National Audit Office
MALTA

Performance Audit

The General Practitioner function - The core of primary health care

Report by the Auditor General

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List of Abbreviations

A&E	Accident and Emergency
CATI	Computer Assisted Telephone Interviewing
CDMC	Chronic Disease Management Clinic
CEO	Chief Executive Officer
CPAS	Clinical Patient Administration System
DAS	Departmental Accounting System
EU	European Union
GGH	Gozo General Hospital
GP	General Practitioner
HPDPD	Health Promotion and Disease Prevention Directorate
HR	Human Resource
ICT	Information and Communication Technology
IT	Information Technology
KPI	Key Performance Indicators
MAM	Medical Association of Malta
MDH	Mater Dei Hospital
NAO	National Audit Office
NHSS	National Health System Strategy for Malta
NSO	National Statistics Office
PHCD	Primary Health Care Department

Executive Summary

Executive Summary

Terms of reference

1. During 2014, the cost of providing General Practitioner (GP) services through nine health centres, which is utilised by around 30 per cent of the Maltese population, was estimated at €10.3 million. National and European Union (EU) documents acknowledge that despite significant extension of primary health care services, over time, this sector was not appropriately placed at the forefront of health services in Malta. This situation cannot be attributed solely to the public GP function, as around 70 per cent of the population utilise the services provided by the private doctors. To this effect, this performance audit, which mainly focused on prevalent practices in the public sector during 2014, sought to determine the extent to which:

   i. Operations related to the GP function render the relative services accessible and qualitative in terms of national primary health care objectives.

   ii. Organisational and administrative structures facilitate service delivery.

   iii. Services provided are cost-effective.

Attaining PHCD objectives through the GP function

2. The Primary Health Care Department's (PHCD's) national strategic objectives, namely service accessibility, continuity of care as well as prevention and promotion, to varying degrees, extend the public GP function. A survey, commissioned by this Office and undertaken by the National Statistics Office (NSO) noted that over 95 per cent of the 769 participants were satisfied with GP services. However, over one fifth of respondents highlighted that they accessed the public GP function since their private doctor was unavailable. This issue in itself provides an indication on the relative ease of accessing GPs through health centres. Nevertheless, this audit elicited issues relating to variances in GP to users ratios across the nine health centres and one fifth of users had the perception of long waiting time to access GPs during peak hours.

3. The introduction of Chronic Disease Management Clinic (CDMC), Anticoagulant Clinic, appointments for a number of specialised GP services, national screening programmes as well as improved coordination with secondary and tertiary health care providers illustrates that continuity of care principles are being increasingly placed at the forefront of primary health care. To varying degrees, these measures

were supported through the implementation of Information and Communication Technology (ICT). However, the following circumstances prevail:

i. The CDMC has not yet extended to all clinics despite that a significant period has elapsed since Scheme's piloting in July 2014. The plan, formally concluded in May 2016, was to introduce this Clinic over a three-year period. However, implementation was hampered by human resources constraints, which ensued the suspension of the GP training programme following the institution of legal proceedings.

ii. The National Health System Strategy for Malta, (NHSS) (2014) and the Collective Agreement (2013) acknowledge the critical importance of patients being followed up by the same medical team to further promote continuity of care principles. The complex policy, financial, economic, social and logistical factors at play, present significant challenges to extend this principle beyond the CDMC and specialised clinics, to walk-in clinics. However, to date, in view of international critique, PHCD contends the feasibility of extending this principle to the GP walk-in clinics.

iii. Current work practices and user demand drives PHCD to predominantly focus on dealing with prevailing health conditions rather than advocating health promotion and prevention principles as stipulated in its objectives. Heavy user demand during peak hours constrain the degree to which health promotion and prevention issues are dealt with during a visit. Such a situation is also prevalent for the private GP function. In the past two years, this situation was partly mitigated through the development of Lifestyle Clinics, the strengthening of screening services and by PHCD's increasing liaison with the Health Promotion and Disease Prevention Department (HPDPD) to deliver prevention sessions in the community. Although the main role of health promotion lies within the HPDPD, efforts are ongoing to increase coordination between PHCD and the latter.

4. Despite the continued broadening and development of the GP function provided through Health Centres, during 2014 around 23 per cent of all persons who utilised the services of Mater Dei Hospital's (MDH) Accident and Emergency (A&E) Department, could have been dealt with at health centre level. Additionally, most of these users were self-referred. The foregoing implies that patients are intentionally by-passing health centre services to the detriment of increasing pressures on MDH's resources.

GP function management

5. The GP function is run through two parallel organisation structures, whereby the eight health centres in Malta fall within the remit of PHCD and the clinic in Gozo is managed by Gozo General Hospital (GGH). This historical arrangement has developed out of logistical feasibility. However, this state of affairs has limited communication on strategic Public Private Partnership developments concerning primary health care issues relating to Gozo Health Centre and the harmonisation of financial management. With respect to the latter, a case in point relates to the application of collective agreement measures connected with allowances payable.

6. The strategic management of primary health care, including GP services, is constrained through operational information limitations, which, at times, can limit policy development and potentially delay the relative decisions. This is generally reflected by circumstances whereby national strategies are in place, which however have not always been fully subjected to a comprehensive planning process. Implementation of measures outlined in policy documents are primarily driven by the availability of funds rather than a planned schedule of works.

Cost efficiency of the GP function

7. The unavailability of comprehensive management accounting information relating to the unit cost of the various services provided through the GP function, limited the derivation of these costs through two case studies during 2014. In turn, these case studies elicited the following issues:

i. During the two sampled weeks in 2014, the public GP consultation room during peak hours on weekdays was estimated to cost €11.48 and €10.50 per visit respectively. This unit cost varies among health centres where the lower unit costs resulted at the busier health centres. This implies that economies of scale were the most significant factor influencing the unit costs of this service.

ii. On the other hand, the National Audit Office's (NAO's) commissioned survey and NSO derivations for consumer price index purposes estimated that the fees charged for GP consultations in 2014 by the private sector were at €9.49 and €9.26 respectively.

iii. However, benchmarking of the cost of service provision by the public sector and fees charged by the private sector for GP consultations were subject to various methodological and comparative limitations. Nonetheless, these unit costs illustrate the need for further in-depth studies whereby the public sector can improve cost efficiency to maintain unit costs at optimal levels and ascertain service sustainability.

iv. This audit identified a number of factors, which influenced the cost-efficiency of services delivered through the pubic GP function:

a. The cost of service provision at the Bereġ is inflated by an estimated 10 per cent through historical practice of deploying nurses to assists GPs when such an input can be made just as effectively through lower grades paramedics. PHCD contends that this practice is not feasible at this point in time as the Department is studying on how to reengineer this service due to human resource constraints.

b. Similarly, the cost of providing prescriptions is inflated through the current laborious processes, which were intended to improve the control over the issue and waste of medicines. A similar situation also prevails in the private sector. During the course of this audit, PHCD was actively seeking to streamline this service through the introduction of ICT. This measure is expected to be implemented at health centres by 2016 and in Bereġ by 2017.

c. During the two weeks (in 2014) that were studied by the NAO, service unit cost of off-peak hours provided at Gozo and Floriana Health Centres was 39 and 54 per cent more expensive than the average unit cost services provided by Paola and Mosta. This was mainly attributable to an imbalance between GP deployment and patient demand.

8. Stakeholders participating in the health sector in Malta acknowledge the social and economic benefits associated with primary health care. At the heart of primary health care lies the GP function whose main role is to take professional responsibility and to manage most acute and chronic illnesses as well as promoting health and disease prevention. The public GP function is utilised by around 30 per cent of the population where the overwhelming majority expressed high satisfaction levels of services provided. The national health care statistics show that, in Malta, a high incidence of a number of chronic ailments prevail. The reason for this situation, where the public GP service attracts around 30 per cent of the Maltese population, is multi-faceted.

9. PHCD's has in recent years implemented a spectrum of initiatives, which are aimed at increasing health promotion and disease prevention measures as well as to increasingly embrace the principles of continuity of care. The latter tends to be more pronounced in the provision of specialised clinics dealing with chronic ailments. The foregoing is in line with the NHSS (2014). Nevertheless, to varying degrees, PHCD is hindered from fully implementing other key measures in this plan, such as extending continuity of care and patient centric principles in a more expedient manner, through internal and external factors.

10. Historically, secondary and tertiary care was deemed a higher investment priority within Malta's public health services. While the benefits of such investment cannot be disputed, the opportunity cost of this investment imbalance implies that the high social and economic payback in primary health care was forfeited. In recent years, primary health care increasingly attracted more national funds. However, current funding levels remain below the requirements needed to enable a more expedient implementation of a number of initiatives outlined in the NHSS and other strategic documents. This state of affairs prohibits PHCD from establishing a definitive implementation schedule for all measures listed in the NHSS.

11. In addition, the GP function is subject to its own specific social and economic complexities, which also influence the expediency and the extent to which these services are broadened. Most factors revolve around the interrelationship of the private – public GP services. This interrelationship enables consumer choice and lessens the burden of direct public provision. However, unless the delicate environment within which both systems operate is computed in possible solutions, the extending and broadening the public GP function in line with NHSS measures and other strategic documents will be rendered a more intricate endeavour.

12. The costs associated with the delivery of the GP function through health centres also raise some cost-efficiency issues. In part, costs are inflated through operational practices, which take into consideration provisions within the Collective Agreement (2013) as well as clinical and logistical arrangements. On the other hand, costs of delivering public GP function during off-peak hours, with some exceptions, reflect the social obligation of delivering this service on a 24-hour basis.

13. In conclusion, this audit has provided strong indications that, generally, the GP function is adhering to national strategic measures and the services are being extended and broadened. On the other hand, this review has also elicited issues, that in its current set-up, the further broadening of the GP function by making it more patient-centric will be unlikely to occur without a shift in funding relativities, which reflect more realistically the long-term socio-economic advantages of investments in primary health care. Additionally, within this context, the opportunity exists for further exploiting the interrelationship and potential synergies of private and public sectors collaboration. To this end, some of the building blocks are already in place. A case in point relates to the increasing accessibility by private GP to patients'

medical records. Moreover, although mutually exclusive, both systems complement each other in various ways as a number of GPs provide services in both sectors and patients readily utilise both systems simultaneously. The foregoing clearly illustrates that through closer stakeholder collaboration, the public GP function can further contribute towards placing primary health care at the fulcrum of national health services.

Recommendations

14. In view of the findings and conclusions emanating from this performance audit, the NAO is proposing the following recommendations:

i. PHCD is encouraged to increasingly assess the feasibility of broadening and extending the GP function through exploiting the complementarily of services provided by doctors in the public and private sectors. PHCD can build on the experience accrued by the national public health services through the various initiatives already undertaken in this regard - such as those involving Private Public Partnerships and contracting out. In view of the complexities involved, it is imperative that all stakeholders are involved and actively engaged at the outset.

ii. Consideration is to be given to increasingly shift budgetary allocations within the health sector in favour of primary health care. This will not only enable more services to be provided at community level, but in the long-term result in a high rate of return in term of social and economic benefits.

iii. PHCD is encouraged to elevate the strategic measures listed in the NHSS and other documents into implementable project plans. This entails that the resources required as well as the implementation timeline are established. The NAO, nonetheless, recognises that PHCD initiatives would remain dependant on the commitment of all stakeholders, particularly with regards to budgetary allocations. To this end, the NAO acknowledges that during the conclusive phase of this audit, PHCD compiled the document, "*Primary Health Care Department Strategy, 2014 – 2020, Towards a Sustainable Health Care System*". The Ministry of Health formally adopted this Document.

iv. Efforts are to be stepped-up to introduce the Chronic Disease Management Clinic across all health centres. The introduction across all health centres further promotes continuity of care and patent centric principles and, in the long-term will improve the cost-efficiency of the GP function. PHCD confirmed that this project will be implemented by end 2017 as GP training programme will start again at the end of 2016.

v. PHCD is encouraged to continue in its quest to shift the balance of its services from immediate care towards health promotion and disease prevention. The opportunity exists for PHCD to build on current awareness campaigns by encouraging GPs to reemphasise the messages of these campaigns during patient visits. Additionally, there is scope for greater coordination between PHCD and the Health Promotion and Disease Prevention Directorate, in terms of strategic approaches, GP training and referrals to special health awareness classes provided by the latter.

vi. Consideration is to be given to increase strategic, management and operational collaboration across health centres in Malta and Gozo. This will ensure a higher degree of service harmonisation and customisation as well as the sharing of experiences in service development. The latter particularly refers to the

reengineering and extension of primary health care services in Gozo through collaboration, in the form of partnership agreements with the private sector.

vii. As a matter of critical importance, the accessibility of financial management information is to be strengthened. While acknowledging that in recent years PHCD engaged more personnel to oversee financial information, the Finance section still needs to be supported through investment in the appropriate ICT infrastructure. The availability of robust financial management information would increase transparency and accountability as well as augment PHCD ability to undertake more definitive project appraisals – the latter being a critical element of ensuring the financial sustainability of services.

viii. Similarly, PHCD is encouraged to better utilise ICT available, such as Clinical Patient Administration System (CPAS), to ascertain accurate contact patient statistics. Such information would strengthen strategic planning and management control of PHCD operations.

ix. Efforts related to the enrolment of e-prescription facilities at Bereġ are to be expedited. However, this is dependent on the appropriate investment in ICT. Although considerable, the benefits of such an investment would be visible in the short-term as the use of ICT would either decrease the level of resources deployed or enable the extension of services at Bereġ with the same staffing levels. PHCD contend that the computerisation of the prescription services will be implemented by end of 2017.

x. PHCD is encouraged to further coordinate with MDH's A&E Department to minimise the incidence where patients seek the latter's attention unnecessarily as they could be provided with the required care through the GP function at health centre level. To this end, information campaigns would also contribute towards decreasing the volume of Triage Three[1] patients at MDH. Dealing with this category of patients at health centre level is conducive to a more patient centric approach, relieves the pressure from MDH's resources and infrastructure as well as reduces the overhead costs.

[1] For the purpose of this Audit Triage Three patients refers also to the new coding system where patients are classified as Emergency Severity Index (ESI) 4 and ESI 5.

Chapter 1
Terms of reference

Chapter 1 – Terms of reference

1.1 Introduction

1.1.1 Various sources acknowledge that the delivery of primary health care in Malta needs to be substantially strengthened in the light of concerns relating to a cost-effective and sustainable national public health service. Primary health care aims to deal with health problems in the community through the provision of promotion, prevention, cure and rehabilitation service.[2] By definition, this implies that primary health care should be the first point of contact in the health care system. Generally, the main source of primary health care is the general practice[3] provided through health centres and private General Practitioners (GPs). To varying degrees, users oscillate between these two mutually exclusive, but in practice, interrelated services.

1.1.2 In view of its key contribution to community care, this performance audit focused on the GP function provided through the various Health Centres across Malta and Gozo. The National Audit Office (NAO) has already assessed the GP function within Health Centres in 2001 through the performance audit '*Primary Health Care – The General Practitioners Function within Health Centres*'. At the time, the audit highlighted very high satisfaction levels among users of GP services. However, the Report raised concerns about various aspects of service delivery. The issues raised mainly related to continuity of care through a more personalised service, the uneven distribution of GPs within health centres, the non-utilisation of an appointment system and the cost efficiency of services.

1.1.3 Against this backdrop, this Chapter discusses the following:

i. Objectives of primary health care.

ii. Health promotion and preventative initiatives.

iii. An overview of the GP function within the Primary Health Care Department (PHCD).

iv. Health Centres' GP function users.

v. Satisfaction levels of health centre users.

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[2] 2013, *Agreement between the Government and the Medical Association of Malta*, page 47 and European Commission, 2014. *Recommendation for a Council Recommendation on Malta's 2014 national reform programme and delivering a Council opinion on Malta's 2014 stability programme*, page 5.

[3] University of Bristol , 2002 – 2015. *What is primary health care*?, accessed from http://www.bristol.ac.uk/primaryhealthcare/whatisphc.html as at 30 July 2015.

vi. Audit focus and methodology.

vii. Report structure.

1.1.4 Unless otherwise indicated, this audit discusses findings and conclusions based on 2014 data. The Report also takes cognisance of circumstances prevailing after the aforementioned audit period.

1.2
Primary health care aims to promote healthier lifestyles and prevent communicable and non-communicable diseases

1.2.1 This publically funded service aims to provide an easily accessible route to care, whatever the patient's problem. This means that the professionals working in primary care deal with a broad range of physical, psychological as well as social problems, and act as gatekeepers to secondary care, which specialises in specific disease areas.

