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Lommel, August: Das staatliche Luitpold-Krankenhaus in Würzburg. München 1925.

Röckl, Helmut: Die Universitätskliniken im Staatlichen Luitpoldkrankenhaus zu Würzburg. In: Baumgart, Peter (Hrsg.): Vierhundert Jahre Universität Würzburg. Eine Festschrift. Neustadt an der Aisch 1982, S. 975–984.

Seithe, Horst: Vom Roten Kreuz zum Braunen Kreuz. Zur Transformation des Deutschen Roten Kreuzes im Nationalsozialismus. In: Kolb, Stephan u. Horst Seithe (Hrsg.): Medizin und Gewissen. 50 Jahre nach dem Nürnberger Ärzteprozeß. Kongreßdokumentation. Frankfurt/M. 1998, S. 86–95.

Steppe, Hilde: Aus der Geschichte lernen? In: Steppe, Hilde (Hrsg.): Krankenpflege im Nationalsozialismus. 8. Auflage. Frankfurt/M. 1996, S. 9f.

Steppe, Hilde (Hrsg.): Krankenpflege im Nationalsozialismus. 8. Aufl. Frankfurt/M. 1996.

Steppe, Hilde: Krankenpflege ab 1933. In: Steppe, Hilde (Hrsg.): Krankenpflege im Nationalsozialismus. 8. Auflage. Frankfurt/M. 1996, S. 61–85.

Süß, Martina: Pflege im Nationalsozialismus. Würdigung der Arbeit von Frau Prof. Dr. Hilde Steppe. Pflege 13 (2000/2), S. 111–114.

Weidisch, Peter: Die Machtergreifung in Würzburg 1933. Würzburg 1990.

Weisbrod-Frey, Herbert: Die Auswirkungen von Ideologien auf die Ausbildung in der Krankenpflege am Beispiel der Krankenschwesternausbildung im Nationalsozialismus. Unveröff. Zulassungsarbeit an der Schwesternschule der Universität Heidelberg. Heidelberg 1986.

Weisbrod-Frey, Herbert: Die Krankenpflegeausbildung im zeitlichen Überblick. In: Steppe, Hilde (Hrsg.): Krankenpflege im Nationalsozialismus, S. 111–116.

Weisbrod-Frey, Herbert: Krankenpflegeausbildung im Dritten Reich. In: Steppe, Hilde (Hrsg.): Krankenpflege im Nationalsozialismus. 8. Aufl. Frankfurt/M.: Mabuse, 1996, S. 87–109.

Winau, Rolf: Gynäkologie und Geburtshilfe 1933–1945. In: Kentenich, K., M. Rauchfuß u. P. Diedrichs (Hrsg.): Psychosomatische Gynäkologie und Geburtshilfe 1993/94 [22. Jahrestagung der Deutschen Gesellschaft für Psychosomatische Geburtshilfe und Gynäkologie]. Berlin: Springer, 1994, S. 13–20.

Wittstadt, Klaus: Kirche im Widerstand gegen den Nationalsozialismus. Christliche Glaubenshaltung im Dritten Reich nach Regierungspräsidentenberichten und Gestapoakten. Würzburger Diözesangeschichtsblätter 37/38 (1975), S. 627–656.

Wolff, Horst-Peter u. Jutta Wolff: Geschichte der Krankenpflege. Basel 1994.

Wulf, Karl-Heinrich: Die Universitäts-Frauenklinik und Hebammenschule Würzburg (1932–1982). In: Baumgart, Peter (Hrsg.): Vierhundert Jahre Universität Würzburg. Eine Festschrift. Neustadt an der Aisch 1982, S. 921–926.

Hospital Management Structures in Maltese Hospitals through the Ages

Charles Savona-Ventura

The spreading cult of Christ the Healer during the Medieval period led to sick-nursing being viewed as a Christian duty. This encouraged royal dignitaries and philantrophic individuals to donate funds towards the institution and maintenance of a hospital or hospice, the management of these institutions being often shared with religious authorities. The Maltese Islands have been serviced by a series of hospitals, the earliest dating to the fourteenth century.[1] In line with the changing governing authorities through the centuries, the "houses of healing" were variously organized to reflect the different attitudes towards management structures and responsibility cascade. The hospital authorities further exercised their control over the various levels of personnel by detailing regulations that governed the work ethos of all hospital staff. These regulations augmented the general legislative measures taken by the government authorities to control medical and surgical, midwifery and apothecary practices.[2] To assist the government and hospital authorities in ensuring efficient management of the various institutions, data collection and analysis tools were introduced to audit the practice.

Organizational Design

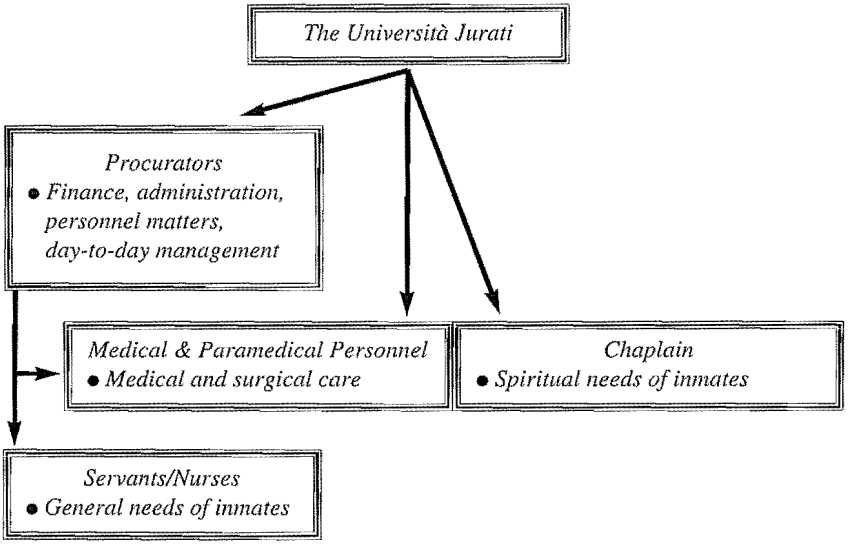
Organizational design is the process of determining the structure and authority relationships for an entire organization as a means of implementing the strategies and plans that embody that organization's goal. The structure-follows-strategy theory is based on the idea that an organization's design should be a means to an end, and not the end in itself. Because of a variety of factors – environmental, cultural, historical, etc. – there are few hard and fast rules for designing or redesigning an organization. Every organization design is often the result of many decisions and historical circumstances.[3] An organization that is allowed to develop over time in an uncontrolled or undirected manner is not necessarily an efficient one. Hospital administration in Malta serves as a clear example of management organization developing purely on a historical level, sometimes without a clear vision of what the end should be.

