundred or so beds on any one day. Along the years MDH has grown in terms of bed-state with several new wards opening in an effort to increase bed states. But you can build a million beds…you will just end up filling them all. I don't think increasing beds is the answer…people have to kept in the community somehow until they are in a very bad state. In Malta this is very difficult to achieve and it is not because of logistical reasons. It's that

people have learnt and are allowed to cheat the system and they can bypass the system by referring to higher political powers. You can draft protocols but it will be of little use if things are carried out this way.

Interviewer: I understand. What changes would you make to the system to decrease delays in discharges?

BST: I honestly have no idea because there is not one thing you could point your finger at as the problem. Shifting attention to the community and the promotion of independence in the community has to be at the centre of it of course. But it's easier said than done. MDH itself has to have stronger protocols in place and adherence to protocols has to be paramount in importance.

Interviewer: Thank you for your contribution.

HST

Interviewer: Good morning doctor

HST: Good morning

Interviewer: How long have your been working in MDH?

HST: I have been working ere for the good part of 15 years, and have been an HST in the past 3 years.

Interviewer: In which fields were you most active?

HST: I used to rotate much more before as a houseman and a BST and have practically been working under almost all consultant at one point. Now I am settled in a vascular firm as an HST

Interviewer: Describe the nature of your work briefly please

HST: My work mainly revolves around theatre, surgery and medical imaging of patient's limb mainly which involves doppler ultrasound and angioplasty mainly. We admit patients both on an urgent as well as an elective basis for specific procedures, sometimes planned. Mostly these involve circulation problems in the lower limbs

Interviewer: So you have a somewhat clearly defined job description

HST: As an HST pretty much yes, not like when I was a houseman or BST where the job description was vague…it consisted mainly of all the work falling out of others doctor's job description. Not pretty

Interviewer: I understand. I am mainly concerned in identifying instances throughout your work life on the ward settings that translate into delays for patient discharge. The best way to go about it would be for you to take me through a particular day at work, and I will factor in research points that came up in my studies regarding delays and we will discuss them in the context of your work day

HST: Ok. Good for me

Interviewer: So, you can begin when you want

HST: Well. First of all it is useful to state that how the day goes along depends under which firm you are posted. Not all firms work the same way as not all consultants like the same routines. So throughout my career my typical day has varied a lot. I will try to describe a typical day but may veer to certain examples from time to time

Interviewer: Yes, by all means do so

HST: As an HST I typically come in early even though I don't have to. I like to meet with the houseman early on so together we review patients under our care, view their results and check out the new admissions' results. By the time the ward round starts we already have everything laid out so there will be no waste of time chasing things such as investigations during ward rounds.

Interviewer: So at what time do ward round typically start?

HST: Around 8am I should say but not all members are usually present from that early stage. Some arrive later. It is very rare to have all ward rounds ready by 2:30pm, when they are supposed to finish. This is because while we usually would have managed to see all patients by then there would still remain a ton of paperwork to do by the the houseman especially. This include discharge letters

especially which take him a lot of time to complete, and can make him stay at work till 5pm or so. Although this is not a worry of mine anymore I still feel it is not right for junior doctors to go beyond their allotted work hours everyday…it is very unjust and is the result of a faulty system

Interviewer: How come discharge letters are given out so late? Why are they not given out during ward rounds? I understand there are quick discharge letters that can be used

HST: The system is flawed in this sense, yes. And patient take a long time to physically leave the hospital because of this drawback because a lot of time passes between verbal discharge and actual discharge by way of the discharge letter. In that time the bed remains occupied. We don't use the quick discharge letters because most consultants don't like them and like the full letter to be written on the day of discharge rather than at a later date.

Interviewer: But are they not aware of the repercussions of this work dynamic?

HST: I don't know, and I doubt if many care.

Interviewer: Ok. So you start the ward rounds.

HST: Yes and we try to get them over with as soon as possible because the sooner they are ready the sooner we can start doing theatres. Right now I am working in vascular and we perform surgery everyday. So by 9am we are typically already in theatre having reviewed the patients already.

Interviewer: All of the firm would be in theatre?

HST: Yes, the senior for sure, all of them. Perhaps we have a houseman running round the hospital or some other houseman from another firm covering for us. These may address any difficulties arising from our patients while we are scrubbed.

Interviewer: In your view does this sometimes result in delays for certain calls in wards to go by unaddressed for long periods of time? Due to the firm's physical absence from the hospital wards?

HST: Yes, perhaps it does. But I don't think it can be helped much. What can we do? Not do surgeries?

Interviewer: I understand your point

HST: Most surgeries are elective in nature so they are planned on specific dates and we would know about them from beforehand. That is a good thing because we can plan workload from before. But sometimes emergency cases also emerge and elective cases have to be postponed at time. The elective cases would already have been admitted one day before for pre-op preparation so they end up blocking a bed for a couple of day just waiting for surgery. Of course this happens very often and for much longer in cases of ortho surgery but still…it does occur in our department from time to time as well.

Interviewer: I imagine you would have a lot of pending tasks on the ward in the meanwhile

HST: Unfortunately yes. I worked with surgical firms and ortho firms in the past. I think it's much worse in those areas because the work is more unpredictable. In surgery for example you get a lot of emergency admissions and also in ortho. In the vascular area electives are by far the most common so work sort of goes on smoothly and timely

Interviewer: And after theatres are over? What do you do?

HST: We usually review some of our patients on the ward again, especially those who are in post-op and who are typically at risk for bleeding. We may also visit those patients who we would not have

visited before surgery. All in all we try to complete all the ward rounds as best we can. This is not always possible so in those cases we move by priority. Unfortunately our workload is very high and time management is not always possible because when you are in surgery you don't always know how much time it will take to complete due to arising complications etc…

Interviewer: That completely makes sense. Do you find that ward-based work facilitates timely work? I mean do you consider there are factors that make work unendingly lengthy and redundant during ward rounds?

HST: I admit there is some overkill when I comes to paperwork. And I still cannot understand how nurses are not allowed to book basic tests such as wound swabs, urine tests and basic blood tests. Our houseman spends tons of time just going from ward to ward to book daily bloods, and it's a waste of time and a nuisance. He is needed more somewhere else….we need him somewhere else.

Interviewer: I see. So you are in favour of delegating some tasks to nurses

HST: Yes, and they agree to it. It's not like a burden to them. It is more of a hassle to them chasing the houseman to book a blood test all day. And even for the patient who ends up waiting all day for his wound swab to be sent to lab for lack of a label. The current system is self crippling….it makes itself slow because it does not give access to enough people to book things on it. If we give booking access to nurses it will greatly facilitate work and make it faster

Interviewer: I see, yes. What about organising certain procedures or medical imaging etc..?

HST: That's an entirely different thing. We cannot delegate those things to other professions. And some of them do take a lot of time to organise, especially certain medical imaging procedures such as ct scans and ultrasounds. Doppler ultrasounds we do ourselves in the vascular lab so that's something that goes to our advantage. Sometimes even finding available theatres is a hassle by the way….some procedures are postponed or done at a later date simply because either there is no available theatre or there are no available staff to assist during surgery. This is very inconvenient for the patient, especially if it is an elective surgery and the patient would have been waiting for it a long time.

Interviewer: Does this happen often?

HST: Luckily not too often.

Interviewer: And would you say that there is some impact on delays on the fact that sometimes firms seek to make work more convenient for them rather than for the patient?

HST: I don't think so. I mean, the workload is what it is. Of course the firm will try to make the work convenient for itself, but only in an attempt to meet the demands of the workload in time. And the workload of course involves getting all the patient procedures and the ward rounds ready by the end of the day. So, it is all for the good of the patient I guess

Interviewer: Yes, I understand. Do you have patients who cannot be discharged home after they receive the needed medical care? I mean patient who get stuck in hospital?

HST: Social cases you mean?

Interviewer: Yes

HST: Well we do our utmost to discharge patients as soon as possible not to give them time to lose their independence. At least in vascular that's what we do, but this is not always possible in other areas such as ortho and medical. So we are lucky in vascular….the majority of our patients are acutely

ill, also chronic of course, but a good part of them are in for a specific reason. Of course we sometimes delegate long term cases who have no reason to be in hospital to other firms to make way for our surgical list

Interviewer: Does that go well with other firms? I mean, they will not be happy I think

HST: I know…but what can we do. Even surgical and ortho do such things. And I think it's one main reason why doctors don't like the medical arena…because it is not medical anymore – it has become geriatric. Medical nursing is dying in MDH. It gets a bad rap. Even if you specialise in medicine you end having nothing to do with patient who fall under your specialisation…you just end up seeing very old people with nowhere to go and very chronically ill….mostly stuck in hospital because they are abandoned by their relatives

Interviewer: That is very sad, for both the patient and the firms

HST: Yes, it is. And it is not fair these cases are all placed in the same speciality.

Interviewer: What is your view on the social case situation in MDH?

HST: It has always been there and always will be I think. It's nobody's fault…ageing population is what it is and it will get worse before it gets better

Interviewer: Then you don't think there is a solution to this problem? I think you are aware of the impact of social cases on MDH…the bed-blocking and bed number problems…

HST: Yes, of course. Social cases are the result of today's lifestyle and the ageing population. And the Maltese system is ideal if you want to abuse it. So its two bad things that go very well together. People know how to abuse the system and they do it by dumping their elderly on the system. And the system is powerless, even though a lot of protocol have been put in place.

Interviewer: How is the system vulnerable to abuse?

HST: Everybody is admitted from the emergency department…that's the first thing. Nobody is turned away and once a person is admitted then he is in the system and it is very difficult to get him out if he does not want to leave. So the emergency department itself is vulnerable to abuse in this way…doctors there do not dare send anybody away, even if the reason for admission is inadequate. They are too afraid of getting into trouble, even because of the political situation in Malta and the media.

Interviewer: I see

HST: And then there is the discharge problem. So we have problems on admission and other on discharge. And both have to do with system abuse I think. True, the discharge planning system is faulty but on the other hand it cannot work even if a good discharge planning system was introduced. Relatives have too much power. So it is not a question of getting a good discharge planning system in place…relatives will find a way around it and the system will give in to their demands because it always does.

Interviewer: So you think things cannot improve if new discharge planning system are in place? And that relatives are mainly to blame for the current state of social cases?

HST: Yes. There is only so much the system can do, and it cannot cater for the abuse. I think if the abuse was to be removed the system can cope with the demand. Firm encounter these situations all the time and as an HST I very often try to tackle these issues. I assure you it's a waste of time often times. You try to do things the right way by involving the right health professionals to help the patient

return to his home with the help needed in the community. Relatives go to some high profile person outside hospital and bypass the whole system, and all the health professionals etc…and get the person into the long term health facility of their choice. Even if the patient would not have needed it, and did not qualify for it. I have seen it happen countless times. It is very demotivating for health professionals…and now many health professionals do not put the effort anymore because what's the use

Interviewer: I understand your situation. So in your view there are enough long term beds in the system, was it not for the abuse?

HST: Who can tell…probably yes. And there is no way to really know. All I know is that MDH has built countless new wards areas to cater for greater demands and countless long term beds have been built in other place throughout Malta. And still the problem persists and is very strong. It takes a long time to get a patient ready for LTC in MDH and he has then to wait for weeks and months to be transferred. So one cannot say there is not a problem there.

Interviewer: What about rehab beds? And patients needing rehab?

HST: The level of abuse is not so rampant in this department and in fact the situation here is not as dire. Rehab beds are more readily available and the waiting period is much less than LTC. Geriatricians and social workers do a good job in vetting the proper patients in and out of rehab and therefore the resources available are utilized in the right way.

Interviewer: Do you think there are adequate social services and community services in the community for the patient who wants to return home but needs help in the community?

HST: I don't think there are a lack of services per se. To be truthful I don't know what services actually exist right now. But I know more are being introduced every year. I think the problem is there is often no will from relatives and patients themselves to return home, irrespective of the services offered in their own houses.

Interviewer: So there is no social support from relatives?

HST: Exactly. And this can be for various reasons. And perhaps sometimes their reasons are justified because it is not easy to take care of a frail elderly person in this day and age when everyone is working day and night. But the system just makes it too easy to just dump people into hospital and leave them there.

Interviewer: What changes would you make to the current system to counteract the effect of delayed discharges on MDH?

HST: Shifting care in the community seems to be the only viable option…employing government carers in people's homes and taking care of them there instead of in hospital. Of course this is in cases where no medical treatment is needed…purely for social cases. I think tackling social cases will solve a good chunk of the current problem. It is very difficult to do and it will take a political toll on whoever choses to do it

Interviewer: Thank you for your contribution

DFT 2

Interviewer: Good morning

DFT: Hello

Interviewer: Can you kindly state your years of service and your occupation

DFT: I am a nurse by occupation but am currently a part of the discharge facilitation team for 6 years.

Interviewer: What is the DFT team exactly? Can you briefly discuss its purpose

DFT: The DFT team function is to aid in the discharge process overall, but more particularly in cases where the patient are medical fit for discharge but cannot go home for whatever reason. The difficult cases I mean…social cases and these type of people

Interviewer: So your focus is the discharge process and discharge planning

DFT: Well, not exactly. In some cases yes. We have nothing to do with people who are going to be discharged to their own house. Well, that used to be the role of the DLN but somehow now we must do it because the DLN team has been removed. But originally our work only involved people who cannot be discharged to their own home

Interviewer: Ok. It seems you have a lot of information to share. Let's start slowly. You are referred to by a doctor or consultant correct?

DFT: Yes. We are called from the wards when a doctor demands our review

Interviewer: And what cases are called to review mostly?

DFT: First of all we can only be called when a particular set of criteria have been met. Doctors keep forgetting this…they confuse us with the DLN and with other health professionals and they immediately refer to us when they just think the patient will have difficulty returning home. For us to review the patient, first the patient needs to have been reviewed by a geriatrician first and declared not for rehab. A social worker review also needs to have been done before we come, and the patient needs to have been discharged from medical point of view

Interviewer: I see. So unless the patient does not meet these criteria you will not review?

DFT: No. In fact we ask the nurses for all this information over the phone before we come so we don't come for nothing. More often than not demands for review do not meet these criteria because the doctors don't know these things. And we end up not going.

Interviewer: I see

DFT: And then if these criteria are met there are other things that have to be in place. For a patient to be flagged for long term care he has to be not a constant watch for example or else he will not be flagged. This is a problem area because removing a constant watch is risky.

Interviewer: But isn't a constant watch part of the treatment?

DFT: Yes it is, and this does not make sense because what we are saying here that for the patient to be flagged for long term care part of the treatment has to be stopped then. And this is not right…very risky because if the patient falls or injures himself or others, who is going to answer for that?

Interviewer: Yes, I understand it does not seem to make sense I agree

DFT: Sometimes the constant watch status just cannot be removed because the doctor will not take the risk, and in that case he patient will not be flagged and ends up stuck in MDH for an indefinite period

Interviewer: That is not right

DFT: No it is not. What we usually do is remove the constant watch for 1 day, flag the patient and then resume the constant watch afterwards. Sort of cheating the system but for the good of the patient and the system

Interviewer: Ok so you get called on the ward and we are assuming all the criteria for flagging have been checked ok? How do you go about the flagging process?

DFT: The process can be simple or it can turn out to be a little complicated at times. It depends. We liaise a lot with the social worker and the geriatrician. And also the relatives as well. I mean, the geriatrician still has to decide what level of long term care the patient needs and this depends a lot of the level of dependency and the care the patient needs. The patients who need the most care are assigned to SVPR and the rest to various nursing homes. Not all nursing homes are equipped to take care everyone

Interviewer: Yes, I see

DFT: The social worker would have usually already communicated with the relatives and we also communicate with the relatives as well. The relatives a major problem for everyone sometimes because they don't understand the system and also they want to exploit it the best way they can. And in Malta the system is very easily exploited

Interviewer: How do you mean?

DFT: Well the relatives are not always keen on having the patient flagged for long term care even if they do not want him at home. This is because when the patient is flagged his pension starts being absorbed by the government and they can no longer cash it. So they try to delay the process as much as possible but we are on the lookout for such things because now we are well used to having these sort of problems

Interviewer: And how do you usually tackle these issues? I think they can lead to arguments

DFT: Yes, sometimes they do. Usually we manage to tackle these issues successfully but sometimes they have to be taken higher up and top management and even police have to involved sometimes. At times relatives also want the patient to be placed in a specific nursing home which is near their home so they will not have far to travel to visit the patient. We always tell them this is not possible and we, as DFTs, do not have control over this issue

Interviewer: All this I think contributes to delay the patient's discharge to a long term facility?

DFT: Yes this can take days and some cases even weeks because to settle these issues is complicated and care has to be taken that the relatives don't have anything to report us for. Unfortunately the system usually punishes itself by siding with the relatives rather than the health professionals and we end up fighting the system just for doing our job

Interviewer: Yes, I understand. This sort of reflect poorly also on the discharge planning process in DMH. What is your view on that?

DFT: Sort of yes. I cannot say we have a good discharge planning process here although improvement has been done as compared to a decade ago for example. But much still has to be done and the greatest problem in this regard is that the planning start being done too late along the patient's stay in MDH. It needs to start before

Interviewer: You said you and the DLN team have been incorporated together. How does that work?

DFT: The DLN's job is to take care of those discharges who are going to be discharge to their own homes but have somehow encountered difficulties that cannot be solved by CommCare. I mean they need more help to do the transition from hospital to the community. This often also involves hospice interactions, equipment in the homes etc… Some members of the DLN team have moved in with us and still act as DLN members but as DFT we also are expected to do this role. I think the DLN team was a very important step in the right direction and the improvement it brought to the discharge process was very big. It was a big mistake to weaken it and deplete it

Interviewer: Do you think that there is an excess amount of beaurocracy in your work, perhaps too much paperwork or repeated tasks etc…that hinder you from doing your job faster and more efficient?

DFT: Not really. I don't think so. It's not the paperwork that keeps us back mainly. It's more the relatives and shortage of staff on the part of social workers or occupational therapists mainly. Due to shortage of staff these health professionals can take many days to see the patient and we just cannot resume the process without them seeing the patient first. So the whole process ends up being delayed

Interviewer: Ok so there is a clear shortage of staff that delays the discharge then?

DFT: Yes, without a doubt.

Interviewer: Right so when the patient is finally flagged for long term care…then what? How long does it take to find a nursing home?

DFT: It depends but it takes long. Months many times. There are many factors that make the process take this long. First of all there are no beds in long term care…no available beds I mean.

Interviewer: So lack of beds is the primary problem?

DFT: Yes it is. But there are other factors I think. Especially when it comes to transfers to government facilities like SVPR. Union directives are very common that prevent new admissions from being transferred. Like right now they have not admitted patients in months…this negatively impacts the situation here where social cases start piling up and increasing in numbers. We have well over a hundred such cases at the moment.

Interviewer: I see

DFT: That's a lot of wasted beds.

Interviewer: What about rehab cases? Do they take long as well?

DFT: No, the situation is very much improved in the past months. Nowadays it takes about a week for them to find a bed in rehab which is very good. The problem with rehab cases is the time it takes to confirm they are for rehab because it has to be made very clear to the patient and the relatives that the patient will only be accepted for rehab if he plan to go home after the rehab is over. They are very strict about that

Interviewer: That's understandable. A thing that became clear from the research I carried out is the impact of the patient's relatives on delays in discharge. All of what you have said seems to be in line with this. In your view why are people so reluctant to take their elderly home?

DFT: That is very simple. Life today has changed. There is nobody at home to take care of them because everybody is at work. People's lives are busy. Of course there are cases where system is abused but u=in the majority of cases people genuinely cannot cater for the high dependency patients in their homes. Or even patients with dementia who cannot be left alone even for a minute. The ageing population is to blame for this and I think it will get worse in the coming years

Interviewer: Apart from social cases are there any other cases you are involved with?

DFT: We liaise with the DLN about other cases, yes. The work sometimes overlaps a little. We assist in cases where the patients need a lot of help to return to their homes for example. In some cases they needs equipment like hospital beds in their homes. We liaise with hospice but it is a complicated process and it takes a lot of paperwork and endless phone calls to do

Interviewer: That is very counter-productive. I would imagine such people need all the efficiency the system can provide so that they are encouraged more to take the patient home. I mean, they are doing the system a great service

DFT: I agree. For example right now there is a great shortage of equipment for the homes of people because the demand is so great. That leaves patients in hospital needlessly because the relatives are willing to take them back. In hospital then they end up increasing their dependency and maybe catching an infection and then becoming completely dischargeable to the relative's homes.

Interviewer: Do you think there are instances where health professionals delay the discharge process through their action or lack of action, or through something they do for their own work convenience?

DFT: That is very difficult to say. Even because some things we all know but don't talk about. There are instances where delays are happening through some degree of negligent behaviour from the part of medical professionals. They sometimes ignore our input or the input of social workers or occupational therapists during ward rounds. Or they sometimes ignore papers we leave for them to sign…it all makes the process take much longer.

Interviewer: But can this be attributed to lack of knowledge rather than negligence?

DFT: Perhaps…there surely is a lack of general knowledge of hospital protocol in general, particularly on the part of the medical professionals. Even nurses at times complain that medical professionals are not aware of medical related protocol changes throughout the hospital and they have to constantly remind them about such things. I think the problem is lack of knowledge through negligent ignoring of updating themselves about protocols

Interviewer: I see. One last question…what would you change to improve delays in patient discharge in MDH?

DFT: It is very difficult to make the big changes needed. But I would start by the small changes first. I would improve discharge planning so that whatever we have to do as health professionals we start doing it as early as possible during the patient's stay in hospital. I would introduce a compulsory section during ward rounds where the firm must immediately draft a discharge plan with tentative dates and everything from the very first ward round. They don't have to adhere to the plan and they can of course change it but at least a plan will be in place, even if it is rough and an estimate

Interviewer: Do you think you will have adherence to such a plan?

DFT: It is up to management to see that health professionals adhere to it. And it is not as if it is a difficult task involved here….drafting such a plan will take around 10 minutes at most by the firm. So whoever doesn't do it is because he doesn't want to do it not because he cannot

Interviewer: Thank you for your contribution

Geriatrician

Interviewer: Good morning

Geriatrician: Good morning

Interviewer: Please state your age and you occupation please

Geriatrician: Consultant geriatrician and 1 year of service in Malta

Interviewer: Briefly describe the nature of your work in MDH

Geriatrician: So, I see all patient who are over 86 years of age…

Interviewer: So there is an age limit?

Geriatrician: Yes, there is an age limit. And I cater for all the patients in that age group all over MDH. So all the patients in that age group are admitted under my care. Only a Wednesday by the way, because otherwise I will be swamped

Interviewer: Ok

Geriatrician: So I am on call once a week and everyone over 86 years of age is admitted under my care. Regardless of what they come in with

Interviewer: I think you have regular interactions with the DFT team and other health professionals

Geriatrician: My interaction is mainly with the DFT , other geriatricians to discuss rehab services, and then also with physiotherapists, OTs and social workers mainly

Interviewer: When you say other geriatricians you mean those who work in MDH?

Geriatrician: Yes those who work here. But they are also the ones who filter patients who are candidates for rehab

Interviewer: So you don't have anything to do with the geriatricians at SVPR and other hospitals?

Geriatrician: No. I have a clinic at SVPR but 99% I have to do only with MDH patients

Interviewer: When I chose you as a stakeholder I would imagine most of your work revolves around social cases in MDH or patients who are for long terms care…

Geriatrician: Not exactly, basically it's a mixture. Straightforward cases are those 86 years olds who come with an acute issue, you cure them and then you send them home or back to their nursing home etc…Those are easy and straightforward…they have a medical ailment and then they are discharged normally. The tricky ones are those who come in with a medical issue , we treat it and then basically they are stuck here waiting wither for rehab sometimes, or waiting to go into a care home because of whatever social situation they have that does not meet their needs.

Interviewer: So the process involves, for example when a patient cannot be discharged the process involves you meeting with other health professionals or?? How does it all work?

Geriatrician: So the way I do it usually speak to the relatives and see what they want and why this patient cannot go home. Then I take the feedback from the physio and the OT. Now as you know not

all wards have OT service and that is a big problem. So from the physio I know what the patient's baseline is in terms of dependency so we see if they can improve or not…

Interviewer: So you check this also with the relatives?

Geriatrician: No, because they may lie. So with relatives I only check to see what their intentions are. Because like for example in one case I had a lady who was here on holiday from France..she was 86 or 87.. she was on holiday and she was medically stable for discharge and the relative did not want to have her home. So all I did was I spoke with DFT….the relative wanted that the patient stays here for 5 months and then from MDH she will be wheeled to the airport to catch the flight back to France. So like that it was an unreasonable request. We spoke to the DFT and she went back home at once after a few days

Interviewer: Ok

Geriatrician: But if there are for example someone who cannot really cope anymore, like cases of dementia…and the husband could not take care of her and the relatives could not cope…that is a genuine case. The patient was not for rehab either softer speaking the Pt and OT the patient was immediately flagged for long term care by the DFT, after which a care home will be found for the patient as soon as possible

Interviewer: All right. And during this whole process…how long does this process usually take?

Geriatrician: Days usually. So I usually manage within 4 or 5 days I make a plan of where we are going. Then patient is flagged for long term care relatively fast but then it may take months before an actual care home is found…so the process is fast but it is useless without finding a care home equally as fast

Interviewer: I did some research and from the research it came out that there are a number of factors that usually prevent discharge from occurring in a timely fashion. I am now going to point out some of these factors and I would like for you to state how real these situations are in MDH from your experience as a geriatrician. Procedural delays…things that have to do without booking of tests like medical imaging tests and blood tests…and the waiting times needed for these tests to happen. Do you think these present a problem here?

Geriatrician: Yes, when it comes to X rays they are very easy to get but CT scans are especially hard sometimes, as sometimes I have patients getting to stay in hospital just waiting for the CT scan to be done

Interviewer: Do you think vetting is a problem?

Geriatrician: No its not the vetting process that takes long. It's the actual workload and queue there is at the medical imaging department to get a CT scan or an MRI done. So there is not a readily available slot for them and they take long. Vetting is easy

Interviewer: What about the beaurocratic system of the processes and maybe there are complicated pathways to get to some goal…for example needing multiple professionals to get something done to get an input on something…even in long term cases for example you need OT, Pt, Geriatririan….it takes time for the reviews to be done

Geriatrician: So what I had suggested basically, as a geriatrician I try to get a PT, OT and social worker attached to the firm

Interviewer: To your particular firm?

Geriatrician: Yes because I will need them most I think and such a request was flatly declined

Interviewer: Ok. That was not a good thing

Geriatrician: No….I still don't know why it was declined

Interviewer: In your view is discharge planning satisfactory in MDH…is it in dire need of improvement?

Geriatrician: It depends if you take charge of the discharge process. Once you see a patient you need to know where this patient is headed

Interviewer: From earlier on..

Geriatrician: Yes, from earlier on. You need to be thinking about discharge from Day 1 they are admitted. So some of them if they are coming from a care home I don't need to think too much about it because the care home is there to receive the patient when the patient is discharged…but if they are going from their own homes…and they are all over 86 years of age…I need to think about discharge planning very quickly. So on day 1 I immediately do a PT, OT and a social worker referral to get a baseline and a picture of the situation

Interviewer: So you refer on Day 1?

Geriatrician: Yes, on the very first day

Interviewer: Is that the way they work abroad?

Geriatrician: So basically when I worked abroad we were ward based, which helps a lot…so I had half of the ward and basically there is a meeting everyday with the PT, OT and social worker and you start planning discharged on the same day the patient is admitted. And also another thing which you have to factor in when it comes to a medial issue, you need an estimated discharge date So how long from my end, from a medical point of view do you think I will be able to get the patient medically discharged?

Interviewer: So they give you like an ultimatum?

Geriatrician: No. For example someone comes in with pneumonia…I go see this patient and by my estimate I think maybe I need about 5 days to get this patient stable enough for discharge. Or of you see a patient looking a bit better you say in 2 days he will be fine for discharge. And then the PT, OT and social worker…they start planning the discharge around that estimated date…so within that kind of time frame

Interviewer: I see

Geriatrician: Of course the plan does not always work…sometimes we exceed the time frames

Interviewer: But at least there is a plan

Geriatrician: Exactly there is a plan

Interviewer: In your view do you think there is some degree of conflict of interest on the part of health professionals. But conflict of interest I mean do you think patients are sometimes kept needlessly in hospital just waiting for particular tests just so as not to be re-admitted again? Do you think such things have an impact on delays?

Geriatrician: Honestly I don't do that at all. But I did have heard cases where some people do this kind of stuff. But personally I have never come across it personally

Interviewer: As regards when the patients are discharge which do you think is the most frequent cause of delays…when the patients are going for rehab or when they are waiting for a long term care bed?

Geriatrician: It varies a lot but in my experience to get them to rehab is much quicker than to get them to long term care home. Now obviously with the new directives I am pretty sure that there will be a long waiting list….union directives are coming and going all the time. But without directives I think, yes, getting to rehab is much quicker than getting to a nursing home.

Interviewer: What's the average waiting time right now?

Geriatrician: So for rehab I think the minimum I had was 3 days and the maximum about 2 weeks, which is decent I think.

Interviewer: A agree, yes. Abroad there were instances where for example the social services in the community…some of them…were penalised for not being efficient enough to cater for the needs of patients in hospital when they are discharged….therefore resulting in more re-admissions and long delays in discharge. First of all do you think there is a local problem with social services in the community in Malta…those who cater to patients' needs in their own homes?

Geriatrician: So I think in Malta, from my experience here and abroad the fact that we have CommCare is brilliant. They do a very good service and such services are unheard of abroad. You need very meticulous discharge planning there especially if you live in some distant rural village away from the cities. So in Malta we are very lucky to have this CommCare service. So that's excellent. What I think is needed is more health professionals like social workers in the community. Because what happens is that what we start in hospital we rarely can properly follow up in the community. And the social workers we do have in the community are very good but they are also few

Interviewer: Do you think there is good communication between health professionals in MDH and those in the community in terms of continuity of care and handover for example?

Geriatrician: I sincerely don't know. What I can say is that when I had people discharged home with continuous PT in their own homes…or social worker follow-up they say they do their handover. And to be fair I have not seen these people being referred back to hospital with mobility issues etc…so I think all in all the job is being done well in terms of health professionals liaising with each other between MDH and the community service. So although I cannot vouch for the system it the results seem to suggest that it is working well

Interviewer: In your view is lack of family support a major contributor to delays?

Geriatrician: I think more than lack of support it is the lack of realistic expectations on the part of relatives. I mean what the family really expects…

Interviewer: So they want the patient better than their potential allows?

Geriatrician: Sometimes they want them to have better baselines than when they came to hospitals. These are unrealistic expectations because in an elderly person it is very difficult to have big improvements physically. And also they have very unrealistic expectations of what can be provided in the community in terms of services. And even about the process of getting into long term care. So they think they can have it all many times and they want it very fast and they want it to be convenient for them all the time. That's why I think it is all very unrealistic

Interviewer: I see

Geriatrician: So for example many times you have elderly individuals who are referred to hospital and they are not that good vis a vis dependence. And the relatives as soon as the patient is in hospital immediately expect the patient to be transferred to a nursing home on the spot. This cannot happen because the patient has to pass through the proper process and there are waiting lists involved. And they do not understand that it takes time and that their loved one sometimes does not qualify for a long term care bed or even for rehab sometimes. I think this is a cultural problem mainly…the entitlement problem

Interviewer: Yes, I understand

Geriatrician: So it is also a general lack of information and education as regards what to really expect in such situations…perhaps they had been led to expect much more than the system can offer

Interviewer: One last question…..if you can to change something in the current MDH structure and work dynamic so that you would better off the delayed discharge situation what would that be?

Geriatrician: So I would identify the people who are frail and they all need to be placed in one specific ward, where these people will have access to PT, OT and social worker…and you have to have a person or a group of person who are proactive so as to speed them up the process as good as possible. But to have these people ward based is paramount

Interviewer: They have tried it in M8 I think

Geriatrician: True but there are over a hundred such cases in MDH at the moment …one ward is simply not enough I think. The reason I prefer them ward based is because you can dedicate a whole team of people to work all day on these cases and on these cases only. The process is complicated and very rough and you need attention. You will of course need a lot more PT, OT and social workers for this, and also geriatricians…but I think it would be worth it because think of all the empty beds it is bound to offer the hospital

Interviewer: Thank you for your contribution

Social worker 2

Interviewer: Good afternoon. Can you kindly state your age and years of service please

Social worker: 34 years old, ama social worker and have been for 12 years

Interviewer: Always in MDH?

Social worker: Yes. Well I have been for 15 years but 12 of them in MDH. Before I was in MCH

Interviewer: Can you please describe the nature of your work?

Social worker: We engage in service to patients and assist the situation socially. The refer patients to the services required and discuss with other teams and decide what is the best care plan for the patient

Interviewer: So you are referred to for a particular patient by the doctor?

Social worker: Yes

Interviewer: So the doctors refer to a specific patient. How do you proceed from there?

Social worker: We see the patient as see if he accepts our service because our service is voluntary

Interviewer: So what sort of help does the patient normally need? I mean the ones you get referred for

Social worker: For example how they can cope…most of the patient live alone. For example any sort of problems. Like for example homelessness, family problems, ageing problems. Or for example social isolation like you cannot cope on your own, even intellectual disability or physical disability.

Interviewer: So all those things that may prevent the patient from going home successfully

Social worker: Sometimes there are medical problems resulting in social difficulties

Interviewer: With which professionals do you usually liaise most?

Social worker: Nurses, doctors, OT, PT…those I think, because when a patient needs a visit from us, for example for an amputation, we do a home visit together. For example with the OT and apply for a special ID card and also apply for any special equipment at home etc… So the OTs are I think the main professionals we work with

Interviewer: When you have a patient who is not able to go back to his home do you interact with the geriatricians and DFT? Because those are also involved sometimes

Social worker: So the geriatrician assess the patient and decides if the patient can go home through rehab or else move to an elderly home. And then the DFTs come on board. They do a Barthel score and also an MMSE

Interviewer: And then you have a specific meeting about every patient or do you rather bundle them together?

Social worker: The DFT decides the plan. If the patient has a high Barthel score he would need to be kept in MDH waiting for a nursing home. If the patient has a good Barthel score but still wants to go to a nursing home the DFT assesses him. If the DFT decides the patient can cope with the community services the patient has to go home. So the DFT's job is to facilitate the discharge

Interviewer: What would you say are the main procedural delays that prevent you from completing your work in a timely fashion? I man can you think of anything during the course of this whole process where unnecessary delays hinder you from getting to a more timely discharge process?

Social worker: One very common problem is the lack of resources in the community. I mean here in hospital you have a lot of resources like nurses, doctors, physiotherapists and social workers. But when you go into the community you find nothing

Interviewer: So when you say resources it's human resources you are talking about?

Social worker: Human resources yes, but even medical things. Like equipment, we have everything here in hospital like the beds and physiotherapy equipment. But when you go to the community there is nothing

Interviewer: So they are not equipped in the community?

Social worker: No. Some patients have very specific needs. For example to get a bed it's a great hassle

Interviewer: A bed for the patient's own house?

Social worker: Yes, for example the patient needs a motorised bed like the one he had in hospital. To get a bed they either have to buy it or else they have to go through a lot of beaurocracy. For example it takes roughly 3 months to get a bed. They have to apply for subsidy and sometimes they have to pay out of their own pockets. And these beds are very expensive. The transition from MDH to the community is very big when we are talking about these things. And the beaurocratic procedures and the paperwork involved is very complicated

Interviewer: So what other equipment is lacking in the community?

Social worker: Every equipment…hoists for example. Nobody can afford to buy this equipment and from MDH they take it for granted that it is available

Interviewer: And at home they don't have this

Social worker: No because they have to apply for it and it takes months to apply

Interviewer: So even through Hospice for example it also takes months?

Social worker: Hospice is an entity but they cannot cater for everyone. They mainly cater for beds for cancer patients. And even then you have to go through a booking system. But not all patients can be referred to Hospice. They sometimes apply through Support

Interviewer: Another agency?

Social worker: Support is an agency which helps people with disability. So those people, even the elderly, who have a disability problem…they need a bed at home, a proper bed for pressure sore prevention etc.. Even the CommCare nurses do not assist them in getting this equipment. For them it is not feasible. So they normally ask the relatives to buy a bed

Interviewer: Out of their own pockets?

Social worker: Yes. It takes months to get a subsidy

Interviewer: Does the CommCare not take care of these things then?

Social worker: No, CommCare just go and help with services like bathing etc… CommCare have a lot of work to do. They work from 7am to 5pm and they have all of Malta to take care of

Interviewer: I see

Social worker: And I think this is why we have so many social cases

Interviewer: In your view, how common is it to have patients stuck in hospital simply because they do not have equipment for their own homes? You have a lot of these cases?

Social worker: This is only one of the problems. There are other problems. Equipment is one of them. And this equipment problem results in losing all the work done by health professionals while the patient is in hospital, like the work done by physiotherapists and nurses in MDH. If in the community there are readily available equipment and human resources you can have continuity of care. So I think lack of proper community services are a very real problem.

Interviewer: As regards getting patients to rehab or long term care, do you think there are any pitfalls that make the process take longer unnecessarily? For example problems with health professionals or the process itself

Social worker: No, not really. I mean I think the process works well. The only problem is I think that doctors need to know who they must refer to specific situations. Sometimes they refer to us unnecessarily. For example we do not take care of the home relocation process. The geriatrician takes care of that

Interviewer: Out of habit perhaps?

Social worker: Yes. When a patient comes from a nursing home the geriatrician needs to asses whether the patient can go back or needs relocation. We do not decide such things as social workers. Even for relocation for SVPR for example. So we need to properly inform health professionals who to refer to and when. Not to refer to everybody. DFT, geriatrician, OT, social worker…This I think is what mainly leads to unnecessary delays. You have a lot of unneeded referrals and role confusion on the part of doctors

Interviewer: So this is the main reason for procedural delays in your opinion?

Social worker: Yes. Because it takes time to realise this mistake. And then you have to explain it to them etc. It is a waste of time

Interviewer: To what extent do you think the lack of long term care beds impact delays in discharge? Do you think there is a problem in this regard? Preventing patients from leaving MDH when they should?

Social worker: I think the problem is there is only one nursing home that caters for patients with medical problems, such as Oxygen and NGT feeds etc…

Interviewer: So only SVPR?

Social worker: Yes. The others offer some degree of care but many times they are very limited. Many times when people in nursing homes need Oxygen therapy they come to MDH. Even for a simple IV line and antibiotic course they come to MDH. They have no choice

Interviewer: So these homes are not equipped? Except for SVPR?

Social worker: No they are not. We need other nursing home that are equipped with Oxygen and some nursing staff. So during the night there is no medical support available, so whatever happens they have to come to MDH.

Interviewer: To what extent do you think that lack of family support contributes to delays?

Social worker: It affect it a lot

Interviewer: And I would imagine you have first hand experience with this sort of problem

Social worker: Yes. Some people have absolutely no support at all. And then everything gets more complicated. I mean, even to get a proper form for POYC or a follow-up for an outpatient appointment…for many elderly people these are complicated processes. I mean nobody instructs you how to do these things. And there is a lot of paperwork to do and many people don't even know how to read. Yes, lack of family support can have a very negative impact on these things

Interviewer: So in your view many processes, like the POYC one you mentions, and getting round MDH in general is over-complicated?

Social worker: Yes, especially for people who are elderly, illiterate and who are not familiar with hospital procedures. Many things that to us are obvious are not obvious to outsiders

Interviewer: If you had to change something in the whole managerial dynamics in order to decrease unnecessary discharge delays in MDH what would it be? As a social worker I mean.

Social worker: I don't know. Maybe to be more humane. We do a lot of work here but it does not reach outside

Interviewer: So perhaps more focus on the community and community services?

Social worker: Yes, that's it I think

Interviewer: Thank you for your contribution

Geriatrician 2

Interviewer: Good morning

Geriatrician: Good morning

Interviewer: Please state your profession and years of service

Geriatrician: Consultant geriatrician for 13 years

Interviewer: You are stationed specifically in MDH?

Geriatrician: No. I rotate between MDH and KGH mainly, and sometimes SVPR too but not a lot there

Interviewer: Can you briefly describe the nature of your work?

Geriatrician: My work primarily involves patients who get consulted for me by the firm. I assess these patients and consult with the allied health professionals about them. From MDH I get a lot of consultations and I am also stationed a lot in KGH

Interviewer: The rehab hospital?

Geriatrician: Yes

Interviewer: My main area of study is delayed discharges in MDH. I am interviewing stakeholders in the discharge process to get a wide range of viewpoints. I interviewed another consultant geriatrician but he seems to vary a little from you in job description because he gets admissions and is only stationed in MDH

Geriatrician: Yes that's different. And it's a new thing. I mean normally before only my type of geriatrician existed

Interviewer: Well this is better because I can get both of your viewpoints

Geriatrician: Yes

Interviewer: All right. So you get consulted on the wards by the patients' firm right?

Geriatrician: Yes, I get called by nurses for a consultation on the wards in MDH. I usually review the patient on the ward and ask the nurses about the patient's dependency levels etc… I also talk to the patient on the ward

Interviewer: So you get your first input about the case immediately

Geriatrician: Yes, sometimes when you review the patient you immediately know how much they have to offer

Interviewer: Roughly how long does I take you to review the patient after you get the consultation?

Geriatrician: Normally I would review the patient on that very same day or the day after. Unless it's a feast day or a Sunday. We do not work on those days

Interviewer: I see. So when you review the patient on the ward you decide something?

Geriatrician: It depends. Sometimes I am able to decide immediately if the patient is fit for rehab or not. For example if the patient is very high dependency and is in a very bad medical condition I am at

once aware that the patient is not fit for rehab and I immediately write this on the file so the firm is aware of it at once

Interviewer: so the firm can know it has to pursue other pathways

Geriatrician: Exactly. It saves time this way

Interviewer: And if you find that the patient is in a good state?

Geriatrician: I very rarely accept a patient for rehab there and then. There are so many factors to consider and as rehab beds are very limited we have to be very careful about who to accept

Interviewer: So how do you go about it?

Geriatrician: I usually ask the input of all allied health professionals. So the physiotherapist, occupational therapist and social worker. The input of these people is very important for me to base my decision on it. Because many times it does not only depend on the patient.

Interviewer: What do you mean?

Geriatrician: It means that sometimes even if the patient is fit for rehab, if the relatives are not prepared to take the patient back after rehab then the patient cannot be accepted all the same. As you know when patients are accepted for rehab the agreement is that they go back home afterwards

Interviewer: I understand

Geriatrician: Unfortunately sometimes things are very complicated. So it is better to take precautions so these things do not come up later on

Interviewer: So you seek input from these allied health professionals first

Geriatrician: Yes. From the physiotherapists and social workers mostly. So I order a referral for both of them, or anyway I leave a note in the file for the firm to make a referral

Interviewer: Do you think there is excess bureaucracy and redundancy in this process?