1.2.2 Primary health care constitutes an important mechanism in the delivery of sustainable publicly funded health care. Through its community role, it is ideally placed to promote healthier lifestyles and prevent communicable and non-communicable diseases.[4] This ultimately lessens the burden on human and financial resources employed to provide secondary care.

1.3
The GP function is a key element of effective primary health care

1.3.1 Over a number of years, PHCD has introduced various health promotion and preventive initiatives. Programmes on health promotion include those related to smoking, obesity and lifestyle. Ongoing programmes concerning preventive measures include national screening programmes as well as the recently introduced Chronic Disease Management Clinic (CDMC) provided in clinics including Qormi and Rabat Health Centres. Within this context, the GP function does not only assume a complementary role but remains the core of effective primary health care system. To varying degrees, these initiatives contribute towards enhancing the continuity of patient care as patients can make an appointment with a specific doctor.

1.4
In 2014 the cost of delivering the GP function through health centres amounted to €10.3 million

1.4.1 The GP function is provided through various services in nine health centres and 54 bereġ (peripheral clinics) across Malta and Gozo. For the purpose of this exercise, these services have been categorised under five main services, namely GP consultation room, prescription clinic, diabetes clinic, home visits and bereġ. A detailed list of services comprised by each category is presented in the Appendices. Three Health Centres, namely Floriana, Mosta and Paola also provide an immediate care service during night time. In Gozo this latter service is provided in conjunction with the Gozo General Hospital (GGH).

1.4.2 The Chief Executive Officer (CEO) PHCD is responsible for the development, management as well as the delivery of national policies and strategies concerning primary health, including the GP function. The CEO is supported by a management structure, which contributes to policy and strategy developments, as well as ensuring that services are provided in accordance with PHCD protocols and standards.

1.4.3 The clinical management structure primarily emanates from the 2013 Collective Agreement between Government and Medical Association of Malta (MAM).[5] Clinical managerial roles are all occupied by officers who have professional background.

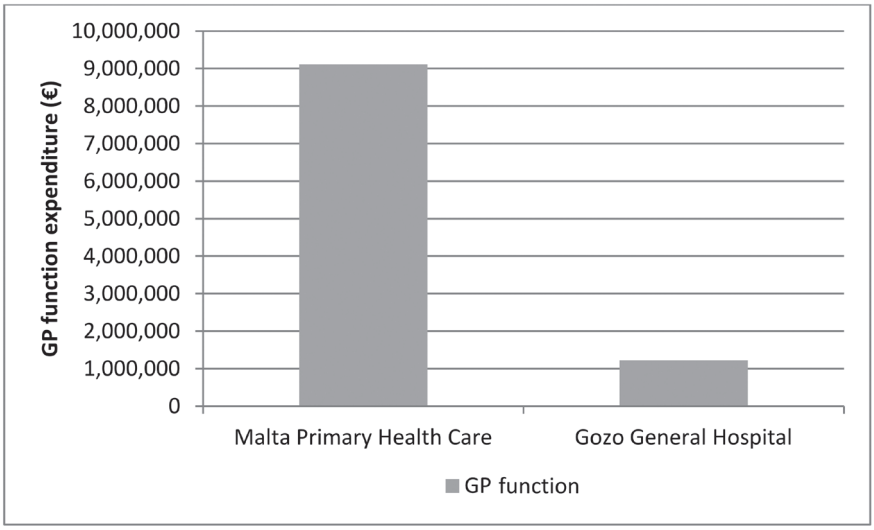
[4] Communicable diseases spread from one person to another or from an animal to a person. The terms infectious and contagious are also used to describe communicable diseases. On the other hand, non-communicable diseases are non-infectious and non-transmissible. These are described as chronic diseases where they last for long periods of time and progress slowly.

[5] The 2013 Collective Agreement between Government and MAM is henceforth going to be referred to as the Collective Agreement (2013).

To this end, the management structure comprises of a clinical chairman, financial controller and principal GPs at head office level who report to the CEO. At the health centre level, the GP function is headed by the Principal GP. During 2014, 136 GPs in Malta and Gozo were responsible for the delivery of this service, which entailed an estimated 891,128 patient contacts.

1.4.4 During 2014, the cost of providing the GP function has been estimated at €10.3 million. This cost is mainly composed of the €9.1 million out of the €23.8 million allocated to primary health care in Malta and €1.2 million out of the €24.8 million allocated to Gozo General Hospital. Figure 1 refers.

Figure 1: The cost of providing the GP function in Malta and Gozo (2014)



1.4.5 On average, during the two sampled weeks upon which the NAO case study was based,[6] the cost of the various services provided by GPs ranged from €4.37 to €49.27. This unit cost range relates to the provision of prescription related services and the GP consultation room services during night-time.[7]

1.4.6 Over the years, PHCD has either proposed or implemented a number of measures to deliver a more cost-effective and sustainable GP function. Nevertheless, in 2014, a European Commission report recommended that Malta strengthen its primary health care.[8]

1.4.7 Furthermore, a number of studies,[9] as well as the analysis undertaken towards the compilation of this Report, highlight concerns relating to the operational parameters and service delivery processes of the GP function. These issues mainly relate to accessibility to GPs, the provision of coordinated care on a continuous basis, the availability of a broad range of health care services (comprehensiveness), the supportive governance structures, including the appropriate financial resources and investments in the development of the primary care workforce.[10] To varying degrees, concerns related to the GP function impinge on the overall effectiveness of the

[6] The two sampled weeks covered the periods: 18 to 24 June 2014 and 17 to 23 September 2014.
[7] Throughout this audit, any reference to night-time takes into account the GP Function between 20:00 and 08:00 hours.
[8] European Commission, 2014. *Recommendation for a council recommendation on Malta's 2014 national reform programme and delivering a Council opinion on Malta's 2014 stability programme*, page 5.
[9] WHO, 2014. *Malta Health System Review*, Vol. 16, No. 1; and Malta Medical Journal, 2014. *Continuity of Information and Care – a Pilot Study in a Health Centre*, in Volume 26, Issue 02 2014.
[10] Expert panel on effective ways of investing in health (EXPH), 2014. *Definition of a frame of reference in relation to primary care with a special emphasis on financing systems and referral systems*, page 8.

national primary health care system, which in 2013 was classified as 'weak'.[11] At this early juncture, this situation cannot be attributed solely to the public GP function, since this service is only utilised by around one third of the Maltese population while the remaining utilise family doctor services through the private sector.

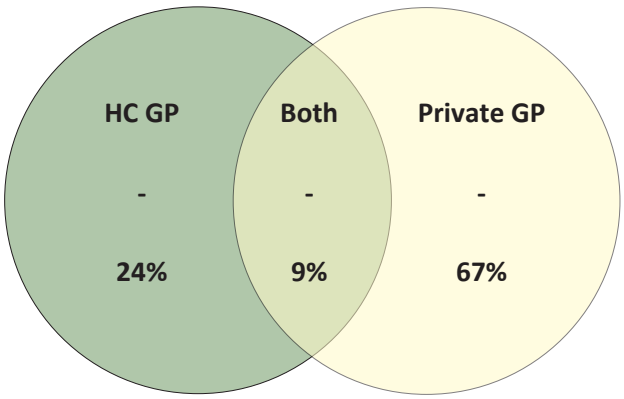
1.5 The Health Centres' GP function is predominantly utilised by persons who are retired or completed compulsory education

1.5.1 A survey undertaken by National Statistics Office (NSO) on behalf of the NAO, sought users' perspectives on Health Centres, with particular focus on the GP function. The survey sought the view of 769 respondents, who were aged 18 or more and residing in private residences. The respondents were selected from the total national population since the perspective of both users and non-users of Health Centres was required to determine whether these clinics are reachable and accessible to their target audience. A detailed methodology is attached in Appendix I.

Around one third of the eligible population made use of the GP service through Health Centre

1.5.2 During 2014, only a third of the persons who required a GP sought the services provided through Health Centres, even though the service is freely available to all Maltese citizens. Figure 2 refers.

Figure 2: Public and private GP function users (2014)



1.5.3 Figure 2 shows that in Malta two parallel health care systems, where patients can freely choose the services of the private and/or public GP, exist. Towards this end, around one third of the population, who required the services of a GP, chose the services provided by Health Centres. The foregoing illustrates a situation where around nine per cent of patients consult both the public and private GP. The survey also shows that nine percent of the patients visit the public and the private GP for the same ailment.

1.5.4 Furthermore, 18 per cent of those who used the GP function provided by Health Centres contended that their choice was mainly conditioned by the unavailability of their private doctor or in an emergency.[12] These statistics raise two primary considerations. Firstly, that a significant number of persons consider the public GP function as a back-up health care service since their preference would be to access the private family doctor. This implies that neither the public nor the private GPs are fully embracing to continuity of care principles. Secondly, these statistics further reaffirm that historically and culturally, the focus of the public GP function related to

[11] The British Journal of General Practice, 2013. *The Strength of primary care in Europe: an international comparative study*.
[12] Refer to Appendix II – Survey results; Table 5: Why did you choose the services provided in a health centre or peripheral clinic?

user demand for the provision of immediate care rather than health maintenance. This assertion also relates to services sought through the private sector.

1.5.5 Patients preference of choice between GP services provided by the public or private sector is also dependent on the degree to which users become accustomed to using a particular service. The NAO commissioned survey showed that 10 and 25 per cent of the patients who utilised the public and private GP respectively based their choice on their acclimatised practices.[13]

The public GP function is mainly attracting lower-income demographic categories

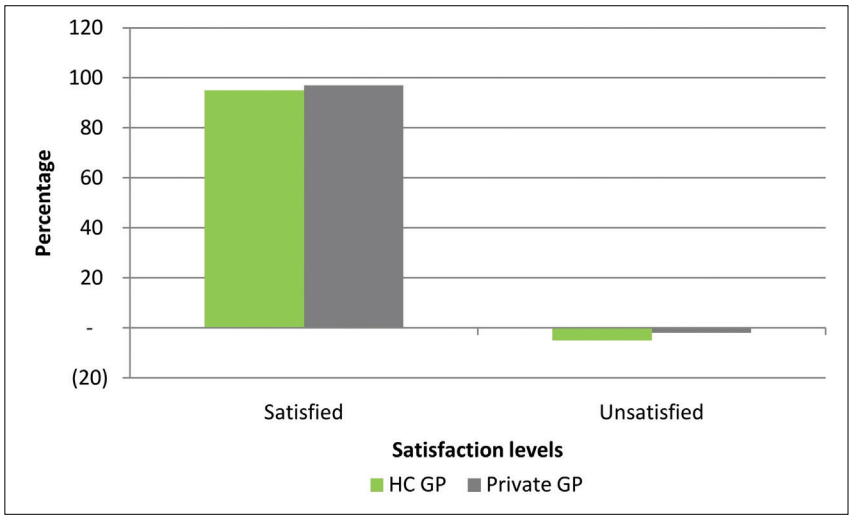
1.5.6 Retired and persons whose educational level was up to compulsory school age tend to utilise the Health Centres GP function more than any other demographic category. Such a situation materialises as retired persons are more susceptible to age related diseases, which require frequent medical attention. An ageing population further stretches PHCD's chronic disease management. Additionally, these two categories of patients have limited purchasing power, which limits their accessibility to private GPs.

1.6 The majority of health centre users were satisfied with the service provided

1.6.1 The NAO commissioned survey also revealed that, during 2014, the vast majority of health centres' GP users and private family doctor patients were satisfied with the service provided. Figure 3 refers.

1.6.2 Figure 3 shows that only five per cent of users were not satisfied with the GP function provided by Health Centres. These high satisfaction levels were at par with those registered for private sector GPs. However, the NAO survey, similarly to other national and supra-national documentation, revealed a number of concerns, as outlined in the Section 1.4.

Figure 3: Patients' satisfaction levels (2014)



[13] Refer to Appendix II – Survey results; Table 5: Why did you choose the services provided in a health centre or peripheral clinic?; Table 8: Why did you use the service of a private GP rather than that provided in a health centre or peripheral clinic?

1.7 Audit focus and methodology

1.7.1 Against this backdrop, the NAO conducted the performance audit: *The General Practitioner function – The core of primary health care*. The aim of this audit was to determine the extent to which the GP function is making an optimal contribution to primary health care in Malta. While developments taking place in 2015 and early 2016, were taken into account, unless otherwise indicated, the audit focused on practices in place during 2014.

1.7.2 The GP function is dependent on a number of factors. Towards this end, this audit based its review on what were deemed to be the main factors influencing the delivery of the GP function. For practicality, these issues were categorised in three main categories, namely operational, administrative and financial. Within this context, this audit's objectives aimed to determine the extent to which:

i. Operations related to the GP function render the relative services accessible and qualitative in terms of attaining primary health care objectives.

ii. Organisational and administrative structures facilitate service delivery.

iii. Services provided are cost-effective.

1.7.3 It is to be acknowledged that through health centres an array of medical services are provided. However, since the primary focus of this review related to the GP function, the scope of this audit did not encompass non-GP services provided by various medical specialists in health centres. Furthermore, it is to be pointed out that the medical aspect relating to the GP function was beyond the scope of this analyses.

1.7.4 The methodology adopted to realise the audit's objectives entailed various approaches, namely the documentation review, semi-structured interviews and costing exercises of the various services provided by the GP function. A detailed methodology of the various exercises carried out with respect to this performance audit are included in Appendices I to III.

1.8 Report structure

1.8.1 Following this introductory Chapter, the Report proceeds to discuss the following:

i. Chapter 2 discusses operational concerns associated with the provision of GP services. These mainly relate to service accessibility, preventative and coordinate care as part of the GP visit.

ii. Chapter 3 focuses on the extent to which management structures and mechanisms are conducive to a qualitative service delivery. To this end, this Chapter evaluates the level of management direction, control and monitoring.

iii. Chapter 4 discusses the costs of providing the GP function through health centres. Moreover, the Chapter also analyses the cost efficiency of the GP function.

1.8.2 The overall conclusions drawn and recommendations emanating from this audit are included in this Report's Executive Summary on pages 6 to 11.

Chapter 2
Attaining PHCD's objectives through the General Practitioner function

Chapter 2 - Attaining PHCD's objectives through the General Practitioner function

2.1 Introduction

2.1.1 Operational practices in place, to varying degrees, influence the extent to which the General Practitioner (GP) function within the public health services is accessible to users and enable the provision of seamless coordinated care. The National Health System Strategy for Malta, (NHSS) (2014), highlights that the GP function is not fully geared towards making a more pronounced contribution towards preventing chronic diseases.[14] As noted by the World Health Organisation, 2015 report, similar situations exist in a number of other European Union (EU) Member States.[15]

2.1.2 The somewhat erratic user demand patterns, collective agreement provisions regulating the deployment of doctors, clinical protocols, administrative policies and numerous external factors compound the logistical complexities involved in delivering this service through nine Health Centres and 54 Bereġ across Malta and Gozo.

2.1.3 Primary Health Care Department (PHCD) has already implemented a number of measures to further improve service delivery and outcomes associated with the GP function. Among these measures was the introduction of the Anticoagulant Clinic, the Chronic Disease Management Clinic (CDMC), real time treatment of minor fractures, empowerment to issue Schedule V to patients who suffer from hypertension and hyperlipidaemia, Diabetes Clinics, Dermatological minor operations, empowerment to order bone density tests to screen for osteoporosis and Scoliosis service in schools. In view of the foregoing, this Chapter discusses the extent to which PHCD's objectives are being attained through the GP function in terms of:

i. Accessibility to patients.

ii. Providing seamless coordinated care.

iii. Contributing to the prevention of non-communicable diseases.

[14] Parliamentary Secretary for Health, 2014. *A National Health System Strategy for Malta 2014 – 2020 – Securing our health system for future generation*, page 81.

[15] WHO, 2015. Building primary care in a changing Europe, page 121.

2.2 The Health Centre GP service is, in some cases, subject to accessibility limitations

2.2.1 The accessibility of GPs within health centres is critical to the provision of comprehensive primary health care. Within this context, accessibility relates to the ease with which patients can reach their preferred GP. To a great degree, accessibility is facilitated since the service is funded through general taxation, which makes it freely available to all citizens.

2.2.2 For the purpose of this study, the extent to which the GP function is available to its users was evaluated against PHCD's ability to:

i. Deploy doctors at health centres to meet prevailing demand levels.

ii. Provide a minimum level of service on a round the clock basis.

iii. Offer services within a reasonable period of user waiting time.

The GP complement at Health Centres is generally sufficient to meet current user demand

2.2.3 At the outset, a quality of GP services accessibility is the supply of doctors to meet the demand of users. On both of the sampled weeks,[16] it transpired that an adequate supply of doctor hours was available to fully meet user demand across all the services provided by GPs during peak hours. This statement considers the user demand in Malta and Gozo for the various services offered as well as the average length of visit stipulated by PHCD protocols. Moreover, doctor hour availability utilised for the purpose of this calculation is net of vacation, sick and study leave availed of during the two sampled weeks. Table 1 shows that in accordance to these protocols 1,993 and 2,192 doctor hours would have been required to address the prevailing demand during the sampled weeks.

