

Developments in Hospital Management: A Proposal for a New Hospital Management Model for Malta

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The management of hospitals has changed considerably over the last two decades. The business processes and patient treatment regimes are unrecognisable from those of ten years ago. Health care in general faces unprecedented challenges internationally as the demand for more medical treatment and services increases together with a parallel emphasis on quality and cost containment¹. Furthermore external factors such as the 'greying' population and growing patients' expectations increase the burden upon hospital management and staff to provide a quality hospital service.

Hospitals are expensive enterprises. Huge investments go into the construction and equipping of hospitals. In the UK the cost of building a hospital is £1000 /square metre², whilst in Malta new construction costs around Lm430 /square metre. Medical equipment accounts for an additional 20%. Furthermore hospitals invariably take the lion's share of health care expenditure, averaging around 8% of GDP in Western Europe³. It is therefore incumbent upon the authorities to ensure that the populace gets an appropriate return on its investment.

This paper reviews developments in hospital care and management, including the increasing importance of focusing care and management decisions around the patient. It will explore the role clinicians should play in management, itself still a topic of controversy. The role of information technology and its indissoluble link with the proper administration of resources will also be critically appraised. These will be reviewed in the local context where a model for the future management of Malta's hospitals is proposed.

Developments in hospital management and care

External developments

Changes in health care technology are only second to information technology. The rate of development has increased tremendously in the pharmaceutical, imaging and biomedical sectors as well as in many hospital based-specialities such as oncology, cardiology and anaesthesia. New and emerging investigative and treatment modalities are introduced regularly, sometimes without an understanding of their full benefits or implications. Due to this rapid evolution, a dilemma is ever present when planning a new service; as the designs hit the drawing board, they are already considered outdated and not commensurate with present, yet alone, future requirements.

The globalisation of health care and readily available information over the Internet has ushered in a new era in the doctor/patient relationship. The traditional agency role of the doctor, playing the part of the patient's advocate, is no longer applicable in this age of empowerment and shared responsibilities. Moreover patient's expectations increase with every new discovery or medical breakthrough and governments are expected to match these with an equal vigour of new investment in services⁴.

The above place an almost insurmountable strain upon the financing of health care and, therefore, the issue of its future sustainability is a poignant one, which needs to be addressed adequately. In the last two decades, most health care systems across Europe have moved from an integrated model to a contractual model where the contractual relationship between purchasers and providers serves as a mechanism to instil accountability whilst maintaining standards and limiting costs⁵. Malta has also chosen to pursue this path where the creation of autonomous hospitals will separate the funder/regulator from the service provider. It is hoped that this split will bring decision-making closer to the patient whilst creating a more output-oriented service. It will certainly be a pity should this strategy lead to even more bureaucracy, defeating the original purpose of moving away from rigid and unyielding civil service systems.

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Internal developments

There have been so many major developments in hospital practice, it is impossible to list them all. Essentially most recent developments have sought to place the patient at the centre of activity. For the lay person, this may seem an obvious choice. However in the past, few hospitals can claim to have been patient focused or friendly since most services and care were centred around the professional and not necessarily around the patient⁶. During the planning for the Mater Dei Hospital this became apparent since, without wanting or realising, staff were used to planning for services with a focus upon isolated treatment episodes rather than upon efficient patient flows. This change requires a paradigm shift in mentality and involves a major reconfiguration of departments and processes where new clusters of specialities evolve such as cardiac sciences or neurosciences and patient/public areas are given more significance.

Another major development worthy of mention is the emergence of ambulatory or day case services where, in certain centres abroad, day care accounts for 40 to 60% of hospital interventions. In Malta due to a variety of reasons, unfortunately day case surgery has not really taken off. This will have to change in the near future when generous day surgery facilities will become available at the Mater Dei. Another area of interest is the proliferation of policies advocating the quick in, quick out approach. Emergency departments and acute admission wards have been restructured to deal with patients in this manner. Of course whilst the concept of keeping patients away from hospitals is justified, this may lead to improper and unsafe practices if not managed appropriately. Active rehabilitation services have also featured prominently in hospital services abroad where the patient is provided with a continuum of care until he is fully integrated back into the community. Locally

plans to introduce post-acute rehabilitation care have been drawn up some years ago; however they have never scaled the priorities list and remain dormant for the time being.

The planning for Mater Dei has attempted to capture these concepts and a new approach was devised when planning patient services. Patient flows were studied and the designs were constructed around these flows. This ensured that the patient acquired a central role in the hospital. This is referred to as the Whole System Service Model as it encapsulates the passage of the patient throughout the hospital⁷ (Diagram 1).