Geriatrician: I think so, yes. Because I have to continually refer to the patient's firm and cannot just lead the process myself. It would be much faster if I did.

Interviewer: so how long do you reckon it takes for these health professionals to review the patient after you leave a note for the firm to do a referral?

Geriatrician: It depends. For to five days perhaps after which I would have to be called again to review the patient again and see what these health professionals input was. Usually the physiotherapist would have left an overview of the patient's potential and dependency levels and the social worker would have contacted the patient's relatives and communicated also with the patient. I would then know what the social situation and the intention of the patient and the relatives are

Interviewer: I see. And then you would be able to decide if the patient is a candidate for rehab or not

Geriatrician: Yes in most cases. In some cases multiple reviews are needed

Interviewer: How long does it usually take for the patient to be transferred to rehab once you accept him

Geriatrician: I would say one to two weeks. Things have improved a bit in this regard.

Interviewer: So you don't have much bed shortage in rehab?

Geriatrician: Yes we do. But we are very strict to adhere to protocols and we almost never keep patients there beyond their stipulated timeframe and discharge date

Interviewer: That is good. Would you say there are any procedural delays from MDH that hinder this process from happening in a timely manner?

Geriatrician: Not really, except perhaps the waiting for the firm to have the patient fir for transfer medically…but that is nobody's fault

Interviewer: What about when you don't accept the patient for rehab?

Geriatrician: From my end I don't get involved with the patient anymore until the DFT flags him for long term care

Interviewer: And that usually takes some time I think

Geriatrician: Yes it takes a bit of time because the process needs input from almost all allied health professionals. It involves a lot of assessment with MMSE and Barthel score and a lot of to and fro with the patient's relatives

Interviewer: It seems like a messy process

Geriatrician: Yes. And it also has a lot of criteria that have to be met by the patient's firm as well. The patient must be medically discharged for example, must not be on constant watch etc…

Interviewer: So the process to get a patient flagged is quite long

Geriatrician: Yes it gets a bit long because there are a lot of things involved.

Interviewer: So when the patient is finally flagged for long term care you get called again?

Geriatrician: Not immediately. But I have regular meetings with the DFTs and social workers on patients very frequently. During these meetings we discuss every flagged patient one by one and together we discuss which type of nursing home is best for him according to the Barthel score and the medical and dependency support needed.

Interviewer: I see. So not all patients are placed wherever when it comes to nursing homes

Geriatrician: No because not all nursing homes are equally equipped for patient care. The patients who need most medical care are placed for SVPR admission

Interviewer: Because SVPR is the most equipped?

Geriatrician: Yes

Interviewer: Does it take long for flagged patients to be transferred to nursing homes?

Geriatrician: Yes, it normally takes months for the transfer to happen

Interviewer: Is that due to lack of available beds?

Geriatrician: Yes there are never any beds. And there are also other problems, even in SVPR like union directives and problems with relatives as well when they want a home relocation

Interviewer: You are involved in home relocation processes as well?

Geriatrician: Yes, we hold meetings about these as well. Relocations are a bit complicated and take a lot of time

Interviewer: Why would relocations be needed?

Geriatrician: It's either the home is not able to cope with the patient anymore or else the relatives do not want their loved one in that home anymore. So the patient can get stuck in MDH

Interviewer: That is not good

Geriatrician: No, but when it is the relatives who want the relocation the firm and the DFTs insist that the waiting process takes place in the nursing home not in MDH because this may take weeks or months. But when it is a relocation to SVPR for example the patient has to be kept in MDH for a very long time until it happens. And sometimes patients pass away in MDH before the relocation actually happens. It takes that long

Interviewer: That is very unfortunate. In your view to what extent do you think relatives hinder the whole discharge process to rehab or nursing homes?

Geriatrician: Relatives can play a part to hinder our work but we try not to let them affect the process too much. Even though they sometimes go beyond the system and talk to people higher up, and then bypass us and get what they want all the same. It does not happen as often as it used to but it still happens.

Interviewer: I understand. And do you view a general lack of family support to be responsible for the ever increasing number of discharge delays and social cases in MDH?#

Geriatrician: I don't think it's a lack of family support. More like the family just cannot provide for the elderly in their homes due to lifestyle. Sometimes there are cases of abuse and neglect but overall I think the problem is everyone is at work and there is never anybody home to take care of the patient.

Interviewer: And do you think community services in Malta are adequate to cater to the needs of patients in their own homes? Do you think lack of proper community services contributes to delays in discharge?

Geriatrician: In some aspects yes. But I don't think it's because there is a lack of services. It's that the demands are extensive and people abuse the system a lot sometimes. So the services are ok…but the entitlement of the people is a problem

Interviewer: And what about the discharge planning process in MDH? Would you say it has pitfalls in your view?

Geriatrician: Well, there are pitfalls, yes. Problem is sometimes the process of both rehab or long-term care is started a bit late I think and so the patient is kept in MDH needlessly after medical discharge. The earlier the firm refers the patient the better so that there is more chance for all the processes to be completed by the time the firm is ready to discharge the patient

Interviewer: That makes sense

Geriatrician: And it would be faster if consultations were done online for us rather than by phone. It takes longer, or papers get lost or sometimes phone calls get forgotten or something. Online is always better. I think social workers and OTs already got a system like that

Interviewer: Yes, I think so. Do you think it would be more efficient online than on paper then? You would need good IT support for that

Geriatrician: If good IT support is in place I think it would definitely be a better option

Interviewer: Would you say you have a good communication channel with the pertinent health professionals you liaise with?

Geriatrician: Yes I think we make a great team. Of course there are limitations due to staff shortages for example. But for example the patient meetings we have are very productive and we have great teamwork between us

Interviewer: If you had the power to change anything in the current system dynamics in order to bring about positive change to delays in discharges, what would it be?

Geriatrician: There is a lot to be done. I would think revamping the nursing homes would be a very useful change…I mean making the nursing homes more equipped to take care of even more acute patients. Old people are sent to often to MDH from nursing homes just because they cannot cope with even the smallest of medical problems. They need more help. If they can deal with some basic stuff it will greatly help both with MDH admissions as well as with the relocation problem.

Interviewer: Thank you for your contribution

DLN

Interviewer: Good morning

DLN: Good morning

Interviewer: Can you state your occupation and years of service please?

DLN: Discharge facilitation nurse for the past 8 years

Interviewer: What does your work entail? Briefly I mean

DLN: We help the discharge of patients…help with transfer from MDH to home. We try to make the process easier by seeing if there are any difficulties and trying to solve these problems.

Interviewer: I chose your profession as a major stakeholder in the delayed discharge phenomenon mainly because of your impact on the discharge process

DLN: I see. Yes we are very much involved in the discharge process

Interviewer: Let's start from there then. What are your views on the MDH discharge process? I mean, how do you think it fares?

DLN: I think it is very messy. And very complicated in many cases. I don't think it's the fault of anyone…many times the situations are complicated

Interviewer: So I assume you get called to the wards when the situation is complicated?

DLN: They confuse us a lot with the DFT…doctors confuse us a lot. The DFTs are involved when the patient is for long term care. They flag the patient for long term care. So they are only involved when the patient is not for discharge. We are involved when the patient is to be discharged to his own home but there is something that may be making it difficult. The doctors keep referring us and the DFT by mistake

Interviewer: I understand. So you are referred when the patient has difficulty in going back home. What kind of difficulties?

DLN: It depends. Many things are tackled by CommCare, like services for bed-bath, nappy change or treatment administration. We get more involved when the difficulty mainly involves social problems. For example sometimes the patient is not accepted for rehab and he is not accepted for long term care. But the patient may still not want to go home or the relatives don't want him to go home.

Interviewer: Yes, I see. So this becomes a problem

DLN: Yes it is a very common problem. Especially problems with the relatives who sometimes dump the patient in hospital and do not want him back home. This is where we are involved. Because if the patient is not for rehab or long term care and is also discharge from medical point of view then he has to go home. We talk to the relatives and sometimes to the patient and we find an agreement by organising certain services involving CommCare and other services. But sometimes we do not manage to agree. And here we sometimes have arguments with relatives and patients because they cannot stay in hospital

Interviewer: All these processes take time I think

DLN: Yes, it depends. Sometimes yes it takes us days and even weeks to go through the proper procedures. Because you have to be careful because these social situations are very delicate and relatives may take advantage and get you into trouble. They sometimes accuse you of being cruel and say they will hold you responsible for anything that will happen to the patient at home. We are used to these threats by now but it is hard to do your work like this

Interviewer: I can imagine. Does hospital management support you and your decisions?

DLN: Again it depends. Yes, we are following hospital policy when we do this, even when we have to call the police to physically remove the patient from hospital sometimes and take him back home. But many times we are fighting a lost battle because the relatives may bring the patient back again to the emergency department the following day and have him admitted. Or sometimes they talk to some politician or some other person high up and when they do this they get their way

Interviewer: But that does not make sense. It looks like the system is defeating itself

DLN: Yes, exactly

Interviewer: And does this happen often?

DLN: Not very much, no. But when something like this happens we feels like clowns. It is very de-motivating

Interviewer: Yes, I understand. All this greatly hinders and delays discharge

DLN: Yes, sometimes while all this is taking place the patient ends up needing medical care for something new and we have to stop the whole process

Interviewer: I see

DLN: However I think doctors sometimes are very de-motivated to follow on these things

Interviewer: What do you mean?

DLN: I mean, look…doctors know that if the relatives do not want the patient at home they will manage to refuse him. Our system is not good…it lets people abuse it very easily and people know how to do this very well. So many times doctors just let relatives and patients have their way and the patient is kept in hospital for a very long time

Interviewer: Yes, but without receiving any medical care you mean?

DLN: Well they may keep him on some IVI or something, but they keep referring the patient to geriatricians and social workers until the patient gets somehow accepted for long term care.

Interviewer: That is a problem. You interact much with social workers?

DLN: Yes, sometimes. But more with social workers in the community than the ones in MDH. Because sometimes we agree with them to visit the patient's home before we send him there. That's why sometimes the process takes a lot of time

Interviewer: I understand. Do you find that there are delays that can be attributed to the complicated pathways in the system, which involve a lot for example, repeated tasks, a lot of paperwork and beurocracy, for example needing a lot of different people or health professionals to do something

DLN: Paperwork is a problem sometimes. For example when we have to organise for the patient to have domiciliary Oxygen at home. You need paperwork from the consultant, and I think it has to be a

respiratory consultant. Then we have to organise the service and then the relatives have to arrange with the pharmacy and also with the cylinder company. It can take days. And the patient cannot be discharged before we are ready. So the patient has to be kept in hospital…even because sometimes some equipment is not available…like for example Oxygen concentrators…these may not be available for weeks or months. The patient has to be kept in hospital

Interviewer: Does this happen often?

DLN: I think so, yes. It is a bit common

Interviewer: What about local community services? Do you think they are enough for the needs of patients or are they responsible for discharge delays?

DLN: I think yes. I mean the needs of patients vary a lot. CommCare does a lot. Sometimes I am surprised how they can cope with such big demands

Interviewer: But do you think patients are kept in hospital just because there are no community services to cater for them?

DLN: Perhaps in some cases. But I don't think it is because community services are not enough. In my opinion I think is it more because patient's needs are so vast. You cannot meet them…I mean no amount of community services is ever enough

Interviewer: So you think they are adequate?

DLN: Yes, I think so

Interviewer: In your view would you say the COVID pandemic has somehow impacted your work? Vis-à-vis having more delays in the discharge process?

DLN: It depends. Of course the pandemic has changed the way MDH functions overall so more or less everything…I mean everyone was affected. From a DLN viewpoint I don't think the pandemic affected us a lot. Except pf course for those patients who were due to be discharged but could not due to quarantine periods in MDH

Interviewer: So you are talking bout that period…the worst part of the pandemic

DLN: Yes. Now things are much better because if the patients are in quarantine they are often send to finish their quarantine period at home

Interviewer: So they are not kept in hospital just for quarantine

DLN: Exactly. So except for that I don't think we were much affected. I am not saying that discharge delays were not affected by the pandemic, just the work of the DLN

Interviewer: I understand. DFTs and geriatricians expressed concern regarding patients waiting for long term car and to some degree waiting for rehab in MDH. I know these don't fall under your responsibility but do you think MDH suffers from delay problems in this regard?

DLN: Yes. It always has and I think always will. I think this is a problem in all of the EU. It's the ageing population. That's why I am disappointed that the DLN service has been greatly reduced in the past few years

Interviewer: You mean you have less staff?

DLN: Yes. The service itself was almost stopped. In fact a number of DLN nurses have been transferred to administer antibiotic treatment in the community….the HAT service. This is also a very good service but so is the DLN.

Interviewer: I see. Why was the DLN service reduced?

DLN: I don't know for sure. I mean it had something to do with no funding. I think the service was only planned to be offered for a number of years and then it would no receive any more funding. If I am not mistaken the DLN service started in 2012. It has been of great help because both nurses and doctors think that the DLN is very important to improve the discharge process. But about 2 years ago the service was going to be stopped and in fact we were going to be divided into HAT nurses and the rest to be amalgamated with the DFT team

Interviewer: I see. But you still do the DLN work right?

DLN: Yes. The DFT said that taking care of the DLN work was too much for them. And they are right. So a few of us were allowed to do the DLN work. But we are very few and the demands are very high. It is very difficult for us to keep up with the workload. I think the DLN work is more important because it focuses on sending patient back to the community. MDH is always suffering from a lack of beds…and social cases are a big part of that problem. So almost stopping the service is a big mistake in my opinion

Interviewer: Yes, I see your point. Did you make all this known to hospital management?

DLN: Yes, but they know about this…no need for us to tell them. But in MDH hospital management works in a world of its own and small employees are rarely ever consulted about anything. Even as far as when the hospital was being built, nurses were always telling management that MDH is too small and that many problems would arise if no more beds were added. All employees were ignored and since MDH opened I don't know how many ward areas and beds were added to the hospital to try and get enough beds. And we still don't have enough days up to this day. It is very frustrating for us

Interviewer: I understand your point. In your view does MDH have a re-admission problem…with discharged patient, a good proportion of them, being re-admitted within a few days or weeks after discharge?

DLN: From my point of view as a DLN I think yes, there is a re-admission problem

Interviewer: What would you say is the main reason for this?

DLN: It depends. From the patients we see there are many reasons. I think old people are mainly re-admitted this way. I mean there are exceptions but mostly the re-admissions we see as a DLN team are the elderly

Interviewer: And why does this happen in your opinion?

DLN: Mostly it's because of chronic medical conditions…like heart problems and respiratory problems. Even though sometimes relatives re-admit because they want patients to stay as social cases. You recognise these cases because they often are admitted with loss of consciousness, falls or chest pain but are in fact social cases.

Interviewer: And doctors admit them?

DLN: I don't think they have a choice. And many doctors are afraid not to admit. Plus the relatives know that if they say chest pain the patient would immediately be admitted…no questions asked. Some years MDH had decided to eliminate CPK tests and take Troponin tests instead for chest pains so

patients would be discharged at the emergency department if the blood test for angina is negative. But we are treating Troponins like CPKs now so it is all pointless.

Interviewer: So you think most re-admissions are abusive in nature?

DLN: It is very difficult to say how many are genuine and how many are abuse. Perhaps I see these cases more and so I think the problem is bigger than it is.

Interviewer: I understand. How about patient's relatives? Do you think they have an impact on discharge delays from your point of view as a DLN?

DLN: Yes, yes without a doubt. Especially in our work relatives have a big impact. Many times they are the major reason a patient is discharged successfully or if he remains in hospital indefinitely. Most than the patient's say the relatives' say is much more important

Interviewer: Do you think patients are socially isolated by their relatives? Especially the elderly?

DLN: Yes. It depends but overall I think yes. And I don't think it is anyone's fault. It is just today's lifestyle…nobody has the time or the resources. Of course there are cases of abuse but there are also cases which are genuine

Interviewer: Yes, I see your point

DLN: It is all very complicated and every case is different

Interviewer: If you had to change something in the current MDH dynamics to improve the current state of discharge delays what would it be?

DLN: From my ends as a DLN?

Interviewer: No, in general. What do you think needs changing?

DLN: I honestly don't know. Some changes have been done over the years like our service and the discharge lounge for example…and I think they have improved the discharge process…even other things like speeding up the discharge letters for example. The problem is I think the hospital is always working in a crises state with crises management, and it is very difficult to do change during a crises. And the COVID pandemic makes it even more complicated.

Interviewer: So you think change cannot be done before we resolve this constant state of crises?

DLN: I think it is very limited how much you can do a change at this time. Of course improving community care and the care of patients in their own homes is always a good idea to prevent social cases and have more beds available.

Interviewer: Thank you for your co-operation

DNM1

Interviewer: Good morning

DNM: Good morning

Interviewer: This interview will address delays in discharge and I want you to provide a strategic outlook on this issue. I have interviewer both tactical and operational stakeholders already. Can you kindly state your age and years of service please

DMN: I am 48 years old and have been a DNM for the past 8 years. I am a nurse by profession for 20+ years

Interviewer: Have you ever encountered the term delayed discharges? I mean…do you know what roughly the term refers to

DNM: Yes I think I do. It's those discharges that are delays for many reasons, sometimes also unnecessarily

Interviewer: Yes. You are correct. How many departments have you currently got under your supervision? And what type of departments are they?

DNM: I mainly have medical wards under my care, 4 or them. And also a specialised cardiac unit

Interviewer: I see. And what does your work consist of?

DNM: I mainly communicate with ward charge nurses and monitor leave and over time issues. I also assign staff at the start of the day to those wards who woke up with shortages due to sick leave etc… My work also consists of being there ward managers in cases where difficulties arise that they cannot tackle by themselves

Interviewer: Do you also communicate regularly with higher management?

DNM: Yes, we have regular meetings between us DNMs and higher management. We also have regular meetings for the charge nurses under our care, both on a 1:1 basis as well as having the charge nurses meet for meetings every couple of months or so to discuss certain issues and problems.

Interviewer: I see. And these meetings help a lot I should imagine

DNM: Yes. They are relatively a new thing. We have been having them for the past 8 years or so only. It allows everyone to voice opinions and compare situations regarding problems and issues. As management we hope they allow charge nurses to better communicate with their seniors and their peers, and also for them not to feel alone in this place

Interviewer: How much of a reality are delays in discharge on a day to day basis in your view?

DNM: I don't have direct contact with patients and I do not spend a lot of time in ward settings because my work is purely managerial. However I get plenty of feedback from charge nurses during meetings and even on a day to day basis many difficulties that arise are evident of this problem. The problem is I think multi-faceted, meaning there are many reasons for it

Interviewer: Yes, I think that is true.

DNM: The most common thing I get is when the bed management unit contact me and tell me that a certain unit needs to clear their discharges as soon as possible to be able to receive patients from the A+E department. They would have already contacted the unit's charge nurse and the charge nurse would have told them the unit is not ready to receive patients yet. I then contact the charge nurse and we discuss the problem.

Interviewer: And what sort of problem does this entail most commonly?

DNM: The usual problems are usually the discharge letters are not ready yet, or the transport has still not come to take the discharged patient away. Or sometimes it's the cleaning service taking too long, especially when rooms need ultraviolet before receiving new patients. Many times charge nurses have very good reasons not to receive admissions from the emergency department because the unit is simply not ready yet

Interviewer: So what do you do in this case?

DNM: I communicate back with the bed management unit and explain the situation. And that's that. There is nothing that can be done. The bed management unit sometimes chose to phone transport themselves or the cleaning services themselves in order to put added pressure on them to speed up the process. Or sometimes they even phone the specific doctor to speed up the discharge letter process

Interviewer: I see

DNM: Sometimes we can also instruct units to make use of the discharge lounge but may times this is not possible because the patient is too much dependent to be taken there

Interviewer: In your view what procedural delays are most responsible for delayed discharges if any?

DNM: From my end the main problem with delays in discharged is the social case problem. I am saying nothing new here I think. There are way too many social cases in wards, especially medical wards. Most medical wards consist solely of social cases

Interviewer: Are such cases exclusive to medical wards? You experience different settings. What do you think?

DNM: No they are not exclusive to medical wards but medical wards are by far the most burdened by them. By far. I mean, most social cases are under medical consultants. I think the way patients are placed under which consultants is not a correct way in MDH. It seems like the medical consultants get all the patients all other specialities do not want.

Interviewer: You mean social cases?

DNM: I mean cases which nobody wants. Yes, social cases for sure. Because no firm wants them as they are not sick in any way, they just have nowhere to go

Interviewer: So as regards procedural delays you think getting social cases out of MDH is the main problem?

DNM: Yes. There is simply no space in nursing homes and rehab facilities. And patients get stuck here for a long time. Months sometimes.

Interviewer: Do you discuss this issue in the management meetings DNMs have with higher management?

DNM: Yes we do. But it is something that we cannot exactly control because it has to do with CEOs of MDH and other facilities discussing the issue between them, and even with the health minister. I mean as DNMs and even the bed management unit there is little managers like us can do

Interviewer: I understand. Charge nurses have expressed difficulty when it comes to the discharge process and also with the admission process…I mean the way patients are admitted from emergency department. Even some doctors have expressed these concerns. In your view, do you think the admissions and discharge processes bring about discharge delays in MDH?

DNM: It's not such an easy question to answer. Because there are a lot of variables involved. But I think yes the discharge process is surely to blame. I mean I get calls from charge nurses sometimes who tell me that certain patients have not been seen by their consultants for a number of days…true they would be social cases but still when the firm does not see the patient the whole process comes to a stop. And of course they have a lot of problems with other health professionals like social workers, geriatricians and occupational therapists.

Interviewer: You mean the discharge process is flawed because there are problems with a number of different professions?

DNM: Yes, I think so. I mean a patient is admitted and as soon as a problem not related to the medical condition of the patient crops up the process stalls immediately. As soon as doctors ask for a social worker or geriatricians or occupational therapist the process immediately gets much longer and more complicated. Of course these professions may have a lot of staff shortage issues involved so am not blaming the people here

Interviewer: So still, you seem to think that the discharge process gets inefficient when it comes to social issues of patients. Not with the actual medical care.

DNM: Yes I think so. It's that the feedback from charge nurses always seems to involve social issue problems. I am not saying there are not delays in other issues but the feedback problems is always about social case issues. Even the bed management unit feedback to us is always about such things.

Interviewer: Would you say there is a lack of protocols about the discharge process and the admission process?

DNM: Yes, MDH professionals need clearer guidelines to go by because especially in the admission phase at the emergency department health professionals always go by what they think is safer and what does not get them in trouble

Interviewer: Yes, other stakeholders seem to share your thoughts on this issue. Do you think delays in discharge impact negatively the emergency department? And in your view, does the emergency department form a central part of the problem by admitting patients that do not merit admission?

DNM: I cannot presume to know how to do the work of other health professionals. I am a nurse by profession. All I know is that once a patient is admitted and he is in the system then it is very difficult to get the patient out of the system if he or his relatives do not want to leave. I mean, that's why the DFT and DLN services were created. The amount of social cases are on the rise because of the elderly population and this problem is getting bigger everyday. I am sorry I keep getting back to social cases but I think these problems are responsible for most of what is wrong

Interviewer: I understand. The general literature seems to point towards bed blocking problems in most EU countries abroad, with such cases being mainly responsible for them. In your view do external

factors such as lack of proper community services contribute a lot of delayed discharges in the local setting?

DNM: That's not the impression I get during charge nurse meetings or everyday problems. I mean of course community services can be improved…that's can always be done. But I don't think patients are stuck in hospital because there is no community services to cater for them.

Interviewer: So external factors related to services are not a problem in your view. What about external factors related to lack of beds in nursing homes and rehab facilities?

DNM: Yes of course there is a problem there. It's why we have the social case problems here. Especially when they are with union directives that prevent them from admitting new patients in these facilities. And union directives like this are not uncommon….happens roughly twice a year or so.

Interviewer: I imagine the impact on MDH and your work is huge when that happens right?

DNM: Yes of course. MDH gets impacted more than usual. There is simply no place where to place new admissions from the emergency department. It impacts the bed management unit greatly and we immediately get alerted by out seniors about these situations. What we usually do is start calling firms to just discharge patients by priority to make room for more urgent cases, which is very risky but what can you do? I think such union directives are very irresponsible…I mean I understand the need for directives but come on, it seriously harms patients

Interviewer: I understand. These are extreme situations and call for extreme measures.

DNM: Exactly

Interviewer: How would you say the COVID pandemic impacted your work and delays in discharge?

DNM: I think COVID impacted everyone and everything. I mean the whole hospital changed. The work changed, and the way we do things and the way things are done. Wards changed and nurses found themselves doing work they had never done before. COVID changed everything I think.

Interviewer: What, in your view was the impact on COVID on the delayed discharge problem?

DNM: Yes without a doubt. The swabs needed to do anything slowed the whole hospital a lot. Not to mention the fact that the hospital was divided into MARPA and GMA areas, and still is. This setup resulted into a lot of wasted space and so the problems we had before became worse because the number of beds decreased.

Interviewer: I see

DNM: For us as managers things changed a lot as well. Even the way we assign nurses to specific department and the way patients are placed in relation to other patients. The bed management unit reported to us very difficult situations while nurses I think in all ward areas found a lot of difficulties when assigning beds to particular patients due to stringent infection control protocols

Interviewer: So if I understand correctly COVID had a very specific impact on bed allocation….but what about delays? Was the patient's journey in your view slowed down?

DNM: Yes I think it slowed down work greatly. Mainly because of having to swab patients for everything and also because of quarantine periods that have to be catered for and get the patient stuck in hospital for additional days. At least now the restrictions are much less since the vaccine came out but in the worst of COVID the situation was very stringent and it was hell

Interviewer: I see. How is the quarantine situation right now and how much does it impact the hospital? And how about the swabbing thing?

DNM: It is much better since the vaccine. Even nurses on quarantine for weeks on end has stopped. That was a huge headache to us because we used to have whole wards without staff and you can do nothing about it. The delays in discharge were very big…now it's better but COVID still continues to cause chaos in the hospital dynamics because the hospital is still divided into MARPA and GMA and there is much wasted space still and therefore the social case problem is much more felt now

Interviewer: Yes I understand. So as a DNM your wards have felt the impact of COVID?

DNM: Without a doubt yes. But now it seems to be much better. At least we no longer have quarantined staff all the time so we can staff wards sort of adequately. In all fairness I don't agree with the current COVID protocols because we are still swabbing patients and putting them in quarantine, even if with no symptoms. It slows down the work a lot and now everybody has the vaccine and COVID numbers are under control and COVID deaths very rare. I mean, what was the use of the vaccine if the hospital is all the same being subjected to these things which greatly delay every process and block beds for weeks.

Interviewer: I understand your point.

DNM: Even we have a lot of new areas to put nurses into in the morning and we just don't have enough staff. If these COVID measures are relaxed and things get back to normal some of these areas can be closed

Interviewer: So would this be something which in your opinion needs to change in the current hospital dynamic? Do you think it contributes a lot to delays?

DNM: Yes I would change it. I would only swab patients if symptomatic with fever etc…it would improve work so much and yes it would help to prevent delays in discharge as well

Interviewer: What else would you change in the current system to improve delays in discharge?

DNM: I would improve the discharge lounge capacity and criteria so that more patients can be sent there…even perhaps do an area there where they can accept bed bound patient who are those patients who take longest to discharge because they require transport arrangements. You will need more staff of course and better organisation but I think it would be worth it.

Interviewer: Yes, that makes sense. Anything else you would change?

DNM: I don't know…there is not one single thing that is causing the problem of delays. But I think we should start from the simplest solutions and then work our way to the more complex ones. It is useless to try and solve problems that would take a long time to tackle and ignore the easy tasks.

Interviewer: Thank you for your co-operation

DNM2

Interviewer: Good morning

DNM: Good morning

Interviewer: Can you please state your age and years of service?

DNM: I am 54 years old and have been a nurse all my life. I have been a DNM for the past 12 years

Interviewer: Can you kindly describe the nature of your work?

DNM: I don't have one specific task but I am entrusted with taking care of a number of departments and ensure that through communication with charge nurses these departments run smoothly.

Interviewer: And which wards are you currently entrusted with?

DNM: Right now I have a mix of surgical and medical wards. But we rotate every couple of years or more. I had the emergency department at one point and even a number of specialised wards as well. So I have been through a number of situations

Interviewer: I see. This interview will be about delayed discharges and how it affects patients, staff and the hospital in general. Are you familiar with the term delayed discharges?

DNM: Yes I think so. It's delays in discharge of patients…I mean things that make the process take longer without the need for it

Interviewer: Yes. That's it. I have carried out some interviews with a number of stakeholders that have input on this subject and I have also delved deeply in the general literature about this topic. I want to get an idea from you from the point of view of a higher manager and a strategic view.

DNM: I understand yes

Interviewer: The literature has shed light on a number of problems in the area. How real do you think delays in discharge affect your work?

DNM: Well I don't work directly on the ward areas so the amount of information I am able to provide, I mean the exact knowledge and the small things I will not be familiar with. But I communicate a lot with charge nurses and also with nurses sometimes. I think delays are very common and there are various types and you cannot blame one thing for them

Interviewer: Ok. Let's try and tackle this one issues at a time. Literature focused a lot on problems related to procedural delays and work redundancy for health professionals across the board. How real is this problem in MDH in your view and how is it connected to your role as DNM?

DNM: From the feedback I get from the people under my care I think both these issues exist a lot in MDH. I mean I also communicate with PDNs as well as ward staff and both seem to agree that paperwork has increased a lot and some tasks are complicated to do and you have to pass through many processes. I am not sure what procedural delays you are referring to. But some processes do take a long time to do and without doubt result in delays to patient discharge. Some tests perhaps and COVID swabs as well and getting a patient ready for flagging for long term care etc…

Interviewer: Yes, medical imaging delays, lab delays, theatre delays….all these were mentioned in the literature as well.

DNM: I don't know about labs and medical imaging but theatre delays are for sure a reality here. There a many reasons for this but emergency orthopaedic theatre seems to be the worst as we have many complaints from patients and health professionals about this. Patients are kept starved every day for a week or more until a slot is available. This creates problems of infections and other complications for patients, prolonging patient stay by a long time

Interviewer: This is not good

DNM: No, not good for anybody. We as managers have a lot of problems because of this.

Interviewer: Do you think it is linked with a faulty discharge process?

DNM: I don't think we have a proper discharge process thing in MDH. I mean, the process does not have guidelines or protocols and health professionals have nothing to go by and also doctors don't really seem to care about this. Even though things have got better in recent years

Interviewer: So there is improvement?

DNM: I think so yes. We have DFTs and DLNs now and the role of the social worker etc…is increasing which means the discharge process is being given much more importance. I think higher management have been realising how severe the social case problem has become and how much people's social lives impact their hospital stay and prolonged that stay

Interviewer: I understand

DNM: It's a very complicated situation sometimes

Interviewer: Do charge nurses under your care refer to this discharge process as a problem or refer to you with difficulties because there were discharge problems that was beyond their authority?

DNM: Yes, sometimes they do, mainly when it comes to social cases not wanting to go home when they are discharged or when relatives refuse to take the patient home. These are very common problems and usually we call the DFT or DLN to help out.

Interviewer: So the discharge problems you mainly get reached out for are mainly concerned with social cases and problems related to people not wanting to go home when discharged?

DNM: Most often yes. The fact is during the patient stay little is done to prepare the patient for the difficulties to when he gets discharged home and then when the day of discharge comes along we suddenly realise that the patient does not want to go or cannot go or the relatives have problems with him coming back home.

Interviewer: I see

DNM: Charge nurse also say that the process of getting a patient flagged for long term care is a very long one and it involves a lot health professionals and is very bumpy. This leads to a lot of delays and patients sometimes deteriorate and have to be treated for nosocomial infections while they wait for the health professionals to review them. At least now nurses report that the process of thinking about discharge is starting very early in the patient's stay, which is good news. But like I said there are no protocols or guidelines in place and firms all abide by different standards so there is no consistency to this process

Interviewer: I see your point. So from your words I can deduce that you regard social cases as being a major problem that directly contribute to delayed discharges in MDH

DNM: Yes of course. The problem of social cases is well known and I think it has been here for a very long time. Only now it is a bit worse…must be the ageing population and the difference in social support from families because nobody can take care of the elderly anymore

Interviewer: Yes that's a problem I agree

DNM: There a lot of social cases everyday in MDH. The bed management and other managers…we have meetings together, sometimes with higher management as well. And we discuss issues and the social case issue is almost always mentioned, most particularly by the bed management unit. Because for them this problem blocks beds and clogs whole ward areas who cannot receive admissions because patients cannot be discharged and make space

Interviewer: How big of a problem is bed-blocking in MDH in your view?

DNM: I think it's a problem yes and I think it all comes down to the social cases. They mostly block beds here. And for a long time

Interviewer: Apart from the social case problem do you think there are other reasons for bed-blocking and why do such delays exist?

DNM: Of course there are other reasons and for us sometimes this bed-blocking problem indirectly affects us as managers because bed management unit put some pressure on us to put pressure on wards to get some problems out of the way. Some beds are I think also blocked by patients waiting for some particular procedure which they could easily have waiting for at home. I mean they are kept in hospital just to speed up the process because from home the waiting list will take longer

Interviewer: I see. And what sort of procedures does this involve usually?

DNM: I think mainly it is small theatre procedures or some medical imaging procedures such as MRI and these things.

Interviewer: So the firms keep them here for this?

DNM: Yes. Not saying the firms themselves are to blame. I think they do it for the good of the patient in the end but it does affect the bed blocking problem in the hospital where every bed counts unfortunately

Interviewer: Have you ever been in a DNM over the emergency department?

DNM: Yes I have in the past

Interviewer: I want to get an outlook on this issue because the general literature has shown that delayed discharges directly affect emergency department overcrowding and they clog it up. Do you think this is a true statement?

DNM: Without a doubt yes. And it happens on a daily basis. I think this has to do more with those delays that occur on the day of discharge as well. Like for example delays in having the discharge letters done quickly or the transport delays or having bed cleaned on time etc… This all impacts the emergency department which finds itself with no more room to process new patients. That's when they phone me

Interviewer: I see. And what do you do then?

DNM: Usually the DNM in charge of the emergency department is either contacted by the emergency department itself or by the bed management unit and we are informed that there is a problem with

wards taking their assigned admissions due to their not being ready from prior patients. The DNM will phone the wards and check with them about the problem. The problem normally is that the patient is still waiting for a discharge letter or for transport

Interviewer: So these are the most common causes?

DNM: Short term yes. And I think these are the most relevant on a day to day basis. And it usually happens in the afternoon when new admissions collide with the discharged patients after the ward rounds. This is a daily problem that we all have to deal with and sometimes it reaches very bad situations because there is just nothing we can do. As managers we may chose to try and speed up transport and cleaning but many times there is nothing we can do but wait for the discharged patients to leave

Interviewer: From the interviews I have already done some stakeholders shed some light on the fact that wards sometimes try and cheat by not reporting their discharges earlier on so as not to get admissions. Do you think this is a reality?

DNM: Unfortunately yes. I think it happens. It's that the hospital is unfortunately not properly united in a teamwork environment. It's like everybody for himself. And there is no proper monitoring of real time bed status of wards so if they chose to lie on their bed status there is not really any way to check on it unless you physically chose to go to the ward and check yourself

Interviewer: And this is not done? I mean there is nobody to actually monitor the wards?

DNM: I think it's impossible because we don't have enough managers to do it. At least when discharge letters are done now the bed management unit actually are notified by their computer systems but still there is plenty of room for abuse. It's one of those things we cannot do anything about I think.

Interviewer: As managers do you meet between yourselves and discuss issues related to delayed discharges? I mean I know you have regular meetings between you and you discuss issues that pertain to problems in your departments and in the hospital in general but what about delays in discharge? Do you discuss this sometimes?

DNM: I don't think so we directly talked abut delayed discharges. I mean we discuss problems related to it like problems with the emergency department taking too long to get admissions to ward and wards taking too long to have their discharged patients out. And we discuss the social case problem as well very often because it directly affects everything we do, especially the bed management unit.

Interviewer: What about external factors like nursing/rehab beds or perhaps community services or lack of them. Do you think this greatly affects the delayed discharge issue here at MDH?

DNM: Nursing home beds are for sure a problem because most social cases end up staying in MDH for weeks or months. Almost all charge nurses under my care complain about this to me almost every day, where there are wards almost completely made up of social cases. Especially medical wards. I am not sure about rehab beds but nursing home beds for sure.

Interviewer: Do you consider community services to be enough to cater for discharge patients? Do you think patients sometimes get to stay in hospital because there is not enough community services for them?

DNM: I am not sure but for sure patients sometimes get to stay in hospital because they either have no family support to take care of them or else the family simply does not want to take care of the patient. Which can be because of many reasons. But charge nurses never complain about not there

being enough community services…the CommCare services I think do a very good job. Not sure about the other community services, I think sometimes they take too long to organise perhaps or take some time for them to start

Interviewer: I understand. So in your apart from the nursing home bed space problem there are no other external cause of delayed discharges in MDH?

DNM: Not to my knowledge, no I think

Interviewer: If you had the opportunity what would you change in the whole current hospital system to counteract the effects of delayed discharges?

DNM: That's a difficult question. I mean increasing nursing home beds might be a short term solution but I don't think it will solve problem long term. Keeping patients in their own home by providing support and help to them might be another solution but then again, it can create problems with relatives about it because people may not want outsiders in their homes.

Interviewer: What about inside the hospital system itself? Is there anything you would change?

DNM: I would remove the current COVID restrictions and at least make the hospital return to its normal, which is also not good but at least better than the current situation. Most people are vaccinated now, both staff and patients, so COVID has somehow become en-par with normal influenza cases etc… The current MARPA/GMA dynamic is so wasteful of bed space and the COVID swabs and the quarantine patients…I mean why are we still doing this? It doesn't make sense I think. Swab patients if they symptomatic etc but that's it….even to go to nursing home they have to be swabbed, think of all the delays this produces

Interviewer: I understand your point. Thank you for your contribution

Director1

Interviewer: Good morning. Thank you for this opportunity

Director1: Good morning

Interviewer: My thesis revolves around delays in patient discharge in MDH and how this impacts various factors identified by the general literature as being particularly prone to be affected. I would imagine you are familiar with the term delayed discharges.

Director1: I am, yes.

Interviewer: I have interviewed a number of health professionals in MDH, from different managerial strata and now I would like to have the view of top management as regards this phenomenon in MDH

Director1: Ok. Well…this issue is multifactorial. Might as well as start by telling you that MDH has no policy to set a discharge date on admission. I mean we have situations where a patient can get admitted for an appendicectomy and get kept in hospital for 5 days while another one with the same condition gets sent home the following day. So we do not have a length of stay protocol which results in a lot of waste of bed space

Interviewer: I see

Director1: Treatment administration in the community is also a very known shortcoming. I mean we can manage twice daily dosage administration but not the 'tds' drugs because we simply do not have the staff for it

Interviewer: You are talking about the HAT initiative?

Director1: Yes. There are a lot of staff restrictions and I would like to see more nurses allocated to this effort because this initiative contributes a lot to vacate beds and decrease length of stay of patients. But we cannot invest more on the HAT service for now

Interviewer: How come the HAT service falls under MDH management and not primary health care?

Director1: That's a question I ask myself everyday. Yes this service for whatever reason falls under MDH management. It's just the way the system is built…a system of silos and such.

Interviewer: I see

Director1: We also have a problem with the Home help service, especially when it comes to the social work department. The social department is simply not delivering the service, maybe due to short of staff I don't fully know. But we are trying to get this department to delivery on all days of the week, even on weekends and public holidays etc…

Interviewer: So right now social workers work on office hour days?

Director1: Yes, basically yes. And of course we have the long-term care issue.

Interviewer: Yes that is evident from the input I have had from other stakeholders

Director1: Yes we have a big problem with long-term care beds mainly due to lack of space in nursing homes and rehab facilities. The family demographics have changed in Malta and people no longer take care of their elderly mainly because women have gone out working and are no longer at home.

We are essentially victims of our own success…it has backfired on us. The carer at home scheme is not very successful because people do not like strangers in their houses and they prefer the elderly to be in a hospital rather than at home with a carer

Interviewer: I did not know that. I thought people preferred to have the elderly in their home, provided there is someone to take care of them

Director1: No that is not the case

Interviewer: I understand. Would you say that work redundancy makes a part of your daily work life and in the typical life of a health professionals in MDH? For example some health professionals mentioned the LTC flagging process taking too long due to many health professionals having to be involved in a certain order etc…

Director1: Yes that is very true. The social workers and the geriatrician take a long time to review the patient and the flagging process takes long to do. I am all for the charge nurse of the ward flagging the patient rather than the DFT because it saves a lot of time and it is in the interest of MDH to flag the patient as quickly as possible because it saves on bed waste and also on finances.

Interviewer: Charge nurses? I never heard that before

Director1: Charge nurses are the most informed about the patient, even the social life of the patient outside the hospital, things related to relatives etc… I think charge nurses are in a very good position to do the job, better than the DFT many times who may not know the patient that well, or the situation of the patient

Interviewer: Yes that could be an idea

Director1: Of course sometimes the relatives get themselves involved in the whole process and they delay it even further

Interviewer: Would you say that some health professionals have conflict of interest sometimes when it comes to not discharging patients home and delay their stay in MDH?

Director1: Yes I think that is the case in many occasions. This is mainly because sometimes consultants are threatened by relatives that if they discharge the patient home and the patient dies then the consultant will be to blame and they will seek legal opinions. For example once we had a patient who died shortly after discharge…something that could have happened to anyone, any patient…and we had big trouble to staving off the accusations which were baseless but serious nonetheless

Interviewer: I understand

Director!: This is very complicated sometimes.

Interviewer: What are your views about the discharge process in MDH? In relation to delayed discharges that is

Director1: Well the discharge process must start on the first of admission. We need an algorithm, a plan sort of. For example a fracture hip patient can be organised as a plan according to age group. A 40 year old hip fracture patient has different needs than an 80 year old patient with the same condition. Some need rehab more readily than others. Even rehab beds are a problem…they turn out to be a bed blocker. And we must remember than the longer we keep the patient in hospital the more dependent they get. And then they take even longer to get discharged. Even because of other medical complications

Interviewer: Yes, I understand. This makes sense

Director1: Unless we do a framework for certain procedure that will guide health professionals to carry out the same pattern of management…some already exist but we need more for a wider array of procedures

Interviewer: What about the emergency department? Literature has showed that the impact of delays on the A+E department is very significant in terms of overcrowding and blocking of the department. Some doctors even reported feeling unsafe to do their work properly at the emergency department because for example they are afraid to discharge the patients home

Director1: Yes I have heard these things before. This is a complicated issue. During COVID doctors did not have the admission wards anymore as these became a part of casualty so after COVID passed doctors are still reluctant about discharging patients. Now we have re-opened the admission wards but doctors are still very cautious about discharging patients because sometimes the situation is difficult. Even for example if a patient is waiting for a Troponin result the patient will wait in the admission ward where he will hopefully be sent home when the result is out

Interviewer: So do the doctors at the emergency department have some sort of checklist or a template they can use to admit a patient. For example if the patient does not meet certain criteria they cannot be admitted. Do they have anything to use as a guideline?