The various hospitals and hospices in Malta were instituted, financed, and managed by various players which included the state, the church and philantrophic individuals. Each of the different players had different concepts in management organizations, but the institutions that required careful attention towards organization were those institutions managed by the state authorities. The management organization of these state-run institutions varied throughout the ages reflecting the overall government organizational structure.

The first hospital recorded in Malta – Hospital of St. Francis at Rabat – is known to have been already functioning in 1372 under the rectorship of a Franciscan Niccolo' Papalla appointed by the King of Sicily. The main source of income for the hospital came from its real estate consisting of an appreciable amount of land and other immovable property. Mismanagement resulted in the transfer in 1433 of the hospital's administration to the Università and the hospital's name was changed to Santo Spirito Hospital. In spite of the transfer of management to the civil authorities, the hospital accounts suggest that the Church, the Università and the hospital were all active constituent elements in one organic closely-linked establishment.

The affairs of the hospital were administered by two procurators elected by and responsible to the Università. The medical staff consisted of a physician, at least one surgeon, a pharmacist, and a nurse. A chaplain was appointed to take care of the spiritual needs of the hospital inmates, being paid a stipend for his services. The Royal Letter of 1433 required the appointment by the Università Jurati of two procurators to handle the financial, administrative, personnel, and practical day-to-day affairs of the hospital. It is likely that the procurators did not receive any remuneration for their work at the hospital since no records of any payments have been found in the surviving records. The procurators were ultimately responsible only to the Jurati for the well-being of the inmates and the efficient running of the institution. The medical and para-medical personnel were appointed by the Università who was responsible to ensure adequate staffing even if this required the importation of doctors from Sicily. These medical and paramedical personnel often, but not always, held the joint post of town-physician or town-pharmacist.[4]

The arrival of the Hospitaller Order of St. John to the Islands in 1530 resulted in the expansion of the hospital services in the Islands as part of a state-organised social services system. The Knights of St. John brought with them a long tradition of hospital management that they introduced in their hospitals in Malta. The first hospital of the Order set up in Malta was the Sacra Infermeria at Birgu in 1552.[5] The Birgu Sacra Infermeria was governed by the hospital regulations that had

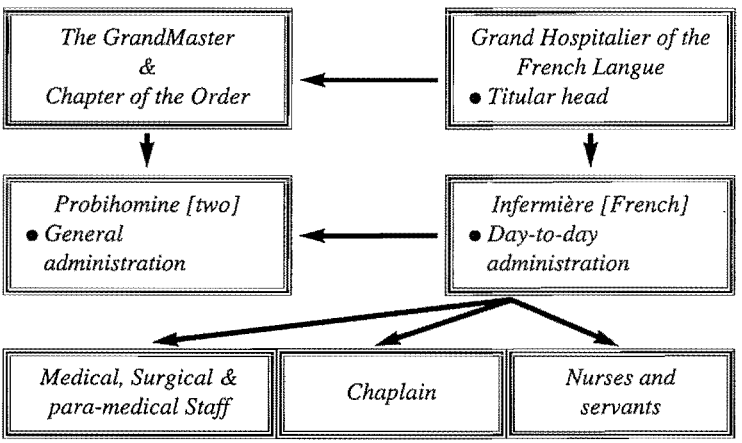


MANAGEMENT ORGANOGRAM: SANTO SPIRITO 15-16th century

been in force at Rhodes. The Order's decision to transfer its administration to a newly-built fortified city required the building of a new Sacra Infermeria at Valletta. The building was initiated in 1574, and new regulations for its management were laid down and codified by the Chapter-General of the Order in 1588. These regulations, which formed an integral part of the Statutes of the Order [Title IV Of Hospitality], remained in force until the adoption of the revised Statutes in 1631.[6]

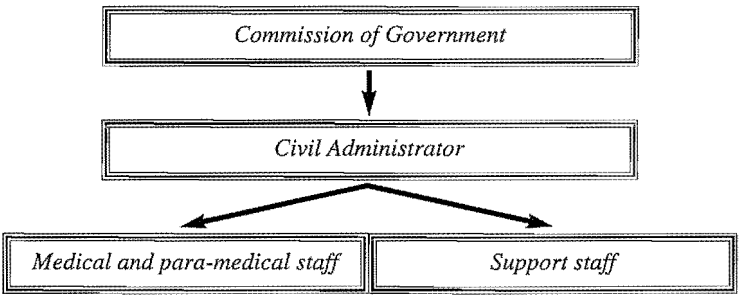
The Grand Hospitalier, *Pilier* of the Langue of France was the official head of the Infirmary, though the actual head was the *Infermière* who was a Knight *Profes* belonging also to the French Langue. The French knights were so jealous of their privilege of being in charge of the hospital that no knight was allowed to enter the hospital without depositing the emblems of his dignity at the gate. Permission to enter the hospital on official business required the *Infermière's* permission. These conditions applied to the Grand Master of the Order who had to forgo his baton of commandment when paying a visit to the Sacra Infermeria. The different Langues had an assigned day of the week when they carried out hospitaller duties in the Sacra Infermeria. Administrative control was the responsibility of two *Probihomines* or *Prodomi,* who were appointed by the Chapter of the Order.[7]