Table 1: Availability of Health Centre Doctors during the two weeks under review during peak hours (2014)

GP services	Recommended average length of visit	Actual user demand during sampled weeks		Doctor hours supply required during sampled weeks		Actual doctor hours supplied during sampled weeks	
		Week starting 18 June 2014	Week starting 17 September 2014	Week starting 18 June 2014	Week starting 17 September 2014	Week starting 18 June 2014	Week starting 17 September 2014
	Hours	Number	Number	Hours	Hours	Hours	Hours
Berġa	0.07	2,616	2,378	230	213	338	269
Diabetes	0.25	440	487	110	122	122	137
Home Visits	0.50	224	176	112	88	114	88
GP Consultation Room	0.19	7,475	8,718	1,450	1,691	1,883	2,153
Prescription	0.07	1,294	1,114	91	78	119	116
Total		**12,049**	**12,873**	**1,993**	**2,192**	**2,576**	**2,763**

[16] Data utilised for the purpose of this Audit was derived through two samples relating to weeks 18 to 24 June and 17 to 23 September 2014.

2.2.4 Table 1 shows that, during peak hours, the supply of doctor hours, on average, exceeded by around 29 and 26 per cent the doctor hour requirements in accordance to PHCD protocols as mainly stipulated by the Collective Agreement (2013) and actual volumes in week one and two respectively. This trend, was to varying degrees evident within seven out of the nine health centres reviewed, where B'Kara and Gozo registered a marginal negative variance.

2.2.5 Table 1 further shows that, in total, doctor hour deployment in each of the two weeks under review exceeded those necessary to meet demand by 583 and 571 hours.[17] Excess hours ranged from 48.4 hours at Cospicua Health Centre to 114.4 hours at Floriana Health Centre and 31 hours at Qormi Health Centre to 177 hours at Mosta Health Centre during the two sampled weeks. On further evaluation, the resulting excess hours compute to an average of around 11 doctor hours daily.

2.2.6 The operational and cost efficiency implications emanating from Table 1 will be discussed in further detail in Chapter 4 of this Report. However, within the context of discussing accessibility for GP services across health centres, it is evident that PHCD had the appropriate level of doctor resources to enable it to address the prevailing demand during the two sampled weeks under review in 2014.

2.2.7 Equality of accessibility for users nevertheless, remains dependant on the deployment of the available GPs within health centres. Within this context, the low demand during out of hours generally did not pose accessibility related concerns. On the other hand, the principle of equality of access was to varying degrees encroached upon due to differences in the doctor-hour to user ratio during peak time at the various health centres, Table 2 refers.

Table 2: Doctor hour to user ratio at peak time during the two sampled weeks (2014)

Health Centre	Week 18 to 24 June 2014	Week 17 to 23 September 2014
B'Kara	6.76	5.23
Cospicua	4.07	4.45
Floriana	4.48	5.57
Gozo	5.91	7.35
Gżira	4.32	3.58
Mosta	4.32	3.32
Paola	5.67	4.94
Qormi	3.79	4.67
Rabat	3.46	4.19

[17] This calculation excludes phone advice provided by GPs. Phone advice was excluded as it constituted only a marginal proportion of the GP hours (around 20 hours during peak time across all health centres during each of the sampled weeks).

2.2.8 The range of ratios depicted in Table 2 illustrates that doctor accessibility in some health centre is facilitated through a lower demand, which results in a more favourable ratio. For instance, users accessibility in terms of doctor to patient ratio is greater at the Rabat than in other Health Centres. Such a situation materialises since the demand for services and the supply of doctors is not in equilibrium. Apart from the accessibility issues under discussion within this Section, such circumstances also raise some concerns related to the cost efficiency of service delivery. The latter concerns are analysed further in Chapter 4.

Out of hours' services are indispensable, even though the low user volumes significantly inflate unit costs

2.2.9 Another important performance indicator relates to the ease with which users can access the public GP services on a 24-hour basis. To this end, out of hours services are provided through three centres in Malta, namely Floriana, Mosta and Paola as well as another through the Gozo General Hospital.

2.2.10 The out of hours availability of GPs is considered as an indispensable public services, even though the low volumes of utilisation significantly inflated the GP consultation unit costs by 198 and 369 per cent over a day-time visit to €34.26 and €49.27 during the sampled weeks. Despite the considerable expense involved, the out of hours GP service is ensuring that medical care is available to all on a round-the-clock basis.

2.2.11 The necessity of this service is evidenced through the National Audit Office (NAO) commissioned survey, where an estimated one fifth of all patients who utilised the health centre GP, accessed this service during out of hours. Such circumstance contrasts with the six per cent of the patients who accessed the private GP during out of office hours.[18] This state of affairs also reaffirms that health centres are bridging the service gap brought about by the limited availability of private GPs in out of office hour periods, which also implies that private sector is not fully delivering continuity of care.

Considerable waiting time during peak hours

2.2.12 Demand peaks and troughs characterise the GP service within health centres, particularly those related to GP consultation rooms, where the service is generally not provided through appointments. The determination of waiting times was not within the scope of this audit. Data available, including that emanating from the NAO commissioned survey, show that although most users did not raise concerns on this aspect, around one fifth of users perceived waiting times as long.

[18] Refer to Appendix II – Survey results; Table 7: When and at what time did you make your last visit to the GP? and Table 10: When and at what time did you make your last visit to private GP?

2.3 Coordinated care through the GP function is at developing stage

2.3.1 A major objective of PHCD is the provision of coordinated (integrated care) care. To this end, an effective GP function would be well placed to encourage the management and delivery of health services so that clients receive a continuum of preventive and curative services, according to their needs over time and across different levels of the health system.[19]

2.3.2 This Section discusses the extent to which the current environment wherein the GP function is being delivered embraces the principles of coordinated care. Within this context, this Report focused on three main elements of influencing coordinated care, namely:

i. The introduction of continuity of care elements.

ii. Information Technology (IT) infrastructure role in continuity of care principles.

iii. The economic factors.

Elements of continuity of care have been introduced through a business process reengineering

2.3.3 Basic, yet critical, components enabling continuity of care[20] within the GP function relate to the relative logistical and infrastructural arrangements, which would need to be in place. These include processes enabling individual patients' care to be supervised by an assigned or selected GP or group of GPs.

2.3.4 NHSS (2014) makes direct references to the importance that patients affiliate with a regular primary care general practitioner or group practice. The Manual of Procedures (February 2013) also outlines that through securing walk-in visits with a specific GP, PHCD will be enhancing continuity of care. Moreover, the Health Systems in Transition (2014), laments that continuity of care is hindered as patients are not registered to any particular doctor or group practice in the public sector.[21] The importance of the doctor – patient relationship as promoted by continuity of care principles was also highly valued by participants in the NAO commissioned survey where more than half of respondents commented on their perceived benefits of being followed up by the same physician.[22]

2.3.5 However, PHCD's Management contends that health centres may be considered as a large GP group practice as the same group of doctors attends that particular health centre. Moreover, PHCD noted that the large volume of patients that attend health centres necessitates such a large pool of doctors in each health centre unlike the patient population of a private GP. Floriana, Mosta and Paola health centres offer GP services on a 24 hour basis, unlike private general practitioners.

2.3.6 PHCD also contends that patients will not have the facility to select the doctor of their choice for services provided by the GP walk in clinics, which constitutes the largest user demand. To this effect, PHCD noted that it is impractical and improbable that such a system will be implemented as experience in other countries has shown that it has generated disservice and waiting lists – which is counter to PHCD strategy. PHCD also remarked that the private sector in Malta has also opted not to implement a

[19] WHO, Technical Brief No.1, 2008. Integrated health services – what and why?, page 1.
[20] Continuity of care leads to coordinated care.
[21] The Health Systems in Transition Report made similar inferences regarding GP service provision within the private sector.
[22] Refer to Appendix II – Survey results; Table 8: Why did you use the service of a private GP rather than that provided in a health centre of peripheral clinic?

patient registration system. Additionally, PHCD cited logistical barriers, which hinder the implementation of such a system. This mainly relates to the establishment of same day appointment system, which not only presents GP deployment challenges but is also potentially influenced by user behavior, particularly through no shows.

2.3.7 Such considerations do not fully embrace the spirit of continuity of care principles, which entail that patients are followed-up by group practices comprising a small number of GPs. To this end, follow-ups by a smaller group of practitioners would further strengthen the doctor-patient relationship.

2.3.8 Nevertheless, to date, the public GP function is gathering momentum in implementing continuity of care principles. Specialised clinics, like the Anticoagulant, Diabetes, Result review, and Prescription clinics, are run by the same group of health centre GPs who review patients at regular intervals. Similarly, patients are generally followed-up by the same GP at local Bereġ.

2.3.9 Moreover, the same group of doctors generally follows-up patients through the Chronic Disease Management Clinic. By the end of 2015, this clinic was introduced at Qormi, Rabat and B'Kara health centres. Floriana health centre introduced this clinic during May 2016. The implementation of these services entailed varying levels of process reengineering, particularly since GP recruitment has been halted between 2014 and 2016 as well as the Department faced various resignations and retirements along these years. It is to be noted that the recently adopted strategic document entitled "*Primary Health Care Department Strategy, 2014 – 2020, Towards a Sustainable Health Care System*", notes that this Clinic will be available across all health centres in Malta by 2017.[23]

PHCD has limited ICT infrastructural capabilities to facilitate continuity of care principles

2.3.10 Information and Communication Technology (ICT) is a key infrastructural element facilitating the implementation of continuity of care through the GP function. However, to date, health centre operations, including the GP function are not supported by a management information system, which fully integrates clinical records and operational information such as patient contact statistics. To date, the Clinical Patient Administration System (CPAS)[24] and iSOFT[25] systems have been implemented as stand-alone systems. This situation is present not only in PHCD but throughout the entire public health care system. However, PHCD contends that plans are in hand to develop such a system that will provide electronic medical records and an integrated software package by 2018.

2.3.11 CPAS, which registers GP function users, was not extended to encompass patients utilising the GP function at the bereġ, but PHCD embarked on a project so that by 2018 all bereġ will have IT connectivity to the mainstream. Moreover, despite the availability of CPAS across all health centres, with the exception of Gozo Health Centre, during 2014, the remaining health centres had difficulties to enforce the updating of the system with all patients movements despite repeated staff training and supervision.

[23] PHCD, 2016. *Primary Health Care Department Strategy*, 2014 – 2020, *Towards a Sustainable Health Care System*, page 21.
[24] The CPAS allows medical practitioners to insert patient data in the system and thus creating a patient tracking system.
[25] iSOFT entails the online ordering of laboratory tests and x-rays and enables the electronic viewing or reports and results.

2.3.12 An appointment system is another mechanism which facilitates the implementation of continuity of care. An effective appointment system ascertains that GP time is optimised and improves service delivery. PHCD has introduced an appointment system for Chronic Disease Management, Prescription, Diabetes, Result review, Anticoagulant, Well baby and Scoliosis clinics, Bereġ as well as other clinics run by other health care professionals. Nevertheless, as outlined in the preceding section, PHCD has its reservations to implement such a system for walk-in cases.

Extending continuity of care mechanisms is subject to balancing issues relating to service sustainability, market implications and the potential use of PPPs

2.3.13 Implementing a fully-fledged system, whereby the GP function enables patients to have discretion on selecting the GP who would be supervising their care, potentially raises a number of economic considerations. The following refers:

i. Even when assuming that such a system can be operated with the same level of resources, extending the principles of continuity of care increases the probability of attracting more users than the current 33 per cent of the Maltese population. To an extent, local health authorities have already experienced a similar situation through the establishment of Mater Dei Hospital, which brought about a significant increase in the volume of users.

ii. From the Health Centre GP function's point of view, an increase in user demand would impinge on the budgetary allocation to PHCD. This scenario, together with the envisaged increase in demand brought about by an ageing population, brings sustainability related issues further to the forefront. Although, in the short-term, an increase in the budgetary allocation might be required, current literature concludes that investment in primary health care renders a high positive payback through decreasing the demand for secondary and tertiary health care.[26]

iii. Other economic considerations at play relate to the dual system of primary health care, where the private sector GPs are the preferred choice of more than two thirds of the Maltese population. Within this context, the Malta Association of Medical Doctors contended during a Parliamentary Health Standing Committee session that to retain the economic balance between private and public sector practices, the former is to be made available with the same medical information tools. To this effect, PHCD has recently introduced measures where private GPs are given the possibility to renew Schedule V applications for hypertension and hyperlipidaemia; access to the online MyHealth patients records for their patients; online access to the entitlement of the medication of their patients through the Pharmacy Of Your Choice scheme; access to physiotherapy and radiology services at health centres; and access to order bone densitometry tests.

iv. Changes to the modus operandi of the public GP function might influence doctors' employment conditions. The delivery of services through the GP function is an elaborate task. Such difficulties coupled with the fact that around a quarter of the GPs[27] employed by PHCD also provide their services through the private sector, illustrates the potential complexities of securing stakeholders' consensus expediently.

[26] The British Journal of Primary Health Care, 2013. *The future of primary and secondary care*. Accessed from: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3693793/ on 11 March 2016.

[27] Refers to GPs engaged on either Contract A or B.

v. On the other hand, the private-public dichotomy has provided health authorities the opportunity to explore the possibilities of private public partnerships. Budget 2016 referred to this issue and noted that talks are in progress with private family doctors with a view to enhancing their role in the health service.

2.4 Health prevention and promotion initiatives can lead the public health sector to save €4.2 million annually by 2020

2.4.1 A second major objective of PHCD is the provision of preventative care particularly through GP function. For the purpose of this audit, preventative care is assumed to entail the reduction in the occurrence of diseases as well as helping patients to keep in check and minimise the effects of prevailing health conditions. Effective preventative care programmes are a function of a number of variables. Such factors range from the clinical aspect of the provision of health care, national screening programmes, and health promotion to an environment which is conducive to a healthier life-style.

2.4.2 To this end, over a number of years, PHCD has invested around €2.9 million in screening programmes,[28] such as those related to breast, colorectal and cervical cancers. In addition, PHCD is also providing glaucoma screening, diabetic retinopathy screening and scoliosis screening. Moreover, the Health Promotion and Disease Prevention Directorate (HPDPD) also deliver a number of programmes, which complements the preventative element of health care provided by GPs at health centres. Various studies have concluded that an investment in preventative care results in a significant payback in socio-economic terms.[29] Not only does preventative care contribute to a better quality of life but it also enables cost savings over a number of years. It is estimated that if targets set are attained, through health promotion and prevention related to the four key chronic diseases, the public health sector would save €4.2 million annually.[30] These financial benefits are derived since preventative care decreases the need for the more costly secondary or tertiary health care.

2.4.3 The foregoing implies that a range of stakeholders' input is required to implement and coordinate the different factors involved in ensuring effective preventative care. Towards this end, during January 2016, Parliament approved the Healthy Lifestyle Promotion and Care of Non-Communicable Diseases Act. This Act brings together national entities through the establishment of the Advisory Council on Healthy Lifestyles. This legislation will be implemented by HPDPD.

2.4.4 In accordance with this Report's objectives and scope, the ensuing analysis will focus on the extent to which the GP function within health centres is contributing to the attainment of PHCD's objectives regarding preventative care namely in terms of:

i. Balancing between addressing patients' immediate health concerns and preventative care.

ii. GPs disposability to further address preventative care issues.

iii. Limited reach of the Chronic Disease Management Clinic.

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[28] *Financial Estimates* 2016, 2015. MEH, Recurrent Expenditure Vote, page 6. Expenditure includes costs incurred in 2014, as well as estimates for 2015 and 2016.

[29] Woolf et al., 2009. *The Economic Argument for Disease Prevention: Distinguishing Between Value and Savings. A Prevention Policy Paper Commissioned by Partnership for Prevention*, page 11; 2005, WHO. *Preventing Chronic Diseases a Vital Investment*, page 84.

[30] 2014. Annex 2.2 - *Quantitative assessment of the measures*. (National Reform Programme). Accessed from: http://ec.europa.eu/europe2020/making-it-happen/country-specific-recommendations/2014/index_en.htm on 7 April 2016.

GP function at the Health Centre focuses on prevailing health conditions rather than prevention

2.4.5 The NHSS (2014) identifies primary health care as the entity responsible to deliver and coordinate the best possible health care to the population through prevention, early intervention, holistic rehabilitation and support.[31] However, user demand trends imply that the public GP function cannot fully balance services provided between health repair and health prevention. A similar situation prevails in the private sector, where patients seek medical advice to deal with current health conditions.