Director1: Yes, in a way. I mean the consultant on call is always one phone call away if needed for consultation and opinion but may times the doctors just admit the patients and allow the consultant to take the decision next day during ward rounds. I think they do not see the big picture.

Interviewer: I see. I understand. What about community services? The literature has pointed to this issue as a contributor to discharge delays in research abroad. Do you think this is the case in MDH?

Director1: Yes, I think so. They are not enough I think. And it is not simply the services. I mean the meals on wheels for example exists and works ok. But the patients need more than the service in their homes…they need more than the service not to come to hospital again. They need people, the human presence

Interviewer: I see. And you think this is lacking?

Director1: Yes it is lacking. They either need the human presence or they need to know that people are but a phone call away. For example in day care with the day surgeries, patients are very often reluctant to be discharged home the day after surgery. They tell you what shall I do if I have pain or I encounter a difficulty. The fact that they are told that a nurse will check on them the following day or that they can phone with a difficulty at any time, or better yet that somebody will phone to check on them. It helps a lot and it makes people feel safe and it makes them not mind staying at home rather than in hospital

Interviewer: I see your point. That makes plenty of sense

Director1: Even the Hospice service works like that. People phone you regularly at home to see if the patient needs something and even the family needs something, like psychological care etc. I mean it really helps people to know someone is there, a phone call away to help if needed. This helps a lot to keep people out of the hospital and it saves a lot of bed space

Interviewer: So the services themselves are adequate in your opinion, but they should be strengthened by more human resources?

Director1: Yes that's it

Interviewer: In relation to this is the issue of family support, or rather lack of it. Stakeholders seem to agree that this contributes to delays in discharge greatly

Director1: Yes, yes of course. I mean as we already discussed the family structure has changed and women are working now and there is simply nobody at home. People can hardly find the time to cope with taking care of their own kids, much less of an elderly relative. I think lack of family support contributes a lot to patients having to stay in hospital because there is nobody to take care of them at home. This also relates to the lack of a point of reference for patients in their homes…to some sort of government funded support system that is simply there to help the patient in his daily life and makes him take courage to stay at home. A person or a group of people as we already discussed

Interviewer: Yes I understand. And would you say that when relatives say that they cannot take the patient home and have to leave in hospital it is out of a genuine situation or do you think most want to just abuse the system and get rid of their elderly relatives in this way?

Director1: We get people from all situations. I mean, we do get people who want to abuse the system of course. But I think all in all most are genuine cases that just cannot cope with the situation. The extended family does not exist anymore. Even in Gozo, where the extended family was very common a few years ago, we are now getting the same situation there where the elderly are also being frequently placed in nursing homes because the family members cannot care for them at home

Interviewer: It is not a nice situation. And the current ageing population does not help

Director1: Yes the ageing population is on the increase in all of Europe and in Malta as well of course. I mean I imagine myself sometimes if the situation of these people and it is not easy to make a decision because it's tough to say to your loved ones you cannot take care of them and that they have to go to a nursing home

Interviewer: Yes I imagine it would be a tough decision. If you had to change something in MDH dynamics in order to decrease the amount of delayed discharges in any way, what would it be? It does not need to be in your capacity of director. I mean, anything at all

Director1: I would without a doubt push more to bring everyone on board to keep the elderly in the community. I mean I think this is the best way forward. I am talking about community homes, nursing homes and sort like day centres or night shelters. It has to be a combination of all these…so that the elderly will be covered 24/7 and will have the support of people 24/7. Nobody's place is at an institution. It's like with mental health patients…they don't belong in an institution. They belong in the community. Like in our street, where I live, there is a mental health centre where people come and go as they please, sort of…finding help and support there day and night

Interviewer: That is a very good setup

Director1: Yes. As I said, and I cannot stress this enough, it is important for people especially the elderly to know that there is someone to check on them in the community. They feel safe this way. Even relatives feel safe this way because many times the relatives cannot check on the patient themselves and even if they do they cannot leave their workplace at any time to support or tend to any needs of the patient whenever they arise

Interviewer: Yes I see

Director1: So to have them take courage and keep the patient in the community these shelters or centres, call them what you want have to be more available and have to work in conjunction with MDH, nursing homes and the primary care sector to really provide the patients with a viable option to keep living in the community. And therefore staying out of hospital, thereby saving on bed space

Interviewer: Thank you for your help.

Appendix 1b: Interview Questions

Interview questions (based on model derived from scoping review)

In patient care questions (ward managers/doctors/bed managers):

- Do you think procedural delays play a role in delaying patient discharge unnecessarily? Which procedures? Do you think such delays are justified or just the result of negligence/inefficiency?

- Do you think redundancy in work/beurocracy/complicated pathways in care provision/excess paperwork contribute to delayed discharges? Can you give examples?

- Research suggests faulty discharge planning is partly to blame for delays. Do you think this is the case at MDH? To what extent? Do you think the shortcoming is a result across the board or is there something/someone specific that causes it?

- Do you think interprofessional communication contributes to delays in patient discharge? Can this be linked to work redundancy?

- What do you think is the impact of patient age on the discharge process and the delays associated with it?

- Can you think of any strategy we can utilize/introduce to lessen the impact of delayed discharges? Short-term/long-term solution? Cheap one? Can these studies be applied locally?

- Do you think that conflict of interest on the part of health care professionals may contribute to delayed discharges? Physicians vs rest of the multi-disciplinary team?

- Do you think delays In in-patient discharge is directly responsible for bed blocking, and to what degree? Are there other factors that affect this phenomenon more than delays in discharge? To what extent is bed-blocking a problem in mdh?

- Do you think delays in patient discharge can directly cause A+E overcrowding, and to what degree? Are there other factors that you think contribute more to this problem? Is A+E overcrowding directly related to bed-blocking? Does one cause the other, and is this the primary factor causing it?

- Do the above two factors results in waste of money for the hospital, and to what degree? Do you think delayed discharges exert a major financial impact in MDH?
- Do you think increased re-admission rates are a problem in mdh? And do you think re-admission rates contribute to delays in discharge and in turn to bed-blocking (are

these factors connected and do they cause each other?) Is there any field that such occurrences take place more than others?

Post-discharge phase questions (dft/dln/bed management):

- Do you think that delays in discharge are more prone to increase due to inadequate social services in the community to help people in their own homes? (such as services related to CommCare etc…) From your experience how true is this statement?

- Do you think social services in the form of monetary compensation for both patients and relatives in the community contribute to delays in patient discharge? Do you think more can be done in this regards in the local setting?

- Do you think penalising social services for delays in finding adequate accommodation for delays should be introduced in Malta?

- Where do you think lack of beds in rehab hospitals/lack of nursing home space score in their contribution to delays in discharge? Do you think lack of family support plays a role in this as well, and to what degree? Do you think that changing local family life/dynamics play a role in less family support?

- Do you think much other problem is age-related and the direct result of an ageing society? How does this link itself to insufficient family support?

- What do you suggest is the best plan of action? Do you think the answer lies in the admission phase or the post discharge phase? Or both?

- Do you think the DLN/DFT service is adequate to counteract the impact of delays in patient discharge as a result of inadequate community care/nursing home/rehab space? What is the main problem hindering from reaching your goals?

Appendix 1c: Non-Participant Observation

Time	Comment
7am	Handover given and reports opened. Patients assigned (5 patients: with CPAP, one with nor relatives at home, SOB pt, chest infection, CHF)
8am	Nurses helped patients with GNC. Parameter round done. Homeless patient asked for relative's numbers but he could provide none
8:20am	CPAP patient seen by firm: bloods and treatment reviewed
10am	Pt with no relatives seen by firm: Treatment reviewed. S/W informed. No formal plan yet. DLN said they are not involved. Pt with CHF seen by firm: Treatment reviewed. For Disch the following day. Pt with chest infection seen by firm: Samples ordered. Treatment reviewed.
10am	Porter booked for dental review.
11am	S/W came to review patient. Patient was at CT scan. To review again later.
11am	Nurses did treatment round
MD	Nurses went for break (halving the staff compliment for the next 3 hours)
1:30pm	Porter came for dental appt (4 hours after)
2pm	Pt came back from dental appt with nothing done as doctor had left. S/W came again and suggested a geriatric review so DFT can see and flag the pt for LTC. Pt on CPAP to be transferred to ward. Ward informed and handover given. Bed not ready yet.
2:30pm	Patient with SOB disch at 10am, discharge letter done at MD. Transport booked and came at 2:30pm. Pt left ward now
3pm	Pt with chest infection had ENT review. Porter paged at 1:30pm, and came at 2:30pm. Review was cancelled.
3:30pm	Bed ready for CPAP patient. Porter booked to transfer patient.
4:15pm	Porter came for patient to take him to ward. Nurses did parameter round. New patient coming from A+E. Handover given and patient given go ahead to come
4:30pm	New patient admitted. Nurse disseminated treatment

Time	Comment
7am	Handover given. Reports opened.
7:30am	Started bed-bathing. 2nd day post-op patient appendix due to fly today, 1st day post op appendix with drain, one still waiting for DFT review and flagging DMPOV, 1 patient on fluids/IVI for ? theatre, 1 patient with pneumonia
7:45am	Bed baths ready and ward settled. Parameter round started.
8:30am	Post op day 1 pt s/b firm: fluids + light diet. For ? disch day after,
9am	Post-op day 2 pt s/b firm: remove drain and disch home. Fit to fly after 4 days. To do disch letter later on
10am	DFT still cannot be reached for the 4th day in a row. Dpt managers contacted to obtain guidance. 2nd day post op pt vomiting profusely. Firm informed.
11am	Firm saw pt with pneumonia…disch today acc to bloods. Decision was taken for vomiting 2nd day post op pt: to be kept in hospital. DNM phoned back and informed us to write an email to contact DFT
MD	Pt for ? surgery disch home. Disch letter done now.
1pm	Pt left the ward for home. DFT finally contacted and informed about the case. They said they will review pt later.
2pm	Pt 2nd dat post op still vomiting. Given stemetil. New admission is accepted: phoned for him at 1:30pm. A/W handover. DFT pt to be transferred as per BMU. Ward informed and handover given. No empty bed in ward yet.
2:05pm	Admission came into ward (septic shock) and settled from KGH
3pm	Ward transfer is done as bed is available. Parameters round started.
3:05pm	Porter called and he came to transfer pt 5 minutes later.
3:15pm	BMU phoned for admission to be placed instead of the transfer. A+||||E informed to provide handover.
3:30pm	Casualty phoned and gave handover, instructed to bring pt to ward. Pt came up to ward 5 mins later.
4pm	Nurse prepared and gave out treatment

Time	Comment
	Sunday
7am	Handover given. Pt with CHF, social case/homeless, social case/A/W OT, haematuria, dialysis with leg pain
7:20am	Started bed-bathing and doing GNC. Finished washings at 8:30am
8:30am	Ward round due only for new admissions. OT do not visit ward as they are short of staff.
9am	Parameters round done.
9:15am	Ward round came for CHF pt as she is new admission and cons does WR. Changed Abx and diuretic
10am	Nurse came back from break. No beds available for trans of OT pts for review. Doctors on call came to do ward round, take bloods and print labels for samples
11am	Nurse prepared treatment. Treatment given. Ward handover given
MD	Nurse went for break
1:30pm	Nurse came back from break. No new changes to her patients
2pm	Bed management informed us that the OT review pt will not be transferred today as no beds available
3pm	Pt with haematuria to be admitted to ward. No transport porters on feast days so ward staff must do it, making it slower. 6 transfers to be done to other wards.
3:45pm	Haematuria pt transferred to other ward. Nurse started parameter round when she came back from transfer

Time	Comment
7am	Handover given. GI bleed admitted during handover – re-admission from 1 day before
7:15am	Pt settled in bed. Transfusion could not be started as no X-match from A+E. Firm review patient and treatment change done. Blood and X-match taken by 7:30am.
7:30am	X-match sent – to trace it and transfuse 4 units rbc. Nurse finished handover and started with reports
8am	Ward round started and pts : 1st day abscess removal, 3rd day post app, pt from kgh with pain and sepsis, pt post tx
9am	Blood transfusion pt had treatment changed. Transfusion not yet available. Nurse went for break.
940am	Nurse came out from break and took handover. Post transfusion pt discharge later on. Day 2 post app due for disch mane. Post op 1st day abscess to be kept in ward for now with some change in treatment. KGH pt disch from surgical POV
10:20am	Doctor came to do discharge letter for a pt disch at 9am. Nurse did parameter round and then prepared treatment.
MD	Pt transfusion pt had disch letter done. Transport booked – pt left at 1:30pm b y bus because he was tired of waiting for transport. Nurse went for break.
1:30pm	Pt left and transport cancelled. Nurse came back from break. Septic pt went for CT brain (booked at 10am)
2pm	Phoned for BMU to transfer 3rd day post app pt to ward.
2:10pm	Ward contacted. Handover given. Porter booked
2:20pm	Patient transferred to ward

Time	Comment
7am	Handover given. Nurse opened and reviewed night reports
7:30am	Started with bed-bathing. Have pt for gynae review, another who is medically discharged and waiting for DFT r/v, another who is unable to go home and awaiting SW r/v and Ger r/v, and 2 post app pts
8:30am	Bed baths ready. Awaiting ward rounds. DFT done through BMU. Nurse did parameter round and assisted through various ward rounds. Gynae review done after porter arrived after 10 mins
9am	Pt had geriatric review now.
10am	1 app pt for ? surgery and the other post app was done for eat and drink and had catheter removed. Not discharged yet
10:15am	Nurse started updating reports and preparing treatment
11am	Nurse helped with other ward rounds. Geriatric review done and pt for LTC. Awaiting SW r/v
MD	DFT still did not come to review pt although BMU informing them. Nurse gave treatment and went in for break
1:30pm	Nurse came back from break. Social worker r/v done and it was determined that MMSE suggested that pt could not love alone and firm must decide re:nursing home. Firm to be informed the following day
2pm	Post app pt had some question regarding fit to fly problem as he was Spanish. He was informed that hospital firms do issue this directive. Told to ask his personal doctor the following day
3pm	Parameter round taken and treatment prepared. New admission for transfusion as one patient was discharged (at 11am – letter at MD). New admission with anaemia for transfusion but could not start because X-match not taken at emergency
3:15pm	MO called to take bloods but X-match takes about 2 hours to get ready
5pm	X-match ready and transfusion started. No further patient turnover for the day

Time	Comment
	Sunday
7am	Handover given and nursing reports started
7:20am	Started with pt bed-baths and general nursing care. This lasted for 30 mins. Ward is full
9am	Parameters checked. Nurse went for break
9:40am	Nurse came out from break. Doctor on call came to ward to do some sundry tasks
10:30am	Ward round of new admission done and no new changed. Pt transferred under another consultant as he was under him in the past 6 months
11am	Another ward of a new admission was done. This patient was also transferred under another consultant for the same reason. No further care was prescribed.
MD	Pt needed a stoma nurse review due to high skin irritation. Nurse contacted stoma nurse but due to high workload the review will be done the following day. Nurse went for break
1:30pm	Nurse returned from break. No more rounds had been done. No transfers. No admissions
2pm	General nursing care done. Parameters and treatment prepared.
3pm	Portacath proficient nurse contacted in the morning came to draw blood and flush patient with portacath in situ.
4pm	Nurses gave out treatment. Mo on call called to chase bloods and prescribe warfarin
5pm	Bloods chased, labels printed and other bloods were taken.

Time	Comment
7am	Handover given. Patient filed a complaint during over because he said ortho team was supposed to r/v him the day before and they had not come. Ortho team contacted and reminded
8am	Ortho team came to review pt. Helped in bed-bathing of her pts. Reports opened and started waiting for ward rounds. One patient needed a review by stoma team
9am	Stoma team contacted. To review pt later. Patient awaiting SW review after he was seen by geriatrician who insisted that he cannot decide until SW comes.
10am	One of the patients was due for below knee plaster. Firm left but no plaster was done. Firm paged and doctor said he will bring he form later
10:30am	Firm brought form. Plaster nurse contacted and porter booked for plaster room. Another patient DAMA. Ambulance booked to take patient home (came at 1pm)
11am	Another patient discharged to ZCH. Discharge letter done. Nurse informed ZCH, family and COCF. Ambulance booked. There was a problem with removal of portacath needle as no nurses available. Found a nurse after 40 mins
MD	Geriatric and SW r/v not done. Due to be done on Monday (for pt waiting to see if for rehab or nursing home)
1pm	Ambulance came for pt. Bed vacated. BMU phoned re: new patient with chest infection. Handover taken from A+E.
1:30pm	Admission arrived in ward. Reason for delay: lack of porters to take patient from A+E to ward. Another patient discharged home at 1m: awaiting discharge letter. Culd not be taken to discharge lounge due to high dependency Another admission from emergency. No available bed yet. As it was going to take too long for patient to get to ward a negotiation between BMU and discharge lounge was reached to take discharged patient in order to vacate bed. Patient left ward for discharge lounge at 1:50pm
2pm	Bed prepared and nurse took handover from A+E
2:20pm	Admission came to ward and settled in bed
3pm	Evening round of parameters done. Nurse started to prepare treatment
4pm	Treatment given. No more room for admissions

Time	Comment
7am	Handover given and taken. Writing of nursing reports done and patient allocation done
7:30am	Started bed-bathing patients. Bathed 2 patients. Had an uncooperative case who needed follow up. Surgical doctors paged…said they will review the complaint during ward round
8:30am	Bed-bathing finished. Had patient for MOP2 appointment at 9:30am. Porter booked in advance to take him there. Nurse updated reports according to findings during washings.
8:40am	Patient was discharged by firm. Discharge letter to be done later. Patient sent to discharge lounge as he was independent. Bed vacated.
8:50am	Patient left ward for discharge lounge. Parameter round was taken
9am	Waiting for ward rounds. Poretr came for patient for his outpatient appt
9:10am	Ward round came but patient was not in ward (at appt). Doctors told us they will come to do round later on
9:30am	Nurse gave handover to her peers and went for break
10am	BMU phoned with an admission. A+E contacted and a patient was admitted 10 mins later. Firm contacted but they insisted since they were admitting the night before the specialist on call can see pt. Specialist on call contacted but insisted that cardiology on call will see the pt because he should have been admitted under their care. Bloods needed to be taken.
10:20am	Another ward round was done and new treatment was prescribed. Pt came back from MOP2. Firm paged again to do ward round. Ward round done at 10:45am…patient to be transferred to another ward
11am	Only one out of five patients left for ward round. Nurse started to prepare treatment
MD	Nurse went for break
1:30pm	Pt still waiting to be transferred to another ward due to no bed available. Another pt had her urinary catheter removed. A new patient waiting for a bed in A+E
2:30pm	Contacted by receiving ward to transfer pt. Porters contacted
3pm	Nurse updated reports and paged doctor on call for a blood level. Admission seen by cardiology and bloods taken by on call at 3pm.
3:30pm	Pt from A+E relocated to another ward as porter still not come to transfer pt and bed not available
4pm	Nurses started parameters round and preparing treatment. One of the patients was discharged (ward round had been done at 11am). Discharge letter was done and he left the ward at 5pm
4:30pm	Porter came to transfer patient to another ward and an empty bed available .
5pm	Nurse gave out treatment after parameter round.

Appendix 2a: AEP Model

Section	Item												
Medical Services	Procedure in operating room today												
	Scheduled for procedure in operating room the next day (requiring pre-op consult/evaluation)												
	Scheduled for procedure in theatre (or other intervention) on the day												
	Medical imaging procedure on the day												
	Pre-operative control of a medical condition prior to a surgery												
	Any test requiring strict dietary control												
	Referral to another speciality unit today												
	Essential close monitoring by a doctor/nurse on a daily basis												
Nursing/Life Support Services	Respiratory care – intermittent or continuous respiratory support or inhalation therapy including chest PT												
	Parenteral therapy including continuous/intermittent fluids or treatment												
	Essential vital signs monitoring by nurses												
	IM or subcut injections (excluding insulin) at least two times a day												
	Input/output measurement required by doctors												
	Major surgical wound or drainage care												
Patient condition factors	Inability to void or move bowels (more than 24 hours) not attributable to neurologic disorders												
	Potentially serious condition suspected (such as a head injury - up to 48 hrs from admission)												
	Transfusion due to blood loss												

ECG evidence of acute cardiac condition (such as ischaemia or life-threatening arrythmia)											
High fever of more than 100F if patient was not admitted with fever											
Low GCS scores (especially if newly developed)											
Acute confusion (not alcohol or drug related)											
Acute haematological disorders (such as anaemia, neutropenia, thrombocytopenia etc…)											
Occurrence of a new acute serious situation (such as MI and CVA)											

Appendix 2b: AEP Spreadsheet

Key	Gender	Age	Condition	Speciality	Medical Services								Nursing Services						Patient Condition Factors									LOS (total)	LOS (extra)	Comments	LOS (extra) override	LOS (extra) wasted
					A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W					
38	m	93	DGC (nursing home)	medical	15						3	8		16	9													36	19	IVI/NBM + Abx/ Day 1 - Day 5 = Abx only/ SLPr/v done on Day 6 - kept NBM/ Abx only till Day 16/A/w relocation to another nursing home - Ger r/v done/Day 17 DMPOV	14 days on Abx only	19 days waiting for relocation
39	f	76	SOB	medical	12						3	10		9	13								3	10				29	0	Bls/Abx + IVI + ECGs + Oxygen/Day 2 - SLPr/v - NBM/Day 3 - fever+++ Abx changed/Day 4 - IVI changed, SLPr/v again - Transferred ward due to CRE/Day 5 - catheter changed/Day 6 - Day 9 - same/Day 9 - stopped Abx/Day 10 - Day 29 - same/Day 29 - RIP		
40	m	76	SOB	medical	18						10	5	5		4													66	61	Oxygen, Abx, Bloods/ Day 2 - SLP r/v done/Day 3 - SW consult/ Day 5 - Abx stopped, DMPOV/ Day 12 - SW r/v pt and Ger r/v done/Day 14 - DFTr/v done Flagged for LTC		6 days waiting for SW r/v, 3 days waiting for DFT r/v, 52 days waiting for LTC
43	f	78	fever	medical				1				10		7	10										10		2	26	11	Abx, CW, IVI, Bloods, urine + resp screens/ Day 2 - heparin IV and warfarin loading/ Day 3 - SLPr/v + dly bloods for heparin+warfarin/Day 3 - heparin stopped/Day 4 - IVI stopped/Day 6 - AXR + SW consult + high INR/Day 7 - IVI started, came Influ +ve and confused+++, transferred single room/CW stopped + SW r/v done/Day 8 - Day 13 warfarin + dly INR adjust/Day 14 - Ger r/v done/ Day 26 - Tranferred to KGH	AXR took 2 days to do	11 days waiting for rehab
46	f	52	Pneumonia	medical	4									9	5													10		IVI, Abx, Blds/ Day 3 - stop IVI/ Day 4 - Day 10 - Abx only	6 days Abx only	
47	f	86	CVA	medical				2			2			10	10		9											58	53	IVI, NBM, Abx, catheter, Oxygen/Day 2 - Ct brain (repeated on Day 6)/Day 3 - SLP consult - came on Day 4/Day 6 - Stop Oxygen/Day 7 - Start NGT feeds, Ger and SW consult/Day 9 - remove catheter/ Day 10 - stop IVI/ DFT review done - flagged for LTC/ Day 13 - Day 58 - a/w LTC	SLP delay of 2 day	45 days waiting for LTC, 3 days waiting for SW, 3 days wating for Ger r/v, 2 days waiting for DFT
49	m	77	vomiting	sur/med	1			4						9	11		7											24	0	Alcohol withdrawal, IVI, urine samples, catheter CT TAP Day 2: CT done. Urine samples taken/Day 3 - Stop withdrawl charting/Day 4: A/w CT neck/ Day 5: CT done due to fall from bed/Day 6 - catheter done A/W CT neck/Day 7 - catheter removed/Day 8 - CT neck done/Day 9 - IVI stopped OGD in 11 days/Day 10 - Day 21 - Waiting for OGD/Day 22: OGD done/Day 24 - Disch home		11 days waiting for OGD/4 days waiting for CT
50	m	86	abdo pain	medical										6											5			48	41	IVI, sample, oxygen/ Day 2 + Day 3 - Sunday + feast day/Day 4 - confusion - CW/Day 5 - Oxygen stopped/Day 6 - IVI stopped, Abx stopped/Day 7 - DMPOV + SW + Ger R/v/ Day 8 - NOT for KGH/ Day 9 - Day 13 - LTC flagging/Day 48 - Transferred to LTC		41 days waiting for flagging process + waitinf or transfer to LTC
51	m	75	low apetite	medical	1	1					1	4		9	12		12	10										46	34	IVI/monitor bed/clear fluids/Oxygen/Abx Day 2 - COD, SLP consult, TVN r/v/Day 3 - CRE+ve, ward change/Day 4 - catheter done, samples taken/Da6 - off monitor - ward transfer/Day 7 - SLP r/v done/Day 8 - catheter removed. Ger consult, Oxygen stopped/Day 9 - catheter redone, IVI stopped/Day 10 - For theatre mane - diabetic prep/Day 11 - surgery done/Day 12 - catheter removed. Ger r/v - Acc for rehab/Day 46 - transferred to rehab	5 days waiting for SLP r/v	34 days waiting for rehab bed
52	m	63	sob	medical	19			2			5	6		10	14		3	3										40	26	IVI, ECG, SLP, urine samples, Oxygen, NBM, Abx/Day 1: Resp screen and resp screen/Day 2 dietician r/v for resp consult/ Day 3 Chest drain done + CXR/Day 4 Drain output until output < 200ml/day/Day 7 Chest drain removed. IVI stopped SLP r/v done/Day 10 Abx stopped/Day 12 Ger r/v + SW r/v/Day 14 Flagged for LTC/ Day 40 Transfer to LTC facility		26 days waiting for LTC facility
54	f	96	dgc	medical	22						4			9	5													42	33	Abx, catheter, Oxygen, NBM, IVI/Day 1: SLP, Abx/Day 3: NGT done + feeds/Day 4: Dietician review/Day 5: Dietician review done. IVI stopped/Day 9: Abx stopped/Day 10: Ger r/v, SW r/v/Day 13: For KGH/ Day 42: Transferred to rehab	1 days for dietician r/v	29 days waiting for rehab/4 days waiting for Ger r/v
56	f	86	DGC/AKI	medical				3		2	3	3		12	15		7		2	2					17			46	28	IVI, Abx, CW, NBM, catheter, neurocharting, confusion/Day 1: U/S doppler, Pelvis X-ray, VRII protocol/Day 2: SLP r/v, TVN r/v/Day 3: Stop IVI, Stop VRII, Ger r/v, SW r/v, Stop neuro/Day 4:catheter removed/Day 6: A/W Ger r/v, SW r/v/Day 9: CT scan, IVI restarted due to low output, Abx started again/Day 15:IVI and catheter removed/Day 17 Stop Abx, Stop CW/Day 18: DMPOV, Flagged for LTC/ Day 46: transferred to LTC	3 days for Ger r/v + SW r/v	28 days waiting for LTC bed
60	f	77	falls	medical/ortho	1	1	1	1				3													8			29	22	NBM, Psych r/v, Ger r/v/ Day 1: Prepared for ortho theatre/Day 2: Surgery not done. Confusion + CT brain done/Day 3: CW + not for rehab/Day 4: SW r/v done /Day 5: Ger re:r/v/ Day 6: Accepted for rehab/Day 29: transferred to rehab	CT scan delay of 2 days	22 days waiting for rehab
64	m	67	SOB	medical	23																							38	37	Day 1: declared for LTC		37 days waiting for LTC
65	m	84	fever on chemo	medical				1				8		13	8						1		3					13	0	IVI, catheter, Abx, Single room/Day 1:Tx 1 unit + stop IVI/Day 2:Stool and sputum samples/Day 4: Fever spike. Blood cultures + Abx change/Day 5: CXR done/Day 13: Disch home	8 days Abx only	
67	f	94	DVT	medical				8				3			3													63	54	Oc Cleaxane, U/S doppler booked/Day 1: U/S doppler done. CT-Tap booked/Day 2 - Day 7: Cleaxane only/Day 8: CT-Tap done/Day 9: DMPOV/Day 11: Ger r/v + SW r/v/ Day 16: Flagged for LTC/Day 63: transfer to LTC facility		7 days waiting for CT-TAP + 47 days waiting for LTC facility
68	m	74	Nephrosatomy change	urology	1	1	1	3	1			15		18	18		19	3			1							19	3	IVI, Abx, nephrostomy and catheter output/ Day 1: Tranfused 2 units/Day 2: U/S kidneys/Day 3: CT-KUB booked. PICC line done. NBM. Ward change due to VRE/Day 4 - Day 7 - IVI + Abx/Day 8: IVI stopped/Day 9: Abx stopped/Day 16: Pre-op prep/Day 17: Nephrostomy change done/Day 19 Disch home	3 days for CT scan	
69	f	83	abdo pain	medical				1				3		6	3										9			46	38	IVI, bloods, urine samples, catheter/Day 1: U/S kidneys done + CW (confusion)/Day 2 - 6: IVI only/Day 6: IVI stopped/Day 7: Ger r/v booked/Day 9: Ger r/v done. SW r/v booked/Day 12: SW r/v done/ Day 14: flagged for LTC/Day 46: transferred to LTC facility		2 days waiting for Ger r/v + 2 days waiting for SW r/v + 2 days waiting for DFT r/v + 32 days waiting for LTC
71	f	89	sob	medical	11									1	3													22	20	Abx, Oxygen, urine samples/Day 1: Abx changed to PO, stop Oxygen/Day 2: Ger r/v done/Day 22: transferred to rehab		20 days waiting for rehab

72	f	76	DGC	medical								8		8	8													14	0	IVI, Abx, NGT, urine samples, Oxygen, insulin pump/Day 1 - 8 Abx + insulin pump/Day 9: Stop Abx, Stop insulin pump, TLC/Day 14: RIP		
74	f	72	Falls	medical				1				5		3	5		8											16	11	Abx, urine samples, IVI, catheter, Psych r/v/ Day 1: MRI spine. Ger r/v + SW r/v booked/Day 2: catheter removed/Day 3: IVI stopped, MMSE done. Catheter re-done/Day 4: Ger r/v done/Day 5: SW r/v done/Day 8: DMPOV/Day 9 - Day 16: Relatives in disagreement with DFT Disch home		9 days waiting for relatives to decide + 2 days waiting for SW r/v
76	f	83	DGC	medical	30									3	3													48	44	IVI, ECGs, Ger + SW r/v booked/Day 3: Stopped IVI/Day 4: DMPOV MMSE done, Ger r/v done/Day 5: SW r/v done/Day 6: Flagged for LTC/Day 48: transferred for LTC facility		42 days wating for LTC + 2 days waiting for SW r/v
78	m	67	Varices	medical				1				11		12	12		10								14			56	45	CW, stool samples, Abx, IVI, catheter/Day 1: CT scan booked/Day 3: Abx changed/Day 6: CT scan done/Day 7: Ger r/v booked/Day 10: Ger r/v done/Psych r/v booned/Day 13: Psych r/v done/Day 14: SW r/v booked/Day 10: Abx stopped/Day 14: CW stopped/Day 17: SW r/v done/Day 17: DFT r/v done DMPOV/Day 23: Flagged for LTC/Day 56: transferred to LTC facility	2 days for SW r/v, 2 days for Ger r/v + 3 days for psych r/v	38 days waiting for LTC facility
79	f	84	For CAPD removal	surgical	1	2	1	1	1			12		12	13		10								10			20	0	IVI, NBM, catheter/Day 1: Surgery postponed due to high CRP Abx started, IVI started/Day 8: CRP down. Abx stopped/Day 10: IVI stopped/Day 13: catheter removed/Day 14: CT scan done/Day 16: Surgery done + Abx restarted/Day 20: Disch home	8 days Abx only	
81	m	58	loc	medical										1	2													13	10	IVI, Neuro charting/Day 1: IVI stopped, DMPOV, SW + Ger r/v booked/Day 2: Neuro stopped/Day 3- Day 4:Communication between CEO of MDH and MCH/Day 5: SW r/v done/Day 13: Discharge home with services		10 days waiting for beurocratic managerial red-tape
82	f	81	lethargy (nursing home)	medical							3			3	9		8											46	38	IVI, Abx, NBM + SLP/COD, catheter/Day 1: SLP r/v done/Day 3: IVI stopped/Day 4: Ger r/v booked/Day 5: catheter change done/Day 8: Chemo session done/Day 9: catheter change done again, DMPOV/Day 9: Due for relocation to SVPR/Day 10: DFT r/v done. CRE+ve, ward change/Day 46: transfer to SVPR	3 days for Ger r/v + 2 days for SW r/v	38 days waiting for SVPR transferf
84	m	86	confusion	medical				1				3		3	3										10			46	34	CW, Neurocharting, CT brain/Day 1: IVI, Neuro stopped, SW r/v booked/Day 2: IVI stopped/Day 5: SW r/v done, Ger r/v booked/Day 7: DMPOV/Day 8: DFT r/v done/Day 10: Flagged for LTC/Day 46: transferred to LTC facility	5 days waiting for SW r/v	29 days waiting for LTC facility
85	m	83	DGC (nursing home)	medical	3							4		3	4													18	15	monitor, IVI, Abx, urine samples/Day 1: VRE+ve, ward change, off monitor/Day 2: Nephrostomy change done, COD/Day 3: IVI stopped, Palliative r/v done/Day 18: transferred to palliative ward		15 days waiting for transfer to palliative ward
86	f	92	chest infection	medical	3			1						8	8										5			9	0	Oxygen, urine and blood samples,Abx, resp screen/Day 3: Oxygen stopped. Start CW due to confusion/Day 4: CT booked and taken/Day 8 Abx stopped, CW stopped/Day 9: Discharged		
88	f	95	lethargy (nursing home)	medical										13	8		8											13	0	IVI, Abx, resp screen, urine samples, Oxygen/Day 3: IVI stopped, catheter done/Day 4: Oxygen stopped/Day 12: Abx stopped/Day 13: Discharged	8 days Abx only	
90	m	82	ll oedema	vascular				11				10		15	15													28	10	Oxygen, Abx, monitor/Day 1: urine samples, Cardio consult/Day 3: Diabetes education/Day 4: Oxygen stopped, CT booked/Day 5: VRE+ve, ward changed/Day 6: Lasix inf started/Day 7: For Ger r/v booked/Day 15: Abx stopped, Lasix inf stopped, Ger r/v done, CT scan done/Day 18: DMPOV/Day 28: transferred to rehab	10 days for CT scan + 8 days for Ger r/v	10 days waiting for rehab bed
93	m	89	LOC	medical				2				4		10	8		4								8			22	12	IVI, Oxygen, Abx/Day 2: Colnfusion - CW/Day 4: catheter done due to retention, IVI stopped, CT done/Day 5: AXR, enema done/Day 7: catheter removed/Day 8: Ger r/v booked, enema done/Day 10: Abx stopped, DMPOV, Ger r/v done/ Day 22: transferred to rehab	2 days for Ger r/v	12 days waiting for rehab
94	m	73	SOB (nursing home)	medical	3						1	3		9	4													9	0	Abx, Oxygen, COD/Day 1: single room - influenza +ve/Day 2: TVN r/v done/Day 9: Abx stopped, Disch home	7 days on Abx only	
95	m	87	Falls (nursing home)	medical				5			1	5		3	7						1							28	19	IVI, urine samples, catheter, fracture hand/Day 1: Ortho review, CT booked/Day 3: IVI stopped, Transfused/Day 4: CT done, SW booked, U/S kidneys booked/Day 5: SW r/v done/Day 6: Ger r/v booked/Day 10: Ger r/v done, U/S kidneys done/Day 11: DMPOV DFT booked/Day 12: Flagged for LTC/Day 28: transferred to LTC facility		15 days waiting for LTC + 4 days waiting for Ger r/v
96	f	60	chest pain	medical				7				5		10	7		2				2							10	7	urine samples, IVI, PICC line, Abx/Day 1: CT in week, Tranfused/Day 2 - Day 5: A/W CT + Abx/Day 6: Transfused/Day 7: CT done, catheter done due to retention/Day 8: catheter removed/Day 10: Stop Abx, Disch home	7 days waiting for CT scan	
99	f	83	Falls (nursing home)	medical							2	8		8	8													12	2	monitor, Oxygen, plaster legs/Day 1: offmonitor, SLP done/Day 2: SLP re-done, resp screen, Abx/Day 5: Ortho r/v booked/Day 7: Ortho r/v done/Day 8: Abx stopped, warfarin loading due to PE/Day 12: Disch	2 days for ortho r/v	
100	f	88	Falls	medical								2			3													38	34	OT, SW, Ger booked, Neruo charting/Day 3: OT r/v done/Day 4: SW r/v done/Day 5: Ger r/v done/Day 6: MMSE done/Day 8: DFT r/v done - flagged for LTC/Day 38: transferred to LTC facility		30 days waiting for LTC bed + 4 days wating for SW and Ger
101	f	98	DGC	medical							1			8	8		8									2	2	9	2	IVI, NBM, catheter, Abx, Oxygen/Day 1: SLP done, COD/Day 2: Stop Oxygen, stool samples/Day 4: Ger + SW r/v booked/Day 6: Ger r/v done, NBM/Day 8: SW r/v done, patient low urine output, low BP/Day 9: RIP		2 days for SW r/v
103	f	84	urine retention	urology				3				4		10	6		11											11	2	IVI, catheter, CT booked. Day 1: IVI stopped, CT postponed. Day 2: CT scan done, Abx started/ Day 3: IVI stopped/Day 5 - Day 10: Abx stopped/Day 11: Discharged with catheter	5 days on Abx only + 2 days waiting for CT scan	
105	m	81	abdo pain	surgical				2				5		13	8													14	1	IVI, NBM, Abx/Day 1: U/S abdo booked, CT booked. Day 2: CT done - cholecycitis/Day 3 - Day 12 - Abx and IVI, low fat diet/Day 13: IVI stopped, Abx stopped. Day 14: Discharged	1 day waiting for CT scan	
106	f	59	instestinal obstruction	surgical	1	1	1	1				7		11	10		9	3	2									12	0	IVI, NBM, Abx, NGT/Day 1: CT scan booked. Day 2: CT done. Day 3: enema done twice. Day 4: COVID swab done - for surgery mane. Day 5: surgery done for obstruction/Day 6: drain care, NGT, Abx, IVI, NBM. Day 7: IVI stopped. Day 8: Can eat light diet. Day 9: NGT removed and drain removed/Day 11: Abx stopped. Day 12: Discharged	1 day waiting for CT scan + 1 day waiting for COVID swab	

109	m	88	Falls	medical				1						2	2													66	64	IVI, CT scan done, Neuro chart/ Day 1: Neuro chart stopped. Day 2: IVI stopped DMPOV. Ger and SW booked/Day 6: Ger r/v done. Day 8: SW r/v done. Day 10: DFT r/v done. Day 66: transferred to LTC facility		4 dhays waiting for Ger r/v + 6 days waiting for SW r/v + 56 days waiting for LTC bed
110	f	51	alcohol withdrawals	medical				2			1	8		11	11		3								7			22	12	IVI, CW, Neuro chart. Day 1: confusion. U/S abdo booked - ascitis. Day 2: Scheduled for ascitic tap. Neuro chart stopped/Day 3: Abx started. Day 4: Acitic tap done. Psych r/v done/Day 5 - Day 12: Abx + CW/Day 6: Ascitic tap done again, Ger r/v and SW r/v booked./ Day 7: CW stopped. Day 8: SW r/v done and Ger r/v done. Day 11: Abx stopped and IVI stopped. Day 12: For rehab. Day 22: transferred to rehab		10 days waiting for rehab + 2 days for Ger and SW r/v
112	m	83	sob	medical				1				15	44	15	17		17										2	53	24	Oxygen, Abx, monitor bed. Day 1: CT scan booked and done. Day 2: catheter done/ Day 3: Booked for lung function test. Day 4: Lasix infusion started with output charting. Day 5: off monitor. Day 6: SOB episode and put back on monitor. Day 7: transferred to NIV ward until ABGs are stable. Day 9: off monitor and off NIV. Day 12: Lasix infusion stopped. Ger r/v done, SW r/v booked. Day 15: Abx stopped, SW r/v done. Day 17: catheter removed DMPOV. Day 19: DFT r/v done - for LTC. Day 53: transferred to LTC.	3 days for SW r/v	19 days waiting for LTC bed + 3 days waiting for SW r.v
113	f	49	pneumonia	medical								10	12	13	12													15	0	Oxygen, Abx, IVI. Day 1 - Day 12: Abx only and Oxygen. Day 13: Abx stopped. Day 4: IVI stopped. Day 15: Discharged	12 days on Abx only	
116	m	55	For IV abx	vascular								2		21	5													21	0	Abx. Day 1: COD dly Day 2 - Day 21: Abx		
118	m	85	DGC	medical				2				15		25	28		6				1							77	59	IVI, catheter, Abx, NBM. Day 1: CT scan booked. SW r/v booked. Day 2: CT scan done. Day 3: IVI removed. Day 4: Transfusion done. Day 5: Ger r/v booked. SW r/v done. Day 6: catheter removed. SLP r/v done. Day 8: Ger r/v done. Day 14: Abx stopped. DMPOV. Day 16: DFT r/v donev - For Ltc. Day 23: Abx started again, IVI started. CXR done. Day 26: IVI stopped. Day 34: Abx stopped. Day 77: transferred to LTC	4 days waiting for Ger r/v	59 days waiting for LTC
119	m	80	Fracture hip	ortho	1	6	5	2	5			4		16	11			2										29	26	NBM, IVI, DP. Day 1: Surgery due mane. Day 2: Surgery postponed. Day 3 - Day 6: Surgery postponed. Day 7: Surgery done. Abx started, IVI, drain. Day 8: drain removed. IVI stopped. Ger r/v booked. Day 9: Ger r/v done - for rehab. Day 16: Abx stopped. Day 29: transferred to rehab	2 days for Ger r/v	6 days waiting for surgery + 20 days for rehab bed
120	m	66	For CAPD insertion	medical	1	1	1					3		12	8													13	0	NBM, IVI, DP. Day 1: CAPD surgery done. Day 2: Abx started, IVI stopped. Day 3: - Day 12: Abx only. Day 13: Disch home	9 days on Abx only	
123	f	33	abdo pain	surgical	1	1	1	1				6		4	8			2										10	0	NBM, IVI, Abx. Day 1: U/S booked and done - appendicitis. Day 2: NBM for surgery. Day 3: Surgery done. COD, Abx, drain care. Day 4: IVI stopped and drain removed. Day 5 - Day 9: Abx. Day 10: Disch home	4 days Abx only	
124	m	81	Falls	medical								2		1	2													48	40	IVI, Neuro charting. Day 1: IVI stopped. Ger r/v booked. SW r/v booked. Day 4: Ger r/v done. Day 6: SW r/v done. Day 7 - Day 13: Relatives undecided re: nursing home. Day 14: DFT r/v done - flagged for ltc. Day 48: transferred to LTC		2 days for Ger r/v + 4 days for SW r/v + 34 days for LTC bed
126	f	54	infected wound	vascular	1	1	1				2	8		15	11													15	0	COD, Abx. Day 1: TVN r/v done. Day 2: For debridement in 3 days. Day 6: Surgery done. Day 8: TVN r/v done. Day 15: Abx stopped and Disch		
127	m	69	For IV Abx	vascular							1	4		18	8													19	0	Abx, COD. Day 1: TVN r/v done. Day 2 - Day 18: Abx only. Day 19: Disch	16 days Abx only	
128	m	78	fracture femur	ortho				1				4		7	8		12											25	20	IVI, NBM. Day 1: Neuro charting. CT brain booked. Day 2: CT done. Day 3: Undecided about surgery. Cardio r/v booked. Day 6: Cardio r/v done. Day 7: CXR done. IVI stopped. Not fit for surgery. Ger r/v booked. Day 9: SW r/v booked. Day 11: Ger r/v + SW r/v done. Day 25: transferred to rehab	1 day for CT scan + 3 days Cardio r/v	4 days for Ger r/v + 2 days fpr SW r/v + 14 days for rehab bed
130	m	75	pneumonia	medical				2			5	9	17	12	15		6											17	4	Oxygen, Abx, catheter. Day 1: CT booked and done. Oncol r/v booked. Day 2: CTPA done. Resp r/v booked. Day 5: Resp r/v done. Day 6: Oncology r/v done. Catheter removed. Oxygen decreased. Day 9: Ger r/v booked and done. Day 12: Abx stopped. Due for transfer to SAMOC. Day 17: taken to SAMOC	3 days for resp r/v + 4 days for oncol r/v	4 days for SAMOC transfer
131	m	68	bleeding pr	surgery	2	2	2	1		2		7		15	10						2							15	0	IVI, NBM, stool charting. Day 1: NBM for OGD/Flexi-sig. Day 2: Transfusion given. Day 3: OGD done. Allowed water. Day 4: Transfusion given. NBM for Flexo-sig mane. Day 5: Procedure re-scheduled due to theatre not ready. Day 6: Flexi-sig done. IVI stopped. Transfusion given. Day 7: Abx started. Day 15: Abx stopped. Disch	1 day due to theatre delay + 8 days on Abx only	