The *Infermière* resided in the building and visited wards morning and night to ensure that the medical and attendant staff were at their posts, that the gates were closed, the lights out at night, the food properly served and the beds of the sick cared for appropriately. There were three chief physicians who served in turn for a month each, living in the hospital. These were assisted by two junior physicians. Anatomical duties were assigned to a physician on a daily roster. The resident doctors visited the wards daily and noted the prescribed management of the patients on a tablet hung at the head of the bed, while every Wednesday a medical conference to discuss the management of the hospital patients was held. There were also three chief and two assistant surgeons who had a similar duty rotation. The surgeons were assisted by a barber surgeon, while the pharmacy fell under the direction of a chief pharmacist who was assisted by a number of assistants. The care of the patients and ward maintenance was carried out by regular nurses and slaves.[8] This management scheme was applied also with minimal modifications to the female hospital – the Casetta – this being managed by the Commissioners of the Poor. The Ospizio was run by a board known as the Venerable Congregation composed of a Knight Grand Cross as President and ten Commissioners – five members of the Order and five prominent citizens.[9]



MANAGEMENT ORGANOGRAM: SACRA INFERMERIA 16-18th century

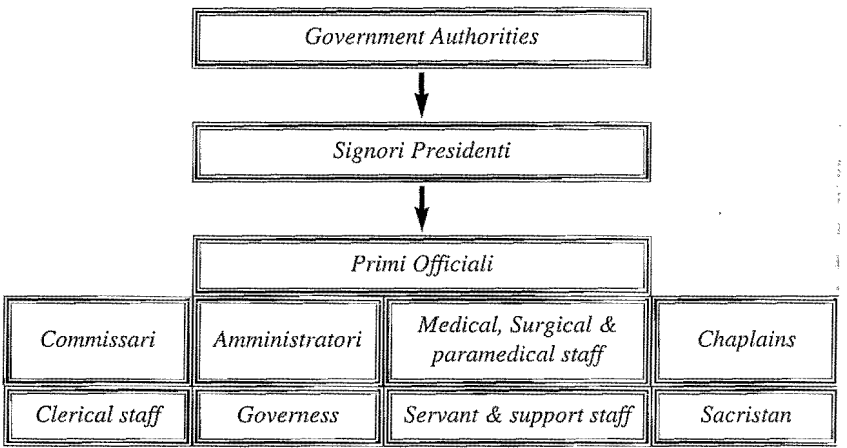
The ousting of the Order by Napoleon Bonaparte in 1798 required a reorganisation of the hospital services with a segregation of civil and military patients. The Sacra Infermeria was taken over by the French to be used as a Military Hospital, while a new hospital for civilians was set up at Valletta. The changing circumstances and administration required the drawing up of new management protocols which were promulgated by several enactments issued on the 18th June 1798.[10] The French Commissioner on 31st August 1798 re-organized the management structure of the hospital. The medical staff of the hospital was to consist of two senior physicians assisted by three junior physicians, and two senior surgeons assisted by three junior surgeon and two barber-surgeons. The care of the patients was left to several hospital attendants, while an administrator responsible to the Commission of Government was appointed to supervise the hospital management and use of funds.[11]



MANAGEMENT ORGANOGRAM: CIVIL HOSPITAL 1798-1800

Soon after the capitulation of the French, these civil authorities redrafted the hospital regulations and published the *„Piano per il regolamento dell'ospedale di Malta decretato il 20 Marzo 1802"*, which detailed the management structure and duties of the various hospital personnel in the male and female civil hospitals. The management structure was based on that previously existing during the Hospitaller period, with modifications necessary to institute formal management posts. The *Grand Hospitalier* was replaced by the Hospital Presidents [*Signori Presidenti*] of the hospital who were responsible to maintain discipline in the hospital and who were obliged to visit the pharmacy every three months. They were also responsible for the belongings of any deceased patient until inheritors presented themselves; and were responsible to ensure adequate care of the abandoned infants. The day-to-day management of the hospital was the responsibility of the

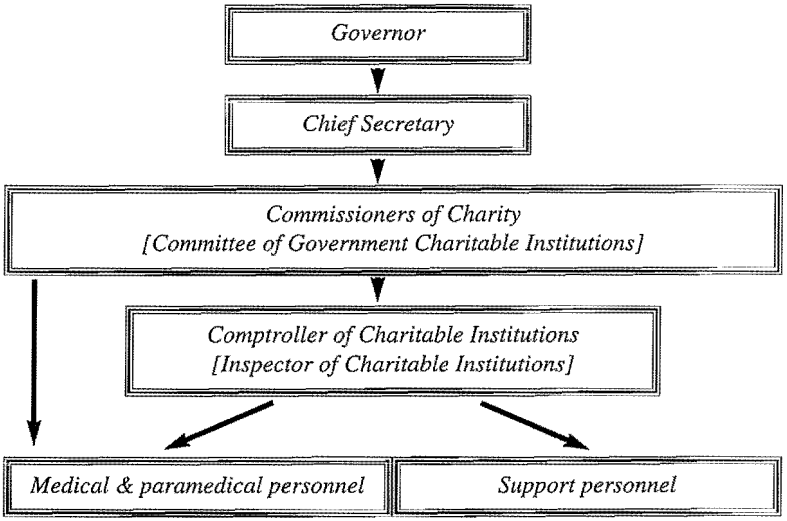
First Officials [*Primi Officiali*] who were answerable in the first instance to the Presidenti and then referred to the Civil Government Authorities. The Primi Officiali included (1) two Commissioners [*Commissari*] with alternate weekly duties whose responsibilities included the supervision of financial matters, general administration, and cleanliness; (2) two Administrators [*Amministratori*] who were responsible for all the financial matters of the hospital including procurement and staff salaries; they also had to prepare an annual financial countersigned by the Commissari and presented to the Presidenti and the Civil Authorities; (3) the Medical and para-medical staff, including four senior and four junior physicians and surgeons with monthly duties, were responsible to ensure that the prescribed medical care was administered and also to supervise the pharmacy stock (the responsibility of the hospital pharmacist) every three months; and (4) the four Chaplains who were responsible for the spiritual needs of the patients; these fell also under the control of the ecclesiastical authorities but had to furnish weekly reports to the Commissario. The other support para-medical, clerical and general staff fell under the jurisdiction of the relative first officials and the hospital presidents.[12] The Ospizio was entrusted to a President and a number of Commissioners; Santo Spirito Hospital was managed by a President usually the Mdina Magistrate; and the Gozo Hospital was managed by the Magistrate of that Island.[13]