2.4.6 This state of affairs is also supported by the NAO survey, which shows that more than two thirds of patients visit the health centre GP to deal with their current health conditions. The foregoing raises a number of questions, which revolve around whether user demand is conditioned by the contents of service supply or by cultural influences where a visit to the GP is only warranted to address a current health condition. In practice, both these issues have contributed to current operational practices whereby the GP function predominantly focuses on the latter.

During peak hours, GPs have significant time restriction to promote more comprehensively health prevention

2.4.7 A study, carried out in 2011 and published in the Medical Journal (2014), outlines a number of factors that are hindering private and public GPs from delivering health prevention and promotion information. Foremost, the study highlights that during peak times, GPs have significant time restriction to address more fully aspects related to health prevention.

2.4.8 To varying degrees, the NAO established that in peak hours during the two sampled weeks, the average length of visit related to GP consultation room and prescriptions in the nine health centres across Malta and Gozo was estimated at 14.95 and 5.86 minutes respectively. PHCD contends that these estimated times are in line with the international standards especially in the United Kingdom.

2.4.9 However, these estimates do not allow sufficient time for the GP to discuss and disseminate information relating to disease prevention. Internal protocols related to Bereġ whereby the GP work focuses on prescription shows that the time allocated is scheduled to deal solely with the provision of prescription rather than a full examination. Towards this end, during the sampled weeks, the most common time at the prescription clinic stood at four minutes per visit, which is equivalent to internal benchmarks. Similarly, if the GP consultation room visits were to focus more on health prevention, the current length of visit would need to be extended further. Such a situation materialises as a full examination may necessitate the ordering of a number of investigations and recommendations to other primary healthcare and health promotion clinics that may take up more time. The CDMC, which deals with chronic care and provides for a full examination, has an estimated length of visit of 20 minutes. The foregoing implies that during peak times GPs are under more user demand pressure, which directly or indirectly influences the consultation time allocated for preventative care.

[31] Parliamentary Secretary for Health, 2014. *A National Health System Strategy for Malta*, 2014 -2020, *Securing our health system for future generations,* pages 76 and 83.

2.4.10 In the past two years, this situation was partly mitigated through the development of Lifestyle Clinics, the strengthening of screening services and by PHCD's increasing liaison with the HPDPD to deliver prevention sessions in the community. Although the main role of health promotion lies within HPDPD, efforts are ongoing to increase coordination between PHCD and the latter.

As at end 2015, the Chronic Disease Management Clinic was fully operating from three Health Centres.

2.4.11 During 2014 and 2015, the Primary Health Care Department established CDMC at B'Kara, Qormi, and Rabat health centres. Through this initiative, PHCD aims to reach a more realistic balance between addressing patients' immediate health concerns and preventative care, which includes the more comprehensive promotion of healthier lifestyles. This clinic caters for patients with chronic diseases. GP input per visit is estimated at 20 minutes. The increased length in visit time is mainly attributable to the GP collating and reviewing patient information as well as a more comprehensive approach towards preventative care.

2.4.12 The introduction of the CDMC is an important step in the provision of primary health care since it is conducive to continuity and preventative health care. To date, this clinic has been established at B'Kara, Qormi, and Rabat health centres. During the second quarter of 2016, this clinic also started operating from Floriana Health Centre. The implementation of this clinic across health centres, however, was not governed by a documented plan outlining the key milestones and targets in terms of implementation dates and users reached. Such a plan was eventually formally adopted in May 2016. Moreover, delays in implementing this initiative materialised as PHCD could not guarantee a steady GP recruitment due to the court case instituted in 2014 with respect to the GP training programme.

2.4.13 The more expedient implementation of this programme has been limited with respect to targets regarding the number of GP referrals in the doctor's job plans up to 2015. Moreover, progress in establishing this service in other health centres was restricted as PHCD sought to fine tune the service following the experience accrued through its implementation in the afore mentioned three health centres. As at end 2015, 2,980 and 294 users utilised CDMC at Qormi and Rabat health centres respectively.[32] When considering that the GP function attracts around 30 per cent of the population, then it is estimated that the CDMC is being utilised by 30 and 4 per cent of the respective catchment areas.[33]

2.5 Conclusions

2.5.1 This Chapter sought to evaluate the degree to which PHCD is attaining its objectives of providing qualitative health care. To this end, the GP function within health centres is key to delivering health care services in terms of doctor accessibility as well the provision of coordinated and preventative care.

[32] This analysis excluded B'Kara Health as CDMC services were still at piloting stage.

[33] The statistics reflect user volumes following 18 and 12 months of implementation of CDMC at Qormi and Rabat Health Centres respectively.

2.5.2 The GP function had the adequate level of doctors employed to cater for the 2014 user demand. This state of affairs facilitates accessibility to health centres' GPs. However, to varying degrees, user demand, Collective Agreement (2013) provisions, regulating the deployment of doctors, clinical protocols, administrative policies and numerous external factors influence the operation practices of delivering GP services. Moreover, financial issues also come into play. It is a generally accepted principle that, in the long-term, investment in primary health care yields a high rate of return. Nevertheless, over the years, the required financial investment in primary health has not matched the strategic requirements identified to expedite further the rate of upgrading this service.

2.5.3 The complexities involved in upgrading the GP function are further compounded through the private public sector dichotomy, which has contributed to shaping the provision of health services in Malta. This circumstance offers consumer choice, as well as releases the pressure from the publicly provided service. Consequently, it is unlikely that the rate of upgrading the GP function is expedited unless the economic implications and the potential input of the private sector are studied and equated into any possible solutions.

2.5.4 The next Chapter discusses the extent to which clinical and administrative governance are impinging on PHCD's operations. To this end, the Chapter evaluates management structures and mechanisms input towards planning, direction, control and monitoring.

Chapter 3
General Practitioner function management

Chapter 3 - General Practitioner function management

3.1 Introduction

3.1.1 The delivery and further development of the General Practitioner (GP) function is to varying degrees influenced by the prevailing management structures and operational processes. The clinical management structure is to varying degrees influenced by the Collective Agreement (2013), hence such managerial roles are all occupied by officers who have a clinical professional background. Over a number of years, health authorities compiled a number of strategies addressing the need for the further development of the GP function, and consequently primary health care.

3.1.2 In addition to the factors discussed in the preceding Chapter, internal management structures and mechanisms within the Primary Health Care Department (PHCD) also greatly influence the extent to which the pubic GP function is contributing towards the attainment of primary health care objectives. Within this context, this Chapter discusses a number of aspects influencing the management of the GP function, and which consequently have a direct bearing on service delivery and the continued development of this key component of primary health care.

3.1.3 This Chapter has focused on a number of elements of PHCD's internal management mechanisms and practices. The scope of this review extended to PHCD Head Office and Health Centres. The former is mainly responsible for providing clinical and operational direction, while Health Centres are responsible for service delivery. These two arms of the GP function Management are led by and report to the Chief Executive Officer (CEO), PHCD. This Report also takes into account Gozo General Hospital (GGH) contribution towards the provision of the GP function in Gozo.

3.1.4 To this effect, this audit comprised various elements deemed as critical to the attainment of GP function's objectives. These included, reporting channels, strategic management and planning, operational management and monitoring, management information systems as well as financial reporting.

3.1.5 Within this context, this Chapter discusses the following main issues:

i. The management structure for health centres in Malta and Gozo.

ii. The operationalisation of GP function strategies.

iii. Management mechanisms influence on PHCD operations.

3.2 Primary health care in Malta and Gozo is delivered through two parallel organisation structures

3.2.1 With respect to the eight Health Centres in Malta, CEO PHCD is responsible for the development, management, as well as the delivery of national policies and strategies concerning primary health, including the GP function. The CEO is supported by a management structure, which contributes to policy and strategy developments, as well as ensuring that services are provided in accordance with PHCD's protocols and standards. To this end, the management structure comprises a clinical chairman, financial controller and principal GPs at head office level who report to the CEO. Efforts by PHCD are being stepped-up to strengthen the management structure through the appointment of a senior manager who will assume monitoring responsibilities relating to health centres' operations. PHCD also acknowledges the need to strengthen its Human Resource (HR) function through the engagement of another senior manager. Although these positions are deemed by PHCD to tackle lacunae in the managerial structure of the Department, these positions have not yet been approved by the Public Administration Human Resources Office.

3.2.2 At the health centre level, the GP function is headed by the Principal GP. During 2014, 76 senior general practitioners and general practitioners employed on full time basis, were responsible for the delivery of this service. In addition, there were 32 GP Trainees who provided services at health centres during 50 per cent of their training phase. Another 20 doctors on a contract for service basis provided services ranging from a few hours to 30 hours per week. Moreover, seven doctors and one GP trainee provided services at Gozo Health Centre.[34] Over the same period, there were an estimated 891,128 patient contacts with the GP function in Malta and Gozo.

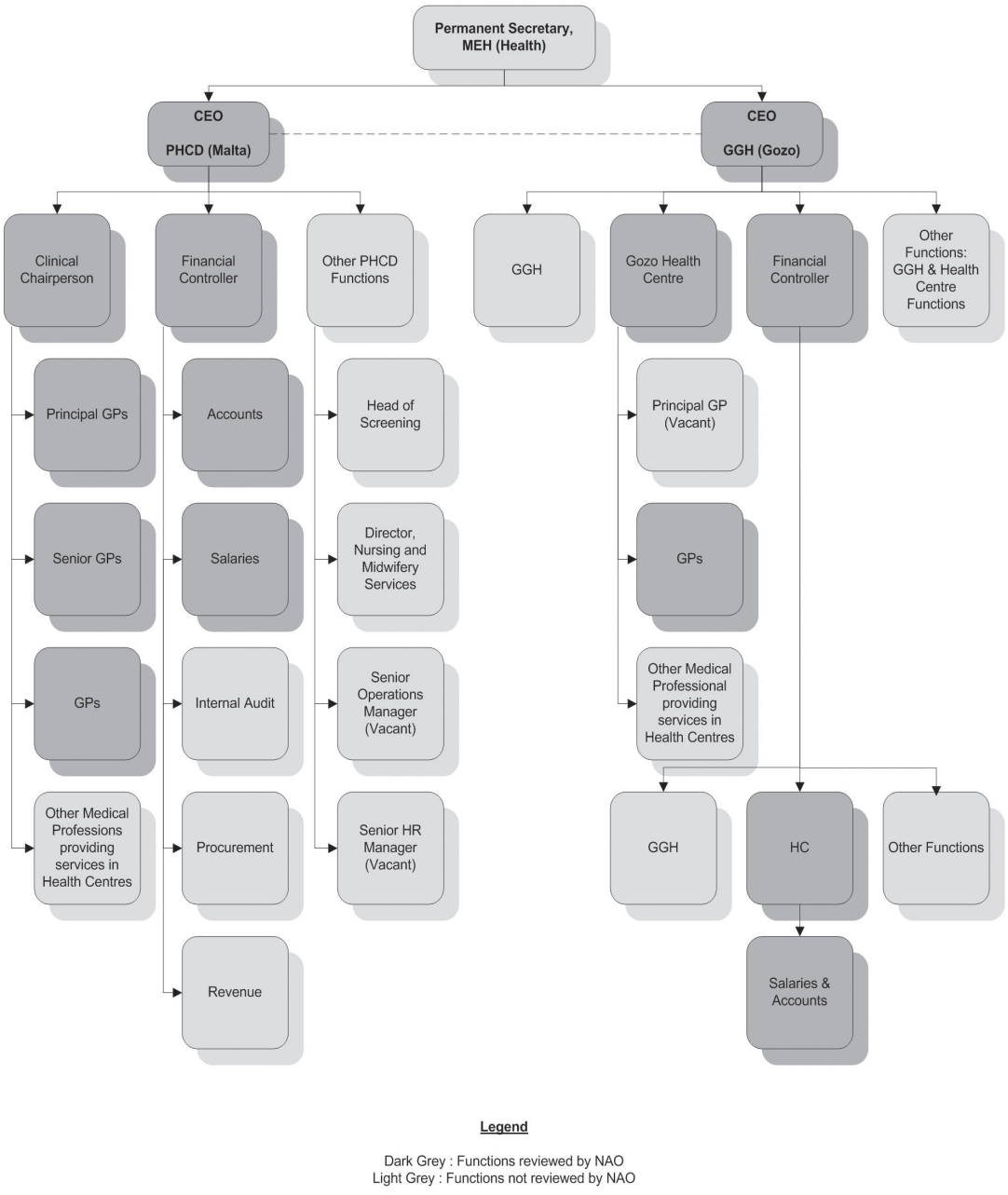
3.2.3 PHCD's input with respect to the Gozo Health Centre is limited to strategic direction. Gozo General Hospital assumes administrative, financial and service delivery responsibility for the provision of primary health care in Gozo. This situation mainly evolved out of logistical necessities whereby, it was deemed impractical for PHCD's Head Office in Malta to manage the day-to-day operations of the Gozo health centre. Chart 1 illustrates the main inputs and lines of responsibility related to the GP function in Malta and Gozo. The Chart also shows the proposed Senior Operations Manager and the Senior HR Manager posts in Malta which are as yet vacant.

[34] Although the GP training course was concluded, procedures relating to the formal appointment to a GP were not concluded during the audit period under review.

3.2.4 Chart 1 shows the major clinical and administrative functions within PHCD in Malta and Gozo. This performance audit revealed concerns relating to administrative capacity issues, namely relating to the limited number of employees with qualifications and experience in accountancy and the segmentation of responsibilities between Malta and Gozo.

3.2.5 Chart 1 raises issues whereby the management structure concerning the Gozo Health Centre does not appropriately cater for the clinical supervision and monitoring. Such circumstances arise since Gozo Health Centre organisation structure does not cater for a Clinical Chair. Moreover, the post of principal GP has been vacant for the past two years.

Chart 1: PHCD organisation chart highlighting the roles involved in the management of the GP function



3.2.6 The two parallel organisation structures in place, catering for both Malta's and Gozo's operations is not always conducive to regular communications between the respective administrations. Such a state of affairs has been particularly evident in two cases, namely:

i. The Finance Sections in Malta and Gozo allocate different interpretation of clauses in the Collective Agreement (2013) relating to GP Trainees. This issue will be discussed in further detail within this Chapter.

ii. PHCD is awaiting developments concerning the future delivery of primary health care, including the GP function, in Gozo. PHCD contends that the Department will be involved at the opportune time.

3.3 The implementation of measures listed in strategic documents is dependent on resource allocation and other pre-defined policy inputs

3.3.1 The National Health System Strategy for Malta, (NHSS) (2014), is the primary strategic document, which outlines intended direction in the healthcare sector including primary health care up to 2020. This Document outlines the key components to a more effective primary health care system including the GP function. Within this context, the NHSS categorises the measures under four main categories, namely prevention and promotion, equity in terms of accessibility, availability and timeliness of health services, continuity of care and sustainable health system.

3.3.2 To various degrees, this Document builds on the work undertaken by a Task Force, which published its finding in 2007 for consultation purposes. However, a consensus was not reached between stakeholders on patient registration and the measure was put on hold. To varying degrees, however, this situation was mitigated through initiatives whereby patients suffering from chronic ailments are followed-up by specific groups of doctors.

3.3.3 The implementation of strategic measures listed in the NHSS and other policy related documentation, is primarily dependent on an effective planning process. This process takes into consideration the financial aspect and logistical arrangements. The latter include project management, human resources availability and deployment, as well as capital investment required for the provision of new premises and Information and Communication Technology (ICT).

3.3.4 PHCD has stepped up its efforts to implement a number of measures outlined in strategic documents referred to above. The relative business plans and the required financial resources appropriately support the implementation of these measures. However, the implementation process is to various degrees constrained by the following:

i. The planning process is somewhat limited as financial information, which outlines the unit costs for the various services provided is not readily available to PHCD. Furthermore, information relating to patient contact statistics is not considered sufficiently robust to enable effective decision-making. This hampers to a certain degree PHCD's re-engineering processes with respect to measures that are either planned or being implemented in order to optimise its use of resources. To this effect, PHCD maintains that the Department is actively tackling this issue and notes that costings of services should be available by the end of 2016.

ii. The planning process is further constrained by the insufficient availability of information, which is hindering the undertaking of more accurate project appraisals. Consequently, PHCD cannot be in a position to accurately determine feasibility of introducing certain measures noted in the strategic documents. Such circumstances are deemed to unnecessary prolong the implementation of the measures particularly since studies highlight that investment in primary health care renders a significant financial and social payback in the medium to long term.

iii. Policy decisions are required to determine the degree to which, if any, primary health care services are to be provided through private sector involvement. However, such policy decisions are dependent on the conclusion of the relative feasibility studies, which as noted in the preceding paragraphs within this Section, are subject to various constraints due to the unavailability of reliable cost and patient contact statistics.