Business processes and systems

Hospital staff depends upon the establishment of efficient processes and systems to operate adequately. The environment of a hospital should contribute towards the safe and effective practice of medicine. All support services are put in place for the sole purpose of supporting the core business of a hospital - that of treating patients. It is therefore an imperative for corporate management to ensure that these systems are in place and functioning correctly. Many failures in the past have been placed upon the clinical errors of individuals whereas in fact it is the system that fails. This is the conclusion of many boards of inquiry and is the reason why many individuals are acquitted in disciplinary proceedings. In countries overseas the above gave rise to the emergence of corporate and clinical governance where accountabilities are clearly demarcated and responsibility for clinical services and corporate functions is delineated throughout the organisation⁸.

One of the cornerstones of governance is the setting of standards and quality assurance programmes usually through benchmarking, either within the institution itself or with external benchmarking partners. These initiatives may culminate in the enrolment of the hospital into formal accreditation programmes. As part of a government-wide efficiency review initiative, a benchmarking exercise has recently

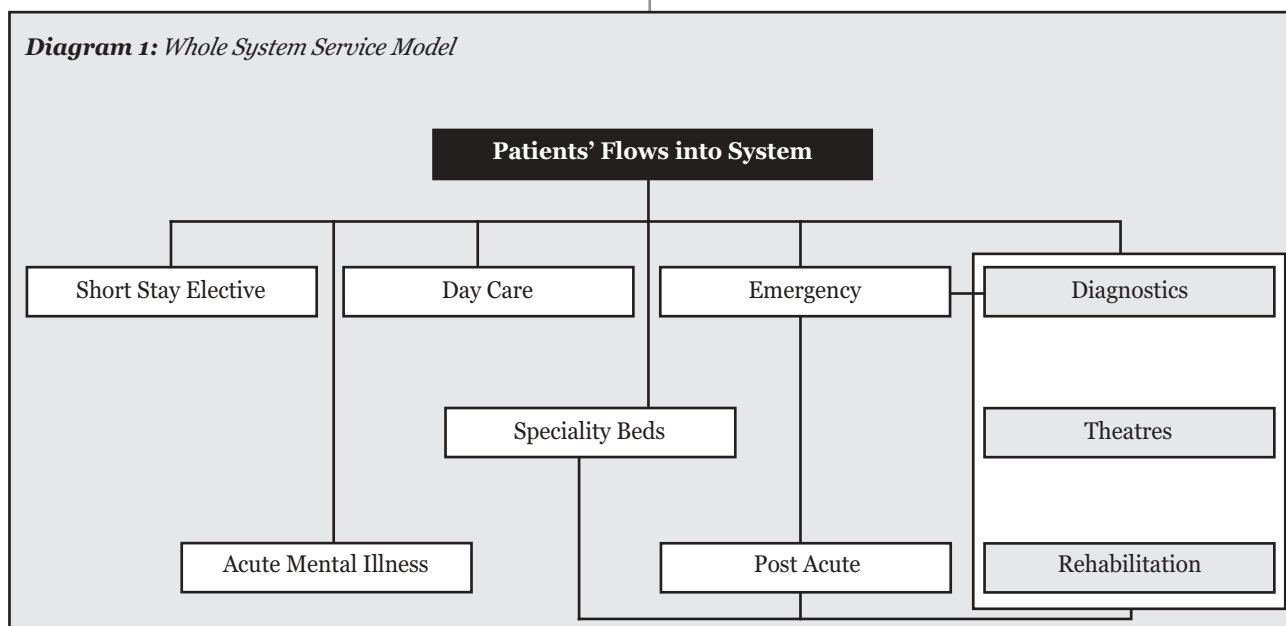


Table 1: Management actions to improve quality and cost effectiveness of care services in European hospitals¹¹

Action	agree %
Implement IT to support administrative tasks	88
Conduct efficiency drives in service departments	86
Implement IT to support patient care activities	80
Introduce revised procedures for determining nursing staff requirements	75
Redesign patient care procedures	75
Redesign administrative procedures	75
Use documented care plans and treatments protocols	74
Establish multi-disciplinary care teams	71

commenced between St Luke's Hospital and a number of foreign and local private hospitals. Already some interesting data emerge which will allow us to measure our performance.

On the other hand quality assurance programmes are conducted through clinical and management audits⁹. Regrettably in Malta an audit culture is yet to find its way to our shores. Many clinicians still view audit initiatives with disdain and reticence, whilst some in administration view it as a tool to discipline and punish. Audit, if properly conducted and appropriately used, is a powerful tool to improve our standards of care. In Malta we often boast of our excellent clinical standards, yet in the absence of proper audit, unfortunately we cannot prove this.

Standards are also established through the creation of patient protocols or clinical pathways. Some work has commenced on these; however we still do not utilise clinical and treatment/investigative protocols for the routine care of our patients. The exorbitant amount of laboratory or radiological investigations requested each year at St Luke's Hospital confirms this point¹⁰. Many would say that, once in

place, protocols and policies are continuously disregarded and overridden whilst others argue that such protocols undermine clinical freedom. Yet this methodology of clinical practice is fairly commonplace in hospitals overseas and we need to learn from our peers abroad how to develop policies and protocols that do not impinge upon our clinical freedoms and yet are useful to standardise and raise the quality of our care.