MANAGEMENT ORGANOGRAM: CIVIL HOSPITALS – early 19th century

The management structure was eventually modified with the setting up of the Committee of Charitable Institutions in 1815. The scope of the setting up of this Committee by the Governor Sir Thomas Maitland was to strengthen the discipline and safeguarding the public treasury against unnecessary expenditure. Thus the various institutions were merged into one department under the patronship of the Governor or Lieutenant Governor. In line with colonial public administration systems, these regulations were designed to create a rigid organizational structure with the aim of doing a limited amount of well-defined tasks, in the process stifling initiative and flexibility. The Committee was run by a number of Presidents and Vice-Presidents, one of whom was the Protomedicus [Chief Government Medical Officer]. The Permanent Committee of the Charitable Institutions was composed of four Vice-Presidents, members of the Committee of Charitable Institutions. The Permanent Committee was responsible for the day-to-day management of the establishments, and two of its members met daily. When problems occurred, these were referred to the Committee. The Charitable Institution in Gozo fell under the direction of the Lieutenant Governor of that island.[14] The composition of the Committee was reviewed in 1837 when it was composed of three members invested with all administrative powers. This board became known in 1851 as the Commissioners of Charity.[15] In 1849, an Inspector of Charitable Institutions and Prisons, answerable to the Governor, was appointed to supervise the discipline and economy of the various establishments. This post in 1858 became known as Comptroller of Charitable Institutions. An extensive review of the regulations was drawn up in 1851. These new regulations detailed the management structure, the admission criteria, and staff requirements of each institution.[16] The Comptroller was responsible to the government for the good order and economy of the institutions, being responsible to the Governor through the Chief Secretary to whom all reports and communications were submitted. He had to submit an annual report to the Commissioners. He was not to interfere with the professional management of the patients, but was authorised to take any action which he deemed was of benefit to the sick. The Commissioners were to submit their recommendations for the financial needs of the institutions. They were to hear appeals from officers and employees against the Comptroller, and to select candidates for employment. The Commissioners met once a week in the office of the inspector of Charities.

The role of the Protomedicus – also known as the Chief Police Physician and the Chief Government Medical Officer (GMO) – in relation to the hospitals and other charitable institutions was mainly a regulatory one; management being left to the Commissioners of Charity who published separate reports. The revised sanitary

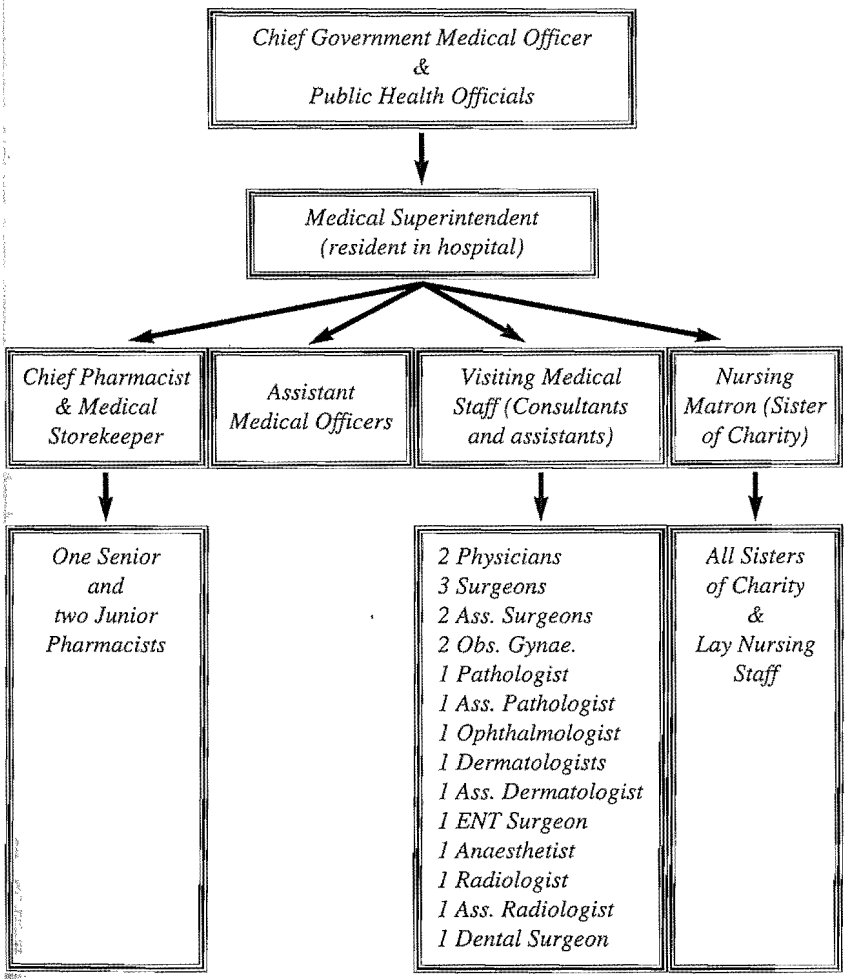


MANAGEMENT ORGANOGRAM: CIVIL HOSPITALS 19th – early 20th century

laws of 1900 defined the duties of the Superintendent of Public Health. These required him to visit, once a month or when requested, the hospitals, the medical and quarantine establishments and the public slaughter-houses; to visit, once a quarter or when requested, each Charitable Institution, the Industrial School, the houses of Correction and the Prisons; and to prepare reports based on his visits to establishments above indicating any defects or requirements connected with the public health which he may have noticed, and the necessary requirements.[17]

This situation with separate management of the Charitable Institutions including the hospitals, with a regulatory function of the CGMO, persisted until 1937. In the autumn of 1936, the Governor decided to recommend to the Secretary of State that the medical and health activities of the Government (at that time divided between two separate departments) should be merged and brought under the control of a professional head. Sir Walter Johnson, formerly director of Medical Services in Nigeria, was brought to Malta (Jan-Feb. 1937) and carried out a comprehensive investigation into the working of several services and institutions forming part of the Public Health and Charitable Institutions Departments. The Medical & Health