3.4 Management mechanisms concerns influence aspects of PHCD's operations

3.4.1 Various mechanisms are available to facilitate PHCD's management, in terms of planning, direction and control. To this end, the Information Technology (IT) infrastructure facilitates the collation of patient contact statistics for each GP. This provides PHCD management with operational information. Additionally, the Departmental Accounting System (DAS), which is the Government Departments' accounting system, provides a number of in-built features aimed at supporting financial management and control. Furthermore, the utilisation of job plans as outlined in the Collective Agreement (2013) aims to support human resource management by defining the family doctor role in terms of output and outcomes. This facilitates management control and encourages individual and collective accountability for the services provided.

Patient contact statistics are compromised, as IT infrastructure is not being fully utilised

3.4.2 PHCD management has over time acknowledged the importance of comprehensive patient contact information through the use of IT systems. These systems aim to facilitate the management of PHCD operations. To this effect, PHCD's business plans for 2016 to 2018 refer to significant investment in IT. Such a capital outlay is intended to complement the existing IT infrastructure employed throughout the nine health centres in Malta and Gozo.

3.4.3 Currently, the primary IT system in use by Health Centres is the Clinical Patient Administration System (CPAS). However, this performance audit revealed that during 2014, with the exception of the Gozo Health Centre, operational data[35] was not being fully and consistently captured through this system. Furthermore, treatment room patients, who were visited by a GP were not recorded on this system. Moreover, the system is not being updated both in Malta and Gozo Health Centres, with patient contact statistics relating to Bereġ and GP Home visits. During two sampled weeks in June and September 2014, variances between manual, CPAS and other electronic records materialised. Table 3 refers.

[35] Operational data in this case relates to the GP walk-in, prescription and diabetes clinics.

Table 3: Variance between different patient contact data sources (2014)

	18 – 24 June 2014			17 – 23 September 2014		
	PHCD Official Data	CPAS Data	Verified Data	PHCD Official Data	CPAS Data	Verified Data
	Number	Number	Number	Number	Number	Number
B'Kara	753	518	823	902	569	803
Cospicua	1,142	432	776	1,150	595	836
Floriana	2,433	1,275	2,325	2,556	1,380	2,393
Gozo	Not applicable	982	1,520	Not applicable	1,338	1,813
Gżira	1,033	961	1,442	1,211	928	1,334
Mosta	2,963	1,582	2,737	2,378	1,524	2,177
Paola	3,217	1,666	2,993	3,423	2,389	3,467
Qormi	1,099	520	956	1,044	737	1,056
Rabat	916	472	762	863	780	904

3.4.4 This state of affairs is materialising as instructions relating to the updating of CPAS, issued by PHCD management, are not being fully adhered to by front desk officers across the eight health centres in Malta. Potential reasons relate to the non-registration of treatment patients, as they will require urgent care as well as the non-inclusion of some prescription and diabetes clinic patients who visit these clinics without an appointment.

3.4.5 The aforementioned situation was also present in 2015 as evidenced through PHCD's internal memos 29/2015 and 35/2015. The foregoing implies that various administrative and management levels across PHCD could not effectively enforce compliance to PHCD instructions concerning the updating of CPAS. This occurred despite repeated obligatory training sessions to all the reception staff. During 2016, stricter enforcement is being introduced and CPAS reports are going to be commissioned for audit purposes.

3.4.6 Table 3 raises the following operational and management concerns:

i. PHCD maintains medical records relating to health centre visits in manual files. This situation materialises since the current IT infrastructure, namely CPAS, does not fully enable comprehensive reports by GPs relating to patient visits to be documented. Within this context, the principles relating to a coordinated health system are challenged since service providers of secondary and tertiary care would not have official records of primary health care patient contact.

ii. To varying degrees, patient contact statistics concerns influence management control of PHCD operations including the GP function. Such circumstances materialise since currently an accurate management information is not available to enable a more robust strategic and operational decision making process.

iii. Furthermore, the non-availability of comprehensive management information compromises the management monitoring function. To this effect, management could not be in a position to comprehensively review service delivery as well as the individual performance of its staff. This implies that the principles of accountability are being encroached on.

Information shortcomings influence financial management

3.4.7 The present inability to readily derive costs relating to each of the nine health centre influence quality of financial management information available to senior officials at PHCD. There were instances in the past where some employees were issued with erroneous salaries. Since then, the Department has strengthened the structure of the salaries section in order to assist the Financial Controller in the monitoring of the salaries being issued.

Separate accounting complicates the derivation of total and average unit costs in conjunction with Malta and Gozo Health Centre operations

3.4.8 The current financial structure entails debiting health centres expenditure to two different votes, namely PHCD and Gozo Health, in the Governments' Departmental Accounting System (DAS). These circumstances historically developed out of logistical practices and policy decisions, whereby Gozo Health Centre was managed and resourced through GGH rather than PHCD within the Ministry responsible for Health. This arrangement rendered financial management a more complex task, particularly in instances when aggregated health centres information was required.

Costs related to specific health centres are not readily available

3.4.9 The finance section within PHCD is not fully utilising the features of the Government's DAS. This financial system enables the allocation of funds and corresponding revenue to be sub-divided into line items as well as sub-accounts.[36] This implies that the IT tools were available to PHCD's finance section to separately account for the costs incurred by each Health Centre - a feature that would have facilitated the derivation of financial management information, namely unit costs per specific function.

3.4.10 Furthermore, the derivation of specific health centre related costs was compromised through incomplete timesheets relating to GP trainees. Such circumstances imply that the Finance Section did not have full information relating to the time and location where GP trainees performed their duties when deployed to PHCD. GP trainees are assigned to Health Centres, Private GPs or Hospital placements and have to produce different time-sheets according to their assignments. This situation results in timesheets not always reaching the finance section on time. Such circumstances were observed with respect to nearly half of the 32 GP trainees performing PHCD duties during the two sampled weeks reviewed for the purpose of this audit. It transpires that incomplete timesheets results through prevailing practices whereby GP trainees do not always log their attendance at their place of work. The Finance section continues to follow up until the respective timesheets reach the department and any corrections are then made according to the timesheets.

[36] DAS manual, page 22.

In some cases, systematic erroneous calculation compromised the accuracy of GP salaries

3.4.11 In the absence of readily available information, the National Audit Office's (NAO's) costings exercise comprising of GP function operations spread over two sampled weeks, necessitated the derivation of doctor hours and relative costs. The following issues arose:

i. Vacation and sick leave availed of by GPs within the eight health centres in Malta on Sundays and Mondays pay calculations were erroneous. This audit estimates a resultant difference of 55 and 26 hours, involving in six and five out of the 20 GPs on contract B,[37] over the two salary periods under review falling in June and September 2014. Such a situation materialised since the formula used in the electronic spreadsheet utilised by PHCD to calculate leave captured the hours availed off by GPs on the following Monday rather than the date in question. PHCD were unaware of this anomaly but confirmed this issue. Matters were further complicated since the incumbent Financial Controller was not given the appropriate spreadsheet access rights by the predecessor, which consequently delayed corrective action. PHCD rectified the issue as of January 2015 when the electronic spreadsheet formula was updated. However, NAO remained unaware as to whether the Finance Section carried out the relative adjustments prior to this date.

ii. The respective Finance Section in Malta and Gozo interpret clauses relating to the applicable rates when GP trainees perform extra duties differently. Clause 23.2 of Collective Agreement (2013) outlines that a higher pay rate is applicable when GP trainees perform duties in excess of 45 hours in a week.[38] GGH's Finance Section adjusts rates for hours worked in excess of the amount indicated therein. The Finance Section in Malta, on the other hand, basis its extra hour pay calculation on the difference between the total monthly hours logged and the number of hours which GP trainees are reimbursed at the standard rate. The latter calculation generally results in more favourable pay conditions than in the former case. The two Finance Sections insist that their interpretation of the relevant clauses in the Collective Agreement (2013) is correct. If the pay calculation adopted in Gozo was to be applied to calculate the extra hours carried out by six out of the 32 GP trainees employed by Health Centres in Malta, than it transpires that these GPs were in total credited with 50.5 and 45 hours more favourable pay during the two periods under review.[39]

3.4.12 The two issues discussed by this Section namely, the robustness of management information and potential erroneous salary show that PHCD's financial monitoring and control is limited. Such circumstances influence the quality of financial management information and consequently potentially impinge on PHCD's ability to consider such information for strategy decision-making purposes.

[37] Contract B GPs are health centre doctors who can also engage in private practice.

[38] Foundation Doctors / Basic Specialist Trainees / GP Trainees / Higher Specialist Trainees / Staff Grades / Resident Specialists who are required to work in excess of 45 hours per week, and in conformity with prevailing legislation, will be paid at the rate of time and a half for any hours in excess of 45. Any extra hours worked between 41 and 45 will continue to be paid at the normal hourly rate.

[39] To elicit the two sampled week's costings, the pay periods covering 18 June to 17 July 2014 and 10 September to 7 October 2014 were selected.

GP function related targets are not fully conducive to robust management control

3.4.13 In accordance with the Collective Agreement (2013), during 2014, PHCD management introduced GP job plans. These plans incorporated a number of Key Performance Indicators (KPIs), which reflect PHD's strategic objectives.

3.4.14 The introduction of job plans and KPIs serves the purpose of management mechanisms which aims to encourage a more efficient and effective service. This entails outlining output and outcome levels as well as encouraging a higher degree of individual and collective accountability from service providers. However, a number of issues prohibit job plans objectives from being fully attained, as discussed hereunder:

i. Targets and KPIs included in job plans do not cover around 40 per cent of GPs performing duties at PHCD. The job plan scheme is not extended to the 33 GP trainees, who were intermittently engaged directly to perform duties at health centres over three years. Similarly, job plans are not drawn up for more than 20 doctors who were working on a contract for service basis. These situations materialise since the Collective Agreement (2013) does not stipulate job plans on contractually engaged doctors and GP trainees.

ii. Job Plans set by PHCD are not appropriately comprehensive. They are primarily outcome oriented and include targets related to the reduction of diabetes. However, the outcome related targets do not extend to other chronic diseases, which are highly prevalent within the Maltese society. These include hypertension, dyslipidaemia and obesity. Furthermore, given the long-term implications and the collective responsibility of various authorities, assessing individual GP performance against such targets, is not conducive to effective performance management.

iii. Job plans targets and KPIs do not make comprehensive reference to output related measures. Despite the inclusion of Chronic Disease Management Clinic (CDMC) related targets in 2016, job plans do not quantify or set minimum output levels with regards the various services provided by GPs. The importance of including specific output measures in job plans stems from the significant variances in output levels of some doctors when compared to their health centre peers.

iv. PHCD have limited mechanisms to monitor the extent to which individual and collective GP targets included in job plans have been fulfilled. Since their introduction, PHCD management did not review individual GP performance in terms of the targets included in the job plan. For instance, during the course of this audit, a performance management program, where management formally appraises individual GP performance was not in place. However, PHCD management contends that an agreement with the Medical Association of Malta (MAM) was reached so that every doctor is audited regarding his referrals towards the CDMC.

3.4.15 The job plans limitation highlighted in the preceding paragraph, also raise accountability related concerns. Within this context, PHCD management does not have objective targets for all KPIs. Furthermore, the limited and informal application of performance management further deviates from the principles of individual accountability.

3.5.1 The effective delivery of the GP function is dependent on management's input in terms of planning, direction, control and monitoring. This Chapter has shown that operational and financial information limitations, to varying degrees, impinge on the management's function associated with the delivery of GP services.

3.5.2 PHCD strategies provide the overall direction of this Department up to 2020. However, for reasons ranging from financing and policy decisions, a number of important measures outlined in strategic documents have not been subjected to a comprehensive planning process. PHCD strategic planning also faces varying constraints through operational and financial management information limitations. In these circumstances, PHCD cannot readily undertake feasibility studies of potential implementation options with regards to the measures listed in primary health care strategic documents. Consequently, PHCD management remains somewhat constrained in implementing measures, which are intended to place primary health care as central to Malta's national health system.

3.5.3 Management information shortcomings also obstruct management direction and control. While appreciating the complexity involved, operational and financial data capturing initiatives were subjected to a number of limitations. On the other hand, features provided through IT systems available – such as CPAS and DAS – were not fully exploited. Moreover, despite PHCD's top management formal direction, compliance with circulars issued in this regard was not consistently and comprehensively adhered to.

3.5.4 PHCD management monitoring function is partially constrained since performance management programmes are not comprehensively implemented. In such cases, PHCD management is not in a position to appraise operations through individual and collective performance of its staff. Such circumstances also encroach on the principles of accountability as the GP function cannot be fully assessed on the basis of individual and collective input service providers.

Chapter 4
Cost efficiency of the General Practitioner function

Chapter 4 – Cost efficiency of the General Practitioner function

4.1 Introduction

4.1.1 Generally, the services provided through the General Practitioner (GP) function constitute value for money. This audit, however, has identified a number of factors, which preclude the services being provided from attaining more favourable outcomes in terms of costs as well as the efficiency and effectiveness of operations.

4.1.2 Achieving value for money in the health care sector is an important objective of the National Health Systems Strategy for Malta, (NHSS) (2014), since this is a key component of providing sustainable services. This strategy aims to promote smarter spending so that better health outcomes are secured and potential savings are realised.

4.1.3 Within this context, this audit determined the expenditure incurred to provide the GP function. This approach was adopted since in the first place, such information was not readily available at Primary Health Care Department (PHCD). Secondly, the determination of unit costs enables various evaluative techniques to determine the extent to which service delivery constitute cost-effectiveness and cost-efficiency. The foregoing is in line with the three pillar criteria adopted by this Audit, related to analysing processes, structures and outcomes.[40] The main focus of this Chapter relates to the third criteria, where outcomes emanating from the GP function are assessed in terms of economic and cost-efficiency considerations. The ensuing discussion focuses on:

i. Unit costs in conjunction with the GP function.

ii. Factors contributing to the GP Consultation Room Unit costs and fees charged by the private sector.

iii. Cost inefficiencies, which influence unit costs.

[40] JAMA, Sep 23/30, 1988 – Vol 260, No. 12. *The Quality of Care, How can it be assessed*?

4.2 GP consultation room during day and out of hours averaged €10.50 and €34.26 per visit respectively

4.2.1 The cost determination exercise carried out by National Audit Office (NAO) covered activity during the period 18 to 24 June 2014 as well 17 to 23 September 2014. Appendix III outlines the methodology adopted to determine the cost of providing the GP function.[41] The exercise estimated costs for five main services provided by the Health Centres' GP function. These include the GP consultation room, the prescription and diabetes clinics, bereġ and home visits. The anticoagulant services and the Chronic Disease Management Clinic (CDMC), were not included within the scope of this performance audit as these two services were in their initial stages during the periods reviewed by this Audit.

4.2.2 Furthermore, the unit costs were categorised between two main 12 hours intervals. Moreover, a distinction was made between services provided on a Sunday and during weekdays. This approach was adopted as these two intervals raise distinct considerations namely patient demand as well as the relative GP cost during these two periods. Peak periods are characterised by heavy demand for GP services during 08:00 to 20:00 hours. Night-service is provided through the three health centres in Malta[42] and Gozo General Hospital. These services generally cater for a significantly lower demand but entail higher GP remuneration rates associated with out of hour's shifts.

4.2.3 Data limitations concerning financial, GP hours and patient contact statistics prohibited the utilisation of yearly PHCD data for NAO's costings exercise. Consequently, the NAO was constrained to determine costs associated with the GP function through a case study approach, based on two randomly selected weeks. The assumptions taken in conjunction with this exercise, adhere to generally accepted accounting practices and were discussed and agreed upon by PHCD. In view of the case study approach adopted, the findings and conclusions noted in this Chapter are not to be considered as representative of yearly average unit costs. Nevertheless, on the basis of the proximity of results derived through workings concerning the two sampled weeks, the issues raised in this Chapter can be considered as strongly indicative of unit costs and prevailing circumstances concerning the delivery of GP services at health centres. Where necessary, the Report will note any deviations from this qualification.

4.2.4 During 2014, the cost of providing GP services through health centres in Malta and Gozo amounted to €10.3 million. Table 4 shows the average unit cost of providing the five GP services reviewed. The Table also portrays the different unit costs incurred by PHCD to provide the GP services during peak and out of hours.