132	m	88	DGC (nursing home)	medical				1		4		9	5	10	8		7											34	24	Oxygen, Abx, catheter. Day 1: CT booked and neurocharting and output charting. Day 2: SLP r/v booked. NGT done, NBM. Day 3: SLP r/v done. Dieitician r/v booked. Day 5: Dietician r/v done - feeding regime done. DFT infromed frim that relocation needed as home cannot cater for NGT feeds. Day 7: Ger r/v done - not for rehab. DFT r/v done - patient flagged for ltc again. Day 10: Abx stopped. Day 34: tranferred to new ltc bed	1 day for SLP r/v + 2 days for dietician r/v + 3 days for relocation process paperwork	24 days waiting for new ltc bed
133	f	82	sob	medical								5	10	12	8		8											12	0	Oxygen, Abx. Day 1: insert catheter and output charting. Day 2 - Day 7: Abx + output charting. Day 8: remove catheter. Day 10: Stop Oxygen. Day 12: Stop Abx and Disch		
135	m	55	for angioplasty	vascular	1	1	1				2	8		20	12													21	4	NBM + DP, Day 1: Angio done. COD Day 2: Abx due to infective wound + COD. Day 3: TVN r/v done. Scheduled for debridement. Day 7: NBM + DP for surgery mane. Day 8: Debridement done. COD, Abx. Day 9 - Day 20: COD + Abx. Day 21: Disch home		4 days waiting for surgery
137	m	77	kidney injury	medical				2			2	12		14	13		9										3	14	0	monitor bed, Abx, IVI Day 1: catheter done and output charting. Given hyperkalaemia regime. Day 2: pt hypotensive event due to sepsis. Started on inotropes and BP charting. Day 3: U/S kidneys booked, inotropes decreased. Day 5: U/Skidneys done. Inotropes stopped. Day 7: off monitor bed and ward changed. Day 9: IVI stopped and catheter removed. Day 14: Abx stopped and disch	2 days waiting for U/S	
138	f	78	deranged bloods	medical				5			1	5		22	18								3					22	0	IVI, NBM, resp screen, urine samples. Day 1: U/S liver and CT TAP booked. U/S done. Day 2: Infec disease r/v booked due to fever and rash. Day 3: CT done, Infec disease r/v done. Started on Abx and placed in single room. Blood cultures taken. Day 5: Abx changed and lumbar puncture done. Day 6 - Day 13: Abx + fever control Day 14: CT scan booked and done. Removed from single room. Day 22: Abx stopped and disch	8 days Abx only	2 days waiting for CT + 1 day for infec disease r/v
139	m	49	Appendicectomy	surgical	1	1	1	2				10		15	11			5					2					15	0	IVI, NBM. Day 1: CT booked and done. Abx started. Day 2: Fever and abdo pain event. COVID swab re-taken. Due for surgery mane. Day 3: Appendicectomy done. Drain in situ. COD. High CRP due to some peritonitis. Started on Abx. Day 4: COD + drain care. Day 7: CT booked and done. Drain removed. Day 15: Abx stopped and Disch	8 days Abx only	

142	f	79	fracture hip	ortho				2			3	7		3	6													23	18	IVI, NBM. Day 1: X-ray done. Neurocharting. CT brain booked. Day 3: CT brain done. Day 4: Cardio r/v booked. Can eat and drink. ? Fit for surgery. Day 6: Cardio r/v done. Neurocharting stopped. Day 7: Anesthesia r/v booked and done. Not fit for surgery. Ger r/v booked. Day 10: Ger r/v done - for rehab. Day 23: transferred to rehab	2 days for CT	2 days for cardio r/v + 3 days for Ger r/v + 13 days for rehab bed
143	m	69	kidney injury	medical				4				10	2	14	8											1		14	0	IVI, Oxygen, urine samples, Abx. Day 1: catheter done. U/S booked and done. CT KUB booked. Day 2: CT KUB done. Oxygen stopped. Day 3: Given running fluids due to low urine output. Blood cultures taken. Day 6: IVI stopped. Day 7: U/S redone. Day 14: Abx stopped and disch	1 day for CT + 7 days Abx only	
146	m	39	cholecystectomy	surgical				4				9		8	9													10	0	IVI, NBM, Abx. Day 1: U/S booked and done. High CRP - no surgery for now. Day 3: CT booked and done. Day 4: IVI stopped. Can eat and drink. Day 8: Abx stopped. U/S booked. Day 9: U/S redone - not for surgery for now. Day 10: Disch home	1 day for U/S	
147	f	31	vomiting	medical				1				6		10	7													11		IVI, NBM. Day 1: Single room - gastro. Abx started Day 2: U/S booked and done. Day 3- Day 10: Abx only. Day 7: IVI stopped. Day 11: Disch	3 days Abx only	
148	f	66	chest pain	medical							5	10	2	9	9												1	11	0	monitor bed, Oxygen. Day 1: Cardio r/v booked. ECG + Trops taken. Day 2: Oxygen stopped. Day 3: Cardio r/v done. Scheduled for angiogram. Poor renal function. Angio postponed. Neprho r/v booked Day 5: Neprho r/v done. IVI started with regular renal profile bloods. Day 7: Angiogram done. Regular renal profile. Day 9: IVI stopped. Off monitor bed. Day 11: Disch home	2 days for cardio r/v + 2 days for nephro r/v	
149	m	70	chest pain	medical				1				9	1	12	9													13	0	Oxygen, Abx, CXR. Day 1: COVID swab, resp screen, urine samples. Day 2: Regular ECG + Trops. Day 3 - Day 12: Abx only. Day 7: Echo done. Day 13: Disch	6 days Abx only	
151	m	77	uti	urology				3			2	7		14	8													29	15	IVI, catheter, Abx. Day 1: CT-KUB and U/S booked. U/Sdone. Day 3: CT done. Uro r/v booked. Day 6: Uro r/v done. Day 7: IVI stopped and catheter removed. Ger r/v done - for rehab. Day 14: Abx stopped. Day 29: for rehab transfer	2 days for CT + 3 days for uro r/v	15 day for rehab bed
152	m	71	Infected capd line	medical	1	1	1				1	13		16	15			7						4			1	17	2	Abx, catheter, NBM + DP. Day 1: Surgery postponed due to high CRP. Resp screen taken and blood cultures. Day 2: Inf disease r/v booked and done. Abx changed. Day 4: NBM and DP for surgery mane. Day 5: Surgery done. CAPD removed. COD. DP stopped. Day 7: Due for vascath insertion in 2 days. catheter removed. Day 9: NBM and DP again for surgery mane. Day 10: Surgery postponed due to logistic problems in theatre. Day 12: Surgery done and HD done. Day 16: Abx stopped. Day 17: Disch		2 days due to theatre logistic problems
153	f	83	fracture femur	ortho							2	9		15	6													22	11	IVI, NBM, Oxygen, COVID swab. Day 1: Surgery postponed due to no place on list.. Ger r/v booked. Day 2 - Day 5: Surgery postponed due to no place on list. Day 6: Ger r/v done - for re r/v. Day 7: Surgery done. COD. IVI stopped. Abx started. Day 9: Ger re r/v - for rehab. Day 15: Abx stopped. Day 22: transferred to rehab	5 days for Ger r/v	7 days for rehab bed + 4 days due to surgery postponment
155	f	63	pneumonia	medical				1			1	7	6	12	9													13	0	Oxygen, Abx, resp screen. Day 1: CXR repeated. Serial ABGs. Day 2: Abx changed. Cardio r/v booked and done. Day 3 - Day 12: Abx only. Day 6: Oxygen weaned off. Day 13: Disch home	9 days on Abx only	
156	f	73	kidney injury	medical				4			2	12	3	17	11			6									2	17	0	IVI, Abx, Oxygen. Day 1: U/S kidneys booked. Neprho r/v booked. Day 2: catheter done. U/S done. Nephro r/v done. Day 3: transferred on monitor bed. Running fluids given. Oxygen stopped. Abx changed. Blood cultures retaken. Day 4: Hyperkalaemia regime given. Running fluids given again. Day 6: off monitor. U/S kidney booked again. Day 8: U/S done. catheter removed. Day 10:: IVI stopped. Day 17: Abx stopped and disch home	3 day for U/S + 1 day for nephro r/v + 7 days on Abx only	
158	m	68	sob	medical							2	11	12	16	10												1	16	0	Oxygen, monitor bed, Abx, resp screen, urine samples. Day 1: off monitor. Pt influenza positive. Transferred single room. Inf disease r/v booked. Day 3: Infectious disease r/v done. Abx changed. Day 4: resp screen retaken. Day 5 - Day 12: Abx only. Day 12: Oxygen stopped. Day 16: Abx stopped and disch home	2 days for inf disease r/v + 4 days Abx only	2 days quaratine
159	m	79	bleeding pr	surgical	4	4	4	2				14		18	17						4						1	66	52	IVI, NBM, stool charting. Day 1: AXR booked and done. Transfusion done. Day 2: High INR - Vit K given, FFPs given for INR. Transfusion given again. Day 3: Fluids given running due to low BP. Transfer to monitor bed - ward change. Day 4: Transfusion given. INR tracking with warfarin stopped. Scheduled for OGD in 4 days due to theatre queue. Day 6: Transfusion given. Day 7: NBM +DP for OGD mane. Fluids running given due to low BP. Day 8: OGD done. Tranfusion given. Abx started. Day 10: Can eat and drink. off monitor. IVI stopped. AXR booked and done. Day 18: Abx stopped. Ger r/v booked. Day 19: Ger r/v done. SW r/v booked. Day 23: SW r/v done. DFT to meet relatives in a meeting. Day 23: Pt flagged for LTC. Day 66: transferred to LTC bed	4 days for OGD	1 day for Ger r/v + 4 days for SW r/v + 4 days for flagging process + 43 days waiting for LTC bed
161	f	68	chest pain	medical								8		10	8													10	0	ECG, Trops, monitor bed. Day 1: ECGs, Trops, IVI started, Abx started. Day 2: off monitor. Ward changed. Day 4: Stop IVI. Day 10: Abx stopped. Disch home	6 days on Abx only	
163	m	49	Infected capd line	medical		2		5				14		22	15													23	0	Abx, Blood cultures. Day 1: Abx changed. Blood cultures repeated twice. Fever episode. Day 2: CXR repeated and ABX done. Scheduled for CAPD line removal mane. NBM + IVI. Day 3: CAPD line removal not done. Blood cultures repeated. Day 4 - Day 9: Abx only. AXR booked and done. Surgical r/v booked. Day 12: Surgical r/v done. IVI for 24 hrs started. Day 13: IVI stopped. Day 14 - Day 22: Abx only. Day 23: Disch home	3 days for surgical r/v + 8 days Abx only	
164	m	88	fracture hip	ortho							3	6		5	7													29	21	NBM, IVI. Day 1: Hip X-ray done. CT booked and done. Day 2: Surgery postponed until cardio r/v - booked. Day 5: Cardio r/v done - not fit for theatre. Ger r/v booked. Day 6: Ger r/v done - to re-review. Day 7: catheter done due to retention. Dly PT. Day 12: Ger re r/v again - for rehab. Day 29: transferred to rehab		3 days for cardio r/v + 1 day for Ger r/v + 17 days for rehab bed
165	m	66	kidney stent change	urology				2				12		15	11			9	10									15	0	IVI, Abx. Day 1: CT booked and done. For surgery in 3 days due to high CRP. Day 2: Abx changed. Catheter done. Day 5: surgery done for stent change. IVI cont. Abx cont. COD. Day 6: CT scan booked. Day 8: CT done. IVI stopped. Day 11: catheter removed. Day 15: Abx stopped. Disch home	2 days for CT scan + 4 days on Abx only	
166	f	74	sob	medical				3			2	8	6	8	8													11	0	Oxygen, Abx. Day 1: CXR repeated. Resp r/v booked. Day 2: Resp r.v done. Abx changed. Day 3: SOB episode - ABGs taken and Oxygen altered. Day 4 - Day 8: Abx only. Day 9: CXR booked and done again. Day 11: Disch home	1 day for resp r/v	

167	m	81	falls	medical				2				5	2	1	6													61	58	Oxygen, IVI, CT brain. Day 1: IVI stopped. Ger r/v booked. Sw r/v booked. Day 4: Ger r/v done. Day 5: SW r/v done. For ? LTC. Meeting with relative scheduled in 3 days. Day 9: Meeting with relatives done - patient for LTC. DMPOV. DFT r/v booked and done. Day 61: transferred to LTC facility		51 days waiting for LTC facility + 3 days for Ger/v + SW r/v + 3 days for relatives meeting
168	m	81	for debridement	vascular	1	1	1				2	10		17	9			17										18	0	IVI, NBM, COVID swab taken. Day 1: Debridement done. COD. Abx started Day 2: TVN r/v done. Dly COD. Day 3 - Day 9: Abx + Dly COD. Day 10: TVN r/v again. Day 18: Abx stopped and Disch home.		
171	m	68	pneumonia	medical								7	3	12	6													13	0	IVI, Abx, Oxygen. Day 1: IVI stopped. Day 2 - Day 12: Abx only. Day 13: Disch home	11 days on Abx only	
172	m	55	high inr	medical								7		2	5						1							9	0	Stool charting Day 2: FFP given. Regular INR. Day 3 - Day 8: INR + warfarin Acc. Day 9: Disch home		
174	m	65	chest pain	medical		1	2	3			3	10		4	10							2					2	10	0	On monitor, Blds + ECG. Day 1: chest pain episode - isoket started. Cardio r/v booked. Day 2: Cardio r/v done. Echo done. Day 3: Bloods + ECG. Booked for angiogram. Day 4: Isoket stopped. Off monitor. Ward changed. Day 5: chest pain episode - isoket re started. Cardio r/v done again. Cor angio scheduled in 3 days. Day 6: Isoket stopped. For angio mane. Day 7: Angio done and stenting done. transferred on monitor and ward changed. Day 8 - 9: On monitor observation. Day 10: Disch home.	1 day for cardio r/v	
176	f	57	for angioplasty	vascular	1	1	1					9		12	10			13										13	0	NBM, IVI from MN. Day 1: Angio done. COD. Abx started due to high CRP. Day 2 - Day 12: Abx only and COD. Day 13: Disch home		
177	m	79	sob	medical				3			2	9	7	8	10		25				1	3					2	57	42	Oxygen, Abx. Day 1: Abx changed, CXR done. Day 2: started on isoket and transferred on monitor. Ward change. Day 3: Transfusion given. Day 4: Hypotension episode - isoket stopped. CXR repeated. Day 5: Echo booked and resp r/v booked. Off monitor. Day 7: Resp r/v done. Oxygen stopped. CTPA booked. Day 8: CTPA done. Echo done. Day 10: catheter removed. urine retention - catheter redone. Ger r/v booked. Day 12: Ger r/v done. SW r/v booked. Day 13: Sw r/v done: to speak with relative re: LTC. Day 15: Abx stopped. DMPOV. DFT r/v done: flagged for LTC. Day 57: transferred to LTC facility	1 day for resp r/v + 1 day for CTPA + 3 days for echo + 2 days for Ger r/v + 1 day for SW r/v	42 days waiting for LTC bed
179	f	59	Infected capd line	medical	2	2	2	2			2	11		14	13			6										17	0	Abx, Blood cultures. Day 1: Surgical r/v booked. CT done. Day 2: catheter done. Abx changed. Blood cultures repeated. Day 3: Surgical r/v done: for surgery ? Date. For vascath insertion as well. Day 4: Vascath insertion done and HD done. U/S booked. Day 5: U/S done. Scheduled for CAPD removal in 2 days. Day 6: NBM + DP, for surgery mane. Day 7: Surgery done. AXR done. Day 8 - 14: Abx + COD. Day 17: Disch home	2 days for surgical r/v + 1 day for U/S	
187	m	86	sepsis (from nursing home)	medical				4				7		10	10		8			2								14	2	Day 1: u/catheter, Abx, IVI, blods. Day 2: Abx change + BC due to fever, CXR repeated. Day 3: Oxygen started. Hypo episode: IVI bolus given. Day 4 - Day 6: Abx only. Day 7: Started on Actrapid pump due to high HGT Day 8: u/catheter removed. CXR done. Day 9: IVI stopped PT started for mobility. Day 10: Abx stopped. Day 11 - 13: waiting for CT scan. Day 14: Disch home	2 days for CT scan	
188	f	57	coffee ground vomiting	surgical	1	1	1	1				4		7	7						2							9	3	Day 1: NBM + IVI. Day 2: CT booked and done. Day 3: started on sips of water. Day 4: Tx 2 units rbc - scheduled for OGD. Day 7: OGD done. Tx 1 unit rbc. Day 8: IVI stopped. Started on fluids only. Day 9: Disch home	3 days for OGD	
189	f	96	pneumonia (from nursing home)	medical				1			2	6	3	12	9										8			38	30	Day 1: Abx + IVI + ABGs/blds. Day 2: CT done. NBM due to aspiration. BC taken due to fever. Day 3: NGT done and CW done due to confusion. Dietician r/v booked. Day 5: Dietician r/v done and feeding regime started. Day 6: IVI stopped. Day 7 -12: Abx only. Nursing home not equipped - for relocation. Abx stopped. Day 13: Ger r/v, SW r/v, DFT r/v booked. Day 14: Ger r/v done. Day 16: SW r/v done. and DFT r/v done. Day 17 - 38: waiting for relocation.	2 days for dietician r/v + 1 day for Ger r/v + 3 days for SW r/v + 3 days for DFT r/v	21 days for relocation
190	m	53	necrotic toe	vascular	1	1	1	1			1	7		18	8			6										18	2	Day 1: Abx + IVI + COD dly. Day 2: IVI stopped. U/S doppler done. Day 3 - 11: Abx only. Day 12: TVN r/v done. Day 13: For incision and draininge in 2 days. Day 15: Procedure done. Day 18: Abx stopped. Disch home	2 days for surgery	
191	m	49	AF	medical				2			1	7		4	8													9	2	Day 1: monitor + ECG/Trops. Day 2: On Amiodarone IV + IVI + blds. Day 3: Cardio r/v booked and done. Echo booked. Day 4: IVI stopped. Day 5: Echo done + amiodarone Iv stopped. Day 6: kept on monitor for proper warfarinisation for 3 days. Day 9: Disch home	2 days for echo	
192	m	72	COPD	medical							3	3		10	6													55	51	Day 1: Oxygen + Abx + resp screen. Day 2: Resp r/v booked. Ger r/v + SW r/v booked. Day 4: Ger r/v done - not for rehab Day 5: SW r/v done. Day 10Abx stopped. DMPOV. Day 12: DFT r/v done - flagged for LTC. Day 55: Transfer to LTC	2 days for resp r/v + 3 days for SW r/v + 2 days for Ger r/v + 2 days for DFT r/v	43 days for LTC transfer
193	m	66	infected ulcer	vascular				2			1	6		12	6			12										12	1	Day 1: Abx+wound swab taken +COD dly. Day 2: U/S doppler booked. Day 3: Pt is CRE+ve - ward change. U/S doppler done. TVN r/v done. Day 4: Abx + COD for 6 days. Day 12: Abx stopped. Disch home	1 day for U/S doppler	
194	m	76	chest pain	medical				1		2		7	5	5	9							2						9	3	Day 1: Oxygen + ECG/Trops - Trop is high. Day 2: Transfer on monitor - for cardio r/v - booked. Angio booked. Day 3: Cardio r/v done. Started on isoket due to chest pain. On anticoaggulation. For angio in 2 days. Day 5: Angio done - on monitor. Isoket stopped. Day 6 - Day 9: echo done. Reg ECG/Trops. Day 9: Disch home	1 day for cardio r/v + 2 days for Cor angio	
195	f	46	DVT	medical				3				4			6													10	3	Day 1: Bed rest + U/Sdoppler done - DVT found. Day 2: Anticoaggulation. CT booked. Day 4: CT scan done. Day 5: high INR due to warfarin. Day 6 - 9: INR + warfarin to adjust. Day 10: Disch home	3 days for CT scan	
196	m	81	bleeding pr	surgical	1	1	1			1		10		11	10						1							12	4	Day 1: IVI + NBM + X-match. Day 2: Tx 2 units. CT done. Stool charting, NBM. Day 3: started on Abx due to high CRP, on sips of water. Day 4: Tx 2 units rbc. Scheduled for OGS/colonoscopy Day 5 - Day 8: waiting for OGD date. Day 9: On DP for OGD mane. Day 10: OGD done. IVI + DP stopped. Tx 1 units rbc Day 11: Abx change Day 12: Disch home	3 days for endoscopy date + 1 day as OGD postponed	
197	m	79	Fever / transplant	medical				3			3	8		14	9													16	5	Day 1: On monitor. BC taken - ward change for single room. Resp screen taken. Day 2: Nephro r/v booked. IVI + Abx. CXR done. Urine cultures taken. Day 3: Nephro r/v done. U/S kidneys done. Day 4- Day 7: Abx only. Day 8: IVI stopped. U/S kidneys redone. Off monitor. INR + warfarin adjust. Day 9 -14: Abx only. Disch home	4 days for dietician r/v + 1 day for SLP r/v	

198	f	50	pneumonia (nursing home)	medical				2			5	8	7	13	8		7											14	1	Day 1: On monitor + Oxygen + Abx + u/catheter + NBM + IVI. Day 2: SLP r/v booked. Day 3: Urine cultures + resp screen. SLP r/v done - NBM Day 4: NGT done for Rx CTPA done. Day 5: Started on emergency feeds. Dietician r/v booked. IVI stopped. Day 7: Disetician r/v done CXR taken. Day 8: u/catheter removed. Oxygen prn. Day 9 - Day 13: Abx only + feeds. Dieticiian r/v re-booked. Day 15: Dietician r/v done. Day 16: Disch home	1 day for nephro r/v	
199	f	32	asthma	surgical				1			2	5	9	8	8													10	6	Day 1: Oxygen + Abx + ABG + BC. Day 2: CXR repeated + Oxygen. Day 3: Resp r/v booked. LFT booked. Day 4: Resp r/v done. Day 5 - 7: Oxygen + Abx + nebs + steroids. Day 8: nebs - inh. Iv steroids to PO. LFT done. Day 10: Disch home	1 day for resp r/v + 5 days for LFT	
200	m	81	Falls	medical				1			4	3	2	8	5													12	1	Day 1: on monitor + IVI + Abx +Oxygen. Day 2: X-ray hip done. Ortho r/v booked. Oxygen stopped. CT done. Day 3: IVI stopped. Off monitor. SW r/v booked. Day 4 - 7: Abx only Day 8: Ger r/v done - for rehab. Day 7: SW r/v done. Day 9: Abx stopped. Day 12: Relative refuse pt - for Ger + SW r/v again. Day 14: Ger r/v + SW r/v done DMPOV. Day 15: DFT r/v done - flagged for LTC. Day 61: Transfer to LTC	1 day for SLP r/v	
201	f	89	DGC (nursing home)	medical				1			2	8	8	8	6		7											61	58	Day 1: IVI + NBM + Abx + Oxygen + u/catheter Day 2: CT scan done. SLP r/v booked. Bc taken. Day 3: SLP r/v done - on liquidized diet Day 4: - 7: Abx + Oxygen + IVI Day 8: IVI stopped + Oxygen stopped. Day 12: Disch home	5 days for ortho r/v + 5 days for Ger r/v + 4 days for SW r/v	46 days for LTC transfer
202	m	73	Acute kidney injury	medical				3				7		10	8		5											11	1	Day 1: IVI + blds + urine cultures Day 2: U/S kidneys done. CT booked. Abx started. u/catheter done for output. Day 3: CT done. Day 4 - 6: output charting + Abx + IVI Day 7: IVI stopped. u/catheter removed. Urine cultures re-taken. Day 8 -10: Abx only. Day 1: Disch home	1 day for CT scan	
203	f	66	hyperglycaemia	medical				2			3	6		9	7													9	6	Day 1: IVI + blds + urine cultures + Abx Day 2: Started on VRII + IVI + U/S kidneys booked. Day 3: U/S kidneys done. Diabetes r/v booked. Day 4: IVI stopped. Diabetes educ booked. Day 5: diabetes r/v done. VRII stopped. Started on FD. Day 7: Diabetes education done. Day 9: Abx stopped. Disch home.	1 day for U/S + 3 days for diabetes r/v + 3 days for diabetets educ	
204	f	88	Hyperkalaemia	medical				4				4		3	5		5											47	50	Day 1: On monitor. Dly blds + IVI + u/catheter Day 2: off monitor, ward changed. U/Skidneys booked. Day 3: IVI stopped. Ger r/v booked. SW r/v booked. Day 5: u/catheter removed. Day 5: U/S kidneys done. Day 7: Ger r/v done - not for rehab. Day 8: SW r/v done = to liaise with DFT. DMPOV Day 11: DFT r/v done - for LTC. Day 47: transfer to LTC	3 days for U/S + 4 days for Ger r/v + 5 days for SW r/v + 2 days for DFT r/v	36 days for LTc transfer
205	f	38	abdo pain	surgical	2	2	2	4				10		12	11			4										13	1	Day 1: NBM + IVI + Abx due to high CRP. Day 2: U/S abdo done. Ct booked. On sips of water Day 3: CT scan done. Day 4 - 6: Abx only For ? Theatre in 2 days in CRP goes down. Day 7: CT scan repeated. For theatre mane. Day 8: Surgery done: explor laparoscop appendicectomy. Day 9 - 12: COD dly + IVI stopped + Abx. Day 13: Disch home	1 day for CT scan	
206	f	83	pneumonia (nursing home)	medical				1			2	6		10	10		10											11	1	Day 1: IVI +NGT feeds + catheter + Abx. Day 2: On hyoscine Subcut for secretions. Dietician r/v booked. Day 3: CXR taken. Abx inc to 3 + IVI changed. Day 4: dietician r/v done. NGT feeds changed. Day 5 - Day 9: Abx + feeds + IVI. Day 10: IVI stopped. Hyoscine subcut stopped. Day 1: Disch home	1 day for dieitican r/v	
208	m	89	DGC	medical				2			2	7	8	14	9		8									2		49	40	Day 1: On monitor + IVI + catheter + NBM + Oxygen + Abx. Day 2: Given IVI bloux for to hypotension Day 3: Abx change. SLP r/v + Ger r/v booked. Day 4: SLP r/v done - can have food with thickener. Off monitor. Ward change. Day 5: Ger r/v done - not for rehab. SW r/v booked. IVI stopped. Day 6: CT scan booked. Oxygen stopped. Day 7: CT scan done. SW r/v done - meeting with relatives in 3 days. Day 8: cathater removed. Day 10: SW met with relatives. For DFT r/v DMPOV. Day 12: DFT r/v done - for LTC. Day 49: Transfer to LTC	1 day for SLPr/v + 2 days for Ger r/v + 1 day for CT scan	37 days for LTC transfer
209	f	46	abdo pain	surgical				2			2	4		12	9													13	2	Day 1: IVI + NBM + Abx. Day 2: U/S abdo done. CT booked. Day 3: On fluids. CT scan done. Day 4: Gastro r/v booked. Day 5: IVI stopped. Gastro r/v done. Day 6 - 12: Abx only. Day 13: Disch home	1 day for CT scan + 1 day for gastro r/v	
210	m	62	LOC	medical				6			5	5			7													8	7	Day : On monitor. CT brain + neuro + ECG/Trop. Day 2: Cardio r/v booked. Echo booked. Day 3: Neuro stopped. Neuro r/v booked. Day 4: Cardio r/v done. Stop monitor- change ward. Day 5: Neuro r/v done. Holter as O/P. Day 7: Echo done. Day 8: Disch home	4 days for echo + 1 day for neuro r/v + 2 days for cardio r/v	
211	m	57	bleeding pr	surgical				2				6		5	6				1		2					1		9	1	Day 1: NBM + IVI + ABX done + CT booked. Day 2: CT done. Transfuse 2 units rbc. Stool charting. Day 3: Given 1L running due to hypotension. BP better. Tranfuse 2 units rbc. Given PO4 enema. Day 4: Warfarin stopped as high INR - reoeated dly. Day 5: Can eat and drink. Stop IVI. Day 6-8: INR optimisation. Day 9: Disch home	1 day for CT scan	
212	f	88	Falls (nursing home)	medical				1				5	3	3	7													68	59	Day 1: Oxygen + IVI + Neuro. Day 2: SW r/v booked. X ray done. Day 3: Stop Oxygen. Stop neuro. Day 5: SW r/v done. Ger r/v booked. Stop IVI. Day 6: Ger r/v done - for re r/v. Day 7-9: A/W re r/v. Day 10: Ger r/v done - not for rehab DMPOV. DFT r/v booked. Day 11: DFT r/v done - to do meeting with relatives. Day 14: flagged for LTC. Day 68: transfer to LTC	3 days for meeting with relatives + 3 days for Ger r/v + 2 days for SW r/v	54 days for LTC transfer
213	f	38	CT-guided biopsy	Orthopaedic								5		18	8													19	0	Day 1: CT guided biopsy done. Day 2: high crp. BC taken + IVI + Abx. Day 3-18: Abx only. Day 19: Disch home		
214	m	91	DGC	medical				2			2	9	3	6	7		9	25								2		46	10	Day 1: IVI + cathter+on monitor+Oxygen+Abx. Day 2: CTPA done. BC taken. Day 3: COD LL. Stop Oxygen. SW r/v booked. Off monitor. Ward change. Day 4-5: Abx + output+IVI+COD. Day 6: hypotension. Fluids given. Day 7: SW r/v done. Ger r/v booked. Day 8: Ger r/v done - not for rehab. cathater change due to blockage. Day 9: CXR done. IVI stopped. TVN r/v booked. Day 11: TVN r/v done. DMPOV. DFT r/v booked. Day 14: Glagged for LTC. Day 46: transfer to LTC	3 days for SW r/v + 1 day for Ger r/v + 2 days for TVN r/v + 4 days for DFT r/v	
215	f	47	LOC	medical				3			3	4			6													7	5	Day 1: On monitor, ECG/Trops + CT brain + Neuro. Day 2: Neuro r/v booked. Cardio r/v done. Echo booked. Day 3: Echo done. Neuro stopped. Day 4: Neuro r/v done. Day 5-6: A/W Cor angio. Dayu 7: Disch home. Cor angio as O/P	2 days for neuro r/v + 1 day for echo + 2 days for angio	

216	m	66	chest pain	medical				1			2	9	4	8	9							2						10	1	Day 1: On monitor, ECG/Trop + Oxygen. Day 2: CTPS done. Pt had chest pain - isoket started. Cardio r/v booked. Day 3: Cardio r/v done. Scheduled for Cor Angio. Ward change.. Day 4: Given IVI due to hypotension and NAC for 2 days. Day 6: Cor Angio done. PCI done. On IVI as per RP. Oxygen stopped. Day 7-9: For treatment optimisation. Day 10: Disch home.	1 day for cardio r/v	
217	m	66	UTI	medical				1			2	9		13	9		6											14	2	Day 1: Blds + Abx + IVI. Day 2: CT KUB done. Catheter done due to residual volume. Day 3: Abx change + IVI stopped. Day 4-7: Abx only. Day 8: catheter removed. Uro r/v booked. Day 10: Uro r/v done. Day 11-13: Abx only. Day 14: Disch home.	2 days for uro r/v	
218	m	89	DGC	medical				1			2	12		16	15		8	8								3		17	1	Day 1: On monitor + blds + IVI + Abx + catheter + BC Day 2: CT scan done. Day 3: Oxygen started due to low SPO2. Hypotension - fluids givewn. IVI changed. Day 4- Day 6: Abx + COD Day 7: Oxygen stopped. Hyperkalaemia regime given. Fluids running given. Day 8: Off monitor. ward changed. Day 9: cathater changed and samples taken. Day 10: IVI changed and SLP booked. Day 1: SLP r/v done. Day 12-16: Abx only and COD. Wound swab taken. Day 17: Disch home	1 day for SLP r/v	
219	m	51	Anaemia	medical								20	8	20	20								15			3		20	0	Day 1: Transfuse 2 units rbc. Single room Ct scan done. Day 2: Haema r/v done. Transfuse 2 units rbc. IVI started. Oxygen started. Chemo twice weekly. Day 3: Transfuse 3 units rbc. Day 4 - 15: Transfused 2-3 rbc daily. Abx started on Day 8 Day 8-20: Abx only. Day 22: Disch home	12 days Abx only	
220	f	57	LOC	medical				3			4	7		11	9								1					11	5	Day 1: On monitor + IVI + Neuro + CT scan. Day 2: Neuro r/v booked. Da 3: Neuro r/v done. Cardio r/v booked. Echo booked. Day 4: Off monitor. IVI stopped. Neuro stoped. Day 5: Cardio r/v done. Echo done. Day 6: High crop and temp: BC taken Abx started. Ward change. Day 7 - 10: Abx only. Day 11: Abx changed to PO and disch home	1 days for neuro r/v + 1 day for cardio r/v + 2 days for echo	
221	f	71	pneumonia	medical				2				3	4	4	4													9	0	Day 1: Abx + Oxygen + IVI Day 2: CXR repeated. CT scan booked. Day 3: CTPA done. IVI stopped. Day 4 - 8Abx + Oxygen. Day 9: Disch home		
1	f	85	Hyperglycaemia	medical						2	1	2		2	4		2									1		10	5	Bloods / urine samples. Actrapid pump for 2 days. Then switched to FD.		2 days due to feast day + 3 days waiting for endocrine consultation
2	f	68	Pericardial eff	medical	5	1		3				9	6	10	15		7	5										20	8	Chest drain/CT/Ultrasound 6 days waiting to do/catheter/ab course/transferred monitor/covid swabs prior to procedures/		2 days due to COVID swabs + 6 days waiting for ultrasound
3	m	80	Intestinal Obst	surgical					2		3		1	5	10	5	10		2									10	5	catheter/IVI/NGT for 4 days/ stoma/A/W SW r/v for 5 days		5 days extra waiting for SW
4	m	85	Nausea/vomiting	surgical				1			1	2		10	10		10					1						10	0	IVI/catheter removed on day 6/ then only for Abx	Last 3 days kept only for Abx	
5	m	82	Sepsis	medical	8							4	6	11	11	10	11				1			4				11	0	IVI/Abx/catheter/transfusion/SLP r/v		
6	f	55	chest pain	medical									2	10	10	10	5											25	5	IVI/bloods/COD/Aw opth rev for 5 days, in which she was near COVID+ve…qauarntine for 14 days.	Quarantine for 14 days	5 days waiting for ophtalmic r/v
7	m	47	abdo pain	surgical				2		1		1		8	8	9		9										10	0	CT/CXR/Ultrasound drainage/ 7 days for Abx	Last 3 days kept only for Abx	
8	f	74	for ulcer op (mch)	vascular		3	5	3			1	4	6	19	29	22	22	19							15			30	3	catheter for theatre with IVI/theatre on 2nd day/post op wound care+Abx+COD/needed VRE room on 7th day/ COD and warfarin for 5 days/started on heparin on day 15 for theatre again due to clot/had to wait 3 days for theatre		Operation cancelled for 3 days.
9	m	77	confusion	medical	3			2				4	4	10	10	7	10				2	1			10			11	0	constant watch/catheter/ivi + bloods/Abx/confusion/Abx for 10 days	Last 2 days kept only for Abx	
10	m	62	loc (mch)	medical								6	6	7	8	8	8					1		3				10	0	NIV/oxygen/catheter/Abx/niv stopped on day 6/last 3 days waiting for resp review		Last 3 days waiting for reso review
11	f	76	laparatomy	surgical	1		1		1		1	3	7	14	14	8		2										15	6	theatre/post op stoma/catheter/drain/Abx + oxygen/removal of clips on 9th/ger rev on 10th/waiting for rehab for 6 days		6 days waiting for rehab bed
12	m	66	uti	medical	1			1				2		14	14	14	14	14			2				5		1	16	0	IVI/oxygen/catheter/CW for 6 days/haematuria + irrigation for 10 days/ultrasound kidneys/2 transfusions/		
13	f	85	dgc (nurs.home)	medical	8							1	1	3	10	10												11	2	IVI/Abx/oxygen/SLP/discharge postponed due to high crp/COVID retaken twice		2 days due to COVID swabs
14	m	43	uti (Dar tal Prov)	medical				2						15	15	6												16	7	Abx/IVI/RIG + feeds/4 days a/w venogram report/4 days for dietician r/v/ 3 days for COVID swab to be retaken		3 days for COVID swabsv + 4 days waiting for dietician
15	f	84	fever	medical				1					9	14	14	11	6				1					2		15	0	IVI/Abx/Oxygen/monitor for 3 days/bloods/catheter for 8 days/IVI restrated and oxygen restarted		
16	f	75	angioplasty	vascular		1	1	1	1		1	4		5	6	4		5			2							10	0	dialysis/operation done day 1/heparin stopped and swicth to warfarin/3 days to get inr in range	Last 3 days kept to get INR in range	