Department came into being on the 1st November 1937 with the enactment of the Public Health Ordinance 1937 that replaced the 1900 ordinance. The new M&H Department was placed under the control of the CGMO who assumed also the powers and duties of the Comptroller of Charitable Institutions.[18]



Civil Hospital Management Structure: 1937

With the granting of Responsible Government with the 1947 Constitution and the 1956 Medical Trade Dispute, steps were taken to re-organise the Civil Service and the Medical Department. This led to the setting up of a Civil Service Commission and a Medical Services Commission in 1956.[19] On the advise of the Medical Services Commission, an attempt was made to separate Hospital management from the centralised Public Health Department by providing for a Hospital Management Committee, which unfortunately was never allowed to function properly by the administrators. The CGMO continued to assume these duties, even after the revision of the Department of Health Ordinance introduced the Hospital Management Committee in 1959 with the onus of (a) preparing draft estimates of expenditure for the Hospital; (b) to apply such monies as may be provided; and (d/e) to maintain the premises, equipment, etc.[20] The managerial role of the Hospital Management Committee became even more obscure with the establishment of a Directorate of Institutional Health in the 1990s who continued on the management systems of the previous CGMO vis-à-vis the hospitals. It became increasingly evident that in spite of various attempts at reform in management, the health sector continued to be unable to come to grips with the managerial system. After being left unconstituted for several years, the Hospital Management Committee was reconstituted in April 1998 with the brief of investigating alternative management organisations. A similar brief was given to the re-constituted Committees of January 1999 and February 2000. The latter Hospital Management Committee initiated its drive towards fulfilling its brief of introducing new management systems suitable for the 21st century by the setting up of an Organizational Communication Network System aimed at promoting the participation and involvement of all health care workers.[21] It is hoped that this initiative will trigger a proactive change in the health care sector that will translate in a more efficient management system, though the relative relationships and responsibilities between the Hospital Management Committee and the Public Health Officials (i.e. the Director of Institutional Health and Director General) still needs clarification and definition.

Hospital Regulations

The establishment of a hospital or hospice required the administrators to establish a series of rules and regulations aimed at giving guidelines to the various employees. No record exists of the hospital regulations pertaining to the early years of the Hospital of St. Francis (later Santo Spirito Hospial) at Rabat, though the hospital accounts and records of the apostolic visits by Bishop Fra Martinò Royas in 1570 and 1575 do give an idea as to the management structure. The hospital,

managed by two procurators, cared for resident paupers and the sick. After 1550, paupers were no longer allowed to live in the premises, though the hospital continued to support them.[22] A detailed and informative picture of the hospital was given by Mgr. P. Duzina who visited the hospital in 1575. In his report, Duzina down a series of guidelines and regulations to attempt improve the hospital management, particularly in relation to the reception and care of foundlings. Duzina further enforced the procurators in charge of hospital management to submit a detailed annual report about the administration of the hospital to the bishop or his vicar in accordance with the dispositions of the Council of Trent.[23] Duzina's regulations can be considered the first written guidelines and regulations towards hospital management in Malta.

The Hospitaller Order of St. John brought with it a long tradition of hospital management that they introduced in their hospitals in Malta. The first hospital of the Order of St. John in Jerusalem was set up around 1050,[24] and after the Order's expulsion from Jerusalem, the Knights set-up hospitals in all the countries they settled in. The earliest statues governing the administration of the Order's hospitals were promulgated circa 1150. These statues were progressively amended and added to by subsequent Masters. At the end of the thirteenth century there was a code of regulations – *Judgements and Customs of the Hospital* – drawn up by Fra. William de St. Estene.[25] The first hospital of the Order set up in Malta was the Sacra Infermeria at Birgu in 1552 which was governed by the hospital regulations that had been in force at Rhodes.[26] The Order subsequently moved to the Sacra Infermeria built in their new fortified city at Valletta. New regulations for the management of this new hospital were laid down and codified by the Chapter-General of the Order in 1588. These regulations remained in force until the adoption of the revised Statutes in 1631.[27]

While no further changes in the regulations concerning the care of the sick and the poor were made in the subsequent decades, numerous rules for Hospital management were added to those adopted in 1631. The rules and regulations were eventually in 1725 collected and published in one volume entitled *"Notizia della Sacra Infermeria, e della carica delli Commissari delle Poveri Inferme"*.[28] These regulations also covered the female hospital, and the district medical and welfare service. A copy of the hospital regulations was hung up in the hospital for the guidance of the patients in order that the rules of the institution could be more surely and exactly observed.

The change in government administration which occurred with ousting of the Order by the French in 1798 required a reorganization of the hospital services and


NOTIZIA
DELLA
SACRA INFERMERIA,
E
DELLA CARICA
DELLI COMMISSARJ
Delle Povere Inferme
IN ROMA.
CON LICENZA DE' SUPERIORI.


PIANO
PER IL REGOLAMENTO
DELL'OSPEDALE
DI
MALTA
Decretato il 20. Marzo 1802.
MALTA

the drawing up of new management protocols that were promulgated by several enactments issued on the 18th June 1798.[29] After two years of strife, the Islands fell under the domain of British rule and the civil authorities redrafted the hospital regulations and published the *"Piano per il regolamento dell'ospedale di Malta decretato il 20 Marzo 1802"*, which detailed the management structure and duties of the various hospital personnel in the male and female civil hospitals. These regulations also dealt with salary scales and disciplinary procedures.[30] While the management structure was eventually modified with the setting up of the Committee of Charitable institutions in 1815, personnel duties remained defined by the 1802 regulations.[31]