4.2.5 Table 4 shows that with the exception of Home Visits, the variance between the unit costs pertaining to peak hour services, derived with respect to week 1 and week 2 were below 10 per cent. The unit cost pertaining to home visits during peak hours was 11 per cent. These results further emphasises that the exercise with respect to peak hours services can be considered as strongly indicative. To this end, throughout this Chapter, evaluations concerning the services provided during peak hours will be discussed in terms of the range of unit costs derived in the two sampled weeks.

[41] Workings related to the derivation of unit costs were reviewed and agreed upon by PHCD and Gozo Health Centre Management.
[42] The three health centres that provided 24-hour service are Floriana, Mosta and Paola.

Table 4: Average GP function unit cost (18 to 24 June 2014 and 17 to 23 September 2014)

	Bereġ		Diabetes Clinic		GP Consultation Room		Prescription Clinic		Home visits	
	June	Sep	June	Sep	June	Sep	June	Sep	June	Sep
	€	€	€	€	€	€	€	€	€	€
Weekday between 8am and 8pm	7.76	7.10	18.98	18.89	11.48	10.50	4.37	4.42	22.30	19.89
Weekday between 8pm and 8am	NA	NA	NA	NA	34.26	49.27	NA	NA	24.57	19.58
Sunday between 8am and 8pm	NA	NA	13.38[43]	22.60[44]	20.65	16.33	NA	NA	30.86	25.01
Sunday between 8pm and 8am	NA	NA	NA	NA	26.67	70.85	NA	NA	25.93	23.91
Average	**7.76**	**7.10**	**17.88**	**18.97**	**15.36**	**13.56**	**4.37**	**4.42**	**23.60**	**20.53**

4.2.6 On the other hand, the unit costs relating to services provided during off-peak hours derived for the two sampled weeks were generally subject to a significant variance. Fluctuations in volumes, some of which can be considered as seasonal, were the main factors contributing to these off-peak variances. This state of affairs precludes discussing the services provided at these times in terms of a range of costings. However, the lower cost derived between the two sampled weeks is appropriately indicative of cost-effectiveness and cost-efficiency related issues. To this effect, the ensuing discussion within this Chapter, will discuss the provision of off-peak GP services in terms of the lower unit cost derived.[45] This approach is also being adopted since it embraces the prudence concept.

4.3 The provision of GP services at MDH's A&E further inflate the cost of the public GP function

4.3.1 During 2014, the total cost of the GP function amounted to €10.3 million. However, this figure excludes the expenditure incurred by Mater Dei Hospital (MDH) to provide a GP service for Triage Three patients[46], that is, patients who, according to MDH protocols could have been treated at any health centre.

4.3.2 Patient statistics maintained by MDH show that during 2014 around 23 per cent of users at the Accident and Emergency (A&E) Department – most of which are self-referrals – could have been dealt with at health centres.[47] Similar circumstances prevail at Gozo General Hospital. A number of issues contribute to such circumstances:

i. According to Health Systems in Transition (2014), patients intentionally by-pass the GP function provided through health centres on the premise that the facilities at MDH will ensure the appropriate availability of treatment through a one-stop

[43] This service is provided on Sundays in Gozo as it is not run through an appointment system like the health centres in Malta.
[44] This service is provided on Sundays in Gozo as it is not run through an appointment system like the health centres in Malta.
[45] The terms "off-peak" and "out of hours" are going to be used interchangeable throughout this Report.
[46] For the purpose of this Report, the terminology "Triage Three" also refers to the new system where patients are classified as Emergency Severity Index (ESI) 4 and ESI 5.
[47] A similar situation prevailed during 2013, 2015 and up to April 2016 whereby around 16 per cent of patients could have been dealt with at health centre level.

shop concept.[48] Patients' perception regarding MDH's facilities resulted in a situation, where during 2014, 42 per cent of Triage Three patients, fell into the self-referral category.[49] To varying degrees, this state of affairs increased user volumes at MDH. This implies that MDH's A&E is also serving as an extension of the GP function provided through health centres.

ii. The aforementioned situation mainly materialises, as patients are not fully cognisant of the facilities and the broader services, which are being established at PHCD level. To this effect, this Department is increasingly extending the one-stop shop concept as can be illustrated through the various services implemented recently. These include plaster services, digital X-Ray services, new electrocardiogram machines, lifestyle clinics, chronic disease management clinic, chronic kidney disease prevention clinic, anticoagulant clinic, cardiology outreach, orthopaedic outreach, sports medicine clinic, colorectal screening programme, cervical screening programme, skin tag removal clinic, scoliosis screening clinic, diabetes retinopathy screening among other services, and extension of B'Kara opening hours. Health centre GPs can also order bone density tests and have online access to the Pharmacy Of Your Choice entitlement of patients so as to provide continuity of care. Despite the introduction of these services, in subsequent years, self-referrals of Triage three patients at MDH's A&E generally remained at the same levels as those in 2014.

iii. As a matter of policy, the A&E Department at MDH is dealing with Triage Three patients irrespective of referral tickets. To this end, MDH is providing GP consultation rooms through ad hoc contractual services. During 2014 and 2015, MDH incurred an additional expense of around €133,000 and €123,000 respectively in salary costs. These costs do not include the high overheads associated with the provision of the A&E services.

iv. Patients' whose residence is in close proximity to MDH have a higher propensity to utilise services provided through MDH's A&E rather than a health centre. During 2014, 42 per cent of Triage Three patients at A&E hailed from towns and villages within five kilometres of MDH. To partially address this situation, whereby 20 per cent of Triage 3 patients reside in the catchment area of B'Kara Health Centre, during 2015, PHCD extended the opening hours of this clinic up to 8pm during weekdays.

4.4 GP consultation room costs at health centres and at private practices average an estimated €10.50 and €9.49 per visit respectively

4.4.1 The NAO's costings exercise relating to services provided through the GP function estimated the average costs for GP consultation services through health centres during peak hours on weekdays at €11.48 and €10.50 respectively during the two sampled weeks in 2014 (Table 4 refers). The determination of the estimated average unit cost of this service, which is utilised by more than 62 per cent of the total users of GP services, is appropriately indicative and lends itself to further analyses, namely in terms of the economy with which this service is being delivered.

4.4.2 The GP consultation room unit cost varies between health centres. During the two sampled weeks, the unit costs at Paola Health Centre was the lowest among the nine health centres. This is mainly due to the higher volumes of users at this health centre. Table 5 refers.

[48] WHO, 2014. Malta Health System Review, 16(1), page 74.

[49] The referral source was not available for all Triage Three patients. If patients whose referral source is not known were eliminated, self-referral would increase to 77 per cent.

Table 5: GP Consultation Room unit cost per health centre during peak hours (2014)

Health Centres	Week 1	Week 2
	(€)	(€)
B'Kara	10.62	12.03
Cospicua	16.00	15.97
Floriana	10.26	8.05
Gozo	10.35	8.15
Gżira	12.26	12.96
Mosta	9.62	10.87
Paola	9.39	9.15
Qormi	13.78	10.17
Rabat	17.32	13.27

4.4.3 On the other hand, the NAO commissioned survey provided unit cost information regarding the average fee charged by the private sector for GP consultations. To this end, participants disclosed information relating to the time, reason and fee paid for their last GP visit in the private sector. The response rate attained, subject to a margin of error of 5.7 per cent, indicates that private sector GPs during 2014, on average, charged €9.49 per consultation. The foregoing compares favourably to cost estimates by the National Statistics Office (NSO), which for the purpose of deriving the annual consumer price index estimated the fees charged by the private sector during 2014 at €9.26.

4.4.4 The differences in the objectives, environment and services provided within the private and public sectors raise a number of comparative limitations, which to varying degrees render benchmarking exercises between the two sectors problematic. Nevertheless, the resultant estimated costs of GP consultations provided in the public and private sector raise a number of considerations. Table 6 portrays the main factors, namely, service provision, overheads, capitalisation and asset depreciation as well as salaries and profits influencing costs within respective sectors.

4.4.5 Table 6 relates to a situation whereby the cost of the public GP is influenced by the high volumes of users at health centres and the wider array of services provided within this sector. This implies that the public sector incur a higher rate of overheads than those operating on a smaller scale within the private sector. For instance, health centres incurs costs to operate reception facilities, security services, and high maintenance costs in view of the high volume of users. Moreover, the public GP function unit costs also absorb PHCD's management input towards national policies, strategies and planning.

4.4.6 The cost components elicited in Table 6 together with methodological limitations preclude comprehensive comparative analysis between the costs of providing GP consultations during peak hours through health centres and fees charged by the private sector. Nevertheless, they stimulate the need for further in depth and strategic studies to specifically identify more areas where the public sector can improve on its cost efficiency to maintain unit costs at optimal levels and ascertain service sustainability. To this effect, this performance audit has identified a number of factors, which hinder the cost-efficient delivery of services. The ensuing Section refers.

Table 6: Factors influencing the costs of GP services in the public and private sectors

Influencing factors	GP Consultation Room	
	Public sector	Private sector
Service provision	GPs providing services at health centres are more likely to encounter circumstances to administer treatment and to stabilise patients suffering from acute ailments.	GPs mainly deal with non-immediate treatment conditions and tend to refer patients requiring immediate care to the public sector.
Overheads	The cost of Health Centre services is subject to significant overheads brought about by costs relating to strategic management, administration, reception facilities, high utility and maintenance costs as well as diseconomies of scale in providing decentralised services.	Overheads costs incurred by the private sector with respect the provision of GP services are generally lower than those in the public sector. Services within this sector are mainly provided through sole practitioners. On the other hand, the group practices, particularly those which operate on a larger scale, tend to operate on commercial lines where generally accepted business practices dictate that overheads are kept at the lowest possible levels.
Capital and asset depreciation costs	In practice, these costs would tend to be significantly higher within this sector due to the broad range of GP services provided through nine health centers. The NAO costings exercise excluded such costs.	Capital costs of private sector GPs, particularly those pertaining to sole practitioners, are generally lower than those incurred in the public sector. The estimate of fees charged for GP consultations within the private sector as derived through the NAO survey and NSO estimates includes this component.
Salaries and profits	The main cost element in the public sector relate to payroll costs.	In addition to salaries, fees charged in the private sector, generally include a profit element, where the latter charge a higher fee.

4.5 Cost efficiency issues at Bereġ, prescription clinics and off-peak hour services inflate GP function unit costs

4.5.1 Cost efficiency issues are ultimately reflected in the respective unit costs for the various GP services provided through health centres. The NAO costings exercise has highlighted a number of circumstances, which inflate the cost of services provided. The ensuing Sections refer.

The current practice of deploying nurses rather than health assistants or analogous grades to assist GPs at Bereġ in Malta results in higher operational costs

4.5.2 The GP service provided through Bereġ aims to extend the family doctor function within the community. Currently a GP and a nurse team provide services at the 42 Bereġ in Malta. This situation contrasts with the practices adopted in Gozo whereby health assistants assist GPs at the 12 Bereġ there. The validity of this approach arises since the assistance provided to GPs in delivering services at Bereġ is mainly clerical and does not require the input of a qualified nurse. Particularly, this would increase the nurses complement availability, which in turn would enable primary health care services to be further extended.

4.5.3 If such practices were to be adopted in Malta, the unit cost of services provided at Bereġ would decrease from an estimated average of €6.92 and €6.28 resulting in the two samples weeks in 2014 to €6.23 and €5.70. This decrease would result since the remuneration rates of health assistants are 20 per cent lower than the average nurse salary.

4.5.4 PHCD is aware of the potential benefits of deploying health assistants rather than nurses for bereġ related duties. However, PHCD contends that this practice could not be put into effect in the past years since there were not enough health assistants and nursing aides within PHCD.

ICT limitations impinge on the cost efficiency of prescription clinics at health centres and Bereġ

4.5.5 Currently, the prescription clinic through Bereġ and Health Centres entail that GPs prescribe medicines in conjunction with chronic conditions under the Schedule V scheme.[50] This system requires GPs to confirm or to amend the prescribed medicines at two to six monthly intervals. This approach was mainly intended to control and minimise waste of unutilised medicines. This audit estimates that the cost of prescription clinic at Health Centres and Bereġ during the sampled weeks amounted to an average minimum of €844,479 annually. Table 7 refers.

Table 7: Total cost of prescribing medicines during the sampled weeks (2014)

	18 - 24 June 2014	17 - 23 September 2014
	€	€
Bereġ - Gozo	3,503	3,003
Prescription clinic - Gozo	509	542
Bereġ - Malta	10,100	8,315
Prescription clinic - Malta	5,144	4,378
Total prescription cost	**19,256**	**16,238**

[50] Schedule V scheme entitles patients suffering from a chronic condition for free medicines, which prerogative is based solely upon the presence of the disease irrespective of means, income and age.

4.5.6 While the primary intentions of controlling the issue of medicine and minimising waste have generally been attained, it transpires that this system is unnecessarily utilising GP resources and creating an artificial demand for this service. Such circumstances mainly arise since the aim of the GP visit is primarily administrative and the frequency of visits, that is in some instances of six times a year for every patient, is creating an artificial demand for prescription services.

4.5.7 PHCD contends that a more appropriate balance between administrative and clinical control over the issue of medicines can similarly be effectively attained through Information and Communication Technology (ICT). To this end, PHCD strategic documentations, namely National Health System Strategy for Malta, (NHSS) (2014), highlight the potential benefits of utilising ICT in prescription services at bereġ and health centres.[51]

4.5.8 While it is scheduled that an ICT infrastructure catering for prescription services at Health Centres will be available by mid-2016, the introduction of an ICT prescription system will be available at the bereġ by end of 2017. The main reason for a slower implementation schedule is mainly due to budgetary considerations.

4.5.9 This Office, however, contends that the opportunity cost of a slower implementation would result in higher recurrent costs to provide the prescription services through Bereġ in accordance with current practices. Financial and social benefits through the adoption of ICT would result since more doctor time will be available to extend or introduce new GP services.

Cost efficiency concerns inflate the costs of providing the GP services during off-peak hours

4.5.10 Primary health care accessibility requires that health centres provide out of hours GP services.[52] This service provides immediate care when private GPs' clinics are typically closed, between 20:00 and 08:00 hours during weekdays and on Sundays. Floriana, Mosta, Paola and Gozo General Hospital provide this service. The importance of providing this service was reflected through the NAO survey, whereby 20 per cent of patients utilise the public GP function during off-peak hours (night time, Sundays and public holidays).

4.5.11 This service encompasses GP consultations and home visits. The cost of the latter service, derived through the two sampled weeks, was at par with peak hours unit costs (Table 4 refers). This state of affairs materialises since the cost of this service was estimated on the basis of a standard 30-minute home visit during peak and off-peak periods. In both instances, any idle time resulting through low demands for this service was assumed to be absorbed by the GP consultation room services. This approach was adopted since in practice, in low home visits demand periods, GPs deployed on such duties are directed to provide services at the GP consultation clinics.

4.5.12 On the other hand, on the basis of the two sampled weeks, the estimated cost of providing GP consultation clinic services during night time, ranged from €23.96 to €90.17. Table 8 refers.

[51] Parliamentary Secretariat for Health, Ministry for Energy and Health, 2014. A National Health System Strategy for Malta, (2014 – 2020), page 85.
[52] Royal College of General Practitioners, 2013. The 2022 GP, page 28.

Table 8: GP consultation room unit costs during off-peak hours (June and September 2014)

	Weekday 20:00 to 8:00 hours		Sunday 20:00 to 8:00 hours	
	18 – 24 June 2014	17 – 23 September 2014	18 – 24 June 2014	17 – 23 September 2014
	€	€	€	€
Floriana Health Centre	45.50	55.86	35.94	50.92
Gozo General Hospital	59.54	51.71	90.17	116.05
Mosta Health Centre	23.96	38.39	20.89	254.49
Paola Health Centre	32.07	55.24	16.98	41.74
Average	**34.26**	**47.51**	**20.65**	**67.94**

4.5.13 Table 8 shows a significant variance between the first and second sampled weeks. This is mainly due to significant variances in user demand, where seasonality affects patients' requests for GP services and doctor deployment during the weeks under review. The differences in the derived unit costs pertaining to the two sampled weeks pose a degree of evaluation limitations. However, for the purpose of identifying cost efficiency concerns which ultimately impinge on the unit cost of this service, the aims of this exercise can still be fulfilled through the application of the prudence concept. To this end, the evaluation of cost efficiency issues relating to this service was based on the costs pertaining to the first sampled week, which generally also proved to have the lowest unit cost. This implies that the comments presented hereunder consider the lower of the two derived unit costs presented in Table 8.

4.5.14 The deployment of GPs to provide off-peak services is primarily governed by clauses in the Collective Agreement (2013), which provide various provisions in this respect. To this end, the Collective Agreement (2013) outlines that GPs employed on both Contract A and B basis are entitled to perform night duties. Moreover, the Collective Agreement (2013) also stipulates the minimum number of doctors to be deployed at Health Centres providing off-peak GP services. These Collective Agreement (2013) provisions result in situations where, in cases, the GP pool exceed patient demand.