17	m	97	urine retention	urology									2	5	13		13								13		1	14	0	IVI for 8 days/catheter/pressure ulcer care/CW/Abx only for 8 days	Last 8 days kept only for Abx	
18	f	78	anaemia	medical								6		9	9		5				3							10	6	IVI/transfusion twice/6 days waiting for SW to review pt		6 days waiting for SW review
19	m	77	hypoglycaemia	medical										8	8	8						1						9	2	HGT charting/IVI - endocrine review/FD changed multiple times	Kept 3 days to adjust FD acc to HGT	2 days waiting for endocrine review
20	m	65	fever on chemo	medical				1			2	3		8	13		2				5		3					14	0	IVI/Abx/tran sfused 5 times/last 4 days only for Abx	Last 4 days kept only for Abx	
21	m	70	fever on chemo	medical								3		8	8		4						5					9	0	Portacath/IVI/Abx for 8 days	Last 8 days kept only for Abx	
22	f	82	abdo pain	sur/med				3		1		1		8	8		9	9							3			10	0	wound care/COD/catheter/Abx for pneumonia+uti/last 4 days for Abx	Last 4 days kept only for Abx	
23	f	75	sob	medical	5							2	2	5	6		6				1	1					2	9	0	CHF exace/monitor for 3 days/disch postponed due to high crp/transfusion once		
24	m	79	ischaemic foot	vascular		7		1		2	2			8	7		4				2	1						15	0	haematuria/transfusion twice/waiting for 4 days for theatre/CT-IVU postponed for 3 days due to technical faults/theatre done on day 8/itu for 3 days/back to ward/cod/pca/long-term catheter		
25	m	82	Hyperglycaemia	medical						3	1	2		8	8													9	5	Actrapid pump for 3 days/Abx/diabetic review waiting for 3 days/then until FD is found	Kept 2 days to adjust FD acc to HGT	3 days waiting for endocrine review
26	m	67	chest pain	medical								4		3	7	7											1	8	5	Bloods/IVI for 3 days/5 days just waiting for home arrangements		5 days waiting for home arrangements
27	f	63	chest pain	medical				1				2		4	7					2								8	4	? PE/CTPA/heparin for 3 days/bloods/last 4 days waiting for cardio review		last 4 days waiting for cardio r/v
28	f	58	high crp	medical				1			1			2	5	7	3											9	3	blood cultures/echo/Abx course/last 3 days cause of weekend		last 3 days because of weekend
29	f	68	aki	medical				3			1			13	13	10	4									1	1	16	3	IVI for 10 days/catheter for 6 days/Abx/hyperkalaemia regime/ultrasound kidneys/SW referral/PT		3 days waiting for SW r/v
30	f	96	DGC	medical	8						4	8	4	9	10	9	9								5			42	32	Abx/catheter/Oxygen/NBM/IVI/DNR - SLP on 3rd day + NGT/emergency regime. Dietician on 5th day - NGT regime/Abx stopped on 9th day/COD heel/ Ger + SW on Day 10/For rehb - transferred on Day 42		30 days waiting for rehab bed + 2 days due to CVOID swabs
31	f	92	Cholecystectomy	surgical	1	1								13	18	13	6	12										29	17	NBM/IVI/Abx - surgery on Day 2/drain, Abx/Oxygen/NBM/COD. Drain removed on Day 12/Abx stopped on Day 13. Ger r/c + SW r/v on Day 13 - for rehab. Transferred to rehab on Day 29		17 days waiting for rehab bed
32	f	86	AKI	medical						2	5	18			16	18	17	10							6			46	28	IVI+Abx+NBM+cathter+confusion+neurocharting/U/S+pelvis X-ray+VRII/SLP+TVN/Day 4 stop IVI+VRII/SW+GER on Day 6/CW for 6 days/catheter removed on Day 15/Abx+IVI stopped on Day 15/DMPOV and flagged on Day 18		28 days waiting for LTC bed
33	m	73	Falls	medical							3	7	7	7	7													72	58	IVI+Abx+catheter with uro help/Abx stopped on Day 7+IVI stopped/catheter removed on Day 8/Ger + SW on Day 9/DMPOV and flagged on Day 14		58 days waiting for LTC bed
34	m	63	sob	medical	10			1			5	14	5	10	14	10	7	3										40	27	IVI+SLP+urine samples+NBM+Oxygen+Abx/Dietician r/v Day 3/Chest drain + CXR on Day 3/Chest drain removed+IVI stopped on Day 7/Abx stopped on Day 10/Ger r/v+SWr/v on Day 12/Flagged for LTC on Day 14/Transferred to LTC on Day 40		27 days waiting for LTC bed
35	m	86	abdo pain	surgical								16	15	17	17	15									8			49	28	IVI+Abx+Oxygen+Sputum and urine smaples/Quarantine due to COVID exposure - 10 days/Abx stopped+IVI stopped+Oxygen stopped + DMPOV on Day 15/ SW r/v+Ger r/v + CW done on Day 16/Flagged for LTC on Day 21/Tranferred to LTC on Day 49		28 days waiting for LTC bed
36	m	77	vomiting	sur/med	2	2	2			1	5	12	5	9	12	9	12	10	2									46	34	IVI+monitor bed+clear fluids+Abx+Oxygen/SLP r/v on Day 2+TVNr/v/ change ward due to CRE+ve/catheter done on Day /off monitor and change ward on Day 6/SLP r/v Day 7/catheter and Oxygen removed Day 8/For thatre on Day 11 - done/Accepted for rehab on Day 14/Tranferred to rehab Day 46		34 days waiting for rehab bed
37	m	86	abdo pain	medical							2	13	5	6	13	6	2								10			48	35	IVI+samples+Oxygen/Weekend Day 2+3/CW on Day 4/Oxygen stopped on Day 5/IVI+Abx stopped on Day 6/DMPOV on Day 7 - SW r/v+Gerr/v/ Not for rehab on Day 8/ Flagged for LTC on Day 13/ Transferred LTC on Day 48		35 days waiting for rehab bed
41	f	89	confusion (nursing home)	medical	5							4	3	9	4										4			9	0	Oxygen, catheter, consyant watch, ECG, Abx, IVI/ Day 2 - Stop Oxygen/Day 3 - Stop IVI/Day 4 - stop CW/Day 5 - Day 9 - Abx only/ Day 9 - Discharged	5 days on Abx only	
42	m	65	toe amputation (nursing home)	vascular		2	1	1	1	1	1	2		8	3			5									1	12	2	Day - duplex scan + COVID swab/Day 2 - Abx + NBM +DP for theatre on Day 3/Day 3 - surgery done + dly COD/Day 4 - CRE wound diagnosed - transferred to single room/Day 5 - hypo episode - given treatment for it/Day 6 - Day 10 Abx only/Day 11 - TVN r/v COD changed/ Day 12 - COVID swab/ Day 13 Discharged to nursing home		2 days extra wiaiting for COVID swab result
44	m	68	SOB	surgical	7	1	1	3				5	1	12	12		5				3					3		12	5	IVI, Oxygen, Abx/Day 1 - IVI stopped, Oxygen prn/Day 3 - U/S abdo/Day 5 - urine sample, Gall bladder drain done, A/W CT/Day - Tx 1 unit, drain charting/Day 8 - Tx 1 unit, U/S liver done. CT done/Day 9 - Tx 1 unit, drain removal in 2 days, COVID swab taken/Day 10 - - Drain prep done/Day 1 - Drain removed/ Day 12 - Stop Abx, Disch		4 days waiting for CT scan, 1 due to COVID swab pre-procedure,
45	f	84	Urosepsis (nursing home)	urology				1						12	5		12											15	2	IVI, catheter, NBM, Abx, Bloods/Day 2 - CT done/Day 4 - SLP consult done but came on Day 7/Day 3 - Day 12 - Abx only/ Day 13 - COVID swab taken but lost/Day 12 - catheter removed/Day 14 - COVID retaken/Day 15 - Disch	SLP r/v delay of 3 days	2 days waiting for COVID swab + 5 days waiting for SLP r/v
48	m	75	DGC	medical	16			1						7	8		7											73	65	Oxygen, Abx, Blds/ Day 2 - CTPA done, catheter done/Day 3 - Ger consul - came on Day 5, for re r/v/ Day 4 - SW consult - came on Day 6/ Day 7 - Abx stopped, catheter removed, DMPOV/ Day 8 - Ger re r/v - NOT for rehab/Day 10 - DFT consult - came on Day 12/Day 12 - flagged for LTC/Day 23 - high CRP, Abx, CXR, COVID +ve/Day 23 - Day 37 - quarantine period/ Day 38 - Day 73 - a/w LTC		61 days waiting for LTC (including 14 days quarantine period)/2 days for Ger r/v/ 2 days for SW r/v

53	m	86	abdo pain	surgical										15	10										5			49	34	IVI, Abx, Oxygen, Urine + sputum samples/Day 1 - Day 5: Abx only/Day 6: COVID+ve (quarantine for 15 days)/Day 15: Abx stopped, IVI stopped, Oxygen stopped DMPOV/Day 16: SW r/v, Ger r/v CW due to confusion/Day 17: SW and relatives meeting/Day 21: Flagged for LTC/Day 49: Transferred to LTC facility	15 days Abx only	15 days quaratine (6 days of them after DMPOV)/28 days waiting for LTC facility
55	f	92	Cholecystectomy (nursing home)	surgical		1	1		1			5		14	12		10	10										29	17	NBM, IVI, Abx/Day 2: COVID swab taken for surgery/Day 3: Surgery done - NBM, drain, Abx, Oxygen/Day 4: drain care, COD/Day 5 - Day 12: Same/Day 13: drain removed/Day 14: Abx stopped. Ger r/v, SW r/v/Day 15: Ger r/v done - for rehab/Day 29: Transfer to rehab		14 days waiting for rehab/2 days waiting for COVID swab/1 days for Ger r/v
57	m	73	Falls	medical										7	7		7											72	63	IVI, Abx, uro consult/Day 1: catheter done,Day 7: Abx stopped, IVI stopped, catheter removed/Day 9: Ger r/v and Sw r/v, DMPOV/Day 14: Flagged by DFT for LTC/Day 72: transferred to LTC		5 days waiting for DFT r/v/58 days waiting for LTC/2 days waiting for COVID swabs
58	f	69	SOB (nursing home)	medical	14			6				3		25	8													26	1	Oxygen, IVI, CW, NGT, Abx/Day 2: CTPA done/Day 3: urine samples and vloods/Day 4: CT-TAP done to do/Day 5 - Day 10 - waiting for CT-TAP (done)/Day 11: IVI stopped/Day 25: Abx stopped. COVID swab taken/Day 26: Disch to MCH	14 days for Abx only + 5 days waiting for CT	1 day waiting for COVID swab
59	f	83	abdo pain	surgical								2		10	5		6								10			10	1	IVI, urine samples, catheter, Abx, confusion/Day 2: CW + output charting/Day 6: catheter removed/Day 9: Stop Abx/Day 10: COVID swab/Day 11: Disch to nursing home	4 days Abx only	1 day waiting for COVID swab
61	m	80	pneumonia (nursing home)	medical	7			1				2		8	3													11	4	Abx, Oxygen, IVI, CW, COD/Day 1: SLP r/v, IVI stopped, CT thorax/Day 3 COVID+ve Quarantine for 7 days/Day 7: DMPOV Abx stopped/Day 11: Disch nursing home		3 days due to quarantine + 1 day for COVID swab

62	f	92	pneumonia (nursing home)	medical	5			1				2		10	5													15	5	Oxygen, IVI, Abx, SLP/Day 7: CXR done. IVI stopped/ Quaratine for 7 days due to close proximity to COVID/Day 10: Abx stopped. DMPOV/Day 15: Disch home	6 days Abx only	5 days due to quarantine
66	m	75	DGC	medical	9			3				6		8	6					2								16	10	IVI, urine samples, Abx, catheter/Day 1: Bone density scan booked/Day 2: COVID+ve quarantine for 14 days/Day 3: Bone density scan done/Day 5: Fall and head injury (neuro chart)/Day 6: CT brain. Abx and IVI stopped/Day 16: Disch		10 days due to quarantine
70	m	90	DGC (nursing home)	medical	2						3			7	8		8								9			12	5	Oxygen, IVI, NBM, monitor bed, catheter, Abx/Day 1: Offmonitor as CRE, SLP r/v booked/Day 2: SLP r/v done/Day 3: Confusion - CW/Day 4: SLP r/v again/Day 5: catheter removed. Ger r/v booked/Day 6: IVI stopped/Day 7: Abx stopped/Day 8: Ger r/v done/ Day 9: CW stopped/Day 10: COVID swab done/Day 11: COVID swab re-rone as misplaced/Day 12: Disch	1 days for SLP r/v	2 days waiting for COVID swab + 2 days waiting for Ger r/v
73	m	73	Fever	surgical				9				12		20	15						5		2		5	8		20	3	Abx, Oxygen, COVID swab/Day 1: Stputum and stool samples/Day 2: CXR, CTPA, Tx 1 unit/Day 3: Fever - treatment changed/Day 5: Tx 1 unit/Day 8: Abx stopped/Day 9: Tx 1 unit/Day 12: Ward change due to CRE/Day 13: Tx 1 unit/Day 14: Treatment change + Tx 1 unit/Day 16 IVI + CXR/Day 17: CT booked - to be done in 1 week/Day 18: CW as confused/Day 19: Tx 1 unit/Day 20: RIP		7 days waiting for CT scan
75	f	91	Falls	medical								1		1	1													38	36	IVI, Neurp charting, COVID swab, Bloods/Day 1: CW confusion, SW r/v + Ger r/v booked, IVI stopped, DMPOV, Day 3: SW r/v done, Ger r/v done. Flagged for LTC/Day 38: transferred to LTC facility		35 days waiting for LTC + 1 day waiting for SW + Ger r/v
77	m	77	AKI (nursing home)	medical				1				6		12	10		10								5			18	4	Abx, IVI, Oxygen, catheter, CW, COVID swab/Day 1: CT scan done/Day 3: Oxygen stopped/Day 5: CW stopped/Day 12: Abx stopped, Day 15: IVI stopped/Day 10: catheter removed/Day 16: COVID swab taken but misplaced/Day 17: COVID swab retaken/Day 18: Discharged		4 days waiting for COVID result
80	f	81	Fever (nursing home)	medical				6			3	6		9	12		11											70	16	NBM, IVI/Day 1: SLP, NBM, Abx, Oxygen, CT brain booked, catheter/Day 2: SLP r/v done/Day 3: CT due in 5 days/Day 7: CT brain. NGT done + feeds. IVI stopped/Day 9: Abx stopped/Day 11: catheter removed/Day 17: COVID+ve. Quaratine for 14 days/Day 25: Quarantine ends/Day 26: Dietician r/v done/Day 26: Covid swab done/Day 27: Discharged		14 days quarantine + 2 days waiting for COVID swab
83	m	64	SOB	medical	11							15	15	10	15												1	20	5	Oxygen, BIPAP, monitor bed, COVID+ve/Day 1: BIPAP settings changed, urine samples, Abx/Day 2: catheter done, BIPAP settings changed/Day 3: BIPAP settings changed, Cardio r/v/Day 4: BIPAP weaning off/Day 5: BIPAP weaning off/Day 6: catheter removed, BIPAP only at night/Day 7: Swabbed for COVID/Day 9: COVID neg, transferred ward/Day 10: CTPA done, urine samples/Day 11: off monitor/Day 12: SOB acvute call, BIPAP restarted, on monitor bed/Day 13: Daily Abgs and BIPAP settings changed/Day 14: off monitor, BIPAP stopped/Day 15: Applied for LTOT, DLN r/v/ Day 20: Discharged home		5 days waiting for LTOT papers
87	f	84	confusion (nursing home)	medical							5	6		11	8		6											38	28	IVI, urine samples, bloods/Day 1: NGT done, feeds, catheter done, dietician review booked/Day 5: Dietician r/v done, feeding regime changed/Day 10: Feed rate changed, IVI stopped/Day 12: Pt for relocation as nursing home cannot care for NGT/Day 13: DMPOV/Day 38: transferred to new LTC facility	5 days for dietician r/v	23 days waiting for relocation
89	f	79	fever	medical								3		12	8													13	0	urine samples, Abx, resp screen, tracheostomy/Day 1: COVID swab + resp screen/Day 3: CT booked/Day 8: CT thorax done/Day 12: Abx stopped/Day 13: Discharged	4 days on Abx only	5 days waiting for CT scan
91	m	75	Hyperglycaemia	vascular	1	3	1		3			15		30	30		6				1							65	61	IVI, Act pump, catheter, xray, NBM, COD/Day 1: Booked for angioplasty/Day 2: TVN r/v/ IVI stopped, Act pump stopped/Day 3: Angio set for Day 6, COVID swab taken/Day 5: Pre-op done, NBM +DP, SW booked/Day 6: COVID came +ve, angio postponed/Day 7: TVN r/v done. catheter removed/Day 8: Started Abx, hyperkalaemia regime given/Day 10: IVI re started/Day 16: COVID swab taken - ve, Day 17: Transfused. Angio date set for Day 25/Day 19: Act pump started/Day 20: Act pump stopped/Day 21: Angio date scrapped again. SW r/v done. Diabetes educ done/Day 23: Angio date set for Day 30/Day 29: Pre-op prep done. COVID swab taken (-ve)/Day 30: Angioplast done. Flagged for LTC/Day 65: Transfer to LTC facility		10 days quarantine period + 16 days due to angio post-ponment + 35 days waiting for LTC facility
92	f	84	high inr	medical								5		7	5													11	0	IVI, urine samples/Day 1: CT scan done, stool samples/Day 3: Transfused, INR + warfarin dosing/Day 4 - 6: INR + warfarin dosing/Day 6: COVID swab taken/Day 7: IVI stopped, warfarin + INR/Day 11: Disch home		
97	m	74	DGC	medical							1	8		10	8		10				1							18	5	IVI, Abx, Oxygen, urine samples, resp screen/Day 1: catheter done, SLP booked/Day 3: Quarantine due to COVID contact/Day 7: IVI stopped/Day 8: bleeding, Vit K given/Day 9: Transfused/Day 10: Out of quarantine, Abx stopped, Day 11: SW and Ger booked/Day 13: Ger r/v done/Day 18: transferred to rehab		5 days waiting for rehab + 10 days on quarantine

98	f	90	DGC (nursing home)	medical							3	6		10	8		7								5	1		12	4	NBM, Abx, IVI, catether, resp screen/Day 2: Confusion - CW, hypotension - IVI running/Day 4: SLP done/Day 11: Stop Abx, DMPOV but no COVID swab taken/Day 12: COVID -ve, disch	3 days for SLP r/v	1 day waiting for COVID swab
102	m	45	Appendicectomy	surgical	1	2	1	1	2			4		4	4													5	1	IVI, Abx, NBM. Day 1: NBM. COVID swab taken. Day 2: U/S abdo booked, could not go theatre cause no swab - COVID swab repeated/Day 3: NBM. Surgery done/Day 4: IVI stopped, COD/Day 5: Discharged home		1 day waiting for COVID swab
104	m	76	cholecytectomy	surgical	1	1	1	20				12		15	13			2										16	2	IVI, CT booked, Abx. Day 1: U/S booked, NBM. Day 2: COVID swab taken for surgery mane. Day 3: Surgery not done as high CRP/Day 4 - 8: Abx only/Day 9: COVID swab taken for surgery mane/Day 10: Surgery done, COD/Day 11: COD, drain care/Day 12: Drain removed, IVI stopped/Day 15: Abx stopped/Day 16: Discharged	1 day waiting for CT scan + 1 day waiting for COVID swab	
107	f	56	chest pain	medical				1				10		5	10													12	0	Bloods, monitor bed/Day 1: repeated bloods - angina + AF/Day 2: Started on isoket, heparin IV/ Day 3: Echo done. Heparin and APTT balance + bloods + treatment changes/Day 4: monitor off, isoket stopped/Day 5: Heparin stopped, warfarin started/Day 6 - Day 10: warfarin and INR balance/Day 12: Discharged		
108	f	74	infected leg wound	vascular							1			15	6													23	10	Abx, COD, IVI. Day 1: IVI stopped. Day 2: TVN r/v done. Day 3 - Day 13: Abx only + COD. Day 12: Quaratine as COVID contact for 10 days. Day 15: Abx stopped. Day 23: Discharged		10 days due to quarantine
111	m	81	confusion	medical										12	12		10								10			12	0	CW, IVI, Neuro chart. Day 1: CT scan booked. Day 2: catheter done, Abx started/Day 3: CT could not be done due to confusion. Day 4: morphine infusion started. Day 5 - Day 10: kept confortable. Day 12: RIP		
114	f	65	abdo pain	surgical				1				7		12	8				2									14	0	IVI, NBM, Abx, single room. Day 1: Stool cultures and stool charting, NBM. Day 2: enema done, light diet allowed. Day 3: IVI stopped. Day 4: enema done again. Day 5 - Day 10: Abx only. U/S abdo booked and done. Day 12: Abx stopped. Day 14: Disch home		
115	m	68	bleeding pr	surgical	1	1	1							16	12						3							18	0	IVI, NBM. Day 1: Abx. Transfusion, stool charting. Day 2: NGT done with drainage. Day 3: COVID swab done, scheduled for OGD, Colonoscopy mane/Day 4: OGD done and colonoscopy. Day 5: transfusion, Light diet. Day 6: IVI stopped, NGT removed. Day 8 - Day 15: Abx only. Day 16: Abx stopped. Day 17: Transfusion. Day 18: Discharged		
117	m	45	for angioplasty	vascular	1	1	1							2	3													12	10	COVID swab, IVI, NBM. Day 1: Angio done. Quarantine for 10 days due to COVID contact. Day 12: Disch home		10 days quaratine period
121	f	52	chest infection	medical								4	6	7	7													13	0	IVI, Abx, Oxygen Day 1: COVID swab +ve. Isolation done. Day 2: CXR done. Day 3 - Day 12: Quaratine and Abx. Day 7: IVI stopped. Day 13: Disch home		

122	f	79	chest pain	medical				2				5	13	9	9													15	6	IVI, Oxygen, Abx. Day 1: CXR done. CTPA booked. Day 2: CTPA done. Day 3: Pt in quaratine due to COVID contact - ward changed. Day 4: IVI stopped. Day 5 - 14: Quaratine. Day 9: Abx stopped. Day: 15: Discharged home		Quaratine for 6 days
125	f	93	pneumonia (nursing home)	medical								6	13	13	15													22	8	IVI, Oxygen, Abx. Day 1: IVI stopped. Day 2 - Day 10: Abx only + Oxygen. Day 11: COVID contact - ward changed. Day 13: Abx stopped, weaning off Oxygen. Day 21: COVID swab taken - for Disch mane. Day 22: Disch		8 days quaratine
129	m	72	For nephrostomy change	urology	2	2	2	1				8		18	12		14											18	0	IVI, Abx, catheter, output charting. Day 1: COVID swab taken for surgery. Day 2: Surgery postponed due to high CRP. Day 3: CT KUB done. U/s booked. Day 4: U/S done. Day 7: COVID swab taken for surgery mane. Day 8: Surgery done. COD. Output charting. Day 10: IVI stopped. Day 14: catheter removed. Day 18: Abx stopped. Disch	1 day for U/S	
134	f	74	sob	medical				2				11	8	12	11		3											20	7	Oxygen, Abx, catheter. Day 1: Resp screen + COVID swab repeated. Day 2: CTPA booked and done. Day 3: catheter removed. Day 4: COVID swab repeated and positive. Day 5 - Day 19: quarantine. Day 12: Abx stopped. Day 10: CXR done. Day 20: Dischaged		7 days quaratine
136	m	42	chest pain	medical				1				8	7	7	9												2	9	4	monitor bed, Oxygen. Day 1: On isoket started IV. Regular ECG/Trop Day 2: chest pain event - isoket increased. Patient scheduled for angiogram. Cardio r/v done. Day 5: Angiogram done with angioplasty. Day 7: Isoket stopped and Oxygen stopped. Echo done. Day 8: Off monitor bed. Waiting for CTPA report for 1 day. Day 9: Disch home		3 days waiting for angiogram. 1 day waiting for CTPA report
140	m	66	bleeding pr	surgical	1	1	1	4				9		25	19						3						2	71	54	IVI, NBM. Day 1: Stool charting. Transfusion given. Day 2: Vit K given. Transfusion given. U/S liver booked. Day 4: U/S done. On light diet. Day 5: Hyptensive event. Fluids given. For ? OGD. Day 7: Transfusion given. IVI stopped. Ger r/v booked. SW r/v booked. CT booked. Day 9: SW r/v done and CT done. Day 10: Ger r/v done. DSPOV. DFT r/v pending due to family discussions. Day 12: Flagged for LTC. Day 24: High CRP and COVID swab taken and started Abx. Day 36: Abx stopped. Day 71: Transferred to LTC bed	2 days waiting for U/S	2 days for SW r/v + 2 days for CT scan + 3 days for Ger r/v + 47 days for LTC bed
141	f	84	pneumonia (nursing home)	medical				3				11	9	17	15			8										19	2	monitor bed, Oxygen, Abx, urine samples. Day 1: CXR done. Catheter done. Day 2: COVID swab re taken. Blood cultures re taken. Day 3: CTPA booked. Day 5: CT done. Off monitor and ward change. Day 8: catheter removed. CXR booked. Day 9: CXR done. Oxygen stopped. Day 17: Abx stopped. COVID swab taken for disch. COVID swab lost and had to be re-taken. Day 19: Disch	2 days for CTPA + 1 day for CXR + 8 days Abx only	2 days for COVID swab
144	m	94	sob (nursing home)	medical				1			3	12	8	14	12		7											15	1	Oxygen, Abx. Day 1: Started on isoket infusion. Catheter done for output. Day 2: CXR redone. Transferred to monitor bed. Day 3: Blood cultures taken. Isoket stopped due to intolerance. Day 5: Cardio R/v booked and done. COVID swab redone. Taken off monitor. Day 8: catheter removed. Resp r/v booked. Day 11: Resp r/v done. Day 14: Abx stopped. COVID swab taken. Day 15: Disch	3 days for resp r/v	1 day for COVID swab
145	m	87	chest infection (nursing home)	medical								9	3	10	7													15	5	Oxygen, IVI, Abx. Day 1: COVID swab repeated. Day 5: Patient in contact with COVID patient - quaratine for 10 days. SLP r/v done. Day 10: Abx stopped. Day 15 Disch		5 days in quarantine
150	f	66	pneumonia	medical				1			2	8	1	12	7													12	0	Oxygen, Abx, resp screen. Day 1: Blood cultures and COVID swab repeated. Day 2: CT booked and done. Resp r/v booked. Day 4: Resp r/v done. COVID swab taken again. Day 12: Abx stopped and Disch	2 days for resp r/v	

154	f	55	chest pain	medical							2	5			4													11	7	monitor bed, ECG/Trops. Day 1: Serial ECG/Trop. Cardio r/v booked. Day 2: off monitor. Cardio r/v done. Patient in contact with COVID. Day 3 - Day 10: quarantine. Day 11: Disch Oxygen, Abx, resp screen and COVID screen. Day 1: CXR repeated. CTPA booked. Day 2: CTPA home	1 day for cardio r/v	7 days quarantine
157	f	75	sob	medical				4				11	8	11	9													13	2	done. Day 3: COVID swab re taken - positive. Pt quarantine for 10 days. Day 8: Oxygen stopped. CXR repeated. Day 11: Abx stopped. Day 13: Disch home	1 day for CT + 10 days quarantine	
160	m	59	for angioplasty	vascular	1	1	1					6		4	18												1	20	11	IVI, NBM + DP. Day 2: COVID swab taken - positive. Angio postponed. Day 3 - Day 14: Quarantine period. Day 15: COVID swab taken. NBM + DP. For angio mane. Day 16: Angio done. COD. Bleeding problem. Day 17 - Day 19: Warfarin dose and INR regulation. Day 20: Disch home		11 days quaratine period
162	f	79	chest infection	medical							2	15	15	15	14												2	32	17	Abx, IVI, Oxygen Day 1: COVID swab repeated - negative. Regular ABGs. Day 2: SOB episode - ABGs, monitor bed and ward change. Oxygen varied. Day 3: ABGs suggest BIPAP machine. Regular bloods and ABGs. CT scan booked. Day 4: CT scan done. COVID swab repeated. Day 5: Wean off BIPAP on and off. Regular ABGs. Day 6: Cardio review booked. Off BIPAP. Day 7: Cardio review done. Day 9: off monitor and ward change. Ger r/v booked. Day 12: Ger r/v done - for rehab.Day 15: Abx stopped. Wean off Oxygen. Day 32: transferred to rehab	1 day for CT scan + 1 day for cardio r/v + 3 days for Ger r/v	17 days waiting for rehab
169	f	56	unstable angina	medical				2			2	10	4	5	7							2					3	10	0	monitor, ECG, Trops, Oxygen. Day 1: Echo booked and done. Isoket started IV. Day 2: Hypotension episode - isoket titrated acc. Day 3: Isoket stopped. Scheduled for angiogram in 3 days. Day 4: Epsidoe of chest pain - ECG/Trops taken. Iskoet re-started. Angio mane. Day 5: Angio done. Isoket stopped. Stenting done during angio. Day 6: off monitor and ward change. Day 7 - Day 8: Treatment changes for optimisation. Day 10: Disch home	3 days for angiogram	
170	f	62	chest pain	medical								3	1		4													10	7	ECG, Trops, Oxygen. Day 1: Oxygen stopped. COVID swab re-taken. Day 2: Quarantine due to COVID contact. Day 3 - Day 9: Quarantine. Day 10: Disch home		7 days due to quarantine
173	m	43	bleeding pr	surgical				3				7		10	6						3							10	0	NBM, IVI. Day 1: Abx started. Day 2: Tx given. AXR booked. Day 3: Gastro r/v booked. AXR done. Day 4: IVI stopped. On light diet. Day 5L Tx given. Day 6: Gastro r/v done. Day 10: Abx stopped. For OGD in 1 week as o/p. Disch home	1 day for AXR + 2 days for gastro r/v	
175	f	44	pneumonia	medical				2				6	7	10	8								2					11	0	Abx, IVI, Oxygen. Day 1: High fever. Blood cultures taken. COVID swab re-taken. CXR taken + CT taken. Day 2: IVI stopped. Day 3 - Day 10: Abx only. Day 7: Oxygen stopped. Day 11: Disch home	4 days for Abx only	
178	m	52	cholecystectomy	surgical	1	1	1	4			2	8		13	13		5	7		1								15	2	NBM, IVI. Day 1: patient has high CRP. Started on Abx. No surgery for now. U/S abdo done. CT booked. Day 2: Abdo pain - pain releif given. Day 3: CT done. Catheter done. For surgery when CRP is down. Day 5: CT done again. NBM for surgery in 2 days. Day 6: NBM + DP. Day 7: Surgery done. COD + drain care. Day 8: IVI stopped. U/S done. Day 10: drain removed. On light diet. Day 13: Abx stopped. Day 15: Disch home.	2 days for CT	2 days for arranging community care
222	m	49	chest pain	medical							2	5			5													6	2	Day 1: ECG/Trops taken. Day 2: COVID swab repeated: -ve. Day 3: Trop re-taken. Cardio r/v booked. Fay 5: Cardio r/v done. Day 6: Disch home	2 days for cardio r/v	
223	m	90	pneumonia	medical							3	6		11	9													16	7	Day 1: Abx + IVI + Covid swab. Day 2: IVI stopped. Day 3: BC due to fever. Resp r/v booked. Day 5: Resp r/v done. COVID swab repeated - +ve. Quarantine for 10 days. Day 11: Abx stopped. Day 16: Disch home		2 days for resp r/v + 5 days due to quarantine
224	f	32	gastroenteritis	medical				3				5		7	6					1								8	1	Day 1: NBM + IVI + Abx + Covid swab. Day 2: U/S abdo booked. Day 3: Stool cultures + IVI bolus due to hypotension. Day 4: U/S abdo done. Started on sips. Abx started. Day 6: IVI stopped. Day 7: Abx changed to PO - semi-solid food. Day 8: Disch home	1 day for U/S abdo	
225	f	56	pneumonia	medical								7		8						1								12	4	Day 1: Abx + IVI + COVId swab. Day 2: 10 days quarantine as +ve for COVID. Ward changed. Day 3: IVI stopped. BC taken due to fever. Day 4 - 8: Abx only. Day 9 -12: Quarantine finished. COVID -ve. Disch home		4 days due to quarantine
226	f	61	bowel obstruction	surgical				3			3	6		7	7				3									9	3	Day 1: NBM + IVI. Day 2: Stool charting. CT done + PO4 enema. Abx started. Day 3: high PO4 enema done. NBM. Ward changed. Day 4: IVI stopped. On sips of water. U/S abdo booked. Day 5: U/S abdo done. Stool charting. Day 7: Abx changed to PO. Gastro r/v booked. Day 9: Gastro r/v done. Disch home	1 day for U/S abdo + 2 days for Gastro r/v	
227	f	96	DGC	medical							5	9		12	11			12		1								14	6	Day 1: Abx, NBM, IVI, cathater. COVID swab. Day 2: COD sacral sore. TVN r/v booked. SLP r/v booked. Day 4: SLP r/v done - liquidized diet. TVN r/v done. Day 5: BC taken due to fever - fluids given due to hypotension. Day 6 - 9: Abx + COD. Day 10: IVI stopped + catheter removed. Fay 11: TVN r/v done again. Day 12: Abx stopped. Resp r/v booked. Day 14: Resp r/v done. Disch home	2 days for TVN r/v + 2 dhays for SLP r/v + 2 days for resp r/v	

228	f	78	chest pain	medical								4	2		5													12	8	Day 1: ECG/Trops + Oxygen. Day 2: Oxygen stopped. COVID +ve - 10 days quarantine. Day 4: DMPOV - kept for quarantine till day 12		8 days due to quarantine
229	m	68	for toe amputation	vascular	1	1	1	1			4			21	13			12										22	3	Day 1: Abx + IVI + BC + COVID swab + wound swab. Day 2: Not for theater until CRP is down. Dly COD + TVN r/v booked. Day 3: CRE+ve…ward changed. TNV r/v done. Inf disease consult. Booked. Day 4: Inf Dis consult done: Abx changed. U/S doppler done. Day 5 - 10: Abx only. IVI + DP + NBM. Day 11: Surgery done. Dly COD. Day 12: wound swab repeated. DLy COD + Abx. Day 12-21: Abx + COD. Day 22: Disch home	1 day for TVN r/v + 1 day for consult + 1 day due to COVID swab test	
230	m	92	falls	medical								4		3	6													55	46	Day 1: IVI, blds, COVID swab. Day 2: Ger r/v and SW r/v booked. Day 3: IVI stopped. DMPOV. Ortho r/v booked. Day 4: Ger r/v done - not for rehab. Day 6: SW r/v done. Day 8: Ortho r;v done - not for surgery. Day 9: DFT r/v done - flagged for LTC. Day 55: COVID swab taken - transfer to LTC	2 days for Ger r/v + 2 days for COVID result + 4 days for SW r/v + 6 days for ortho r/v	46 days for LTC transfer
231	m	62	bleeding pr	surgical							5	5		6	7						1							12	5	Day 1: NBM, IVI, stool charting, COVID swab. Day 2: COVID +ve. Transfer to quarantine for 12 days. Tx 1 unit rbc. Day 3: On warfarin - stopped due to high INR. On Cleaxane. Day 4 -6: adjusr INR and started on Xarelto. Day 6: IVI stopped. Can eat and drink. Day 7: DSPOV. Day 12: Disch home		5 days due to quarantine
232	m	50	DVT	medical				3				5		5	4													8	1	Day 1: U/S doppler done. On Cleaxane COVID -ve. Day 2: CT scan booked. On warfarin + INR. Day 3: CT scan done. Day 4-7: On warfarin - transition to Xarelto + INR adjusting. Day 8: Clexane stopped. Disch home	1 day for CT scan	

233	m	56	pneumonia	medical				1			3	8		13	8										7			14	5	Day 1: IVI + feeds with NGT+ CW + Abx + COVID-ve. Day 2: CXR repeated. Dietician r/v booked. Day 3: Stop IVI. Day 7: Dietician r/v done. Day 8-13: Abx only. Day 14: Disch home	1 day for COVID swab + 4 days for dietician r/v	
234	m	48	infected tow	vascular				3				8		21	10													22	2	Day 1: IVI + Abx + COVID-ve. Day 2: U/S doppled booked. Day 3: IVI stopped. Day 4: U/S doppler done. Day 5-21: Abx only. Day 22: Disch home	2 days for U/S doppler	
235	f	69	chest pain	medical				2			2	7	4	8	10					2								13	8	Day 1: Oxygen + ECG/Trops, on monitor. Day 2: COVID+ve - 10 days quarantine. Day 3: Isoket started. Ward changed as chest pain episode. ECG/Trops taken. Day 4: Oxygen stopped. ECG/Trops taken. CXR done. For cardio r/v. Day 5: Cardio r/v done. Isoket stopped. Day 6-7: off monitor. Day 13: Disch home	1 day for cardio r/v	7 days due to quarantine
236	m	66	chest pain	medical								7		10	8													14	2	Day 1: COVID -ve. On monitor + ECG/Trops. Day 2: On Abx due to high CRP. COVID retaken - +ve. 12 days of quarantine, ward changed, off monitor, Day 4-10: Abx only. Day 12: DMPOV. Day 14: Disch home		2 days due to quarantine
237	f	73	for angio	vascular	1	2	1				2	8		8	9								2					10	3	Day 1: NBM + DP+COVID swab. Day 2: COVID indeterminate - angio postponed due to swab. NBM + DP+COD+ COVID -ve. Day 3: Angio done. Can eat and drink. Started on Abx due to fever and high CRP. Day 4-8: Abx only. COVID retaken -ve. Diabetes r/v booked. Day 10: Diabetes r/v done. Disch home	1 days due to COVID test + 2 days for diabetes r/v	
238	m	69	abdo pain	surgical	1	4	1		1		1	7		11	9			6										12	2	Day 1: AXR + IVI +NBM + Abx. Day 2: CT scan done. COD post-op wound + wound swab taken. Day 3: TVN r/v done. For incision and drainage mane. COVID swab taken. Day 4: sirgery postponed. COVID swab retaken. Day 5: Surgery done. Dly COD. Day 6: IVI stopped - Day 11: Abx + COD. Day 12: Disch home	1 days due to COVID test + 1 day due to surgery postponed	
239	m	76	pneumonia	medical				4				5	6	9	8													14	8	Day 1: COVID swab + Abx + IVI + BC + Oxygen. Day 2: COVID +ve, ward changed- quarantine for 12 days. CXR redone. CT booked. Day 4: CT done. IVI stopped. Day 5-6: Abx only. CT scan booked. Day 7: CT scan done. Day 9: Abx stopped. Dat 14: quarantine finished Disch home	3 days for CT scan	5 days due to quarantine
240	m	58	for toe amputation	vascular	2	2	1				2	9		9	11					3						8		13	2	Day 1: CW + Abx+IVI+COVID swab. Day 2: TVN r/v done. COD dly. Day 3: IVI stopped. Started on actrapid pum + CVRII due to high hgts. Day 4-7: VRII+Abx+COD. Day 8: COVID swab taken - for theatre mane. Day 9: Surgery done. COD+Abx. VRII stopped. Day 10: SW r/v booked. Day 12: SW r/v done. DLN r/v done. Day 13: Disch home on CommCare	2 days for SW r/v	
241	f	56	chest pain	medical							2																	6	4	Day 1: ECG/Trops + COVID swab. Day 2: Cardio r/v booked. Day 3: Cardio r/v done. Stress test booked + blds. Day 5: EST done. Rx reviewed. Day 6: Disch home	1 day for cardio r/v + 3 days for EST	
242	f	77	abdo pain	surgical				3				7		9	9													9	1	Day 1: IVI+Abx+NBM. Day 2: U/S abdo done - kept NBM + IVI. Day 3-4: Abx only. Day 5: on fluids only. IVI stopped. CT booked. Day 6: CT scan done. Day 7-9: Abx only. Day 10: Disch for surgery in the future	1 day for CT scan	
243	f	67	infected vascath	vascular	3	3						13		19	19		6	2										20	2	Day 1: NBM + IVI + VRII+Abx. Day 2: wound swab taken. BC repeated. Vascath removed. For vascath insertion in 2 days. COVID swab taken. Day 5: COVID swab re-taken. Day 6: Vascath inserted. VRII stopped and can eat and drink. Pt VRE+ve. Ward changed. Day 7-11: Abx+dialysis+COD. IVI stopped. Day 12-19: Abx only. Day 20: Disch home		
244	m	79	falls	medical				2		1		3		3	5													71	60	Day 1: CT scan+IVI+Neuro. Day 2: SW r/v booked. Day 3: Neuro stopped. CT scan redone. Day 4: IVI stopped. Ger r/v booked. Day 5: Ger r/v done. Day 6: SW r/v done. DMPOV. Meeting scheduled with relatives in 3 days. Day 10: Meeting done. DFT r/v booked. Day 11: DFT r/v done - flagged for LTC. Day 71: transfer to LTC	1 day for DFT r/v + 1 day for Ger r/v + 4 days for SW r/v	3 days for relatives meeting + 45 days for LTC transfer
245	m	76	chf	medical							2	10		12	12													14	2	Day 1: On monitor + Abx. Day 2: started on lasix infusion. U/cathater done. Output charting. Dly COD. Day 3-5: same. Cardio r/v done. Day 6: off monitor. Ward changed. Day 7-11: same. Day 12: Abx stopped. Lasix infusion stopped. Sw r/v booked. Day 13: ward changed due to VRE+ve - catheter removed. Day 14: SW r/v done. Disch home	2 days for SW r/v	
246	f	66	bleeding pr	surgical				2				5		3	7						2					2		8	1	Day 1: NBM + IVI + X-match. Day 2: U/S done. Transsfuse 2 units rbc. Day 3: CT scan booked. On sips of water. Day 4: CT scan done. Tx 1 unit rbc. Day 5: IVI stopped. Vit K given. Day 6: ward changed due to influenza +ve. Day 7: resarted on Abx. Day 8: Disch home	1 day for CT scan	

Appendix 3a: Information Letter (Phase 1)

L-Università ta' Malta

Information letter

16/04/2022

Dear participant,

My name is Alexander Micallef and I am reading for a PhD in Health Services Management with the University of Malta. My area of interest is 'Delayed discharges in acute health settings' and this letter is an invitation to participate in this study. Below you will find information about the study and about what your involvement would entail, should you decide to take part.

The aim of my study is to investigate delays in patient discharge in his/her journey through the hospital system. Your participation in this study would help contribute to a better understanding of this phenomenon through a 30-minute audiotaped interview. Any data collected from this research will be used solely for the purposes of this study.

Should you choose to participate, you will be asked to meet the researcher at a place of your choosing and at your convenience, where an interview will be carried out on the phenomenon under investigation. The interview will take the form of an open-ended exchange of information, with the interviewer prompting questions related to the topic but allowing you to thoroughly express your views about the subject as a health professional working in MDH. The purpose of audiotaping the interviews is to facilitate the transcription process later on and to allow the researcher to truly focus on your conversation rather than be continuously distracting with scribbling notes. Only the researcher will have access to these audiotapes.

Collected data will be stored offline (encrypted in an external hard drive) and any hard copy material and any hard copy material will be locked away safely in a cupboard. The researcher shall be the only one to have access to personal data. There may be exceptional circumstances where supervisors and examiners need to have access to personal data for verification purposes.

Participation in this study is entirely voluntary; in other words, you are free to accept or refuse to participate, without needing to give a reason. You are also free to withdraw from the study without needing to provide any explanation or without any negative repercussions for you. If you choose to participate, please note that there are no direct benefits to you. In turn, your participation does not entail any known or anticipated risks.

Please note also that, as a participant, you have the right under the General Data Protection Regulation (GDPR) and national legislation to access, rectify and where applicable ask for the data concerning you to be erased.

All data collected will be erased at the end of this research study, in April 2025. Anonymised data may be kept indefinitely.

A copy of this information sheet is being provided for you to keep and for future reference.

This study has been approved by the Research Ethics Committee of the Faculty of Health Sciences at the University of Malta.

Thank you for your time and consideration. Should you have any questions or concerns, you may contact myself or my supervisor on the details provided below.

Your sincerely,

____

Mr Alexander Micallef

(researcher)

Work Tel: 2545 4910

Mobile: 79309067

E-mail: alexander.micallef.01@um.edu.mt

____

Prof Sandra Buttigieg

(tutor)

E-mail: Sandra.buttigieg@um.edu.mt

Appendix 3b: CEO Approval (Phase 2)

CEO at MHA - MDH

10 Nov 2024, 20:09
(11 hours ago)

to me, CEO

Dear Mr Micallef,

Your study entitled "***Delayed discharges in acute hospital settings: a case study (quantitative data collection)*** " is being approved on behalf of Ing. Keith Attard, CEO, Mater Dei Hospital.

Kindly make sure to ascertain that the guidelines provided by DPO are fully adhered to and ethical clearance is sought.

Good luck in your studies.

Regards,

Alexandra

Alexandra Farrugia
Assistant Director
Admin - Office Of The CEO
MHA-Mater Dei Hospital

t: 25454102 **e:** alexandra.farrugia.1@gov.mt
https://health.gov.mt

MINISTRY FOR HEALTH AND ACTIVE AGEING
Mater Dei Hospital, Triq Id-Donaturi Tad-Demm,
Msida, Malta

Kindly consider your environmental responsibility before printing this e-mail

Appendix 3c: Consent Form - English (Phase 2)

L-Università ta' Malta

Consent form for participant

FHS-2024-00614

I, the undersigned, give my consent to take part in the study conducted by Mr Alexander Micallef. This consent form specifies the terms of my participation in this research study.