The male and female civil hospitals were transferred to the Civil Hospital at Floriana in 1850.[32] The change in hospital provisions required the re-drafting of hospital regulations. An extensive review of the regulations was drawn up in 1851. These new regulations were made available in two publications entitled *"Regulations for the Government Charitable Institutions of the Islands of Malta & Gozo"* and *„Instructions for the Guidance of the officers and Servants of the Government Charitable Institutions of the Islands of Malta & Gozo"*. These detailed the management structure, the admission criteria, and staff requirements of each institution. The individual staff duties and disciplinary measures were also detailed.[33] In line with colonial public administration systems, these regulations were designed to create a rigid organizational structure with the aim of doing a limited amount of well-defined tasks, in the process stifling initiative and flexibility. Tightly defined procedures that covered a limited purview of operations gave stability, coherence and prestige to the public administration system. A clear

example of a bureaucratic attempt to stifle initiative and flexibility in the medical field is the case of a young medical practitioner working in the Gozo Hospital in the late 19th century. This junior doctor was reprimanded by the administration for using his initiative to seek, in the face of a medical emergency, the clinical advise of a senior medical practitioner in private practice at Rabat (Gozo) rather than his administrative senior in the hospital living at the more distant Marsalforn.[34]

With the granting of Responsible Government with the 1947 Constitution and the 1956 Medical Trade Dispute, steps were taken to re-organize the Civil Service and the Medical Department. This led to the setting up of a Civil Service Commission and a Medical Services Commission in 1956.[35] On the advise of the Medical Services Commission, an attempt was made to separate Hospital management from the centralised Public Health Department by providing for a Hospital Management Committee, which unfortunately was never allowed to function properly by the administrators. The 1959 Constitution further made provision for the setting up of a Public Service Commission [P.S.C.], which provision was confirmed in the 1964 Independence and subsequent constitutions.[36] The personnel employed with the Civil service, including the different staff grades working in the civil hospitals, all fell under the jurisdiction of the P.S.C. and were regulated by the *Estacode*.[37] These Civil Service regulations were throughout the years further augmented by a series of Department of Health and St. Luke's Hospital circulars issued as necessary to deal with administrative problems. An attempt was made in July 1982 to compile a series of DH and SLH circulars relevant to Medical Officers.[38] No further effort has been made to redraft a "Regulations Manual" relevant to all personnel working in the civil hospital, though a *Code of Ethics for Employees in the Public Sector* was formulated and published by the Office of the Prime Minister in 1994.[39] A *Handbook of Personnel Policies and Procedures* was also published by MISCO in 1998 with subsequent later editions. The latter was however not freely available.

In spite of attempts at reform in management, the health sector remains one of the Civil Service structures that has consistently been unable to come to grips with the managerial perspective of running health systems. The work ethos has remained totally antiquated, while no clear distinction has been made between the health and the managerial professionals.[40] The Hospital Management Committee is well aware of the need for a pro-active change in the health care sector. It has initiated its drive towards fulfilling its brief of introducing new management systems suitable for the 21st century by the setting up of an Organizational Communication Network System aimed at promoting the participation and involvement of all health care workers.[41] For this to function, it will remain essential that the propo-

sals of the 1989 Public Service Reform Commission, whereby all top managerial positions are made on the basis of short-term „performance" contracts, are strictly implemented and adhered to. Measures must be taken to replace or neutralise "for life" appointees. These "performance" contracts would ensure that administrative and clinical managers would become accountable for their managerial performance and attempt improving the management structure of their respective departments. The next step towards achieving the H.M.C. goals, is an attempt at empowering the health care workers through an updated revision of hospital regulations.

Audit systems

The collection of medical information is today an essential administrative tool, allowing the department to audit the prevalent practice – financial, managerial and even clinical practice. It allows the administrator to identify problems and focus on priorities for improvements. These objectives can be reached by the collection of event-oriented databases that can have several levels, each with its utility status. The move towards the collection of person-oriented medical data ensures that the collected database can be extended to better serve the medical needs of the individual patient.

The financial control of the various hospitals in Malta and Gozo was always considered a priority and given the importance it deserved. The earliest hospital accounts available in Malta are those belonging to the Medieval Santo Spirito Hospital dated to 1494. The main sources of income for the hospital came from its real estate holdings, some of which had already been acquired by 1372. The hospital accounts suggest that the financial aspect was actively managed and on occasion, the hospital procurators invested in real estate to augment the financial resources. In 1493-96, the income accruing from all of the property held by the hospital amounted to 97 uncie 18 tari 19 grani, while expenditure figures showed a deficit of some over 20 tari (Table 1). The account details for the period 1518–1535 were kept in another account register *"Quinterno do Jornata Jn Jornata et di misi in misi"* that is now apparently lost, but the figures suggest a 28% increase in the 1519 prices over the 1495 prices. The efficient running of the institution was the responsibility of the hospital procurators who presented regular financial statements to the civil authorities. As evidenced by a prescription list for 1546-47, the apothecary also apparently kept a record of the medications dispensed to the various hospital patients. This system of financial audit for Santo Spirito Hospital was maintained even after the Islands fell under the civil administration of the Order of St. John, though expense records were broken down under four main

headings: (1) *poviri* covering weekly alms and expenses in respect to paupers; (2) *creaturi* covering expenses in respect to foundlings; (3) *minuti* covering incidental expenses; and (4) *comandamenti* accounting for regular expenses including salaries. The later financial accounts show an average 43% increase in the 1540's over the 1519 prices and a further 28% increase in the 1560s over the 1550's prices.[42]

Year	*Income*	*Expenditure*				
		Building	*Patients*	*Paupers*	*Salaries*	*Others*
1493-96 (x 3 years)	97.18.11	77.02.15	2.01.02	7.21.14	7.15.6	3.07.14
1518-30 (x12 years)	546.21.11	516.11.06				
1530-35 (x5 years)	216.24.17	254.04.00				
		Poveri	*Creaturi*	*Minuti*	*Comandamenti*	
1541-42 (x1 year)	59.15.02	10.08.17	11.28.08	3.06.13	193.07.12	
1544-45 (x1 year)	87.09.05	19.11.13	16.12.02	3.06.10	23.08.15	
1546-47 (x1 year)	92.05.00	17.25.13	30.10.05	3.19.17	68.11.02	

Table 1: Early accounts of Santo Spirito Hospital (Malta)
[monetary system: *uncie · tari · grani*]

More rigid attention towards financial audit of the hospitals managed by the Order of St. John was enforced through the 1588 regulations. These required the accurate keeping of records by the controllers on a daily basis, while an annual inventory was to be made by the controllers and the hospitaller. These were also responsible to keep account of the medicines kept in the pharmacy. The subsequent revisions of hospital regulations maintained similar provisions of financial audit measures.[43] Even more detailed financial control was introduced by the British administration in the nineteenth century.