4.5.15 The costings exercise illustrates this point. During the first sampled week under review, the allocation of man-hours during peak and off-peak hours was similar, even though there is a significant variance in demand during these two periods. During peak periods 1,883 GP hours were deployed to cater for a demand of 7,475 users. On the other hand, during off-peak hours 959 GP hours were deployed to cater for demand of 1,812 users. The foregoing impacts on the unit costs of the service, which has absorbed the arising inefficiency resulting through the approach adopted to deploy doctors.

4.5.16 The issues raised in the preceding paragraphs imply that there is an over allocation of doctors to provide off-peak GP services. While appreciating the logistical and clinical[53] protocols involved in the deployment of doctors and the complement levels outlined in the Collective Agreement (2013), there is a strong indication that, through a minimal reengineering of current practices, doctor deployment during off-peak hours can be markedly reduced.

[53] PHCD is obliged to provide a safe service that can cater for emergencies that may occur during the night (even national emergencies). In such cases, PHCD provides a triage system not to overload secondary care that will cater for the serious cases.

4.5.17 Table 8 shows that during the first sampled week the unit cost for the provision of the GP consultation room was highest at Floriana Health Centre and Gozo General Hospital. Floriana Health Centre unit costs are inflated as during the studied week more GPs were deployed at this Health Centre than in the other clinics in Malta. Table 9 refers.

Table 9: Number of patients visited per doctor hour between 20:00 and 08:00 hours (18 to 24 June 2014)

	Number of patients		Man hours		Number of patients visited per doctor hour	
	Weekdays	Sundays	Weekdays	Sundays	Weekdays	Sundays
	No.	No.	Hours	Hours	No.	No.
Floriana Health Centre	312	61	321.05	43	0.97	1.42
Gozo General Hospital	68	13	149.50	31.50	0.45	0.41
Mosta Health Centre	434	115	265	46.50	1.64	2.47
Paola Health Centre	345	75	228.10	22	1.51	3.41

4.5.18 Table 9 shows that as a result of the disequilibrium between demand and supply, the night GP services provided during weekdays through Floriana Health Centre and Gozo General Hospital are 39 and 54 per cent more expensive than the average unit cost of services provided by Mosta and Paola Health Centres. Similarly, the disequilibrium between demand and supply during night time on Sundays at Floriana Health Centre and Gozo General Hospital is contributing to increasing the unit cost by 46 and 79 per cent than the average unit cost of services provided by Mosta and Paola Health Centres.

4.5.19 This variance in cost is mainly attributable to a disequilibrium between the demand and supply where the doctor to patient ratio which were operated by Floriana Health Centre and Gozo General Hospital amounted to 0.97 and 0.45 patient per GP hour during weekdays and 1.42 and 0.41 on Sundays. These operational ratios, as outlined in Table 9, are less favourable than those, which were in place at the Mosta and Paola Health Centres.

4.6 Conclusions

4.6.1 This Chapter, through the unit costings exercises, has elicited a number of issues. At the outset, it established indicators as to the cost of the various services provided through the GP function. Additionally, this exercise leant itself to identify factors which impinge on the GP function's cost efficiency.

4.6.2 It is to be noted that statistical information and data related to costs associated with the provision of GP services within the public and private sectors are scarce. In itself, this issue presents a number of limitations to PHCD's financial and operational management. This audit encountered a similar situation, and in view of such limitations, the NAO was constrained to report only on issues where results derived were deemed to be strongly indicative.

4.6.3 Within this context, the two case studies undertaken revealed a number of robust pointers on the level of cost-efficiency related to this service. Comprehensive comparative assessments between the costs incurred in the provision of GP consultation during peak hours through health centres and fees charged by private GPs for similar services are problematic endevours and subject to a number of limitations. Nevertheless, the respective unit costs of the two services stimulate discussions on the extent to which health centres can further optimise the use of its resources to improve efficiency levels.

4.6.4 In most instances, cost efficiency concerns arise through the operational practices adopted to provide GP services through health centres. Thus, the relative unit costs of GP services are generally influenced through policy decisions, clinical and logistical protocols, collective agreement clauses related to doctor deployment, and fluctuating demand patterns. These variables, to different degrees, together with the continuing quest of ensuring that GPs are easily accessible at community level impinge on unit costs.

4.6.5 In circumstances involving smaller health centres and the provision of off-peak services, diseconomies of scale arise – mainly due to low volumes. However, this is deemed to be a financial externality arising out of ensuring GP accessibility throughout communities and patient safety on a round the clock basis.

4.6.6 In some cases, however, cost inefficiencies arise through costly labour intensive practices in lieu of ICT systems, which would facilitate service delivery. A case in point relates to the issue of prescriptions in connection with the Schedule V Scheme. Although PHCD is currently actively dealing with this issue, this example further highlights that procrastinating investment decision in primary health care not only impacts on service delivery but also influences costs.

4.6.7 Historically, primary health care may have been disadvantaged through investment decisions, which tended to more readily favour secondary and tertiary care. Consequently, over time primary health care could not develop its services at a more expedient rate. The continued upgrading of primary health care services – including its core – the GP function, presents various challenges, such as financial sustainability as well as the interrelationship with other public and private health service providers. However, these challenges can be turned into viable opportunities in the light that investment in primary health care yields a high financial and social rates of returns.

Appendices

Appendix I - Survey methodology

The main aim of this survey was to determine the public's perceptions of General Practitioner (GP) Services provided through Health Centres and peripheral clinics in Malta and Gozo. This study sought to evaluate the extent to which GP services are reaching and deemed accessible to its intended target audience, as well as providing a qualitative service. To this end, this study considered both users and non-users of these services. The National Audit Office (NAO) commissioned the National Statistics Office (NSO) to carry out this exercise on its behalf.

This Appendix will outline the main technical and methodological aspects considered in the undertaking of this exercise.

Coverage and response

The target population for this survey consisted of all persons aged 18 and over residing in private dwellings in Malta and Gozo. A total of 348,065 persons were eligible to participate in the survey. Tables A and B below display the distribution of the individuals in the target population by gender, age group and the locality of the health centre an individual should report to in case of need.

Table A: Distribution of individuals by gender and age group

Age Group	Gender					
	Males		Females		Total	
	Count	%	Count	%	Count	%
18-24	19,191	11.1	18,174	10.4	37,365	10.7
25-44	59,069	34.2	56,598	32.3	115,667	33.2
45-64	56,314	32.6	56,028	31.9	112,342	32.3
65+	38,063	22.0	44,628	25.4	82,691	23.8
Total	**172,637**	**100.0**	**175,428**	**100.0**	**348,065**	**100.0**

Table B: Distribution of individuals by gender and locality of health centre

Locality	Gender					
	Males		Females		Total	
	Count	%	Count	%	Count	%
B'Kara	14,268	8.3	14,486	8.3	28,754	8.3
Cospicua	7,816	4.5	7,752	4.4	15,568	4.5
Floriana	20,338	11.8	21,012	12.0	41,350	11.9
Gozo	13,181	7.6	13,357	7.6	26,538	7.6
Gżira	28,081	16.3	29,110	16.6	57,191	16.4
Mosta	25,337	14.7	25,416	14.5	50,753	14.6
Paola	37,123	21.5	37,478	21.4	74,601	21.4
Qormi	15,215	8.8	15,299	8.7	30,514	8.8
Rabat	11,278	6.5	11,518	6.6	22,796	6.5
Total	**172,637**	**100.0**	**175,428**	**100.0**	**348,065**	**100.0**

Sampling

A stratified random sampling process was employed for this survey. This probability sampling method entails partitioning the population into mutually exclusive sub-groups, and selecting an independent (Simple) random sample from each of these sub-groups to ensure a uniform distribution of the sample relative to a number of pre-selected characteristics of the population. In this case, sub-groups were constructed relative to different combinations of gender, age group and the locality of the health centre an individual should report to in case of need. The stratified random sampling approach ensures a good spread of the sample relative to the population and yields an unbiased gross sample.

In addition to this, quotas were used throughout the data collection phase to ensure that the required number of individuals from each sub-group was obtained. The main advantage of using quotas is to ensure that an adequate number of units are sampled from every sub-group, even in very small ones for which the probability of selection is relatively small compared to other groups. Since the mechanism of selecting persons was made in a random manner, no significant bias was introduced by applying such quotas.

A total of 1,726 persons were contacted for this survey of whom 769 participated, while another 836 persons were not eligible to participate. Ineligible cases take into account wrong telephone numbers as well as persons who were contacted at least once to no avail and were not contacted again due to reached quotas. This resulted in a net effective response rate of 86.4 per cent.

Table C below shows the distribution of the gross sample by type of response.

Table C: Distribution of effective gross sample by type of response

Description	No.	%	No. (Effective)	% (Effective)
i) Good responses	769	44.6	769	86.4
ii) Refusals	33	1.9	33	3.7
iii) Other (No replies etc.)	88	5.1	88	9.9
iv) Ineligibles (Wrong telephone numbers etc.)	836	48.4	-	-
Total	**1,726**	**100.0**	**890**	**100.0**

Tables D and E below show the distribution of the net sample by gender, age group and the locality of the health centre an individual should report to.

Table D: Distribution of net sample by gender and age group

Age Group	Gender					
	Males		Females		Total	
	Count	%	Count	%	Count	%
18-24	92	24.0	91	23.6	183	23.8
25-44	97	25.3	101	26.2	198	25.7
45-64	98	25.5	97	25.2	195	25.4
65+	97	25.3	96	24.9	193	25.1
Total	**384**	**100.0**	**385**	**100.0**	**769**	**100.0**

Table E: Distribution of net sample by gender and locality of health centre

Locality	Gender					
	Males		Females		Total	
	Count	%	Count	%	Count	%
B'Kara	42	10.9	41	10.6	83	10.8
Cospicua	41	10.7	40	10.4	81	10.5
Floriana	42	10.9	45	11.7	87	11.3
Gozo	39	10.2	42	10.9	81	10.5
Gżira	42	10.9	45	11.7	87	11.3
Mosta	43	11.2	46	11.9	89	11.6
Paola	47	12.2	43	11.2	90	11.7
Qormi	43	11.2	42	10.9	85	11.1
Rabat	45	11.7	41	10.6	86	11.2
Total	**384**	**100.0**	**385**	**100.0**	**769**	**100.0**

Data collection

Data was collected by means of Computer Assisted Telephone Interviewing (CATI) between nine and 13 January 2015. In CATI, although respondents are contacted by telephone, computers are used to enter data obtained from respondents during an interview. In addition, another important aspect of CATI surveys is that each sampling unit is randomly assigned among interviewers, and hence reduces interviewer bias to a bare minimum.

Quality control

A series of measures were implemented to certify that optimum quality was achieved in this survey. These consisted of quality checks and in-built validation rules in the data collection program to limit the occurrence of non-sampling errors. The data-entry program had a number of in-built validations so that skip patterns are executed exactly as intended while responses are within a specific range. In addition, constant supervision during the data collection stage ensured a harmonised data collection process.

The dataset was further subject to a series of other checks during the data-editing stage in order to identify any remaining incorrect or logically misleading data. Missing values were imputed using a hot deck methodology. More specifically observations were grouped according to relevant demographics and other questions. The mode of the respective category was then taken as the imputed value.

Weighting of results

When conducting sample based research, it is vital that the sample is representative of the population it is being extracted from. The survey data obtained was weighted to align and gross-up sample estimates with the benchmark distribution in terms of gender, age group and the locality of the health centre an individual should report to in case of need. Samples may also be subject to over/under representation of individuals with respect to socio-demographic aspects. Thus, sampling weights were used to correct for biases and discrepancies present in the final sample of participating units arising from different response rates observed in different categories.

Errors

The survey was subject to two main sources of errors, technically referred to as *Sampling* and *Non-Sampling errors*.

Non-sampling errors are human errors, which are not attributed to chance. Numerous measures were taken to ensure that non-sampling errors were kept to a bare minimum. Experienced interviewers were used throughout the data collection process and appropriate supervision was conducted making sure that mistakes made by interviewers were kept to a minimum. Interviewers were provided with precise definitions of the terms used in the survey to avoid varied interpretations. In order to reach a broader range of respondents and hence reduce non-response bias, surveys were carried out between 16:00hrs and 20:00hrs on weekdays and between 09:00hrs and 13:00hrs on Saturdays. The CATI program also allowed interviewers to schedule appointments. Recoding errors were reduced as answers in the CATI program were recorded instantly.

Sampling errors are those, which are purely due to probability. Of particular interest is the *margin of error*, which constitutes sampling error. The margin of error quantifies uncertainty about a survey result and expresses the amount of sampling error in the results. This is normally associated with a statistical level of confidence in such a way as to make it possible for us to calculate confidence intervals of the form *estimate ± margin of error*.

Consequently, the *relative margin of error* is simply the margin of error expressed as a percentage of the quantity to which it refers. Table F illustrates estimates of precision for a range of derived percentage rates (p) and the corresponding (weighted) number of persons (N) over which the rates are computed.

Table F: Estimates of precision

Percentage rate (p%)	Number of persons (N)			
	93,106	215,309	284,309	348,065
1	1.3	1.6	1.0	0.7*
3	2.3	2.3	1.7	1.2*
6	3.2	3.2	2.4	1.7
10	4.0	4.0	3.0	2.1
20	5.3	5.3	4.0	2.8
40	6.5	6.5	4.9	3.5*
50	6.6	6.6	5.0	3.5
60	6.5	6.5	4.9	3.5
70	6.1	6.1	4.6	3.2
80	5.3	5.3	4.0	2.8
90	4.0	4.0	3.0	2.1

For example, the percentage of participants who visited a GP between two to five times during the previous year stood at 40.1 per cent. This is calculated out of the total number of 348,065 individuals. In this case, if a precise calculation is carried out the margin of error is equal 3.5 per cent. From Table F this may be estimated using data for p=40 per cent. In this case the margin of error is again equal to 3.5 per cent*. Thus if the estimated value is considered, the 95 per cent confidence interval is the range 36.6 per cent to 43.6 per cent, *i.e.* 40.1 per cent ±3.5 per cent.

It must be emphasised that figures based on a relative margin of error of 30 per cent or more or which are calculated on a small number of reporting individuals (for example 30 or less) must be treated with caution as they may not be statistically representative due to a large percentage of error assigned. These occurrences are shaded in darker grey in Table F.

Appendix II – Survey results

This Appendix presents the results of the public perceptions of the General Practitioner (GP) Services provided through Health Centres and peripheral clinics in Malta and Gozo survey. The survey questions are reproduced within the heading of each table. The results presented are based on weighted replies, since the survey was extrapolated from the total population of 348,065.

General

Table 1: During the last twelve months, how often did you require the service of a general practitioner in a health centre, peripheral clinic,and/or that offered by private GP?

Frequency of service	Total	%
Never	63,756	19
Once	52,557	15
2-5 times	139,642	40
6-10 times	56,806	16
More than ten times	35,304	10
Total	**348,065**	**100**

Table 2: Why did you visit the general practitioner during your last visit? (*multiple response*)

Reason	Total	%
Drug prescription	24,945	8
Blood test results, or any other medical results	34,804	12
Illness (non-chronic) like flu, respiratory problems, etc.	147,454	50
Chronic illness like diabetes and high / low blood pressure	40,427	14
For referral to other medical specialists, professors, consultants, hospital, or further medical tests	9,136	3
Administrative purposes, e.g. sick leave certificate, insurance documents, etc.	6,405	2
Emergency (i.e. urgent case)	12,682	4
Other (specify)	19,460	7
Total	**295,313**	**100**

Table 3: Which service did you use during your last visit to the general practitioner?

Type of service	Total	%
GP in health centre (*polyclinic*)	65,194	23
Home visit by a health centre GP	1,086	1
GP in peripheral clinic	2,720	1
GP in private clinic	181,329	63
Home visit by a private GP	33,981	12
Total	**284,310**	**100**

Patients using services provided by GP in Health Centres or Peripheral Clinics

Table 4: In which health centre or peripheral clinic did you make your last visit?

Health centre	Total	%
B'Kara	5,539	8
Cospicua	2,407	4
Floriana	7,944	12
Gozo	5,571	8
Gżira	9,647	14
Mosta	11,983	17
Paola	14,094	20
Qormi	5,619	8
Rabat	6,196	9
Total	**69,000**	**100**

Table 5: Why did you choose the services provided in a health centre or peripheral clinic? (*multiple response*)

Reason	Total	%
Need of continuous cure/treatment	11,303	15
The service is free of charge	28,703	37
I am accustomed to using services provided by health centres	7,829	10
Health centre or peripheral clinic is in close vicinity	4,128	5
Health centre GP is also my private personal GP	877	1
Health centre has been renovated	635	1
Private GP was not available (e.g. on holiday, on a Sunday, Public Holiday)	8,062	10
I needed GP in an emergency and preferred to use immediately the services provided in health centre	6,610	8
Service I needed is only provided in health centres	2,556	4
Other (specify)	7,317	9
Total	**78,020**	**100**

Table 6: How satisfied were you with the service provided during your last visit to the health centre or peripheral clinic?