1. I have been given written and verbal information about the purpose of the study; I have had the opportunity to ask questions and any questions that I had were answered fully and to my satisfaction.
2. I also understand that I am free to accept to participate, or to refuse or stop participation at any time without giving any reason and without any penalty. Should I choose to participate, I may choose to decline to answer any questions asked. I am free to withdraw from the study without needing to provide any explanation or without any negative repercussions, until the intermediary forwards the derived data from the files to the researcher. Following that, it will not be possible to remove the data as there will be no link to personal identifiers. I understand that I have been invited to participate in a medical record analysis in which the researcher will be collecting data from my medical records through an intermediary to explore delays in the discharge process. I am aware that this medical record analysis will occur for the duration of my stay as a patient.
3. I understand that my participation does not entail any known or anticipated risks.
4. I understand that there are no direct benefits to me from participating in this study. I also understand that this research may benefit other, by providing a picture of delayed discharges in MDH (causes, frequency etc…)

5. I understand that, under the General Data Protection Regulation (GDPR) and national legislation, I have the right to access, rectify, and where applicable, ask for the data concerning me to be erased.
6. I understand that all data collected will be erased on completion of the study, in April 2025.
7. I am aware that my identity and personal information will not be revealed in publications, reports, or presentations arising from this research.
8. I have been given a copy of the information letter and understand that I will also be given a copy of this consent form.

I have read and understood the above statements and agree to participate in this study.

Name of participant: _______________________

Signature: _______________________

Date: _______________________

____

Mr Alexander Micallef

(researcher)

Work Tel: 2545 4910

Mobile: 79309067

E-mail: alexander.micallef.01@um.edu.mt

____

Prof Sandra Buttigieg

(tutor)

E-mail: Sandra.buttigieg@um.edu.mt

Appendix 3d: Consent Form - Maltese (Phase 2)

Formula ta kunsens tal-parteċipant/a

FHS-2024-00614

Jiena, hawn taħt iffirmat/a, nagħti l-kunsens tiegħi li nieħu sehem fl-istudju ta Mr Alexander Micallef. Din il-formula ta kunsens tispjega t-termini tas-sehem tiegħi f'din ir-riċerka.

1. Ingħatajt l-informazzjoni bil-miktub u/jew bil-fomm dwar l-iskop tar-riċerka; kelli l-opportunita' li nagħmel il-mistoqsijiet, u għal kull mistoqsija ngħatajt tweġiba b'mod sħiħ u sodisfaċenti.
2. Nifhem ukoll li jiena liberu/a li naċċetta li nieħu sehem, jew li nirrifjuta, jew li nwaqqaf il parteċipazzjoni tiegħi meta nixtieq mingħajr ma nagħti spjegazzjoni jew mingħajr ma niġi ppenalizżat/a. Jekk nagħżel li nipparteċipa, jaf niddeċiedi li ma nweġibx kull mistoqsija li ssirli. F'każ li nagħżel li ma nkomplix nieħu sehem fl-istudju, l-informazzjoni li tkun laħħqet inġabret mingħandi titħassar sakemm l-intermedjarju ma jkunx għadu għaddhieli l-informazzjoni meħtieġa għar-riċerka tiegħi. Wara li jsir dan ma jkunx possibli li titħassar l-informazzjoni għaliex ma jkunx għad fadal ħjiel ta' minn fejn tkun ġejja /minn għand min tkun ġejja. Nifhem li ġejt mistieden/mistiedna nipparteċipa f'din il- *medical record analysis* u l-persuna li qed tagħmel ir-riċerka se tistudja il file mediku tiegħi permezz ta intermedjarju, biex tesplora l-ittardjar tad-discharge tul il-qagħda tiegħi ġo l-isptar. Jiena konxju/a li dan il-*medical record analysis* se jdum sakemm jien inkun l-isptar.
3. Nifhem li l-parteċipazzjoni tiegħi ma fiha l-ebda riskju magħruf.
4. Nifhem li bil-parteċipazzjoni tiegħi f'dan l-istudju, m'hemm l-ebda benefiċċju dirett għalija. Nifhem ukoll li din ir-riċerka jaf tkun ta' benefiċċju għall-oħrajn għax tipprovdi stampa ċara tal-ittardjar tad-discharge ġo MDH (ikkawsar, frekwenza etc…)

5. Nifhem li, skond ir-Regolament Ġenerali dwar il-Protezzjoni tad-Data (GDPR) u l-leġislazzjoni nazzjonali, għandi dritt naċċessa, nikkoreġi u, fejn hu applikabbli, nitlob li l-informazzjoni li tikkonċernani titħassar.
6. Nifhem li l-informazzjoni kollha miġbura se titħassar meta jintemm l-istudju f'April, 2025.
7. Konxju/a li l-identita' u d-dettalji personali tiegħi mhux se jiġu svelati f'xi pubblikazzjoni, rapport jew preżentazzjoni li tista toħroġ minn din ir-riċerka.
8. Ingħatajt kopja ta' l-ittra ta' tagħrif biex inżommha u nifhem li se ningħata wkoll kopja ta din il-formula ta' kunsens.

Qrajt u fhimt l-istqarrijiet ta' hawn fuq, u naqbel li nipparteċipa f'dan l-istudju.

Isem il-parteċipant/a: ___________________________

Firma: ___________________________

Data: ___________________________

________________________ ________________________

Mr Alexander Micallef
(researcher)
Work Tel: 2545 4910
Mobile: 79309067
E-mail:alexander.micallef.01@um.edu.mt

Prof Sandra Buttigieg
(tutor)
E-mail: Sandra.buttigieg@um.edu.mt

Appendix 3e: Consent Form - (Phase 1)

L-Università ta' Malta

Consent form for participant

FHS-2024-00614

I, the undersigned, give my consent to take part in the study conducted by Mr Alexander Micallef. This consent form specifies the terms of my participation in this research study.

1. I have been given written and verbal information about the purpose of the study; I have had the opportunity to ask questions and any questions that I had were answered fully and to my satisfaction.
2. I also understand that I am free to accept to participate, or to refuse or stop participation at any time without giving any reason and without any penalty. Should I choose to participate, I may choose to decline to answer any questions asked. I am free to withdraw from the study without needing to provide any explanation or without any negative repercussion. I understand that I have been invited to participate in an interview session in which the researcher will be asking question regarding my experience as a health professional in MDH regarding delayed discharges. I am aware that these sessions will last roughly 30-minutes and that they will be audiotaped.
3. I understand that my participation does not entail any known or anticipated risks.
4. I understand that there are no direct benefits to me from participating in this study. I also understand that this research may benefit others, by providing a picture of delayed discharges in MDH (causes, frequency etc…)
5. I understand that, under the General Data Protection Regulation (GDPR) and national legislation, I have the right to access, rectify, and where applicable, ask for the data concerning me to be erased.
6. I understand that all data collected will be erased on completion of the study, in April 2025.

7. I am aware that my identity and personal information will not be revealed in publications, reports, or presentations arising from this research.
8. I have been given a copy of the information letter and understand that I will also be given a copy of this consent form.

I have read and understood the above statements and agree to participate in this study.

Name of participant: ______________________

Signature: ______________________

Date: ______________________

____

Mr Alexander Micallef

(researcher)

Work Tel: 2545 4910

Mobile: 79309067

E-mail: alexander.micallef.01@um.edu.mt

____

Prof Sandra Buttigieg

(tutor)

E-mail: Sandra.buttigieg@um.edu.mt

Appendix 3f: DPO Approval

Collapse all
Print all
In new window

Automatic reply: Re:

External
Inbox
Search for all messages with label Inbox
Remove label Inbox from this conversation

D

Data Protection at MHA - MDH

Sun, 6 Oct, 08:36 (9 days ago)

to me

CAUTION: This email originated from OUTSIDE the Government Email Infrastructure. DO NOT CLICK LINKS or OPEN attachments unless you recognise the sender and know the content is safe.

Since GDPR came into force on May 25, 2018, MDH just as other organisations had to adapt to a cultural change that subjected us to the new definition of data owner where the data subjects were given the right to control their data. In a data management context, organisations were given the obligatory role of a custodian and not the right of ownership which means that MDH is the owner of the systems and not of any data, except the institution's data.

The data subjects were given the following rights

1. The Right to Information
2. The Right of Access
3. The Right to Rectification
4. The Right to Erasure
5. The Right to Restriction of Processing
6. The Right to Data Portability
7. The Right to Object
8. The Right to Avoid Automated Decision-Making

MDH must honour the seven key principles

1. Lawfulness, fairness and transparency
2. Purpose limitation
3. Data minimisation
4. Accuracy

5. Storage limitation
6. Integrity and confidentiality (security)
7. Accountability

With the immeasurable evolving systems that MDH administers and with the ongoing development in ICT systems, Health Informatics became the fulcrum between data and its hosting systems. Employees who are administering and operating the systems must adhere with the seven key principles and the data subject's eight fundamental rights. MDH is classified as high risk since it is processing Special Categories of Personal Data which by law it obliges us to conduct a DPIA (Data Protection Impact Assessment) per process. GDPR has revolutionised the way we think and also shacked our operations with consent being the underpinning of its philosophical code. We now have to distinguish the primary scope of personal data processing from the secondary.

MDH is continuously fine tuning its procedures to close as many gaps as possible while narrowing the learning curve. It must be noted that a status quo can never be reached since emerging technologies are now subjecting us to embed GDPR in every system. We have to think outside the box and keep risks at the lowest levels by ruling out assumptions e.g., if a medical image has personal data removed, it cannot be assumed as *anonymised* for the simple fact that it can reveal a series of unique episodes that make the individual identifiable. Rare cases also cannot be excluded. The term *anonymised genetic data* cannot be used since this is now classified as personal data and has to be treated as identifiable.

Research which is categorised as secondary processing of data now obliges patient consent in every aspect. It is noted that several attempts were made by MDH staff to classify their personal degree with an internal audit with such requests that were immediately turned down because these breach Article 9 GDPR (EU) 2016 / 679. Publications also require Data Protection clearance since the patient's data is being processed other than the scope of its original collection. It should be remembered that a DPIA must be carried out per research since MDH is processing Special Categories of Personal Data.

A classic misconception commonly found is the confusion of the ethical approval with the data protection clearance. Ethics boards and MDH Data Protection's office work independently and it should be emphasised to the respective Heads of Departments or officers in charge that researchers must present the **MDH Data Protection clearance letter** that is issued on the basis of a DPIA. CEO's approval and the signed Data Protection form that is issued from the Health Informatics Directorate and signed by the researcher are also necessary. Anyone being a MDH employee or someone outside the

organisation suggesting deviance from the Data Protection clearance conditions should be reported to the Data Protection Officer and CEO's office for investigation.

Any form of threats, harassments, forgeries, intimidation and deceptions against the DPO's office will be reported to the police and MDH Administration without delay.

Procedure to follow when requesting data protection clearance from MDH management for university-based research at MDH and for MDH internal audits.

Mater Dei Hospital management has a standard approach for the data protection clearance of university-based research that involves access to patients, access to staff or access to personal data (as required by the General Data Protection Regulation).

The researcher is asked to send the Data Protection Officer a full copy (including annexes) of the application that s/he intends to make to the respective University / Department prior to the audit.

After this is vetted by MDH management, and any arising issues are settled, clearance is granted by from a data protection point of view.

If the relevant data protection requirements are met, data protection clearance is issued in the form of an email from the address: datapro.mdh@gov.mt.

MDH management looks forward to receiving your submission. For issues regarding data protection please always use the email address: datapro.mdh@gov.mt.

For University studies

Please provide approval from the Chairman of the Department where the study is being carried out (approvals can be either sent as an attachment of a scanned copy or as a forwarded email) and the following information:

1.The institution that your study is being carried out with

2. Your student university email address

3. Title of your Study

4. How are subjects recruited? (also state the age)

5. What do subjects do, or what is done to them, or what information is gathered? (Append copies of instructions or tests or questionnaires.)

6. How information is gathered, where it is stored, and for how long?

7. Who will have access to data gathered?

8. State the period of the study. (Our clearance will be based on this declared period)

9. When data will be collected. (Our clearance will be based on this declared period)

10. Who will carry out this study? Please include any research assistants.

11. How many times will observations, tests, etc., be conducted?

12. How long will participation take?

13. Confirm that video recordings and photography will not take place.

If direct participation takes place, the following needs to be provided (with your university's / academy's logo):

- The questionnaire in Maltese and English
- Participant consent form in Maltese and English. Another separate form should be available in case of participants under the age of 18 years for the parent/guardian to sign
- Participant information letter in Maltese and English

In cases of audio recordings, the following declaration should be submitted:

- that audio recordings will be accessed and listened only by you
- where the audio recordings are being stored
- that the audio recordings will not be sent via email, replicated and/or uploaded to any server, cloud storage, site, or any other media
- that the audio recordings will be destroyed after the conversation will be transcribed
- that the audio recordings will be destroyed immediately if the participant decides to withdraw from the study
- confirm whether a transcription software will be used and that this operates offline.

It should be remembered that the primary and final responsibility of any participant's data security is entirely the researcher's, and that Mater Dei Hospital will not be held responsible in any way for any leaks or infringements.

Following the Data Protection clearance, one must obtain approval from MDH CEO followed by signing the Data Protection form.
The university-provided email address (in case of university studies) or the government provided email address (in case of internal audits) should always be used.

For Mater Dei Internal Audits please provide the following:
Approval from your Chair and the following information (you can annotate below):
1.Audit / Study title

2.What information is gathered?

3. From which source will you obtain the data? Eg Physical files, MDH Health Information
Systems? (name the application software eg CPAS, iSOFT etc)

4. In which environment will you store the data until anonymisation? Eg P Drive?

5. For how long will you retain personal data?

6. Who will have access for data gathered?

7. State the period of the study.

8. State the data collection period.

9. Who will carry out this study? Please include any research assistants, confirm where they are posted and provide us their gov email.

10. Who is supervising? (Provide us his / her gov email address).

11. Confirm that there will be no patient contact / communication / observations.

12. Confirm that medical images or parts of will not be published.

13. Confirm that this is an MDH internal audit and not a university (e.g., personal degree, project, assignment, whatsoever) or international study.

14. Confirm whether you will publish any data. What type of data and where it will be published.

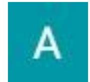
Following the Data Protection clearance, one must obtain approval from MDH CEO followed by signing the Data Protection form.

Our office does not cover ethical approval.

All applications with their respective queries should be brought forward by the applicant and not by the supervisor/s, tutors, or third parties.

...

[Message clipped] View entire message



Alexander Micallef <alexander.micallef.01@um.edu.mt> Wed, 9 Oct, 10:04 (6 days ago) to Data

Attached please find request for DPO approval for PhD thesis (as requested) My mobile number: 79309067

One attachment • Scanned by Gmail

Data Protection at MHA - MDH Wed, 9 Oct, 10:12 (6 days ago) to Young, me

Mr Micallef

In which departments are you going to recruit patients to consent you to access their personal data?

From which data source? MRD? Or are you accessing information from ICT systems?

Regards

Simon Caruana
Senior Manager (Compliance)
Health Informatics Directorate
Health-Mater Dei Hospital

MINISTRY FOR HEALTH AND ACTIVE AG
Mater Dei Hospital, Triq Id-Donaturi Tad-D
Msida,

One attachment • Scanned by Gmail

Alexander Micallef <alexander.micallef.01@um.edu.mt> Wed, 9 Oct, 10:13 (6 days ago) to Data

Only medical files will be accessed. The information will be collected from two admission ward units (MAU1/MAU2)

Data Protection at MHA - MDH Wed, 9 Oct, 10:28 (6 days ago) to Young, me

1. Please provide us an approval from Prof Stephen Fava.

NB: please include the title and the relative data processing in the request that you will send to Prof Fava and eventually provide to us with the included approval

2. Provide us a signed declaration from an MDH employee who will be acting as intermediary. The declaration should include:

   - A confirmation that the intermediary already has access to communicate with potential participants

   - That a list with contact details will not be obtained specifically for your research

   - The declaration should also confirm that potential participants will be approached at MDH grounds and not through postal services, email or telephone. By no means you can approach patients directly nor you can access any data pertaining to such patients.

   - The gov email address of the intermediary.

   - A confirmation that the intermediary already has access to the physical files.

   - A confirmation that the intermediary will provide you the information only after explicit written consent is obtained.

   - A confirmation that the intermediary will provide you information only about those who would have signed the consent form.

3. With UOM's logo included, provide us the participant information letter and consent form in Maltese and English.

   The information letter and consent form must include all the details about the data access and processing such as:

   - The research is part of your PhD project ○ That refusing to sign the consent form will not impact the care pathway at MDH
   - The name and surname of the intermediary who will give you access to the physical files
   - That the physical file will be accessed ○ What type of data will you access from the file ○ What type of data will you publish
   - That no other person that your good self will access personal data and that examiners and supervisors will only access anonymised data

---

One attachment • Scanned by Gmail

A

Alexander Micallef <alexander.micallef.01@um.edu.mt>

05:09 (8 hours ago) to Data

4 attachments • Scanned by Gmail

D

Data Protection at MHA - MDH 05:35 (8 h

ours ago) to Young, me

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1. The declaration from the intermediary must be signed by Ms Jeanine Micallef.

The declaration must include the following:

- A statement that Ms Jeanine Micallef already has access to communicate with potential participants in the department where she works that is where she will approach potential participants because the document states: *Ms Jeanine Micallef is an MDH employee and has the opportunity to freely communicate with potential participants.*
    - The intermediary shouldn't be just an MDH employee but an employee who already works directly with potential participants (where officially posted)

- A statement that Ms Jeanene Micallef already has access to the patient files as part of her duties; not accessing files specifically for your research because the document states: *Ms Jeanine Micallef will have access to the physical files of the patients taking part in the study* ○ The declaration should state that Ms Jeanine Micallef already has access to the physical files indicating that such access was given specifically for her duties not just for your research.

2. Forward us Prof Fava's approval thread in email format; click FW – To datapro.mdh@gov.mt

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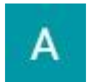
One attachment • Scanned by Gmail

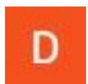


Alexander Micallef <alexander.micallef.01@um.edu.mt>
07:22 (6 hours ago) to Data, Young

Amendments done. Email thread from Prof Fava forwarded as instructed

---

3 attachments • Scanned by Gmail



Data Protection at MHA - MDH 07:34 (6 h
ours ago) to Young, Data, me

Mr Micallef

On the basis of the documentation you submitted, from the MDH data protection point of view you have been cleared to proceed with your study titled ***Delayed discharges in acute hospital settings: a case study (quantitative data collection)*** provided that you obtain approval from MDH CEO (ceo.mdh@gov.mt - please provide the relevant documents including the Prof Stephen Fava's approval and this email).

- Your intermediary to approach potential participants on your behalf is *Ms Jenine Micallef – Physiotherapist who works at the MAU 1 and MAU 2 within the Department of Medicine,*
  MDH
- Your potential participants to consent you to access their medical files are *patients over the age of 18 years who are receiving a service at the MAU 1 and MAU 2 within the Department of Medicine, MDH*

All data stored must be anonymized and in no way should you retain any personal details you obtain from your research and these should be destroyed at the end of your study and /or if any of your participants decides to withdraw. Remember that participants reserve the right to be forgotten.

Anonymisation and Data minimisation

Participant consent forms must be separated from all type of personal data, meaning that there will be no correlation between one and the other that will indicate who is the patient.

ALL data presented to your supervisors / tutors or examiners or any other personnel from UOM or anyone else must be already anonymized; meaning that you must not
divulge to anyone the identity of your participants. There shall not be any circumstance allowing the supervisors or examiners to access personal data.

Consent Criteria

This clearance allows access to physical files only after explicit written consent is obtained through Ms Jenine Micallef.

All your participants must be reached and approached for invitation when physically at the MAU 1 and MAU 2 within MDH grounds and NOT via postal services, email, telephone or any other means. You cannot be handed any contact details of potential participants, otherwise consent would be bypassed.

Potential participants must be approached by Ms Jenine Micallef for invitation and not directly by you.

Personal identifiable data such as signed consent forms or pseudonym lists are not to be sent via email (not even relayed to yourself), replicated and/or uploaded to any server, cloud storage, site or any other media given that participants will not consent any service provider to store their personal identifiable data.

Video, audio recordings and photography are not allowed for this research.

Clarifications

This clearance does not cover ethical approval.

All documents presented to your participants must include UOM's logo.

This clearance does not allow verbal consent.

This clearance doesn't allow any form of interviews, observations, communication whatsoever neither with staff nor with patients except for Ms Jenine Micallef to obtain explicit written consent so you can access physical files.

This clearance is valid for your report to be included with your dissertation only and not in medical journals or elsewhere given that you are not obtaining approval from MDH legal office.

Your submitted documentation must remain unchanged.

What was declared during this clearance process is what you will abide to.

You must abide with all the articles of the GDPR (EU) 2016 / 679 throughout the data collection process and thereafter.

You are requested to submit a copy of your findings to this office at the end of your study.

This clearance covers your research to be carried out only at MAU 1 and MAU 2 within the Department of Medicine*,* MDH and not in any other department / institution such as Primary Healthcare, GGH, KGH, MHS, SVPR, DHIR or any other institution / department that doesn't form part of MDH Data Controller.

Please communicate with Ms Jenine Micallef to present this clearance email.

To sign the data protection form, please contact Ms Graziella Aquilina through dpaform.mdh@gov.mt to provide the following:

1. *This clearance email in PDF – to provide in PDF*
2. *MDH CEO's approval in PDF - pending*
3. *The name of the Chairperson who approved your research – Prof Stephen Fava*
4. *The period of data collection – November 2024 (after you sign the Data Protection form) – January 2025*
5. *Title of your research - Delayed discharges in acute hospital settings: a case study (quantitative data collection)*
6. *Your ID number:- pending*

NB: You must sign this form before starting. You will receive an email from adobe sign to sign electronically.

In summary – next step

1. Obtain approval from MDH CEO through ceo.mdh@gov.mt
2. Sign the Data Protection form at Ms Graziella Aquilina through dpaform.mdh@gov.mt (please provide the above six points)

Regards

Simon Caruana
Senior Manager (Compliance)
Health Informatics Directorate
Health-Mater Dei Hospital

MINISTRY FOR HEALTH AND ACTIVE AG
Mater Dei Hospital, Triq Id-Donaturi Tad-D
Msida,

From: Alexander Micallef <alexander.micallef.01@um.edu.mt>
Sent: 15 October 2024 07:23 AM
To: Data Protection at MHA - MDH <datapro.mdh@gov.mt> **Cc:** Young Sharon at MHA <sharon.young@gov.mt> **Subject:** Re: Automatic reply: Re:

CAUTION: This email originated from OUTSIDE the Government Email Infrastructure. DO NOT

CLICK LINKS or OPEN attachments unless you recognise the sender and know the content is safe.

Amendments done. Email thread from Prof Fava forwarded as instructed

On Tue, 15 Oct 2024 at 05:35, Data Protection at MHA - MDH <datapro.mdh@gov.mt> wrote:
Mr Micallef

1. The declaration from the intermediary must be signed by Ms Jeanine Micallef.

The declaration must include the following:

- A statement that Ms Jeanine Micallef already has access to communicate with potential participants in the department where she works that is where she will approach potential participants because the document states: *Ms Jeanine Micallef is an MDH employee and has the opportunity to freely communicate with potential participants.*
- The intermediary shouldn't be just an MDH employee but an employee who already works directly with potential participants (where officially posted)
- A statement that Ms Jeanene Micallef already has access to the patient files as part of her duties; not accessing files specifically for your research because the document states: *Ms Jeanine Micallef* will have *access to the physical files of the patients taking part in the study*
    - The declaration should state that Ms Jeanine Micallef already has access to the physical files indicating that such access was given specifically for her duties not just for your research.

Appendix 3g: Dr. Magri Approval (Phase 2)

Alexander Micallef 24 Oct 2024, 08:06 (10 days ago)

Dr Magri....kind and gentle reminder for approval pls

Alexander Micallef 27 Oct 2024, 08:46 (7 days ago)

Kind reminder pls

Magri Caroline Jane at MHA - MDH 27 Oct 2024, 22:03 (7 days ago)

to me

Please forward me study protocol.

Regards

Dr. Caroline J Magri

From: Alexander Micallef <alexander.micallef.01@um.edu.mt>
Sent: Sunday, October 27, 2024 8:46:51 AM
To: caroline-jane.magri@gov.mt <caroline-jane.magri@gov.mt>

...

[Message clipped] View entire message
3 attachments • Scanned by Gmail

Alexander Micallef <alexander.micallef.01@um.edu.mt> 28 Oct 2024, 04:53 (6 days ago)

to Magri

The medical and nursing notes of 220 medical record files will be analysed using the Appropriateness Evaluation Protocol (attached), deriving the causes/amount of inappropriate days (ie. delays in discharge/patient care). An intermediary will be utilized to access these records (as described in the thread above and in the attached DPO approval form).

2 attachments • Scanned by Gmail

A

Alexander Micallef <alexander.micallef.01@um.edu.mt>

28 Oct 2024, 04:53 (6 days ago)

to Sandra

2 attachments • Scanned by Gmail

M

Magri Caroline Jane at MHA - MDH

28 Oct 2024, 05:59 (6 days ago)

to me

I need a proper study protocol. One page or less is enough. But I need to know exactly what is going to be done. I ask for a proper study protocol for every study/audit performed. If you have queries, please ask your supervisor to guide you.

Regards

Dr. Caroline J Magri

From: Alexander Micallef <alexander.micallef.01@um.edu.mt>
Sent: Monday, October 28, 2024 4:53:10 AM
To: Magri Caroline Jane at MHA - MDH <caroline-jane.magri@gov.mt>

...

[Message clipped] View entire message

3 attachments • Scanned by Gmail

M

Magri Caroline Jane at MHA - MDH

28 Oct 2024, 06:08 (6 days ago)

to me

Also you would need approval of the Chairman of the respective department.

Regards

Dr. Caroline J Magri

From: Magri Caroline Jane at MHA - MDH <caroline-jane.magri@gov.mt>
Sent: Monday, October 28, 2024 5:59:23 AM
To: Alexander Micallef <alexander.micallef.01@um.edu.mt>

...

[Message clipped] View entire message
3 attachments • Scanned by Gmail

Alexander Micallef **<alexander.micallef.01@um.edu.mt>** 28 Oct 2024, 08:34 (6 days ago)

to Magri

One attachment • Scanned by Gmail

Alexander Micallef **<alexander.micallef.01@um.edu.mt>** 1 Nov 2024, 07:55 (2 days ago)

to Magri

Attached please also find approval from Departmental Manager responsible for MAU1 and MAU2

One attachment • Scanned by Gmail

Magri Caroline Jane at MHA - MDH 2 Nov 2024, 23:27 (9 hours ago)

to me

If we are dealing with medical patients, then approval needs to be obtained from the Chairman of the Department of Medicine, Prof. Stephen Fava, and not the Nursing Management.

Regards

One attachment • Scanned by Gmail

Alexander Micallef <alexander.micallef.01@um.edu.mt>

04:35 (4 hours ago)

to Magri

One attachment • Scanned by Gmail

Magri Caroline Jane at MHA - MDH

07:10 (1 hour ago)

to me

Thanks. Approved from my end as well.

Regards

Dr. Caroline J Magri

From: Alexander Micallef <alexander.micallef.01@um.edu.mt>
Sent: Sunday, November 3, 2024 4:35:50 AM

...

[Message clipped] View entire message

3 attachments • Scanned by Gmail

Alexander Micallef <alexander.micallef.01@um.edu.mt>

07:41 (1 hour ago)

to Magri

Thank you so much

Alexander Micallef <alexander.micallef.01@um.edu.mt>

07:43 (1 hour ago)

to CEO

For CEO kind attention...Dr Magri approval acquired.

Appendix 3h: FREC Form

Research Ethics and Data Protection Form

University of Malta staff, students, or anyone else planning to carry out research under the auspices of the University, must complete this form. The UM may also consider requests for ethics and data protection review by External Applicants.

Ahead of completing this online form, please read carefully the University of Malta Research Code of Practice and the University of Malta Research Ethics Review Procedures. Any breach of the Research Code of Practice or untruthful replies in this form will be considered a serious disciplinary matter. It is advisable to download a full digital version of the form to familiarise yourself with its contents (https://www.um.edu.mt/research/ethics/resources/umdocuments/). You are also advised to refer to the FAQs (https://www.um.edu.mt/research/ethics/faqs).

Part 1: Applicant and Project Details

Applicant Details

Name: Alexander

Surname: Micallef

Email: alexander.micallef.01@um.edu.mt

Applicant Status: Student

Please indicate if you form part of a Faculty, Institute, School or Centre: * Faculty of Health Sciences

Department: * Faculty of Health Sciences

Principal Supervisor's Name: * Prof S Buttigieg

Principal Supervisor's Email: * sandra.buttigieg@um.edu.mt

Co-Supervisor's Name: Prof L Garg

Study Unit Code: * PHDINHEALTHSERVICESMANAGEMENT

Course Title: * PhD in Health Services Management

Student Number: * 23584m

Project Details

Title of Research Project: * Delayed discharges in acute health settings: a case study

Project description, including research question/statement and method, in brief: *

This study titled 'Delayed discharges in acute health settings: a case study' has already obtained full ethical and organisational approval for the first part (UNIQUE FORM ID: 7248_19121983_Alexander Micallef). This included the qualitative part of the case study of Mater Dei Hospital and involved interviews and focus groups with several stakeholders as per ethical approval. This application is to request ethical approval of the second part of this case study, namely the quantitative approach consisting of medical record analysis by the use of the Appropriateness Evaluation Protocol. The medical records will be accessed by way of an intermediary who will have actual access to the file, which intermediary will then relay the information to the researcher in numerical form (anonymally).

The two phases of the case study will achieve triangulation of findings and both parts discussed also in relation to the literature. The study is intended to contribute to theory, knowledge and practice within acute hospital settings in an area, which is to say in inpatients delayed discharges which has scantily been studied on a global level.

Will project involve collection of primary data from human participants? Yes / Unsure

Explain primary data collection from human participants:

a. Salient participant characteristics (e.g. min-max participants, age, sex, other): *
Health professionals working in Mater Dei Hospital

b. How will they be recruited (e.g. sampled, selected, contacted, etc.): *
Theoretical sampling from readily available roster schedules

c. What they will be required to do and for how long: *
30 minute interviews/focus group sessions

d. If inducements/rewards/compensation are offered: *
None

e. How participants/society may benefit: *
They can both contribute knowledge as well become more aware of the phenomenon under investigation

f. Is the participant's identity recorded at any stage of the research (e.g. in consent forms, records, publications): *
No

g. The manner in which you will manage and store the data: *
The date will only be accessed by the researcher

Will project involve collection of primary data from animals? No

Part 2: Self Assessment and Relevant Details

Human Participants

1. Risk of harm to participants: No / N.A.

2. Physical intervention: No / N.A.

3. Vulnerable participants: No / N.A.

4. Identifiable participants: No / N.A.

5. Special Categories of Personal Data (SCPD): Yes / Unsure

Health status will be accessed via medical record analysis done through an intermediary. The data will take the form of numerical information (in the form of days) and the researcher will solely have access to this numerical data, as the actual file will only be accessed by the intermediary.

6. Human tissue/samples: No / N.A.

7. Withheld info assent/consent: No / N.A.

8. 'opt-out' recruitment: No / N.A.

9. Deception in data generation: No / N.A.

10. Incidental findings: No / N.A.

Unpublished secondary data

11. Human: No / N.A.

12. Animal: No / N.A.

13. No written permission: No / N.A.

Animals

14. Live animals, lasting harm: No / N.A.

15. Live animals, harm: No / N.A.

16. Source of dead animals, illegal: No / N.A.

General Considerations

17. Cooperating institution: No / N.A.

18. Risk to researcher/s: No / N.A.

19. Risk to environment: No / N.A.

20. Commercial sensitivity: No / N.A.

Other Potential Risks

21. Other potential risks: No / N.A.

22. Official statement: Do you require an official statement from the F/REC that this submission has abided by the UM's REDP procedures?
Yes / Unsure

Part 3: Submission

Which F/REC are you submitting to? * Faculty of Health Sciences

Attachments:

- AEP model.xlsx
- CEO approval.docx
- Consent letter (English).docx
- Consent letter (Maltese).docx
- Departmental Manager Approval.pdf
- DPO approval.docx
- Dr Magri Approval.docx
- Intermediary decleration.docx
- Prof Fava approval.docx

- ☐ Information and/or recruitment letter*
- ☐ Consent forms (adult participants)*
- ☐ Consent forms for legally responsible parents/guardians, in case of minors and/or adults unable to give consent*
- ☐ Assent forms in case of minors and/or adults unable to give consent*
- ☑ Data collection tools (interview questions, questionnaire etc.)
- ☐ Data Management Plan
- ☐ Data controller permission in case of use of unpublished secondary data
- ☐ Licence/permission to use research tools (e.g. constructs/tests)
- ☐ Any permits required for import or export of materials or data
- ☐ Letter granting institutional approval for access to participants
- ☑ Institutional approval for access to data
- ☐ Letter granting institutional approval from person directly responsible for participants
- ☐ Other

Please feel free to add a cover note or any remarks to F/REC

FREC approval for the qualitative part of this thesis was granted back in 2017. Since then the thesis also came to include the quantitative medical record analysis part, for which permission was granted by MDH management, but due to oversight on my part amid the chaos of the COVID pandemic and the extent to which this impacted impacted me as a charge nurse, I did not request approval from FREC. Therefore, I am asking for formal approval to collect additional data, but only after I obtain full ethical approval.

Declarations: *

- ☑ I hereby confirm having read the University of Malta Research Code of Practice and the University of Malta Research Ethics Review Procedures.
- ☑ I hereby confirm that the answers to the questions above reflect the contents of the research proposal and that the information provided above is truthful.
- ☑ I hereby give consent to the University Research Ethics Committee to process my personal data for the purpose of evaluating my request, audit and other matters related to this application. I understand that I have a right of access to my personal data and to obtain the rectification, erasure or restriction of processing in accordance with data protection law and in particular the General Data Protection Regulation (EU 2016/679, repealing Directive 95/46/EC) and national legislation that implements and further specifies the relevant provisions of said Regulation.

Applicant Signature: * Alexander Micallef

Date of Submission: * 21/10/2024

If applicable: Date collection start date 01/11/2024

Administration

REDP Application ID FHS-2024-00614

Current Status Draft

If a submitted application needs to be amended, it can be withdrawn, edited, and resubmitted, and it will retain the same reference number. There is no need to submit a new application.

Appendix 3i: Information Letter – English (Phase 2)

L-Università ta' Malta

Information letter

16/11/2024

Dear participant,

My name is Alexander Micallef and I am a student at the University of Malta, presently reading for a PhD in Health Services Management. As part of my PhD study, I am conducting a research study for my thesis titled, 'Delayed discharges in acute health settings: a case study (**FHS-2024-00614)**. This is being supervised by Prof S Buttigieg, Prof L Garg, and Dr G Tomasselli. This letter is an invitation to participate in this study. Below you will find information about the study and about what your involvement would entail, should you decide to take part.

The aim of my study is to investigate delays in patient discharge in his/her journey through the hospital system. Your participation in this study would help contribute to a better understanding of this phenomenon through access to your medical record information via an intermediary during the course of your hospital stay. Any data collected from this research will be used solely for the purposes of this study.

Should you choose to participate, you will be asked to allow an intermediary (Ms Jeanine Micallef) to access the physician and nursing notes in an effort to calculate the duration of specific instances in your hospital stay where delays were incurred. The intermediary shall derive numerical data (without any personal details) and forward them to the researcher. Only the researcher will have access to the derived numerical data, and the medical file will only be accessed by the intermediary. The derived data will solely consist of 'days' spent waiting for specific procedures or interventions and these are the numerical values which will be utilised for the scope of this thesis.

Data will be stored offline and encrypted on an external hard-drive and any hard copy material will be locked away safely in a cupboard. The researcher shall be the only one to have access to personal data. The academic supervisor and examiners will only have access to coded data.

There may be exceptional circumstances where supervisors and examiners need to have access to personal data for verification purposes.

Participation in this study is entirely voluntary; in other words, you are free to accept or refuse to participate, without needing to give a reason. You are also free to withdraw from the study without needing to provide any explanation or without any negative repercussions for you, until the intermediary forwards the derived data from the files. Following that, it will not be possible to remove the data as there will be no link to personal identifiers. If you choose to participate, please note that there are no direct benefits to you. In turn, your participation does not entail any known or anticipated risks.

Please note also that, as a participant, you have the right under the General Data Protection Regulation (GDPR) and national legislation to access, rectify and where applicable ask for the data concerning you to be erased.

All data collected will be erased at the end of this research study, in April 2025. Anonymised data may be kept indefinitely.

A copy of this information sheet is being provided for you to keep and for future reference.

This study has been approved by the Research Ethics Committee of the Faculty of Health Sciences at the University of Malta.

Thank you for your time and consideration. Should you have any questions or concerns, you may contact myself or my supervisor on the details provided below.

Your sincerely,

____

Mr Alexander Micallef
(researcher)
Work Tel: 2545 4910
Mobile: 79309067
E-mail: alexander.micallef.01@um.edu.mt

____

Prof Sandra Buttigieg
(tutor)
E-mail: Sandra.buttigieg@um.edu.mt

Appendix 3j: Information Letter – Maltese (Phase 2)

Ittra ta' tagħrif

16/11/2024

Għaziz/a partecipant,

Jiena Alexander Micallef, student fl-Universita ta Malta, u bħalissa qed insegwi PhD fil Health Services Management. Bħala parti mill-istudju tiegħi ghall-PhD, qed nagħmel ricerka għat-tezi tiegħi li jisimha: 'Delayed discharges in acute health settings: a case study' (**FHS-2024-00614)**. It-tutors tiegħi huma Prof S Buttigieg, Prog L Garg u Dr G Tommaselli. B'din l-ittra nixtieq nistiednek tippartecipa fir-ricerka. Hawn taħt issib aktar informazzjoni fuq l-istudju li qed nagħmel u fuq xi jkun l-involviment tiegħek jekk tiddeciedi li tieħu sehem.

L-għan ta l-istudju hu li jinvestiga ittardjar fil-process tad-*discharge* mill isptar billi nsegwi r-rotta tal-pazjent tul iz-zmien li jqatta jircievi kura go l-isptar. Sehmek jgħin biex ikun hawn aktar għarfien dwar dan il-fenomenu permezz ta uzu mill-'file' mediku tiegħek. Dan ha jsir bl-iskop li nidentifika mumenti fejn kien hemm ittradjar fil-provizjoni tas-saħħa, liema mumenti ħa jkunu rrapprezentati f'forma numerika (mingħajr dettalji personali) go għodda statistika magħmula apposta għal dan il-għan. In-noti medici ħa jkunu accessati permezz ta intermedjarju (Ms Jeanine Micallef), u huwa biss permezz ta' dan l-istess intermedjarju li r-ricerkatur ħa jkollu access għall-informazzjoni li hemm fil-'files'. L-informazzjoni migbura ħa tkun tikkonsisti fi 'granet' li l-pazjent qatta jistenna proceduri jew interventi specifici u dawn ħa jkunu in-numri li ħa jintuzaw għal-iskop ta' din it-tesi.

Kull informazzjoni migbura ha tkun maħzuna offline u mibdula f'kodici, fuq external hard drive, filwaqt li kull materjal stampat ser jitqieghed go armadju msakkar. Ir-ricektarur biss se jkollu access għall-informazzjoni migbura. It-tutor tiegħi u l-ezaminaturi se jkollhom access għall-informazzjoni mibdula f'kodici biss. F'kazijiet eccezzjonali, jista jagħti l-kaz li t-tutor u l-ezaminaturi jkollhom bzonn access għall-informazzjoni biex jivverifikaw xi affarijiet.

Il-partecipazzjoni tiegħek f'dan l-istudju tkun għal kollox volontarja; fi kliem ieħor, inti liberu/a li taccetta jew tirrifjuta li tieħu sehem, mingħajr ma tagħti raguni. Inti wkoll liberu/a li twaqqaf

il-partecipazzjoni tiegħek fl-istudju meta tixtieq, mingħajr il-bzonn li tagħti spjegazzjoni u mingħajr ebda riperkussjonijiet, sakemm l-intermedjarju jgħaddi l-informazzjoni meħtiega lir-ricerkatur. Wara dan, ma jkunx għadu possibli li titneħħa l-informazzjoni tiegħek għax ma jkunx għad hemm ħjiel ta minn fejn tkun gejja/minn għand min tkun gejja din l-informazzjoni. Jekk tagħzel li tippartecipa, jekk jogħgbok innota li ma hemm l-ebda beneficcju għalik, filwaqt li l-partecipazzjoni tiegħek lanqas ma fiha xi riskju magħruf jew mistenni.

Bħala participant/a, għandek id-dritt, skond ir-Regolament Generali dwar il-Protezzjoni tad-Data (GDPR) u l-legislazzjoni nazzjonali, li taccessa, tikkoregi u fejn hu applikabbli, titlob li l-informazzjoni li tikkoncernak tithassar.

L-informazzjoni kollha li tingabar fl-istudju titħassar meta l-istudju jintemm, f'April 2025. Informazzjoni anonima/mibdula f'kodici tista tinzamm indefinittivament.

Qed ngħaddilek kopja ta din l-ittra biex izzommha bħala referenza.

Dan l-istudju gie approvat mill-Kumitat tar-Ricerka u l-Etika fi ħdan il-Fakulta' tax-Xjenza tas-Saħħa fl-Universita' ta' Malta.

Grazzi tal-ħin u l-kunsiderazzjoni tiegħek. Għal izjed informazzjoni, tiddejjaqx tikkuntattja lili jew lit-tutor tiegħi. Id-dettalji tagħna ssibhom hawn taħt.

Napprezza jekk tikkunsidra din it-talba.

Tislijiet,

___________________________ ___________________________

Mr Alexander Micallef
(ricerkatur)
Work Tel: 2545 4910
Mobile: 79309067
E-mail: alexander.micallef.01@um.edu.mt

Prof Sandra Buttgieg
(tutor)
E-mail:Sandra.buttigieg@um.edu.mt

Appendix 3k: Prof. Fava approval (Phase 2)

Micallef Alexander at MHA - MDH

|
Mon 14/10, 13:56

thank you so much

Fava Stephen at MHA - MDH

|
Mon 14/10, 12:17

Approved from my end.

Prof. Stephen Fava
MD, MRCP (UK), FEFIM, FACP, FRCP (Lond), MPhil (Melit), PhD (Exeter)
Consultant in Diabetes, Endocrinology & General Medicine
Chairperson, Department of Medicine

Micallef Alexander at MHA - MDH

|
Fri 11/10, 11:38

Kind reminder pls

Micallef Alexander at MHA - MDH

Reply all|
Wed 09/10, 14:10
Fava Stephen at MHA - MDH
You forwarded this message on 11/10/2024 11:38

Good afternoon,

My name is Alexander Micallef and I am reading for a PhD in Health Services Management under the direct supervision of Prof Sandra Buttigieg and Dr Lalit Garg. My thesis will tackle 'Delayed discharges in acute hospital settings: a case study'.