The concept of collecting medical statistics using clinical event-oriented Data in Maltese hospitals was initially introduced in the early decades of the nineteenth century. The Civil Hospitals maintained an admissions register that included admission diagnosis. The earliest register viewed by the author pertains to the Hospital of St. John the Baptist at Rabat, Gozo and covers the period 31st Decem-

ber 1841 to 31st August 1851. Maternity data is included in this register. Also the practice of keeping clinical registers was also applied in the British Naval Hospitals in Malta. One British Naval surgeon who worked in Malta published detailed clinical reports of the cases treated at Bighi Naval Hospital in Malta during 1842-1844.[44] In later decades, the Civil Hospitals amplified their maternity data by the introduction of a Lying-in register. The second volume of Registers of Lying-in Women for the Gozo civil hospital covers the period 29th March 1876 to 11th April 1884. Presumably the first volume approximately covered the previous decade.[45] The maintenance of admission registers of the various Government Charitable Institutions was formalised by the 1851 regulations.[46]

The hospital clinical data was collected and audited by the Commissioner for Charitable Institutions whose concern towards data collection was purely administrative and budgetary. The situation changed after 1937 when the Public Health Department and the Charitable Institutions Department were amalgamated in the Medical and Health Department. This allowed the medical administrators to audit clinical data and assess medical management in the various hospital clinical departments. The annual reports after 1937 contain appendices detailing audits of clinical departments, besides reports from various support services.[47]

In the second part of the twentieth century, the advances in medical sciences and public expectations, and new trends in administration placed increasing pressure for more and for better medical information. In Malta, the Department of Obstetrics and Gynaecology has been in the forefront of this development, and its history can serve as a model for that of other departments. The first annual clinical report for the obstetric department in the main State Hospital was published in 1937.[48] There has been since a regular series of annual reports issued from the department, reports that unfortunately have not always been published formally. The annual clinical reports were laboriously assembled by hand from the Labour Ward Birth Registers (in use since the mid-19th century) and the case records of patients with a bad obstetric outcome. While these reports are interesting to the clinicians and the hospital administrators, they are of limited utility epidemiologically since they gave information only about abnormalities and did not provide national standards for comparison. It was realised that the volume of data that requires to be processed on an annual basis can only be suitably managed by the use of computers. Data collection using computer services was initiated in conjunction with the International Fertility Research Programme (USA) in 1981 and with the Government Computer Center (Malta) in 1983. The collected information facilitated the preparation of a series of detailed annual clinical reports, the evolu-

tion of a number of epidemiological studies which helped to identify particular obstetric risk groups in the Maltese situation, and served as a basis of clinical practice audit in the Department.[49]

Another unit which availed itself of the person-oriented COSTAR system in 1986 was the Diabetes Clinic of the Department of Medicine where data was inputted directly on terminals placed at the clinic. This was after 1989 replaced by the DiabCare computer program launched by the St. Vincent's Declaration. This later program enables health care personnel to record and analyse data from a large number of patients and to compare results with those of other centres. By 1999, a total of 14300 diabetic patients were registered in the Clinic's computerised management system. The DiabCare project has been extended to diabetes during pregnancy – DiabPregCare – which has been adopted by the Diabetic Pregnancy Joint Clinic at St. Luke's Hospital.[50] Other clinical departments have since again started to publish regular annual clinical reports detailing their respective clinical activities. Computerised audit systems pertaining to management have been updated and expanded in the last decade to include data items and systems pertaining to assessing the work ethos of the general hospital in order to ensure the most efficient systems of using the available resources.

Conclusion

Unlike the rigid organizational systems of the past which were in part structured with the specific scope of stifling personal initiate, modern management systems require a dynamic system to enable the entire organization to develop the means of implementing the strategies and plans that embody that organization's goal. This goal can only be achieved by ensuring a cascade of define responsibility roles within the organization and by the introduction of data collection and analysis tools systems to enable a regular audit of the organization's practice in order that the strategies can be modified to best serve the clients.

Endnotes

1 Savona-Ventura C.: Civil Hospitals in Malta in the last two hundred years. Historia Hospitalium, 1998–99, 21:p.45–63

2 Savona-Ventura C.: Control of Childbirth Practices in Malta during the Last Millennium. The Maltese Islands on the Move. A Mosaic of Contributions marking Malta's entry into the 21st century. Central Office of Statistics, Malta, 2000, p.177–194; Savona-Ventura C.: Aspetti storici tal-Ligi tas-Sahha. Agenda 2000, February 2000, p.6–7

3 Hollriegel D. and Slocum J.W.: Management. South-Western College Publ., Ohio, 1995, p.331–333

4 Fiorini S.: Santo Spirito Hospital at Rabat, Malta. The early years to 1575. Department of Information, Malta, 1989; Wettinger G.: The Jews of Malta in the Late Middle Ages. Midsea Publ., Malta, 1985

5 Savona-Ventura C.: House of Healing: General Hospitals in the Maltese Islands. In: Outlines of Maltese Medical History. Midsea Publ., Malta, 1996, p.117–125

6 The Old and New Statutes of the Order of St. John of Jerusalem, translated from the edition of Borgoforte, A.D. M,DC,LXXVI, by Order of the Chapter of the Great Priory of France, p.24–29,137–141. In: Vertot, A.: The History of the Knights of Malta. G. Strahan, London, 1728, vol.II

7 Hume E.E.: Medical Work of the Knights Hospitallers of Saint John of Jerusalem. J. Hopkins Press, Baltimore, 1940, p.105–111

8 Hume, E.E., 1940: op. cit.

9 Cassar P.: The Medical History of Malta. Wellcome Med. Hist. Libr., London, 1965, p.102

10 Savona-Ventura, C.: Human Suffering during the Maltese Insurrection of 1798. Storja '98, 1998, p.48–65

11 Testa C.: The French in Malta 1798–1800. Midsea Publ., Malta, 1997, p.185–186

12 Piano per il Regolamento dell'Ospedale di Malta decretato il 20 Marzo 1802. Government Press, Malta, 1802, +16(+3)p.

13 Cassar, P., 1965: op. cit., p.102

14 Notificazione di Sua eccellenza il Governatore. Gazzetta del Governo di Malta. 28 June 1815, 87: p.492–493; Notificazione di sua Eccellenza il Governatore. Gazzetta del Governo di Malta. 24 January 1816, 117: p.493; Minute by His Excellency the Governor. Malta Government Gazette, 4 August 1824, 697: p.4019

15 Government Notice. Malta Government Gazette, 27th December 1837, p.456

16 Regulations for the Government Charitable Institutions of the Islands of Malta & Gozo. Government Press, Malta, 1851, +122p.; Instructions for the Guidance of the officers and Servants of the Government Charitable Institutions of the Islands of Malta & Gozo. Government Press, Malta, 1851, +76p.