Satisfaction level	Total	%
Very satisfied	44,568	65
Satisfied	20,947	30
Not satisfied	1,329	2
Not satisfied at all	2,156	3
Total	**69,000**	**100**

Table 7: When and at what time did you make your last visit to the GP?

Day and time of visit	Total	%
During week days between 8am and 8pm	55,510	80
During week days after 8pm	6,070	9
Sunday	5,215	8
Public Holiday	895	1
Do not know	1,310	2
Total	**69,000**	**100**

Patients using services of private GP

Table 8: Why did you use the service of a private GP rather than that provided in a health centre of peripheral clinic? (*multiple response*)

Reason	Total	%
Private GP knows my medical history	77,806	29
I got accustomed to using my private GP	67,228	25
Service provided by my private GP is better than that provided in health centres or peripheral clinics	19,361	7
I have a health insurance policy	7,052	3
GP in health centre or peripheral clinic is not always available	11,886	4
Long waiting time in health centre or peripheral clinic	49,575	19
For a second opinion	2,465	1
Other (specify)	30,558	12
Total	**265,931**	**100**

Table 9: How satisfied were you with the service provided during your last visit to private GP?

Satisfaction level	Total	%
Very satisfied	153,983	71
Satisfied	55,479	25
Not satisfied	3,812	2
Not satisfied at all	947	1
Do not know	1,089	1
Total	**215,310**	**100**

Table 10: When and at what time did you make your last visit to private GP?

Day and time of visit	Total	%
During week days between 8am and 8pm	201,460	93
During week days after 8pm	8,834	4
Sunday	1,750	1
Public Holiday	1,380	1
Do not know	1,886	1
Total	**215,310**	**100**

Table 11: How much did the last visit to your private GP cost?

GP cost	Total	%
I did not pay anything	6,413	3
€5 or less	20,065	9
Between €6 and €10	115,347	54
Between €11 and €15	43,520	20
Between €16 and €20	11,965	6
More than €20	11,924	5
Do not know	6,076	3
Total	**215,310**	**100**

Table 12: Was your last visit to a private GP covered by a health insurance policy?

Health insurance policy	Total	%
Yes	23,200	11
No	190,018	88
Do not know	2,092	1
Total	**215,310**	**100**

Table 13: Before your visit to a private GP, did you consult a GP at a health centre?

Consult a GP at a health centre	Total	%
Yes	24,106	11
No	191,204	89
Total	**215,310**	**100**

Visits to General Practitioners at private clinics, health centres, or peripheral clinics in the future

Table 14: Which service would you use in the future should you require to visit a GP?

GP service	Total	%
GP in health centre or peripheral clinic	55,094	16
Private GP	276,379	79
Could not decide whether GP in health centre or peripheral clinic or private GP	16,592	5
Total	**348,065**	**100**

Table 15: Why would you choose this service?

Reason for choosing the service	Total	%
Service is always accessible	94,936	23
Short waiting time	65,494	16
To be treated by same GP	145,429	35
Other (specify)	71,859	18
Depends on circumstances	33,185	8
Total	**410,903**	**100**

Demographic details

Table 16: Indicate your gender

Gender	Total	%
Female	175,428	50
Male	172,637	50
Total	**348,065**	**100**

Table 17: How old are you?

Age	Total	%
18 to 24	37,365	11
25 to 44	115,667	33
45 to 64	112,342	32
65 +	82,691	24
Total	**348,065**	**100**

Table 18: What is your current work status?

Work status	Total	%
Employed	138,541	40
Self-employed	21,154	6
Student or person having an unpaid working experience	20,356	6
Retired	76,082	22
Cannot work due to illness or disability	2,815	1
Taking care of the house and / or family	84,074	24
Unemployed	5,043	1
Total	**348,065**	**100**

Table 19A: Would you like to add any other comment with respect to services provided by GPs in health centres or peripheral clinics?

Other comment	Total	%
Yes (specify)	93,825	27
No	254,240	73
Total	**348,065**	**100**

Table 19B: Would you like to add any other comment with respect to services provided by GPs in health centres or peripheral clinics?

Other comments	Total	%
Customer care needs to be improved	7,288	8
Doctors/nurses in health centres should speak Maltese	1,167	1
Health centre needs an upgrade	3,831	4
Health centres in more localities	4,334	5
Health centres need better trained doctors/nurses	1,761	2
Health centres provide a good service	21,818	23
Longer opening hours should be adopted	9,647	10
More doctors/nurses are required at health centres	4,033	4
Service needs to be improved	10,732	12
There should be resident doctors in health centres	2,131	2
Waiting times should be improved	24,375	26
Others	2,708	3
Total	**93,825**	**100**

Appendix III – Costings exercise methodology

Introduction

Fulfilling the objectives of this performance audit entailed determining the cost of the General Practitioner (GP) function within Health Centres across Malta and Gozo. To this end, the ensuing sections within this Appendix discuss this exercise in terms of its scope and the methodology adopted.

Exercise scope

The costings exercise analysed the GP services provided by all health centres as well as peripheral clinics in Malta and Gozo and covered the two sampled period, namely 18 to 24 June 2014 and 17 to 23 September 2014. Limitations relating to the allocation of GP hours to relative services provided as well as significant shortcomings in the maintenance of patient contact volumes data - that is the total number of patients examined by GPs - prohibited the National Audit Office (NAO) from basing this exercise on annual data collated and maintained by the Primary Health Care Department (PHCD). In view of the foregoing, the NAO was constrained to adopt a case study approach based on the two periods indicated in this paragraph to determine the average unit costs of the services provided by GPs.

Period reviewed

The decision to base the review on activities occurring on the afore-mentioned periods was mainly related to the availability of GP salaries data maintained by PHCD following the back dated implementation of the Collective Agreement between Government and the Medical Association of Malta (MAM). To this end, the case study days selected constituted the earliest period, which the NAO could consider, given that after this period, GP salaries would more accurately reflect the changes brought about by the Collective Agreement signed in 2013.

Analysis of services during peak and night time

The data on GP services provided during the two sampled weeks under review enabled NAO to capture information related to activities during two main time intervals within the span of one day. This approach facilitated the determination of unit cost per GP service provided within two 12 hour blocks, which generally demarcate the provision of services during peak and night time. This approach was adopted to analyse the unit cost of services provided during weekdays and Sundays.

GP services reviewed

Health Centres, generally, provide similar services. Figure 1 illustrates the services provided by GPs through the various Health Centres. All GP services, with the exception of the anticoagulant services and the Chronic Disease Management Clinic (CDMC), were included within the scope of this performance audit. These two services were in their initial stages. Furthermore, for the purpose of the costings exercise, phone advice provided by doctors was not taken into account. Such a decision was based on circumstances where in the private sector, patients are not charged for phone advice.

Figure 1: Services provided by GPs throughout Malta and Gozo Health Centres (June and September 2014)

Note 1 – Gozo patients who wish to monitor their glucose level can do so as walk-in patients.

Note 2 – Until June 2014 the anticoagulant service was only available at the Rabat Health Centre. By September 2014 this service was also available in other three Health Centres, namely, B'Kara, Paola and Qormi Health Centre.

Note 3 – The Chronic Disease Management Clinic was a pilot project, launched during July 2014, at Qormi Health Centre.

It is to be noted that the services depicted in Figure 1, are provided as either 'walk-in' or appointment clinics. Moreover, during night time an immediate care service is available from Floriana, Mosta and Paola Health Centres as well as the Gozo General Hospital (GGH).[54] Since during the two periods under review the anticoagulant clinic was in its introductory phase and thus only operational at B'Kara, Paola, Qormi and Rabat Health Centres, this function was scoped out of this exercise.

For the purpose of establishing the average cost per patient per service, henceforth referred to as the average unit cost within this Appendix, the GP services outlined in Figure 1 were grouped in the following categories:

i. **GP consultation room** encompassed the walk-in GP clinic, treatment performed or prescribed by GPs, and the review of medical results (including those related to blood-tests). Such a grouping was undertaken on the basis that such services would be generally subject to the same fee in the private sector.[55] This group of functions is availed of by the largest proportion of visitors that visit the Health Centres on a daily basis.

[54] During night time these are provided through Gozo General Hospital Accident and Emergency Department.
[55] Source: NAO survey results.

ii. **Prescriptions clinic** offers a prescription service in relation to the Pharmacy Of Your Choice Scheme. The prescription process, generally, entails less time per visit than the GP Consultation Clinic, and consequently would potentially be charged at a lower rate

iii. **The diabetes clinic** is a specialised clinic, demanding a higher GP input. Current Health Centres' practices stipulate that medical officers providing these services are assisted by nurses.

iv. **Home visits** were categorised as a specific service on the basis that they are generally lengthier than a normal GP walk-in since it also involves travelling time.

v. **Peripheral clinics (Bereġ)** provide a limited GP service in most localities. This service predominantly involves blood pressure check-ups, the issuing of prescriptions and medical certificates. Due to the shorter time allocated by the GP per user when compared to the daily walk-in clinic, it was deemed appropriate to consider this service separately. The determination of the average unit cost of this service entailed the consideration of nurses or health assistants input who are deployed to assist GPs in the running of these clinics.

Table 1 summarises the GP services provided by health centres throughout peak hours and night time. Such services fall within the scope of the performance audit.

Table 1: GP services provided during peak hours and night time (June and September 2014)[56]

Health Centre	List of services	Weekday: Time of the day		Sunday: Time of the day	
		Peak time	Night time	Peak time	Night time
B'Kara	GP consultation room	X			
	Prescription clinic	X			
	Diabetes clinic	X			
	Bereġ	X			
Floriana, Gozo, Mosta and Paola	GP consultation room	X	X	X	X
	Prescription clinic	X			
	Diabetes clinic	X			
	Bereġ	X			
	Home visits	X	X	X	X
Gżira	GP consultation room	X		X	
	Prescription clinic	X			
	Diabetes clinic	X			
	Bereġ	X			
	Home visits	X		X	
Cospicua, Qormi and Rabat	GP consultation room	X			
	Prescription clinic	X			
	Diabetes clinic	X			
	Bereġ	X			
	Home visits	X			

[56] The Anticoagulant and Chronic Disease Management clinics were not included in this Table and within the scope of this performance audit as the provision of these services were in their initial stages.

Methodology

The methodology employed to determine the unit cost of the various GP services revolved around collecting and analysing data relating to the three main variables involved in such a calculation with reference to the two sampled weeks. These three factors relate to patients' contact volumes, doctor hours utilised and the costs expended in the provision of these services.

Patients' contact volumes

Patients' contact volumes were mainly collected from two sources: electronic and manual records. However, Health Centres tend to adopt different methods to capture and record user statistics.

For the purpose of determining the number of patients availing themselves of GP services in Gozo, the NAO utilised the electronic data maintained in the Clinical Patient Administration System (CPAS). It is to be noted that following a data integrity test, it was deemed necessary for the NAO to consider an additional patients listed in manual records, which, however, did not feature on the electronic system. These amounted to 50 (5.5 per cent) and 70 (five per cent) patients during week 18 to 24 June 2014 and 17 to 23 September 2014 respectively. Further adjustments to statistics extracted from CPAS records were made to counter the absence of information related to home visits and bereġ patient contacts. Additionally, since during the two sampled weeks both manually and electronically maintained patients' contact records excluded the time GP home visits were registered, the NAO estimated the allocation of home visits based on the respective proportion of GP consultation room users during peak hours and night time in Gozo.

However, the NAO's data integrity exercise undertaken concluded that CPAS information could not be utilised for determining patients' volumes at health centres in Malta. Such circumstances materialised since health centre personnel did not regularly and accurately upload the relative user information in this electronic system. Similarly, since data integrity could not be assured, the NAO was not in a position to reasonably determine patients' volumes through electronic spreadsheets maintained by PHCD. In the circumstances, NAO had to resort to the laborious and complex exercise whereby user information pertaining to Health Centres in Malta was compiled through manual source documentation, namely the work sheets compiled by each GP and relating to the period under review.

Doctor hours

The doctor hours expended for the provision of services by GPs constitute another variable required to determine the relative unit cost. Due to doctor hour logging limitations, mainly emanating from weaknesses in rosters and deployment documentation, the NAO resorted to manual source (GP worksheets) documentation discussed in the preceding paragraph and the CPAS appointments system to estimate the total doctor hours expended in the provision of GP services. In cases where such data also proved insufficient to determine accurately the doctor hours expended, the NAO sought to confirm the duration of visits with the responsible officials. Moreover, in estimating the doctor hours expended during the week under review, NAO also based its calculations on prevailing work practices and load as well

as PHCD protocols. To this end, the determination of doctor hours expended with regards to homes visits and GPs consultation room visits at health centres assumed the following:

i. **Home visits** – while these visits are registered and the respective service requesting phone call time is recorded, the duration of each visit is not documented. In view of this shortcoming and where the time expended on a home visit could not be reasonably estimated, the NAO assumed that the average length of a home visit was 30 minutes as outlined by PHCD protocols.

ii. **GP consultation room visits** – information relating to the duration of each patient visit at the daily GP is not documented. In view of this clinic's heavy workload, PHCD protocols dictate that GPs are to utilise any residual time resulting from the provision of other category of services (such as home visits, prescriptions, diabetes clinic) at the GP consultation clinic. To this end, the NAO's calculations to determine man hours expended followed this practice.

Costs

The third variable considered by NAO in the determination of unit costs incurred in the provision of the various GP services entailed categorising costs into direct and indirect expenses. The main sources utilised for this exercise, were salaries documentation maintained by PHCD and the 2014 dataset maintained in the Departmental Accounting System (DAS). The costs included for the purpose of this exercise relates to recurrent expenditure and thus excluded any capital costs incurred by PHCD.

Direct costs

Direct costs mainly relate to the salary costs of GPs and in some instances the nurses who assist medical officers in the provision of this service. The calculation of the direct GP cost encompass the salaries, pro-rata monthly allowance, bonuses, employers' social security contributions as well as the consideration of vacation and sick leave.

In determining the direct costs of services, due consideration was also given to the Collective Agreement entered into between the Government and MAM in 2013. This document outlines that GPs working within Malta health centre can opt for two types of Contract, namely 'A' and 'B'. The difference between the two contracts relates to whether the GP opts to work simultaneously in the private sector. Depending on the contract selected, the salary calculation differed. Similarly, GP trainees also receive a different remuneration package. Likewise, GPs working at Gozo Health Centre, depending on the contract type selected, are also entitled to a different remuneration package.

Furthermore, only in the case of Malta health centres, another group of GPs are engaged on a contract for service basis and are paid through the multi-payments system. In addition to the different rates between the various contract types, the GP rates also fluctuate depending on the time of the day, Sunday or Public Holiday.

Estimating the unit costs of services provided in peripheral clinics and the diabetic clinic entailed calculating the nursing input. To this end, these calculation considered the salary package and employers National Insurance contributions.

Indirect costs

The costings exercise entailed identifying and allocating indirect costs to the respective health centre, where each incorporated the peripheral clinics within their responsibility. These costs related to the management, administrative and support staff salary costs and operational expenses namely; utilities, materials and supplies, repair and upkeep, rent, office services, transport, information services, contractual services, professional services, training and incidental expenses.

However, financial data limitations rendered this exercise more complex and necessitated a number of assumptions to be made to enable the allocation of indirect costs to respective health centre. To a large extent, these limitations emerged as the recurrent expenditure relating to each individual health centre and peripheral clinic in Malta and Gozo is not identified through a responsibility centre in the Departmental Accounting System (DAS). While expenditure was provided through a number of supplementary documents, apportionment of certain costs had to be undertaken in accordance with generally accepted practices.

Indirect expenditure related to the Primary Health Care Head Office had to be apportioned between the GP function provided through Health Centres as well as all other services provided by this Department.

Eliciting and allocating indirect costs with respect to the GP function services provided in Gozo had to consider circumstances whereby many of the services are provided in partnership with GGH. Furthermore, the accounting system adopted to cater for primary and secondary health care services in Gozo does not appropriately distinguish between expenditure incurred with respect to the former and the latter. Consequently, in cases where expenditure could not be clearly attributed to either of these functions, apportionment of costs was undertaken in accordance with generally accepted practices.

Appendix IV - Selected bibliography

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