For this thesis I am going to do a quantitative analysis of patients' medical records, by assessing the medical and nursing notes, and entering statistics in the Appropriateness Evaluation Protocol so as to measure delays in the patient's journey through the hospital system. The study will entail me obtaining consent from admitted patients upon admission and then analysing their medical file upon discharge.

I was directed to you by the MDH Data Protection Officer (Mr Simon Caruana) so as to request for approval as regards this project. Am looking forward to your reply

regards and thanks

alex micallef
mob: 79309067

Appendix 3l: Intermediary declaration

INTERMEDIARY DECLARATION

Hereby we declare, that Ms Jeanine Micallef will act as study intermediary for Mr Alexander Micallef in his PhD thesis in Health Services Management entitled, 'Delayed discharges in acute health settings: a case study'.

Ms Jeanine Micallef is an MDH employee, a physiotherapist who works in both outpatient and inpatient wards, and has the opportunity to freely communicate with potential participants, obtaining their informed consent and acting on his behalf. The researcher will not have any direct contact with participants, as this shall always be carried out by the intermediary. Participants will, in turn, always be approached on MDH grounds and never through postal services, email or telephone. No contact detail list will be compiled as regards participants for the purpose of this study.

Ms Jeanine Micallef already has access to the physical patient files and this access will be utilised to include those of participants taking part in the study. Information will only be provided to the researcher after written informed consent is obtained by the intermediary from participants. The intermediary will, in fact, only provide medical record information from those consenting to the study.

Mr Alexander Micallef
(researcher)
alexander.micallef.01@um.edu.mt

Ms Jeanine Micallef
(intermediary)
jeanine.micallef@gov.mt

Appendix 4: Published articles

Exploring factors related to delayed discharges in an acute hospital setting in a small European member state through the perspectives of health professionals

Alexander Micallef (1) *, Gianpaolo Tomaselli (1), Lalit Garg (2), Sandra C. Buttigieg (1)

1. Department of Health Systems Management & Leadership, Faculty of Health Sciences, University of Malta, MSD 2080 Msida, Malta
2. Department of Computer Information Systems, Faculty of Information & Communication Technology, University of Malta, MSD 2080 Msida, Malta

*Corresponding author

Abstract

Healthcare is a dynamic and ever-changing phenomenon and is subject to multiple challenges, particularly concerning sustainability and cost issues. The literature identifies bed space and problems related to lack of hospital beds as being directly or indirectly related to both admission and discharge processes, with delays in in-patient discharges being identified as a variable of significance when it comes to a health system's overall performance. In this respect, the aim of this research was to explore factors related to delayed discharges in an acute hospital setting in Malta, a small European member state, through the perspectives of health professionals. This study followed a qualitative approach, and the case study methodology was utilized. Semi-structured interviews and focus groups were conducted. Thematic analysis was carried out and codes were identified. Codes were then grouped to derive seven main themes. Seven themes were identified after carrying out the thematical analysis process on interview/focus group transcripts. The derived themes are the following: a) Faulty system, which is open to abuse and inefficiency, b) Procedural delays directly impacting delayed discharges, c) Long-term-care/social cases as a major cause of delayed discharges, d) The impact of external factors on delayed discharges, e) Stakeholder suggestions to management to counteract delayed discharges, f) The impact of COVID-19 on delayed discharges, g) Inter-professional relationships Factors related to delayed discharges and the effects of delayed discharges on the hospital emerged from main findings, together with specific potential interventions to minimise delays in discharge. Health professional interactions and the effects of inter-professional relationship setbacks on delayed discharges were explored and the impact of the COVID pandemic on hospital dynamics and additional delays were also addressed. This information can be utilized by hospital administrators to guide changes and inform future decisions regarding hospital performance and efficiency from a discharge delay perspective.

Keywords : Delayed discharges, acute hospital setting, health professionals, small state health systems.

Preprint not peer reviewed

Background

Healthcare is a dynamic phenomenon and the challenges facing healthcare are ever changing, with increased technological advances [1,2] and issues of sustainability and waste reduction leading such changes[3]. In recent years these challenges have become more pronounced in both developed and developing countries[4], mainly due to scarcity of resources and rising costs, a reality that has been more noticeable in the light of the recent COVID-19 pandemic[5]. One of the most crucial healthcare resources is bed space, which is significantly linked to admission and discharge processes [6]. Delayed discharges have emerged as being of particular significance in the health literature arena as they directly impact a health system's efficiency and effectiveness in delivering optimal performance levels[7].

A scoping review [8] revealed hospital management [9–11]; procedural delays [12], and faulty discharge planning[13,14] as the most salient antecedents. This scoping review also provided a comprehensive definition of a delayed discharge, namely "an instance where a medically fit patient is kept needlessly in hospital due to organisational/operational factors when a patient is flagged as in need of alternate level of care and is delayed because of deferred transition of care and/or lack of external transfer-of-care arrangements" (pg.3). Other research investigations uncovered a tendency for delays in patient discharges to be due to inappropriate community service support [6] , lack of adequate social services [15], and lack of nursing home beds and/or rehabilitation beds [16,17]. The degree of social isolation [3] and patient's age[18] were also identified as contributory factors to delayed discharges. A number of strategies employed by specific health care organisations to counteract the negative impact of delayed discharges were also uncovered.[19–21]

The extensive literature base uncovered pointed towards the relevance of delayed discharges in improving healthcare efficiency and effectiveness, especially in a secondary/tertiary care setting. Addressing the issue of delayed discharges in small European members states may, in fact, prove to be particularly important because smaller member states have limited numbers of acute hospital facilities and therefore hospital bed space acquires additional value. This is because spillover to other acute hospital settings is limited at best, and not possible at all in certain situations. Eurostat (2021), in fact, revealed great discrepancy between acute bed numbers in small European states and larger ones (with Luxemburg and Lichtenstein having 319 and 89 acute care beds per 100,000 population respectively in contrast to Germany and Romania possessing 581 and 555 acute care beds per 100,000 population respectively)[22]. This makes hospital beds an extremely special resource in small member states, perhaps more so than in larger countries. The need to address delays in the hospital discharge process thereby becomes a more pressing and urgent need in smaller member states because the price of ignoring them may be more acutely felt.

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Using the case study approach, the aim of this research investigation was to explore factors related to delayed discharges in an acute hospital setting in Malta through the perspectives of health professionals. To the authors knowledge, this research investigation was the first of its kind in Malta and will add significant perspectives on delayed discharges from a context-specific point of view.

The Maltese healthcare system comprises both a public, as well as a smaller private sector[23]. Malta has a very high population density when compared to the rest of Europe, with its population having grown significantly (>7%) over the past few years [23]. Due to the fact that the absolute majority of secondary and tertiary care in Malta is provided by publicly owned hospitals, the hospital under study is an acute general hospital that caters for the bulk of emergency care [23]. The Maltese health system has been directly affected by the ever increasing challenges brought about by increased frailty due to population ageing, together with an overall exponential growth in immigration and a high seasonal incoming tourism industry[23]. This often results in frequent Accident & Emergency (A&E) overcrowding, as well as high rates of bed-blocking at ward level due to long-term-care patients waiting for further care in other institutions or in the community. This turn of events is directly responsible for a bed occupancy of between 80%-85% over the past decade, a rate which stands above the EU average.[23]

Theoretical framework

The study was based on a theoretical framework [8] following a scoping review on delayed discharges [8]. The model emerged with a cause-and-effect representation of delayed discharges, together with specific recommendations for avoiding this phenomenon.

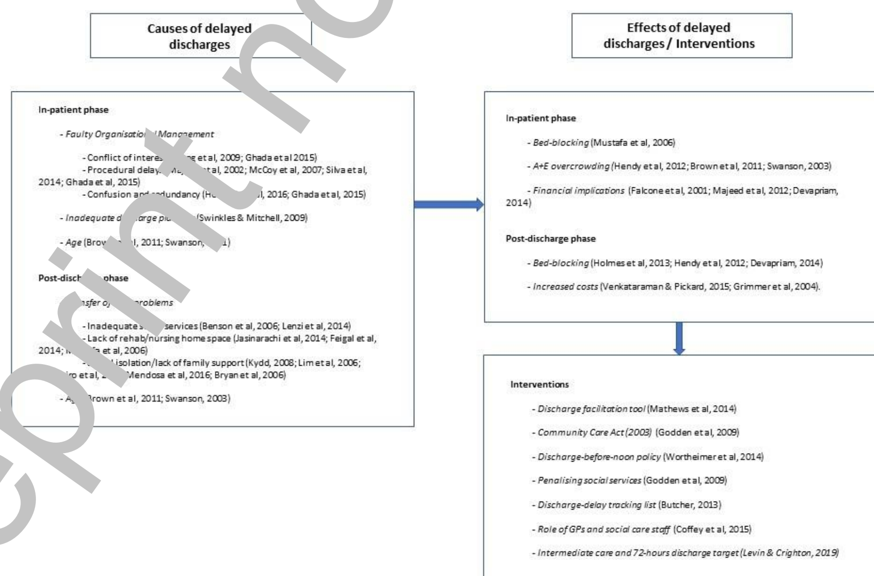

Figure 1: Evidence-based theoretical framework for delayed discharges (adapted from scoping review[8] pg3)

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This framework proposes that delayed discharges are mainly the result of faulty organisational planning[24 13], inadequate discharge planning[25] and transfer of care problems[15 7]. Delayed discharges, in turn, are partly responsible for bed-blocking [26]and A+E overcrowding [27], with the negative financial impact such occurrences bring with them [28 29]. The model also outlines specific actions to counteract the pre-mentioned effects of delayed discharges such as utilizing a discharge delay tracking [20] list, a discharge facilitation tool [21] and others. This literature-based framework formed the basis of this research investigation.

Methodology

Study design

This study was conducted in Malta's primary acute care hospital between January 2022 and August 2022. This is the only government run general hospital on the island and receives patients from across all medical fields. A case study approach was chosen for the purpose of this research investigation, with interviews being utilized as the data collection tool of choice. A case study is an effective way of gathering in-depth data from participants which cannot be quantified using the quantitative method [30]. This is especially useful when attempting to explore respondent perceptions. Merriam [30]advocates for the general literature as forming the basis for the theoretical framework that guides the research investigation. The Merriam approach, in turn, advocates for an exclusive qualitative approach to case study[30]. This is in contrast to the Yin and Stake approach, where the former involves a triangulation method between quantitative and qualitative methods and the latter allows the research investigation to guide research progress without any prior theoretical background or research plan[31]

Target population and sampling technique

An extensive collection of data is warranted in an effort to gather as much information as possible[32]. A rich description of the case should emerge, and this is bound to provide a holistic picture of the phenomenon under study, even because the data gathered would have been acquired from participants, who are themselves involved in real-life situations[30]. For this reason, the sample was chosen from three main levels of organisation under study:

- The strategic level (top-management)
- The tactical level (middle-management)
- The operational level (lower-level employees)

The sample was chosen using a theoretical sampling technique, as participants were chosen based on the theoretical framework acquired from the evidence-based model already described[8]. This strategy is

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also in line with Merriam's case study approach[30]. This sampling technique was deemed to be ideal and appropriate to promote both insight and understanding of the research phenomenon under investigation.

Model Point	Management Level	Stakeholders
Conflict of interest	Operational/Tactical	Doctors (n=8), nurses (n=7), Charge nurses (n=2)
Procedural delays	Operational	Doctors (n=8), nurses (n=7), Charge nurses (n=2)
Redundancy	Operational/Tactical	Doctors (n=8), nurses (n=7), Charge nurses (n=2)
Inadequate discharge planning	Operational	Doctors (n=8), nurses (n=7), Charge nurses (n=2)
Inadequate social services	Operational/Tactical	Social workers (n=2)/Discharge facilitation team (n=2)/Geriatricians (n=2)
Lack of rehab beds	Tactical/Strategic	Geriatricians (n=2)/Discharge facilitation team(n=2)/Social workers (n=2)/ Departmental managers (n=2)
Lack of nursing home beds	Tactical/Strategic	Geriatricians (n=2)/Discharge facilitation team (n=2)/Social workers (n=2)/ Departmental managers (n=2)
Social isolation	Tactical/Strategic/Operational	Discharge facilitation team (n=2)/Discharge liaison nurses (n=2)
Bed-blocking	Tactical	Bed management unit (n=3)/Charge nurses (n=2)/Departmental managers (n=2)
A+E overcrowding	Tactical	Bed management unit (n=3)/Charge nurses (n=2)/Departmental managers (n=2)

Table 1: Points derived from theoretical model as related to chosen sample

Table 1 illustrates which stakeholders were chosen for this study in accordance with the model derived from the scoping review [8]. The stakeholders were divided based on the different levels of hospital management, namely strategic, tactical, and operational. The number of participants in each

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stakeholder group are proportionally distributed among the managerial levels. This was done so as to keep the sample as representative as possible in relation to the three strata (strategic, tactical, operational).

Both doctors and nurses were chosen from across the board, namely nurses from medical, surgical and admission unit settings and doctors from different specialities and seniority levels. This was done in an attempt to get as representative a sample as possible which would reflect and yield valuable information from. Speciality units were excluded from the study because the modus operandi of such units is independent from the rest of the hospital, with each unit requiring a study of its own. Most of the participants chosen for this study had to have two to five years' experience working in their own profession so as to increase the probability of extracting valuable, experienced-based information (except for junior doctors who had less than two years' experience but whose input was deemed as being important to represent the views of the lower-level members of the medical field).

Data collection

The lead researcher assumed the role of an inside learner, in that he was familiar with the dynamics of hospital processes. Although this fact had some potential for bias, it nonetheless allowed for a more thorough understanding of the results obtained, thereby preventing interpretation bias. To this end the researchers made use of third parties, who do not make part of the hospital workforce, to countercheck result interpretation during various stages of the research investigation.

Semi-structured interviews and focus groups were utilized as data collection tools. This method is effective in qualitative studies as the 'face-to-face' interaction involved is more naturalistic and therefore more bound to yield consistent answers[33]. The interview questions were also based on the pre-described research model (see Figure 1) [8]. The chronological order of the questions allowed for a more flowing 'conversation-like' approach, while their open-ended structure ensured that participants felt free to veer off the main questions at will. The interviews were kept to around 30 minutes long so as not to tire participants out, which would result in a decline in the quality of the data collected.

Pilot interviews were carried out before the start of the main study to root out inconsistencies and misconceptions in the questions posed [34]. Two such interviews were in fact utilized for this purpose. This was found to be very effective in clearing misconceptions and making the interview sessions flow better in a structured manner.

English was the language of choice as all the participants taking part in the study were deemed to be proficient in the language. This measure was found to be very effective in avoiding translation bias, leading to a smoother transcription process later on.

Consent/permission letters were provided to participants pre-interview, explaining the nature of the research. In turn, interviews were audio-taped, with consent being obtained from all participants.

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Audio-taping interviews allowed the researcher to focus on what respondents were saying (without pausing to take notes), while also allowing for a more accurate transcription of participants' answers (with significantly less errors of omission).

Two focus groups were also utilized as a data collection method in this research study. These were audiotaped as well. Focus groups are in-depth interviews where participants are selected because they are purposive (even though not always representative)[35]. Participants were selected on the basis of their having significant contributions to offer on the topic under investigation, and felt at ease with conversing with the interviewer and each other [36]. This concept is related to participants' applicability where subjects are selected because of their knowledge of the area of study, with the synergy of the group interaction also being of extreme importance[37].

Focus groups were conducted when investigating doctors' views and bed management personnels' views. The fact that these individuals were allowed to share views and opinions yielded very precious pertinent data that would have been otherwise missed. Group homogeneity in the focus group sample is also beneficial as it increases the chances of participants feeling comfortable in sharing thoughts and ideas, thereby creating an environment of trust [38]. In turn, although focus group participant numbers may vary, smaller groups show greater potential as they stand less chance of becoming fragmented and disorderly[39].

Ethical considerations

Ethical approval was obtained from both hospital administration (Chief Executive Office, Director of Nursing and Data Protection Officer) as well as from the University of Malta board of ethics (Form ID: 7248_19121983_). Participation was always kept voluntary, with all subjects giving their informed consent. In turn, the right to anonymity and privacy was safeguarded at every stage of the data collection process. Only the researchers handled the collected data, which data was secured under password control and erased after the study ended.

Data analysis

Interview audiotapes were manually transcribed by the researchers. The fact that all interviews were conducted in the English language eliminated the need for translation, thereby preventing translation bias. The doctor's focus group was also transcribed in the same way. The bed management unit focus group data (which was not audiotaped but rather consisted of many pieces of scribbled notes made by the researcher and his associate) was organised in the form of questions and answers. This was done by close collaboration between the researcher and his associate in an effort to comprehensively capture all the information gathered as precisely as possible.

Thematic analysis was the method chosen by the researchers to analyse this qualitative data set. This entails searching across the transcribed data set to identify, analyse and report repeated patterns [40].

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While thematic analysis is not bound to any particular single research paradigm, it is very flexible to be used within a wide range of frameworks involving study questions, designs and sample sizes [40]. This method of data analysis goes well with a constructivist approach because it allows for the analysis of a wide range of data, highlighting the development of particular social constructs, and emerging with a set of commonly shared meanings[41]. The thematic analysis method adapted by Braun & Clerk (2006) was used as this method is very widely utilized in qualitative research, thereby allowing for easier comparison with other research investigations. It was also deemed as being highly pertinent for this research investigation[40].

The method employed by Braun & Clerk (2006)[40] involves a number of steps and these steps were used as a template for data analysis of interview/focus group transcripts:

- Familiarization with the data: The interview/focus group transcripts were read multiple times by the researchers, with the prior process of manually transcribing data also helping to increase familiarization. This step was also found to be helpful in later stages of data analysis because it facilitated the derivation of inductive aspects from the collected data.
- Code generation: At this point the researcher started looking for possible codes. A code is a piece of raw data[42], in this case the transcripts, that can be assessed meaningfully as regards a particular phenomenon[43]. Codes must be very well defined and should not overlap each other as much as possible [44]. The researcher decided to differentiate the codes identified into inductive or deductive in origin, with inductive codes denoting ones guided by specific theoretical frameworks (most typically the interview questions based on the scoping review findings)[45] and deductive codes which consist of issues originating purely from the transcript raw data. Data extracts were labeled with pertinent codes, with some data extracts being labelled with more than a single code at times. Participant demographics are listed in Table 2 (below). This process was carried out on all the transcript data available, with the researcher creating a table to represent and define codes, assigning codes to study participants, while also outlining which participants referred to such codes (See Appendix).

Participant	Experience (years)	Setting
Nurse	4 - 12	Medical/Surgical/All speciality ward, Admission Unit
Doctor	1.5 - 15	Urology/Respiratory/Nephrology/Surgery, Gastroenterology
Charge Nurse	5 - 15	Medical/All speciality ward
Social worker	8 - 12	Throughout all hospital
Geriatrician	3 - 13	Throughout all hospital
Discharge Liaison Nurse/Discharge Facilitation Team	5 - 8	Throughout all hospital

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Bed Management Unit		Throughout all hospital
Director		Throughout all hospital
Departmental Manager	5 - 8	Throughout all hospital

Table 2: Participant demographics

- Searching/Defining & naming themes : The researchers set out to identify themes from an deductive (specifically from the coded data) as well as from an inductive (based on pre-defined theories and theoretical frameworks) perspective. Codes were carefully grouped according to emerging headings in an effort to find commonalities, and these commonalities formed themes. This process was kept up until all available codes were placed under a specific theme. This information was organized in tabular form so as to facilitate analysis and presentation (See Table 4 – See Findings section)

Rolfe (2006) sustains that qualitative research is sometimes criticized for lacking scientific rigor and of being highly subject to researcher bias [46]. Validity denotes the accuracy to which findings reflect collected data, while reliability refers to the consistency of the research methods utilized [9]. Table 3 (below) explains how validity and reliability issues were addressed in this research investigation.

Parameter Name	Definition	Methods used to achieve parameter
Internal validity (Credibility)	This involves believability and trustworthiness of the findings	- Sample triangulation - Significantly big and varied sample
External validity (Transferability)	This is the degree to which findings can be transferred to other contacts/generalisability of results to other settings, populations, situations etc…	- Braun & Clark (2006) thematic analysis method used as this is widely utilized in qualitative research arena
Reliability (Dependability)	The consistency with which results could be repeated and result in similar findings, which lends legitimacy to the research method	- Theoretical sampling - Informants' confidentiality protected
Objectivity (Confirmability)	This is a measure of the objectivity used in evaluating the results and how well the findings are supported by the actual data, free of the researcher's subjective data	- The use of third parties to countercheck result interpretation - Verbatim transcription of interviews

Table 3: Validity/Reliability measures for rigor

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Findings and Discussion

The aim of this research investigation was to explore the impact of delayed discharges on a tertiary acute hospital setting through the perspectives of health professionals. This was achieved by carrying out a blend of semi-structured interview sessions and focus groups on an effort to extract pertinent data on the phenomenon under investigation. Findings emerged using thematic analysis, with some factors being derived from pre-determined agendas the researchers put forward, while others actually surfaced from respondents' views and experiences.

The findings derived from this research investigation differed in some aspects from the general literature, although a number of similarities were also identified. In this section the identified themes will be discussed and compared to the general literature, while also analysing their impact on the hospital. Table 4 represents the derived themes, quotes from all three levels of management and the codes that allowed the themes to be identified.

Theme Name	Quotes (Strategic/Tactical/Operational [illegible])	Code Names
Long-term care/Social Cases as a major cause of discharge delays (inductive)	*"The process is a bit long and there are a lot of health professionals involved…and the process is very bureaucratic and filled with a lot of steps and paperwork. To get a patient declared as a social case takes weeks of consultation with various health professionals"* (Nurse 5) *….it involves countless reviews by geriatricians, social workers, occupational therapists and DFTs…and these take a long time to come, and they must come in a specific order and then some re-reviews, and then perhaps relatives don't agree, and they change their mind, or the patient changes his mind…or the patient gets sick and has to be un-discharged medically. And the process must start from scratch"* (Charge Nurse 2)	- The Long-Term-Care (LTC) flagging delay problem - LTC cases concentrated in medical wards - Bed-blocking as related to nursing home unavailability - Age as a factor impacted delayed discharges - LTC beds/rehab bed availability as related to delayed discharges
Faulty system which is open to abuse and inefficiency (inductive)	*"People know how to abuse the system and they do it by dumping their elderly on the system. And the system is powerless"* (Charge Nurse 2) *"The relatives are not always keen on having the patient flagged for long-term care…this is because when the patient is flagged the pension starts being absorbed by the government and they can no longer cash it. So, they try to delay the process as much as possible"* (Discharge Facilitation Team 2) *"There are no strict criteria for admission. In Malta politics affect everything"* (Basic Specialist Trainee 1) *"But I think the discharge process is surely to blame. I mean I get calls from charge nurses*	- Faulty system which is open to abuse - A+E gatekeeping failure - Link between re-admissions and LTC cases - A lack of proper admission protocols - Management adhering to its own protocols - Shortcomings of hospitality lounge to counteract delayed discharges

	sometimes who tell me that certain patients have not been seen by their consultants for a number of days." (Departmental Manager 2)	- Delay problems on day of discharge - System flaws that extend patients' length of stay - Relocation problems - Management shortcomings linked to political interference - Discharge planning as a source of delay - Work redundancy as part of daily work life
The impact of COVID on discharge delays and hospital dynamics (deductive)	*"…this was much felt because we needed to have a swab test before every transfer and before every procedure…and as only doctors could book them countless procedures were delayed because swab tests were not ready on time"* (Nurse 5) *"Yes, I have heard these things before. This is a complicated issue. During COVID doctors did not have the admission wards anymore as these became a part of casualty so after COVID passed doctors are still reluctant about discharging patients. Now we have re-opened the admission wards but doctors are still very cautious about discharging patients because sometimes the situation is difficult"* (Director) *"Patients ended up with delays that spanned several days just because they needed a swab, or they were found to be positive and had to be quarantined for a number of days. There were a lot of logistical complications apart from the medical problems"* (Medical Officer 3) *"For us as managers things changed a lot as well. Even the way we assign nurses to specific departments and the way patients are placed in relation to other patients. The bed management unit reported to us very difficult situations while nurses I think in all ward areas found a lot of difficulties when assigning beds to particular patients due to stringent infection control protocols"* (Departmental Manager 1)	- The impact of COVID on discharge delays - Link between COVID and nosocomial infections
Stakeholder suggestions to management to counteract delayed discharges (inductive)	*"The way forward is the community. More human resources in the community. Services we have, but to get those services and make them more efficient and faster you need more people"* (Nurse 5) *"A list of criteria is needed, bullet points that can be adhered to by firms, and especially admitting doctors at the emergency department. The point is to decrease social case input and increase their output. I am not talking about turning patients away but just allowing doctors to do their job properly at the emergency department"* (Nurse 6)	- Initiatives proposed to decrease delayed discharges

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	"Well, the discharge process must start on the first of admission. We need an algorithm, a plan sort of. For example, a fracture hip patient can be organised as a plan according to age group. A 40-year-old hip fracture patient has different needs than an 80-year-old patient with the same condition. Some need rehab more readily than others. Even rehab beds are a problem…they turn out to be a bed blocker. (Director)	
Inter-stakeholder interactions (deductive)	*"And most doctors, especially junior ones, don't really know what specialities like social workers, occupational therapists or geriatricians are exactly for. So, they end up making wrong consultations and summoning health professionals that have nothing to do with the task involved" (Social Worker 1)* *"They confuse us a lot with the DFT…doctors confuse us a lot. So, they are only involved when the patient is not for discharge. We are involved when the patient is to be discharged to his own home but there is something that may be making it difficult. The doctors keep referring us and the DFT by mistake"* (Discharge Liaison Nurse)	- Downstaffing of Discharge Liaison Nurses (DLN) team - Role confusion - Delayed discharges as related to health professionals working solo - LTC problems leading to staff alienation/demotivation
The impact of external factors on delayed discharges (inductive)	*"First of all, there are no beds in long-term care…no available bed I mean. Nowadays it wakes about a week to find a bed in rehab, which is very good'* (Nurse 2) *Then the patient is flagged for long-term care relatively fast but then it may take months before an actual care home is found…so the process is fast but it is useless without finding a care home equally as fast"* (Geriatrician 1) *"One very common problem is lack of resources in the community. I mean here in hospital you have a lot of resources like doctors, nurses and social workers. But when you go to the community you find nothing. Even medical things, like equipment, we have everything here in the hospital like the beds and physiotherapy equipment. But when you go to the community you find nothing"* (Social Worker 2)	- Availability of community services and the impact on delays - The role of family support on discharges delays
Procedural delays directly impacting delayed discharges (inductive)	*"…when it comes to X-rays, they are very easy to get but CT scans are especially hard sometimes, as sometimes I have patients getting to stay in hospital just waiting for the CT scan to be done"* (Geriatrician 1) *"But ortho surgery is not efficient as the rest. Patients wait for a lot of days…the urgent trauma cases…as they get to be operated on if there is space in between the scheduled elective cases. It's a very complicated and frustrating system…"* (Charge Nurse 2)	- Procedural delays as part of daily work life - Most common form of procedural delay - Work redundancy as part of daily work life - Professional-specific tasks linked to delays - Procedural delays as being specialty specific

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	"Also, only doctors can book tests across the board so if they forget or take a long time to book them online the test is not taken…or taken late" (Nurse 5) *"Some delays are due to system failure and some because ward units cheat and lie sometimes so as not to get admission"* (Bed Management Unit)	Procedural delays as linked to nosocomial infections

Table 4: Derived Themes based on Codes

Factors contributing to delayed discharges

Four themes were identified as being directly linked to delayed discharges in terms of their cause and effect. The themes were: faulty system, which is open to abuse and inefficiency, procedural delays directly impacting delayed discharges, long-term-care/social cases as a major cause of delayed discharges, and the impact of external factors on delayed discharges.

Faulty system which is open to abuse and inefficiency

> Research participants identified the existence of a faulty hospital system dynamic as being primarily responsible for delays in discharge, particularly in relation to the system's vulnerability to abuse and resultant inefficiency. The literature revealed that faulty discharge planning stood at the core of faulty hospital systems abroad [47–50]. Other studies also identified lack of proper co-ordination [49], service fragmentation and lack of coordinated service provision[51] as directly contributing to inefficiency.

The results obtained from this research investigation in relation to this theme vary greatly from the general literature. This theme was, in fact, embraced by most respondents across the board. Although discharge planning was identified as a hindrance, it was however far from the only factor participants were concerned about. System abuse by patients, relatives and health professionals themselves seemed to be a major issue brought forward by interviewees, particularly in relation to long-term cases. Lack of proper admission and managerial protocols were also mentioned by several respondents, while insufficient discharge planning inevitably surfaced as a contributor to a faulty system that results in delayed discharges.

There can be various reasons for such a discrepancy. System abuse by patients and relatives in relation to getting patients flagged for long term care, particularly by resorting to third parties to bypass the system, can be partially attributed to the fact that Malta is a densely populated small nation where the population is closely knit, and where politics is very closely intertwined with everyday life. This drawback can be closely linked to respondents' issues related to management not adhering to protocols,

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especially when it comes to A+E gatekeeping and admission criteria. According to participants these issues also seemed to stem from system abuse by patients and their families, with health professionals finding it difficult to adequately carry out their duties without proper managerial backup and protocols.

Nurses and lower-level doctors voiced the most concern about faulty discharge plans, but system abuse was apparent across the board, with almost all respondents referring to this phenomenon in some form or another. This was also particularly evident from the input of Discharge Facilitation team (DFT) and charge nurses and their subordinates as these health professionals were most prone to come across such instances during the course of their workday.

Procedural delays directly impacting delayed discharges

Procedural delays emerged as the basis for the second theme supported by respondents through various identified codes. This finding is very much in line with the general literature where a number of studies also came up with procedural delays as a major hindrance to an efficient patient hospital stay. These delays varied in nature across the literature, ranging from delayed diagnostic services [52] to medical imaging procedures that took too long to complete. Excess bureaucracy and redundancy were also identified as directly or indirectly contributing to delays in relation to specific procedures [13]. Some research investigations also identified conflicts of interest on the part of health professionals as being responsible for discharge delays[24,53].

Respondents in our study identified procedural delays as being the second most common cause of delayed discharge. This ranged from high bureaucracy and excess clerical work to medical imaging and theatre delays (especially for orthopaedic surgery). It also became apparent to the researcher that while daily paperwork seemed to be on the increase for nurses, it was decreasing for the medical profession. From an operational standpoint respondent also listed cleaning and transport arrangement delays together with delays related to waiting for discharge letters (as quick discharge letters were not often utilized). Bed management unit respondents identified delays involving logistics in relation to patient transfer in between wards or from the emergency department to wards as also being of particular concern.

These findings are in contrast to the general literature because the latter concentrated mainly on procedural delays related to medical imaging and other diagnostic processes. In our study, while respondents also identified the above as contributing to overall procedural delays, they however shed light on other problems, namely theatre procedures (which were delayed due to lack of available theatres or theatre staff) and general hospital logistics related to patient movement in between departments. This is a very important finding that respondents across the board agreed on, most particularly charge nurses and members of the bed management unit (i.e. from a tactical managerial perspective). The cheating issue also emerged as an issue of concern (especially for higher management), with the bed management

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unit identifying the practice of having ward departments deliberately delay the discharge process or outright mislead their superiors as regards bed statuses to avoid admitting new cases. Such a finding is altogether absent from the literature. Departmental managers also identified the cheating issue as being a phenomenon that occurred relatively frequently and upon which there is very little control.

Long-term-care/social cases as a major cause of delayed discharges

Having discharge delays being at the mercy of the number of long-term-care cases is a well established fact in the literature. Some authors point towards long-term-care cases reducing the availability of hospital beds in acute care settings [54]. This finding was echoed by other authors who identified a bed-blocking problem and resultant A+E overcrowding as a result of having patients waiting for long-term-care[26,27]. The need to increase the number of long-term-care beds in an effort to decrease delays in discharge was pointed out as a needed strategy to avoid added burden [49], while also highlighting the importance of more co-ordination between healthcare facilities in an effort to make the transfer of care process smoother[49].

The long-term care/social case problem emerged as a common concern for the interviewed stakeholders in this research investigation. The problem seemed to be two fold, namely the long and intertwined complicated process of getting patients flagged for long-term care as well as the actual time it takes for flagged long-term care patients to be physically transferred to a long-term care facility. Although respondents also voiced concern for rehab patients, this category was generally not considered as significant of an issue. The multi-layered process of having a patient flagged for long-term care was identified as being riddled with problems that translate to delays, namely the number and sequence of health professionals involved and the bureaucratic nature of the process. The complicated sequence in which certain health professionals (i.e. geriatricians, social workers, occupational therapists and DFTs) are expected to review the patients and the time it took for these health professionals to actually do their reviews often needlessly extended the patient's length of stay and resulted in the acquisition of nosocomial infections as a result of being stuck for days/weeks/months in a bunch of red tape. In turn, sometimes patients did not meet the requirements to be flagged for long-term care (such as being a constant watch case).
Such views were particularly prevalent among nurses, doctors, DFTs and charge nurses who seemed to struggle to get through the flagging process on a daily basis. Members of the Bed Management Unit (BMU) and the director (tactical – strategic levels) were, in turn, mostly concerned about the actual time it took for the flagged patient to be moved to a LTC facility. The discrepancy between views seems to highlight the fact that stakeholders mainly concern themselves with issues directly related to their job description and may be blind to other issues which do not directly fall under their professional jurisdiction.

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Patients' age was, in turn, identified by several respondents as being directly related to discharge delays due to increased patient needs related to increased dependency levels and lack of social support. These findings seem to point towards a long-term care flagging system that unnecessarily delays the flagging process, and which thereby adds to the overall delay of having a patient transferred from hospital to a long-term care facility. Such issues were also identified by the bed management unit as being especially responsible for the bed-blocking calamity and the resultant emergency department overcrowding situation. This finding is in contrast to the general literature where the primary cause of delay related to long-term care issues revolving solely around the actual waiting process to be admitted to a nursing home facility.

The impact of external factors on delayed discharges

This theme points towards the impact of factors outside the study setting on delays in patient discharge. The general literature revealed a number of external factors that negatively affect the discharge process. A number of authors shed light on a combination of inadequate nursing home/rehab space in terms of bed shortage[7,17,55]. Another common factor authors in the literature uncovered revolves around social isolation and lack of family support/caregiver support in the community[6,55,56]

Respondents in our research investigation placed significant importance on the impact of external factors (i.e. factors originating outside the hospital) on delays in patient discharge. These issues were multi-faceted and varied according to the health professional's perspective of the patients' journey through the hospital system. Doctors and nurses seemed to be particularly concerned with lack of rehab/nursing home beds, which impeded long-term care cases from being transferred to another facility, thereby blocking whole ward areas for weeks/months on end.

Social workers and DFTs/DLNs concern seemed, in turn, to revolve around lack of resources (both human resources as well as physical equipment) in nursing homes and in the community at large (ie. people's homes). This lack of resources, which ranged from caregiver support in people's homes and nursing staff/physician support in nursing homes to hospital-related equipment in both long-term care facilities as well as the general community (such as motorised beds, nasogastric tube infusion pumps, amongst others) often resulted in patients getting stuck in hospital for extended periods of time.

DFT and DLN staff as well as charge nurses also cited the lack of proper family support as a major contributor to delayed discharges, which external factor resulted from a genuine inability to construct one's social/professional lifestyle around the needs of an elderly loved one or from a lack of general interest based on a desire to abuse a hospital system which makes it fairly easy to do so. Participants across the board, in turn, seemed satisfied with the quality of community-based care (usually provided by the CommCare services) offered and provided to discharged patients in their own homes. They often cited that sometimes shortcomings in this department stemmed more out of patients or relatives refusing

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the service or expecting too much out of it than the actual services not meeting the needs of its customers. From a strategic standpoint the director however sustained that although community services themselves were satisfactory, for them to be effective they had to be complemented with actual human presence, as patients (particularly the elderly) needed to know that there was a person who they could easily reach at any moment. If people felt safe in the community, they were more prone to want to stay out of hospital. DFT respondents also stressed the importance of an early discharge plan because some community services cannot be organised overnight and take some time (typically days) to kick in (such as the meals on wheels service). This often resulted in patient's discharge being unnecessarily delayed until the service is actually available.

Respondents' relative general satisfaction with provided local community services varies from the general literature, a finding which may be attributed to Malta's small geographical size which tends to make community services easier to organise so they will be relatively easily accessible to all. Malta's situation seems, in turn, to be in line with findings abroad where the demand for long-term care beds by far exceeded supply, which issue was particularly pronounced in the light of increased lack of family support, social isolation and ageing populations in the EU.

There was found to be no evident link between gender and respondents' answers. Participants' age and professional experience were, in turn, directly proportional in that the older the participant the more professional experience he/she had acquired. The younger medical professionals were more prone to find difficulty in logistical shortcomings, mainly because they completed the everyday 'mundane' tasks. The higher managerial strata were, more concerned about the big picture. This also showed that health professionals across the board were very much mainly focused on their job description and there was not much evidence for empathy by trying to assume how a problem or setback affects other professions. This sort of sheds a negative light on the concept of teamwork, which concept cannot be achieved if each profession is focused on 'surviving' in a work environment plagued by work overload and human resource limitations.

Interventions to counteract delayed discharges

One theme was identified to fall under this section, namely: stakeholder suggestions to management to counteract delayed discharges. This theme can be directly linked to the general literature in terms of the literature being rich in strategies employed by various acute health settings to decrease delays in patient discharge. This theme, in turn, outlined the suggested strategies stakeholders put forward to achieve this aim in their work settings. These strategies will now be compared and contrasted, with particular attention being given to the differences in the perceptions of stakeholders in this research investigation as opposed to the other settings in other countries.

A thing which immediately became evident was that, unlike other situations in the literature where initiatives mainly consisted of small ward-based changes respondents in this study setting concentrated

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more on system changes and changes in logistical dynamics throughout the whole hospital. Once again suggestions varied according to the work-view of the specific respondent and the subjective perspective of the health profession in question.

Respondents placed particular stress on moving care from an acute health setting to people's homes and the community in general for long-term cases, with the human resource (mainly care worker staff) being currently used in hospital being re-located inside people's homes. Although creating more rehab/nursing home beds was mentioned as a partial solution by some respondents, this measure was only considered as a short-term measure and by no means better than moving patients in the community to their own homes. Particular importance was also placed on the need for clearer protocols and guidelines for admission at the emergency department, a tool doctors can adhere to while feeling safer to do their job.

The intention here was to monitor which patients were admitted so as to prevent abuse and the creation of social cases, with doctors feeling free not to admit patients if they do not meet the necessary criteria. The director, bed management unit and doctors themselves were particularly adamant about the importance of this issue.

The discharge delay problem on the day of discharge was also addressed with solutions proposed by respondents, ranging from the use of quick discharge letters to creating a rotating roster basis for a number of doctors whose daily job would solely consist of writing discharge letters all day, thereby allowing firm medical officers more time to carry out their daily tasks. This also provides discharged patients the opportunity to leave the hospital in a timelier fashion, thereby vacating beds earlier on in the day.

From a logistical standpoint response seemed to vary, with faster online consultations (rather than paper-based manual ones), better and more timely discharge planning methods (formal or informal), having cleaners in wards for longer hours for more efficient discharge bed-cleaning, and less use of diapers in order to decrease patient dependency and avoid the discharge delays associated with increased patient dependency levels. Such proposed initiatives by stakeholders provide ample food for thought. These initiatives are relatively cheap to implement, and although they may result in some degree of resistance from both inside and outside the hospital setting, such measures would however be prone to yield the desired positive results.

The impact of the COVID pandemic on delayed discharges

One identified theme addressed issues related to the COVID pandemic and its effects on discharge delays. The impact of COVID on delayed discharges and hospital dynamics. This theme emerged as a direct result of the COVID phenomenon.

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The COVID pandemic was, by and large, considered by all respondents as being detrimental and disruptive to overall hospital dynamics, in that all stakeholders agreed that the impact was felt in practically all areas. This also included the negative impact of delays in in-patient discharge, a finding that resonated the strongest when it came to operational and tactical stakeholders. Problems seemed to mainly revolve around the need for a negative swab test for any patient-related activity. This resulted in severe procedural delays, theatre delays and transfer delays in between hospital departments as well as other external entities (such as long-term/rehab facilities, which facilities were altogether closed off at times and not receiving patients at all).

This extended the length of stay of practically every patient in hospital and resulted in severe cases of bed-blocking, particularly when considering those patients kept in quarantine for days on end. The BMU and charge nurses were particularly impacted by the COVID phenomenon as these health professionals had to face difficult hospital bed logistical situations, while the departmental manager respondents had extensive problems with staffing extra ward areas in the light of severe staff shortages made worse by staff being on quarantine.

Although the arrival of the vaccine alleviated some of this burden, stakeholders across the board still felt that the measures kept in place still hindered the patients' stay and their daily work life. This included the 'on and off' swab testing and the constant transfer of COVID-positive patients across ward departments with the resultant wasted bed space that such a divided hospital environment entailed. Some health professionals also stressed the increase in nosocomial infections when keeping patients for extended periods in hospital due to delays punctuated by COVID measures. There seemed to be a general consensus among respondents that it was high time that COVID restrictions be lifted, and the hospital returns to its normal modus operandi.

Inter-professional relations

The relationship between health professionals in relation to delays also emerged in the form of a theme, namely: inter-stakeholder interactions. This theme outlined respondents' perspective of interactions between them and other health professionals and how these interactions had the potential to induce delays in discharge. Role confusion was found to be a very common occurrence both in our study as well as in the literature, with the job description of certain health professionals being unclear to others. In our research investigation this was especially true regarding the medical profession confusing the role of the DLTs, DLNs and the social workers, thereby asking for reviews from the wrong health professionals.

Another exceptionally evident finding was based on a combination of political problems between stakeholders responsible for the long-term care process (ie. geriatricians, social workers, occupational therapists and the patient's family), where a lack of overall collaboration was reported by multiple

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respondents. This is somewhat in line with the literature where authors identified some degree of role confusion[13] and poor inter-professional communication[51].

The fact that only medical professionals are allowed to order laboratory tests online (or otherwise) was also found by both nurses and doctors as greatly contributing to delays in the patient's hospital stay. Such an issue can be relatively easily mitigated by hospital management at no monetary cost, although the better co-ordination of health professional interactions with regards to the long-term care problem might also involve a longer, more comprehensive effort. At a tactical level the bed management unit confirmed that lack of proper communication between ward departments and between the A+E department and the bed management unit itself. This chain of misinformation often involves mistakes related to misdiagnosis and wrong patient information, ultimately resulting in having to re-allocate patients or in some cases prolonging the discharge process needlessly. Such communication breakdowns can also be addressed at a relatively low cost by hospital management.