17 Ordinance No.XIV of 1900. Malta Government Gazette, 9th October 1900, suppl. to No. 4279; Ordinance no. XVII of 1901. Malta Government Gazette, 2nd July 1901, suppl. to No. 4376

18 Ordinance No. XXX of 1937. Malta Government Gazette, 30th October 1937, suppl.

19 Arton and Wilson: Report on the Malta Civil Service. Central Office of Information, Malta, 1956; Farrer-Brown, L., Boldero, H., and Oldham, J.B.: Report of the Medical Services Commission. Central Office of Information, Malta, 1957, +100p.

20 Part IX Hospital Management Committee. Department of Health (Constitution) Ordinance Chapter 94, p.16–18 [added by I.1959.5; amended by L.N. 46 of 1965, XIV.1969.15; X.1974.2; LVIII.974.68; L.N. 148 of 1975; XXXVI.1976.10; VIII.1983.11]

21 Hospital Management Committee [HMC]: Organizational Communication Network System and Organogram. Policy Document. H.M.C., Malta, 2000

22 Fiorini, S., 1989: op. cit.; Cassar, P., 1965: op. cit., p.23–36

23 Cassar, P., 1965: op. cit., p.26–27

24 Savona-Ventura, C.: The first hospital of the Order of St. John of Jerusalem. It-Tabib tal-Familja – Journal of the Malta College of Family Doctors, 1999, 17: p.17–21

25 Hume, E.E. 1940: op. cit., p.26–33

26 Savona-Ventura, C., 1996: op. cit, p.117–125

27 The Old and New Statutes of the Order……: op. cit.

28 Notizia della Sacra Infermeria, e della carica delli Commissari delle Povere Inferme. Rocco Bernaba, Rome, 1725

29 Savona-Ventura, C., 1998: op. cit., p.48–65

30 Piano per il Regolamento dell'Ospedale di Malta decretato il 20 Marzo 1802. Government Press, Malta, 1802, +16(+3)p.

31 Gazzetta del Governo di Malta, 1815: op. cit.; Gazzetta del Governo di Malta, 1816: op. cit.; Malta Government Gazette, 1824: op. cit.

32 Savona-Ventura, C., 1998–99: op. cit.

33 Regulations…., 1851: op. cit.; Instructions…., 1851: op. cit.

34 Savona-Ventura, C.: Nineteenth century disciplinary enquiry at Victoria Hospital, Gozo. Maltese Medical Journal, 1994, 4(2): p.44–49

35 Arton and Wilson, 1956: op. cit.; Farrer-Brown, L., Boldero, H., and Oldham, J.B., 1957: op. cit.

36 Cremona, J.J.: An outline of the Constitutional Development of Malta under British rule. University Press, Malta, 1963, +131p.

37 Estacode. Government Printing Press, Malta, 1982 et sec

38 St. Luke's Hospital. Regulations for Medical Officers. St. Luke's Hospital, Malta, 1982

39 Code of Ethics for Employees in the Public Sector. Cabinet office, Office of Prime Minister, Malta, 1994, +19p.

40 Sant, A.: Challenges of Modernisation in Malta's Public Administrative System. In: The Maltese Islands on the Move. A Mosaic of Contributions marking Malta's Entry into the 21st century. Central Office of Statistics, Malta, 2000, p.195–205

41 HMC, 2000: op. cit.

42 Fiorini, S. 1985: op. cit.

43 Vertot, A., 1728: op. cit.

44 Savona-Ventura C.: The naval career of Sir Thomas Spencer Wells in the Mediterranean: 1842–1853. Maltese Medical Journal, 1998, 10(2): p.41–46

45 Register of Admissions. Hospital of St. John the Baptist, Rabat, Gozo. 1 December 1841 to 31 August 1851. Manuscript previously held at Gozo General Hospital; Savona-Ventura C.: A Maternity Unit in Gozo a hundred years ago. Maltese Medical Journal, 1995, 7(1): p.55–61

46 Establishments ....., 1851: op. cit., p.10; Savona-Ventura C.: History of Medical Data collection in the Maltese Islands. J. Malta College of Family Doctors. 2000, 18: p.13–17

47 Annual Report on the Health Conditions of the Maltese Islands and on the work of the Medical and Health Department for the year 1937. Government Printing Office, 1938, Malta.

48 Ellul J., Stilon V., Mattei S., Zammit C.: Clinical Report of the Maternity & Gynaecological Subdivisions of the Central Hospital, Malta for 1937. Lux Press, Malta, 1938

49 Grech E.S., Savona-Ventura C., Fenech Gonzi P.: Computerization of Obstetric Data. In: Grech E.S., Savona-Ventura C., eds. Proceedings: European Study Group on Social Aspects of Human Reproduction. Vth Annual Meeting, Malta. September 1987. Government Press, Malta, 1988.

50 Mamo J., Agius Muscat H., Ellul M., Lenicker R.: Development of a Health Information System for the Maltese Islands. Medi-Scope 1989, 13, 1–2,6; Azzopardi J.: The St. Vincent Program in Malta. Abstracts. Diabetes Care and research in Europe. St. Vincent Declaration ten years on. The Target, The Progress, The Vision. Diabetes Nutrition & Metabolism, 1999, 12(3): p.224