Limitations

The researchers found there was a general lack of knowledge of the phenomenon under study (i.e. Delayed discharges) on the part of some health professionals taking part in the study. Respondents' answers were also found to be biased according to the particular health professionals being interviewed. There was, in fact, a tendency for participants to express opinions purely from the point of view of their own personal experiences (and that of their profession) on the work setting. There was also found to be some degree of reluctance on the part of certain health professionals as regards the discussion of certain issues. This is because at times issues got too personal, particularly when it concerned factors related to day-today job experiences. A case study approach may also be subject to the researcher's personal bias while the generalisability of results is very limited. There may also be some degree of difficulty in clearly relaying the findings of the study because, unlike in quantitative method findings, these cannot be provided in a clear-cut statistical manner. The case study approach, being qualitative in nature, also prevents result generalisability.

Conclusion & Recommendations

The study aimed to explore the impact of delayed discharges on an acute hospital setting in a small European member state (namely) Malta through the perspectives of health professionals. Findings emerged with a number of themes related to the cause and effect of delayed discharges, together with suggestions put forward by health professional stakeholders to decrease the occurrence of this phenomenon, both on a micro-setting as well as on a national level. Findings also uncovered the relevance of inter-professional relationships and the impact of the COVID pandemic on delays in patient discharge on general hospital dynamics. While some of these outcomes were found to be in line with the general literature (being inductive in nature), others were deductive in nature and purely resulted from the efforts employed in this research investigation. Although this study was conducted in the

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framework of small European member state health system, findings may also be applied to applied to larger contexts.

Various recommendations can be put forward based on study findings. These range from a need for urgent admission and discharge protocols and guidelines to a faster long-term-care flagging process coupled with more nursing home bed availability, together with the need for more human presence in community care and rendered services post-discharge. However the researchers also managed to come up with a number of practical low-cost recommendations that can be easily implemented with relatively minimal effort: a) a discharge letter rotation system where house officers are assigned on discharge letter duty on a daily basis, b) more access for nursing staff (and other health professionals) to authorise certain tests and procedures so as to take some load off medical officer duties, c) more oversight on the part of hospital management to prevent cheating by wards in terms of false bed-state scenarios, and d) providing a clearer guideline regarding the proper job description of certain health professionals so as to prevent communication problems and untimely consultation processes.

More research is also recommended in this area, particularly from a quantitative perspective, in order to create a framework that can be utilized for the development of an extension of the current patient dashboard system, and which can be used for tracking delayed discharges through the system (perhaps even predicting such delays before they actually occur). This will form the basis for a significantly more efficient patient-pathway dynamic. Such a quantitative approach would also pave the way for result generalisation and would help to move health systems to tackle problems from a system thinking viewpoint rather than a crises approach.

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Appendix

Code ID	Code Name	Code Definition	Participants ID using code
A	Delayed discharges as part of daily work life	The prevalence of delays in discharge in the workplace in everyday life	MO1, NURSE3, NURSE5, CN1, NURSE7, DLN, DNM1
B	Procedural delays as part of daily work life	The prevalence of delays as related to specific hospital procedures in everyday work life	MO1, BST1, NURSE1, NURSE2, NURSE3, NURSE5, CN1, CN2, NURSE6, NURSE7, MO3, BST3, HST2, GER1, SW2, DNM2
C	Complicated patients' stay	Situations that give rise to complications in the patient's stay, which in turn, extend the patient's stay	HST1, BST2, NURSE4
D	Most common form of procedural delay	Most common form of procedural delay identified by stakeholders	HST1, MO2, NURSE3

E	Patients kept in hospital for convenience	Situations where patients' length of stay is extended for the professional convenience of health professionals or the patient	HST1, BST2, MO2, NURSE1, NURSE2, NURSE3, NURSE4, NURSE5, CN2, NURSE7, MO3, HST2, GER1, DNM2, Director1

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F	Work redundancy as part of daily work life	Repetitive tasks done by health professionals on a daily basis that extend the patient's length of stay	MO1, MO2, HST1, NURSE2, NURSE3, NURSE4, CN1, NURSE6, NURSE7, MO3, BST3, HST2, DFT2, Director1
G	The LTC flagging delay problem	Unnecessary delays related to getting a patient flagged for LTC	BST2, HST1, BST1, MO2, NURSE2, NURSE3, NURSE4, DFT1, NURSE5, CN2, NURSE6, SW1, MO3, DFT2, GER1, HST2, DNM1, DNM2, BMU, Director1
H	Discharge planning as a source of delay	Problems related to discharge planning (or lack thereof) and how this is linked with delays in patient discharge	HST1, BST2, MO1, NURSE1, NURSE2, NURSE3, NURSE4, DFT1, NURSE5, CN1, CN2, NURSE6, SW1, MO3, BST3, HST2, DFT2, GER1, DNM1, DNM2, Director1
I	Down-staffing of DLN team	Issues related or originating from down-staffing of the DLN team	HST1, BST1, MO2

J	Availability of community services and the impact on delays	Views of health professionals on community services provided and the impact of delays in patient discharge	BST2, NURSE1, NURSE2, NURSE3, NURSE4, DFT1, NURSE5, CN2, NURSE6, NURSE7, SW1, MO3, BST3, HST2, GER1, SW2, GER2, DLN, DNM1, DNM2, BMU, Director1
K	The impact of COVID on discharge delays	The impact of the COVID pandemic on hospital dynamics and delays in patient discharge	HST1, BST1, NURSE1, NURSE2, NURSE3, NURSE5, CN2, NURSE6, MO3, BST3, DLN, BMU

L	The role of family support on discharge delays	The role of the patients' family in relation to the discharge process	SW2 BST1, BST2, NURSE1, NURSE2, NURSE3, NURSE5, CN1, NURSE6, SW1, MO3, HST2, DFT2, GER1, GER2, DLN, Director1

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M	Faulty system which is open to abuse	Pitfalls in the current system that render the system vulnerable and open to abuse	HST1, NURSE1, NURSE4, DFT1, NURSE5, CN2, NURSE6, SW1, BST3, HST2, DFT2, GER1, GER2, DLN, Director1
N	LTC cases concentrated in medical arena	The prevalence of long-term patients to be present in the medical arena as opposed to other specialities	MO2, MO1, BST2, HST1, BST3, HST2, DNM1
O	A+E gatekeeping failure	Pitfalls in A+E triage and admitting system	HST1, NURSE4, NURSE6, BST3, HST2, DLN, DNM1, Director1, BMU
P	Delayed discharges and bedblocking	The relationship and impact of delays in patient discharge on the prevalence of bedblocking	BST1, NURSE4, CN1, NURSE6, BST3

Q	Link between COVID and nosocomial infections	The relationship between delays resulting from the impact of the COVID pandemic and nosocomial infections	MO2, MO1, HST2
R	Link between re-admissions and LTC cases	The link between patient readmission and system abuse and the creation of LTC cases	BST2, NURSE2, NURSE5, DLN
S	A lack of proper admission protocol		BST1
T	Management shortcomings linked to political interference	Hospital management shortcomings related to the discharge process	BST1, DFT1, NURSE5, HST2, DFT2

U	Initiatives proposed to decrease delayed discharges	Initiatives put forward by stakeholders to decrease the impact and/or incidence of delays in patient discharge	MO2, BST2, HST1, NURSE1, NURSE2, NIRSE3, NURSE4, DFT1, NURSE5, CN1, CN2, NURSE6, NURSE7, SW1, MO3, BST3, HST2, DFT2, GER1, GER2, DLN, BMU, DNM2, DNM1, Director1
V	Management adhering to its own protocols	Lack of managerial support as related to health professionals strictly adhering to hospital protocols	BST1, CN1, NURSE7, SW1, DFT2

W	Age as a factor impacting delayed discharges	Patient's age as a factor impacting delays discharges	NURSE1, NURSE2, NURSE3, NURSE4, CN1, NURSE5, CN2, NURSE6, SW1, MO3, HST2, DLN

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X	Bed-blocking as related to nursing home unavailability	The impact of delay/shortage of nursing home bed space on delays in patient discharge	NURSE1, NURSE3, CN1, CN2, BMU
Y	Profession-specific tasks linked to delays	The impact of profession-specific tasks on delays in the patient's journey through the hospital system	NURSE2, DFT1, NURSE5, HST2, GER2
Z	Procedural delays as being speciality specific	Procedural delays as being more prevalent in certain specialities over others	NURSE2, NURSE4
AA	Procedural delays as linked to nosocomial infections	Link between procedural delays and the incidence of nosocomial infections	NURSE2, NURSE3, NURSE4, DLN
BB	LTC beds/rehab bed availability as related to delayed discharges	The link between bed availability in rehab/LTC facilities as related to delays in discharge	NURSE2, NURSE4, NURSE5, MO3, BST3, DFT2, GER1, GER2, BMU, DNM2, DNM1

CC	A+E overcrowding as related to delayed discharges	The impact of delays in discharge on A+E overcrowding	NURSE3, MO3, DNM2, BMU
DD	Shortcomings of hospitality lounge to counteract delayed discharges	Problems that prevent the discharge lounge from being more effective as an agent of delay prevention	NURSE3, CN1
EE	Delay problems on day of discharge	Problems on the ward that prevent timely discharge on day of discharge	NURSE4, CN1, CN2, NURSE7, HST2, DLN, BMU, DNM2
FF	System flaws that extend patients' length of stay	System pitfalls and imperfections that unnecessarily extend patients' length of stay and results in delays in discharge	DFT1, CN1, NURSE6, NURSE7, SW1, BST3, GER1, SW2, DLN
GG	MMSE imperfect as a tool	MMSE tool as being prone to misleading results	DFT1, SW1, SW2, DLN

HH	Role confusion	Confusion and inconsistencies on the part of health professionals' knowledge about each other's role and job description	SW1, DFT2
II	Delayed discharges as related to medical professionals working solo	Lack of teamwork between health professionals	NURSE5, DFT2

JJ	LTC problems leading to staff alienation/demotivation	Staff alienation/demotivation as related to work life becoming unchallenging and boring/repetitive	CN2, NUR SE6, DLN

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KK	Inter-professional collaboration	Teamwork and collaboration between different health professionals	SW1, DFT2, SW2, GER1, GER2, DNM1, DNM2
LL	Relocation problems	Shortcomings related to the relocation of patients from one LTC facility to another in relation to the impact on the hospital	NURSE6, SW1, BST3, GER2
MM	Lack of proper resources	Shortage of resources that increases delays in discharge	MO3, SW2, GER2, DLN, DFT2
NN	System abuse by staff	Staff abusing the system so as to avoid work tasks	DNM2
OO	Treatment in the community	Treatment administration (intravenous) in the community by the HAT team	Director1

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Scoping Review

Defining Delayed Discharges of Inpatients and Their Impact in Acute Hospital Care: A Scoping Review

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Abstract

Background: With the ever-increasing demand on acute healthcare, the hospital discharge process and delayed discharges are considered relevant in achieving optimal performance in clinical settings. The purpose of this paper is to review the literature to identify conceptual and operational definitions of delayed discharges, identify causes and effects of delayed discharges, and also to explore the literature for interventions aimed at decreasing the impact (in terms of reducing the number/rate of delays) of delayed discharges in acute healthcare settings.

Methods: An extensive literature search yielded a total of 26 248 records. Sixty-four research articles were included in the scoping review after considering inclusion/exclusion criteria and the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analysis) search strategy. The following databases were utilized: Cochrane, EBSCO, PubMed, PubMed Central, Medline, and Web of Science. The search was carried out between January 2017 and March 2020 and covered literature ranging from 1990 to 2019. Results were reviewed by authors for duplicates and filtered using the inclusion/ exclusion criteria. Tables were created to classify the chosen articles (n = 64), allowing us to organise findings and results. **Results:** Conceptual and operational definitions were analysed. In turn, causes and effects of delayed discharges were extracted and represented in diagrammatic format, together with specific interventions used in acute healthcare settings to lessen the effect of delayed discharges. Operational definitions of delayed discharges were found to be more difficult to establish, particularly in the light of the vast number of different scenarios and workplace interventions uncovered in the literature. The main causes of delayed discharges were faulty organisational management, inadequate discharge planning, transfer of care problems, and age. The main effects were bed-blocking, A&E (Accident & Emergency) overcrowding, and financial implications. The main interventions included 'discharge before noon' initiative, 'discharge facilitation tools,' 'discharge delay tracking' mechanisms, and the role of general practitioners and social care staff.

Conclusion: This paper fills a gap in the fragmented literature on delayed inpatient discharges by providing a researchbased perspective on conceptual and operational definitions, causes and effects, as well as interventions to minimize their impact. The findings and definitions are intended as points of reference for future research.

Keywords: Acute Hospitals, Bed-Blocking, Delayed Discharges, Hospital Inpatients Flow, Transition of Care

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Introduction

Over the past few decades, healthcare systems in both developed and developing countries have been subjected to increasingly challenging financial scenarios, more so against the background of the 2008-2009 financial and macro-economic crises.[1] Specifically, European Union (EU) countries are increasingly focusing their efforts on an overall reduction in public sector expenditure on healthcare through the elimination of resource waste and inefficiency.[2] Such issues have mainly revolved around events related to the admission and discharge of patients in acute hospital settings. The efficiency of hospital processes, in relation to the admission and discharge processes, has attracted the attention of scholars in the field of health services in a bid to

ensure efficiency and effectiveness without jeopardizing quality of care.[2]

The hospital discharge process stands at the core of such issues. Healthcare organisations are complex and unique, meaning that understanding the behaviour of each system is crucial in the attempt to manage it effectively.[3] It is of utmost importance that hospital discharges are not viewed as some 'end point' but rather as another step in the patient pathway through acute hospital care.[4] Various stakeholders are involved in the provision and co-ordination of healthcare in this transition stage so as to ensure safe transfer of care. Clinical pathways are highly intricate because they are often unique to individual patients going through the pathways. The delayed discharge of hospital patients has been singled out as a major factor that hinders acute care settings from reaching optimal levels of performance.[5]

Delayed discharges are very prominent worldwide. For example in the United Kingdom the marked increase in delayed discharges is of significant concern, especially after being linked with increased mortality rates.[6] Likewise, a vast number of studies conducted throughout EU countries provided ample evidence of similar occurrences.[7–10] This has led policy-makers and healthcare managers to address issues related to inpatients' length of stay in an effort to cut down on costs and improve hospital patient flow and management.[11]

It tends to be very difficult to eradicate 'delays' because they are not always easily identifiable.[5] The more one explores this issue in different country settings, the more it becomes apparent that the concept of a 'delayed discharge' lacks clarity and is in dire need of being properly defined. Unless a common definition of the term exists, there can be no credibility in comparisons between different research investigations conducted in different settings. Identifying the multiple manifestations of delayed discharges is key to the development of interventions and policies.

A lack of a common definition of delayed discharges qualified as a major research gap in existing literature, a gap that this scoping review will strive to address. The review will analyse the derived literature and establish a baseline (conceptual and operational) for the term 'delayed discharge.' This will hopefully provide future research efforts with a point of reference and prevent incongruencies when it comes to using the term. Another research gap that the scoping review strives to address is the comparison of delayed discharge prevalence with hospital ward setting and the nature of health system funding. These issues have as yet not been addressed by existent research. The scoping review will also investigate causes and effects of delayed discharges, as well as interventions to counteract their impact in terms of reducing the number/rate of delays in a number of healthcare settings around the world.

Methods

A scoping review of the literature was conducted to identify studies and investigations related to delayed discharges in acute hospital settings. A scoping review provides an overview of a broad topic, with research question/s on which the review is focused.[12] We also decided to choose a scoping review because we were not seeking to answer one specific question, but rather to cover a broad area of research in an attempt to come up with an encompassing set of results (which is what such reviews are utilized for).[13] Scoping reviews are also very efficient in determining the need for a systematic review on the subject.[14]

Sources

The following electronic databases were searched: Cochrane, EBSCO, PubMed, PubMed Central, Medline, and Web of Science. A specifically designed government-provided link was utilized in a health department workstation, which gave us access to 4 databases at once (PubMed/PubMed Central, EBESCO, Medline, and Cochrane). Web of Science was used separately but with the same combination of keywords. The above-mentioned databases were chosen due to their strength and prominence in the health research arena. The keywords used were: 'delayed discharges' OR 'delayed discharge' AND 'acute hospitals;' 'delayed discharges' OR 'delayed discharge' AND 'bed-blocking;' 'delayed discharges' OR 'delayed discharge' AND 'patient flow;' 'discharge delays' AND 'bedblocking'/'patient flow;' 'alternate level of care' AND 'delayed discharge;' 'transition of care' AND 'delayed discharge.' The term 'patient flow' was later

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replaced by 'acute hospital patient flow,' as the former was deemed to be too vague and generic. The search was conducted between January 2017 and March 2020 and covered literature ranging from 1990 to 2019.

Each of the above keywords (or combination of keywords) were applied to the different databases specified above. Search lists were manually compared and contrasted. This procedure was very important as in this way studies which were not aligned with our review's aims were eliminated from the search (by referring to the inclusion/exclusion criteria). Replicated search items were also discarded in this way. Certain studies with plenty of research relevance had to be set aside in the process so that our research criteria were adhered to. By weighing in on doubtful articles was pivotal in selecting/unselecting relevant research material.

Search Strategy

The PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analysis) flow diagram below (Figure 1) provides a clear representation of the search results obtained, and how these findings were filtered to derive pertinent articles.[15] An initial number of 26 248 articles were retrieved from the online database search. Duplicates were removed and inclusion/exclusion criteria (described below) were applied to derived abstracts.

Articles were limited to those published in the English language between 1990 and 2019 (see Table). English was chosen as it is the working language of the reviewers. We limited our search to the period 1990-2019 in order to include the most relevant publications on delayed discharges of the last 30 years. The relevance of both article title and abstract was determined through authors' collective agreement. Records were screened mainly for research setting (only acute hospital care facilities were included) and sample (adult population). This ensured that both setting and sample fit within the parameters of the research questions. In fact, some articles were excluded because studies were conducted in elderly homes, long-term residencies or psychiatric institutions. Studies which were carried out in paediatric or communitybased settings were also excluded, ensuring that acute adult hospital settings remained the primary focus of the scoping review. This manual filtering of studies was effective in allowing us to extract pertinent investigations, and to prevent us from getting side-tracked into unrelated research areas. The systematic reviews' reference lists uncovered in the search were also reviewed for new references/common references. Those articles which were deemed relevant (as they met the inclusion/exclusion criteria) to our scoping review were also included in the study. This helped greatly in preventing us from missing relevant information on delayed discharges.

Selection and Data Extraction

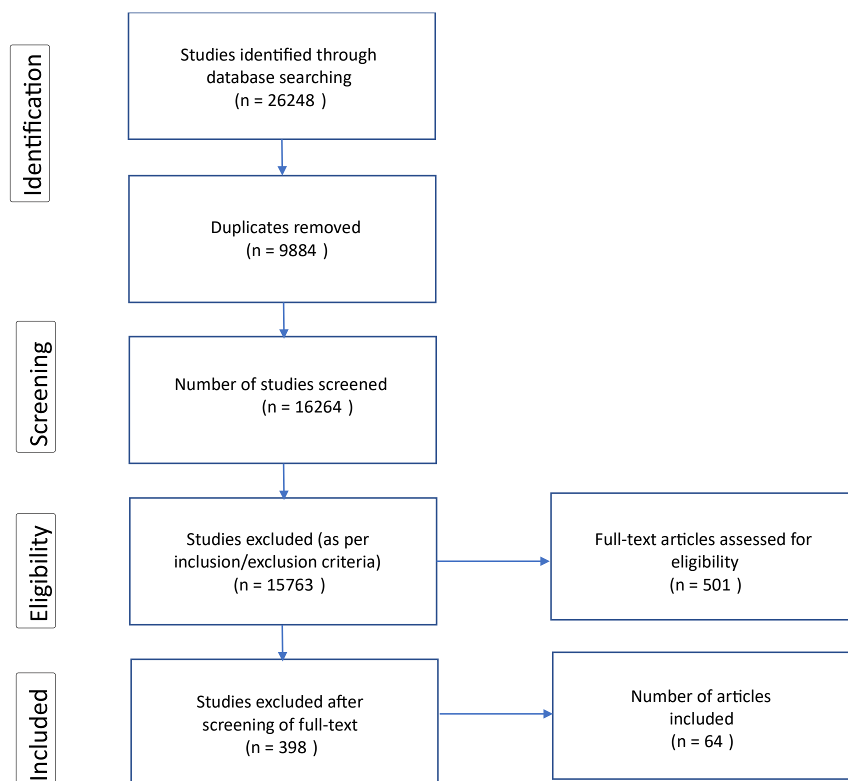

Figure 1. PRISMA Flow Diagram. Abbreviation: PRISMA, Preferred Reporting Items for Systematic Reviews and Meta-Analysis.

The final set of articles (n = 64) selected for full review met specified research criteria. Reference lists of the chosen articles were also screened for other studies. These articles were divided into 3 subgroups, namely: Type A: systematic reviews/meta-analysis (n = 5); Type B: randomized controlled trials/experimental studies (n = 5); and Type C: descriptive studies/case studies (n = 54). This was done in an attempt to create a hierarchy of importance (evidence), with systematic reviews and experimental studies carrying the most weight. Information was derived from a wide variety of different journals, since there was not one specific journal type that focused on delayed discharges in particular. All pertinent data from the 64 selected articles were transferred to a separate data extraction form. This tool was developed in an effort to organise derived information into tabular form, paving the way for easy analysis and comparison. The data extracted from the abstracts/chosen studies included the aims of the studies, type of research methodology used, results obtained, and conclusion derived from the investigations. Data on sample size and research tools were also recorded. Attention was also given to the country the research was conducted in and the ward setting where it took place.

Results

Building Conceptual and Operational Definitions for Delayed Discharges

All articles included in this study were analysed in an effort to extract data related to conceptual and operational definitions of delayed discharges (see Supplementary file 1, Table S1). Other information was also extracted with the purpose of establishing a link between the definitions provided by different authors and country of origin, types of health systems, causes and effects of delayed discharges and healthcare costs (see Tables S1 and S2 – Supplementary file 1). From a conceptual viewpoint, a number of keywords – derived from a vast number of different (but similar) definitions – were singled out. This was done by comparing and contrasting all available construct definitions and by identifying the most common ones. These keywords were: extra hospital time (n = 1); inappropriate occupancy (n = 2); medically fit (n = 12); unable to leave (n = 6); timely hospital stay (n = 1); exceeding length of stay (n = 2); needless hospital admission (n = 2); lack/inadequate transfer of care arrangements (n = 6); health professionals' convenience (n = 1); delayed examinations/investigations/treatment of patients (n = 5); and lack of information, miscommunication (n=2), transition of care (n = 2) and alternate level of care (n = 6). We therefore propose a comprehensive conceptual definition of inpatient delayed discharges as:

An instance where a medically-fit patient is needlessly kept in hospital due to internal

organisational/operational factors or where a patient is flagged as in need of alternate level of care and is delayed because of deferred transition of care and/ or lack of external transfer-of-care arrangements.

From an operational (measurement) viewpoint, defining delayed discharges was unique to some studies. These ranged from having patients leaving the hospital on the day of discharge at different time points, namely after 10:00 am, 11:00 am, midday, and up to 24 hours post-discharge.

Table. Inclusion/Exclusion Criteria

Item	Inclusion Criteria	Exclusion Criteria	Justification
Language	Articles written in the English language	Articles written in other languages	Scoping review authors/reviewers use English as their working language
Dating	Research articles published from 1990-2019	Articles published pre-1990 and post 2019	The delayed discharge phenomenon gained most prominence in the last three decades
Research setting	Only research conducted in acute hospital settings was included	Studies conducted in other areas were excluded	The research question focused primarily on acute hospital settings
Target population	Solely adult ward settings were included	Paediatric ward settings were excluded	Only adult settings will be tackled to prevent confusion and facilitate comparison of results
Evidence-base	Only primary evidence-based research articles were included	Opinion articles and other speculative write-ups were excluded	This was deemed to add rigor, strength and value to the scoping review (while avoiding bias)
Research perspective	Articles taken from an organisational perspective	Articles taken from patients' perspective	Delayed discharge definition deemed to differ according to perspective. At present organisation (not patient) is the primary decider of care

These definitions also included having patients leaving after 6:00 pm post day-care procedure. In one study, a delay was even defined to consist of anything exceeding 30 days post transfer of care. It is therefore extremely difficult to establish a standard operational definition of delayed discharges in view of the diverse viewpoints of how this construct is measured. However, it seemed to revolve around a more precise mathematically finite unit of measure. The absolute majority of studies used 'days' but there were some which utilized 'hours' or 'days and hours.' We also sought to uncover if there is any relationship between definitions of delayed discharges and the research setting/country where these studies were conducted. Most studies took place in the United Kingdom and the United States, but others were found from all around the globe (including Norway, Italy, Malta, Belgium, Singapore, Australia, Brazil, Sweden, and Portugal).

Most studies were conducted either throughout one single hospital or involved a wide range of different hospitals in a specific geographical location. Only a handful tackled one specific ward setting. This made it extremely difficult to identify any links between definitions of delayed discharges and specific health settings. Some studies, in turn, did not provide a formal definition of the term at all. Such disparity, while allowing for a more thorough view of a wider spectrum of ward settings, prevented us from successfully establishing relationships between causes and effects of delayed discharges. Uncovering a relationship between launching initiatives to counteract delayed discharges (intervention studies) and the role of different health professionals involved was another issue that we addressed. Although discharge planning and timing were the main focus of such studies, the roles of health professionals in the process remain still undefined and unclear.

Causes and Effects of Delayed Discharges and Implemented Interventions

a systems representation of delayed discharges of adult acute hospital patients.

Figure 2 outlines the main causes and effects of delayed discharges, which are classified into 'in-patient' and the 'postdischarge' phases. The diagram also presents the intervention studies addressing delayed discharges. These studies directly attempted to introduce operational mechanisms affecting the rate of delayed discharges in a particular acute hospital care setting. Some of these studies yielded positive, albeit modest, outcomes, and although derived results did not spur radical changes (percentage reduction in overall delays), they did seem to point towards specific courses of action (strategies aimed at reducing discharge time on the actual day of discharge). No apparent relationship between country/ health system type and causes for delays in the discharge of patients from acute hospital settings emerged from results. Neither was there a link between ward setting and causes of delays. The causes described in the above diagram seemed to be present across various ward settings throughout the studies included in the scoping review.

Discussion

Conceptual and Operational Definition of Delayed Discharges

The aims of this scoping review were to investigate the conceptual and operational definitions of delayed discharges, explore causes and effects of delayed discharges, and identify interventions aimed at decreasing the impact of delayed discharges in acute healthcare settings. Table S2 analyses the definitions utilised in the 64 articles included in this scoping review and distinguishes the conceptual from the operational aspect. It also provides details regarding the unit of measurement. Based on this scoping review, we propose the following conceptual definition of delayed discharges: An instance where a medically-fit patient is needlessly kept in hospital due to internal organisational/operational factors or where a patient is flagged as in need of alternate level of care and is delayed because of

The data extraction table was thoroughly analyzed in an effort to find common trends and differences, providing a set of results that adequately represent study findings. Categories were not pre-determined but were drawn up as the analysis progressed. A diagram (Figure 2), based on findings, provides deferred transition of care and/or lack of external transfer-of-care arrangements.

Operational definitions varied across the studies, mostly due to the different contexts of the study settings. It was therefore not possible to emerge with an encompassing

Causes of delayed discharges	Effects of delayed discharges/Interventions

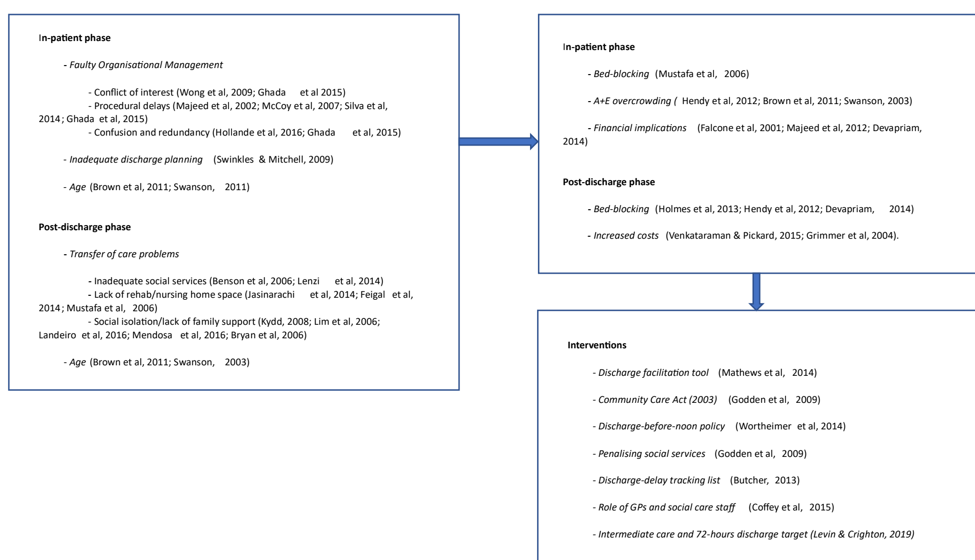

Figure 2. Systems Representation Derived From Scoping Review Findings.

common operational definition of delayed discharges. A marked difference in available published data may have also played a role in preventing the emergence of an overall operational definition, as opposed to conceptual cases where definitions exist within the boundaries of thought alone (even because the experiences of patients and health providers in relation to delayed discharges vary across the board).

Nevertheless, we identified several commonalities between studies, even though these were conducted in different settings and in different countries. Operational definitions were mostly predominant to privately funded health systems (refer to Tables S1 and S2). This seems to suggest that forprofit health organisations are more focused on issues related to timely discharges and saving costs. This claim is supported by the finding that whereas studies yielding conceptual definitions (mostly conducted in publicly-funded health systems, such as the United Kingdom and Northern European settings) primarily made use of 'days' as the chosen unit of measure, operational studies (funded mostly by forprofit organisations) displayed a tendency for a higher level of precision (using days, hours, and even minutes in some cases as units of measure). This points towards a situation where profit-making triggers health organisations to apply a degree of mathematical precision in preventing delays with the aim of improving the discharge process, improving efficiency and potentially reducing waste in terms of bed occupancy. At this point in view of data availability variation, it would be of benefit to state that the relationships described above are not meant to provide any form of statistical significance as regards differences in accuracy of measurement between the two sectors. Our observation is merely based on the literature available in this review. In turn, more detailed data is observed in published papers investigating private providers due to easier access by researchers. Publicly available data of public hospitals is likely to be less detailed and therefore so are studies based on such data. This fact can be a major confounder when comparing public and private sector data.

The next sections will address the causes and effects of delayed discharges, together with interventions employed by specific health settings to counteract their impact. The diagram (Figure 2) summarizes the findings, as well as organizes and groups causes, effects, and interventions in relation to delayed discharges with the aim of testing relationships in future research between the various constructs identified.

Causes and Effects of Delayed Discharges

Research uncovered a tendency for the rate of delayed discharges to be particularly due to issues related to overall hospital organisation and management. The use of the Appropriateness Evaluation Protocol tool to assess for delays in the analysis of patients' medical records in two separate hospitals concluded that lack of improvement in care team organisation was primarily responsible for the delays incurred.[16] These findings were in line with studies conducted by other researchers.[17–21] A number of problems were identified in this field, ranging from conflicts of interest between health professionals[11,22] to procedural delays, mainly

pertaining to waiting for tests and investigations,[19] to mere confusion and redundancy in the plan of care.[19] Such findings are a cause for concern, in that they seem to point towards health systems with inherent operational system failures. Issues such as 'conflicts of interest' and 'procedural delays,' unlike external independent variables like ageing and population epidemiology, are within hospital management's grasp to control.

Delayed discharges were found to cause severe A&E (Accident & Emergency) overcrowding[23] and bedblocking,[5,24,25] due to the increased inefficiency and waste that this phenomenon brings with it. This goes together with the inevitable negative financial implications typically incurred

in such situations.[26–29] In England, there were on average 4000 patients a day who experienced some form of delay in transfer of care between 2013 and 2016.[30] This translated to approximately 115 000 bed days' worth of delayed care. In turn, hospital patients who are medically fit for discharge cost the Scottish National Health Service (NHS) an extra £100 million over the course of 2016 (around £214 per patient per day). These figures concur with the ones incurred in England, where delays in the discharge of patients who are ready from treatment have topped £900 million per year.[30]

The lack of proper discharge planning was another factor that we identified as having a negative impact on an effective and timely discharge process,[31-34] thereby directly resulting in both discharge delays as well as increased re-admission rates. This state of affairs is counter-productive, mainly because discharge planning should actually be used as a tool to curtail unnecessary delays. However, it is a factor that can be acted upon earlier on in the patient's hospital stay (even as early as the admission phase).[35] In fact, a specifically designed computer program to track delayed discharges in real-time in a large academic medical centre in the United States was utilized for this purpose.[35] The study uncovered a tendency for inadequacies in the discharge process (ranging across the patient's overall stay to the actual day of discharge) to be mainly responsible for incurred delays (mainly in the form of delayed paperwork and organisation related to transfer of care). These findings also seem to support the commonly shared perspective that acute hospital facilities attach limited importance to the discharge planning process, as they are more focused on the medical treatment provided rather than on what happens after treatment ends. Some authors also identified the discharge process, which takes place on the discharge date itself, as an occurrence resulting in delays.[36]

The post 'medically discharge' phase was mainly concerned with problems related to the transfer of care of patients who were deemed to be medically fit for discharge by the system. These problems involved: (*i*) lack of proper community services support,[9,37-39] (*ii*) lack of adequate social services,[40,41] (*iii*) no space in nursing homes and rehabilitation facilities,[8,42-45] and (*iv*) social isolation due to lack of family support.[46,47] This phase highlights the dependency of acute hospital settings on primary, as well as community, longterm and rehabilitative care. This is because, as far as the acute hospital facility is concerned, the patient has been duly cured and discharged, with all the processes involved therein meeting expectations. Unfortunately, with the ever present (albeit increasing) pressure exerted by ageing populations and associated high dependency levels, this phase of the discharge process is particularly prone to presenting challenges to hospital managers.

Two systematic reviews[48,49] tackled delayed discharges from two perspectives: the first on older people, while the second on financial and logistical impact of delayed discharges on acute hospital care management. Both systematic reviews were spurred by rising concerns about the effects of an ageing population on the demand for acute hospital beds. Authors' conclusions differed, in that while one claims there is weak evidence linking delayed discharges with the older persons,[49] the other insists that age is indeed a determining factor.[48] While the outcomes from these studies are indeterminate, ageing and associated morbidity as causes of delayed discharges seem to be gaining momentum. In addition, age (and related co-morbidities) – as a factor affecting the rate of delayed discharges by way of making discharge plans and transfer of care more challenging was also a conclusion reached by an analysis of 453 case notes over a 6-month period in an orthopaedic setting.[50]

In turn, a systematic review of 32 studies identified problems related to social services as being the main cause of delays.[51] These mainly were insufficient care home capacity and community-based care. On the other hand, having good post-discharge planning and assessment (to prevent readmissions),[52-54] together with active engagement of general practitioners and other social care staff,[55,56] was highlighted in this review as effective in the prevention of delays in discharge. These

findings strengthen the need for developing a sound community-based framework for post-discharge care, specifically in the context of social support and dependency management in addition to medical-based community care. The impact of cost on acute hospital settings in the absence of such services is particularly pronounced[10,57] due to the bedblocking effects inevitably incurred.[5,28,58]

An additional two more recent systematic reviews pertaining to cause and effect of delayed discharges were analysed. One such review[59] chose to tackle delayed discharges from a prevalence and cost perspective. This review uncovered a link between delayed discharges and morbidity and mortality in older people, especially due to iatrogenic infections. There was also found to be a link between high dependency and delayed discharges, with social isolation playing a major role. From a cost perspective the authors identified opportunity costs related to bed-blocking, waste, and A+E overcrowding to be the most prevalent. This systematic review concluded that the delayed discharge phenomenon was prevalent in most countries, with the average cost varying between $142 and $31 395. The study also identified the major causes of delay as being, (*a*) organisational factors, (*b*) lack of assessment and discharge planning, (*c*) poor communication between the organisation and the patient, and (*d*) insufficient statutory services. In turn, while providing financial incentives for the timely transfer of care worked well in Norway and Sweden, such methods failed in the United Kingdom. This last finding seems to be in line with the conclusions of another study,[31] referring to the ineffectiveness of the Community Care Act of 2003 launched in the United Kingdom and aimed at penalising social services for delays in patient discharge from acute healthcare settings. Another systematic review[60] tackled the issue of delayed discharges from an 'impact and experience' perspective. Findings uncovered a number of outcomes related to delayed discharges, namely (*a*) an impact on patient health outcomes (increased mortality, increased depression, increased dependency and associated decrease in activities of daily living), (*b*) an impact on staff (frustration and guilt, feeling that their patients were being dehumanized), and (*c*) an impact on the organisation (an increase in re-admission rates, a decrease in inter-professional communication, and added cost due to waste). The findings in the abovementioned reviews (including our own scoping review) seem to be very congruent when it comes to cause and effect dynamics related to delays in patient discharge. This was an encouraging finding in our scoping review because it seems to point to a number of common denominators which health systems can address to counteract and ultimately overcome to lessen the occurrence of this phenomenon.

Interventions

A number of studies were conducted with the purpose of introducing specific measures (mainly ward/setting-based) to lessen the impact of delayed discharges in acute healthcare settings. One such study[36] attempted to develop a discharge facilitation tool to aid in the promotion of early discharges, achieving an overall improvement of 10% in the rate of total discharges. Another intervention study by a group of researchers[41] aimed to address this problem by attempting to introduce a 'discharge before noon' policy, which initiative turned out to be both possible and sustainable (with discharges before noon increasing from 11% to 38% over a 13-month period). In both cases there was a group effort from multiple members of the multi-disciplinary team, who were involved in documenting and tracking their progress through the day in a way as to allow us to identify potential instances that could lead to delays. Such techniques are fairly cheap to implement, requiring minimal staff and effort, but yield relatively positive outcomes.

One author[61] even went one step ahead and created a tracking list with the intent of identifying factors that hinder early discharge (in a neurology setting). While this intervention study had no impact on patient length of stay, it resulted in an overall drop in 30-day re-admission rates and uncovered a mere 36.4% discharge rate occurring before 10:00 am. This study also attempted to

create more re-enforcement and awareness among health professionals regarding a timelier discharge process on the actual day of discharge. From these studies it becomes evident that the involvement of health professionals is pivotal in the attainment of discharge delay prevention, mainly due to the fact that these individuals are the ones who are actually at the point of service and most likely to identify such instances. However, the majority of authors in this field agreed that problems related to delayed discharges are multi-dimensional and vary across the board.

The Community Care Act of 2003 introduced in England was designed to financially penalise social care facilities for delays in the transfer of care. This measure was deemed as being needed in view of increasing bed capacity insufficiency throughout acute hospital settings. A trend analysis of hospital activity between 2001 and 2007 was carried out,[62] with the intent of assessing the impact of the Community Care Act of 2003 on delays in patient discharge. This however revealed that there was a lack of evidence that the Act somehow contributed to a decrease in delayed discharges, with the absolute majority of those same delays (68%) attributed to the NHS efficiency itself. Another study[63] was conducted which aimed to measure the effect of intermediate care and a 72-hours discharge target on days delayed. Discharge delays were compared before and after the onset of intermediate care initiatives. Results yielded positive outcomes, in that there was an association between a reduction in delays and intermediate care combined with the 72-hour discharge target. Although such delays continued to increase over time, these increases were found to have been greater in the absence of this initiative.

Study Limitations and Recommendations for Research

One study limitation revolves around the fact that we confined our scoping review to studies carried out within adult acute hospital care. We excluded geriatric settings, long-term facilities, paediatric settings as well as psychiatric hospitals. We thereby recommend any research that chooses to go beyond adult acute hospital care and explore other settings.

Another limitation pertains to the relationship between various variables identified in the review data. Although in many cases we ventured to suggest possible cause and effect relationships, many of these are nonetheless not supported by the data extracted and thereby not conclusive. Further research is needed in the area to determine the veracity of such links (in terms of the statistical significance of their relationships).

Our derived conceptual definition of delayed discharges is solely focused on adult acute hospital care from the organisation's perspective. It does not include the patient's perspective, for which we think a whole new conceptual definition would need to be drawn up. We decided that since most healthcare systems in developed and developing countries have not yet moved to a person-centred care approach (but rather still utilize a patient-centred care approach), a definition of delayed discharges from the organisation's point of view would be of most benefit because at this point in time it is not the patient who ultimately determines the plan of care but the organisation itself (through the various health professionals). We highly recommend further research into the area in an attempt to uncover conceptual definitions of a delayed discharge from the patient's perspective, which can form the basis for future healthcare models built around person-centred care.

Conclusion

This scoping review is intended to be a helpful precursor for future systematic reviews or other emerging approaches to evidence synthesis (such as realist reviews). It has, in turn, been used to confirm the relevance of the chosen inclusion criteria and potential questions on the subject of delayed discharges. It contributes to knowledge in that it provides a holistic definition that captures

the full complexity of the construct and goes beyond what has been explicitly conceptually defined. In this scoping review, we have provided a comprehensive yet extensive picture of causes and effects in relation to delayed discharges of adult acute hospital patients. We proposed a conceptual definition of delayed discharges based on the derived literature, as well as a systems representation that distinguishes (yet links) causes and effects. In addition, we identified intervention studies that attempted to minimise the problem of delayed discharges. The comparing and contrasting of the different research investigations also yielded very valuable information that allowed us to identify very important relationships between specific variables. The relationships described above may not be statistically significant, meaning that more research in the area is warranted to establish causality. The fact that a clear-cut definition could not be drawn from an operational standpoint (due to such variance in the literature) is indicative of the complexity of the process involved and can be considered as a basis for further research in the area. The results of this scoping review as represented in the systems model may guide future research on delayed inpatient discharges. Aligning acute hospital settings with measures to prevent causes and implement changes to decrease the effect of delayed discharges is envisaged to minimise the problem, while aiming for a higher availability of hospital beds, less A&E overcrowding, strengthened partnerships between hospital and community care and, ultimately, a drop-in healthcare waste and related costs.

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Competing interests

Authors declare that they have no competing interests.

Authors' contributions

Conceptualization: AM, SB; Data curation: AM; Formal analysis: AM; Supervision: SB, LG, GT; Roles/Writing – original draft: AM, SB; Writing – review and editing: SB, GT.

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Supplementary files

Supplementary file 1 contains Tables S1-S2.

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