Table 1 shows management actions taken to improve quality and cost-effectiveness of care in European hospitals. It shows that many initiatives were in fact driven by the establishment of protocols and procedures, as well as the introduction of IT systems, which will be discussed in the next section.

Use of Information Systems in managing hospitals

Information systems underwent rapid developments in the last 15 years¹¹. Initially legacy hospital information systems were commissioned and managed by IT departments with an emphasis upon the technological side of the equation (Table 2). Hospital applications and processes were supported by individual isolated systems that did not integrate well. With time IT in hospitals moved towards knowledge and integrated networked based applications where both management and clinicians increasingly use IT for business and clinical decision processes¹². In Malta a health information strategy was formulated in the early 90's with far-reaching and noble objectives of providing the health service with a robust IT infrastructure and information network¹³. Unfortunately not enough progress was achieved to date as the health service has not yet reaped the benefits of IT and the outputs in the last decade do not justify the resources and effort that went into building our information base and infrastructure.

IT was, and in certain quarters still is, regarded as a 'technology' subject matter whilst in reality it is an *information* tool driven by the needs of management and clinicians and not by IT personnel, in order to serve our business and not our

Table 2: Developments of Information Systems in hospitals^{14,5}

	Data Processing era	IT era	Network era
Role of administrative IT	Transaction processing	Information processing	Information delivery
Value of IT	Data	Information	Knowledge
Responsibility	Head of IT department	Hospital management	Heads of product-oriented clusters top and BU management
Infrastructure	Monolithic mainframe	Distributed	3 layer architecture
Users	Not involved	Observer	Participant
Organisation	IT department	Privatised IT function	Co-sourcing
Role of IT in primary cure and care processes	None	Isolated applications	Integrated applications supporting all cure and care
Role of IT in medical equipment	IT embedded in stand-alone medical equipment		Interconnected equipment and interconnected IT

technological needs. The technology aspect is of secondary importance and only exists to create and support these information systems. Furthermore the use of IT has been wrongly linked to working conditions and this shortsighted view has slowed down progress in this field. IT is not an option. It is an integral part of one's working environment and would be considered as such in the future, especially since the Mater Dei Hospital has been designed in a fully integrated and networked IT environment. Many institutions have discovered that IT and organisational development and change go hand in hand⁴. The advances in IT should be harnessed to our advantage in this rapid time of change and be used as a platform and catalyst for enhancing our working environment, our working practices and hospital processes.

The role of clinicians in a new organisational and management framework

Decision taking in hospitals

Clinicians, i.e. all medical, nursing and paramedical professionals, provide the core business of a hospital, that of rendering a health service to individual patients. This is their primary vocation. However, it is not their only responsibility.

Traditionally, there exists a dichotomy of the decision making process, where supposedly key 'administrative' decisions are taken centrally, many times in conflict with the opinions of staff on the shop floor, whilst clinical decisions are understandably left to the clinicians. In a hierarchical mechanistic organisation, the environment does not permit clinicians from participating actively in strategic and financial decisions, which nonetheless indirectly have an impact upon the care provided to patients. However paradoxically, central hospital administrators have very little influence upon the utilisation of resources and hence upon expenditure since the

key resource utilisation decision-makers are in actual fact the clinicians. Unlike other organisations, the allocation and utilisation of resources and hence expenditure in hospitals are largely determined by the investigative and treatment practices of clinicians and not by central management. Resources flow to where the patient is being cared for and decisions that affect these resources are not taken by management but by clinicians at the bedside. Hence these 'bedside' decisions indirectly determine the distribution of personnel around the hospital, the spending on medicines and medical supplies and the requests for investigations, all of which contribute to 85% of a hospital's operational budget⁶.

The changing role of clinicians

The above paradigm creates tension within a hospital. A clinician's primary concern is the welfare of the individual whereas the organisation needs to balance the accounts and ensure a sustainable, equitable service for its catchment population. This generates a mismatch since there is a divergence in the objectives between clinicians and their employer. These differences need to be reconciled to ensure the efficient management and sustained operability of a hospital. This could only be achieved if the organisational structure and management philosophy of the hospital will allow the clinicians to assume a supplementary role and be formally integrated into the decision making process at all levels, where they are given the authority and flexibility, coupled with the appropriate accountability and responsibility constraints, to commit resources and expenditure within pre-determined parameters 'on behalf' of the organisation for the ultimate benefit of the patient.

This concept marks a diagrammatical shift from present day circumstances in Malta. Many would argue that this model transforms clinicians into managers and would forcefully resist

Diagram 2: Traditional Model

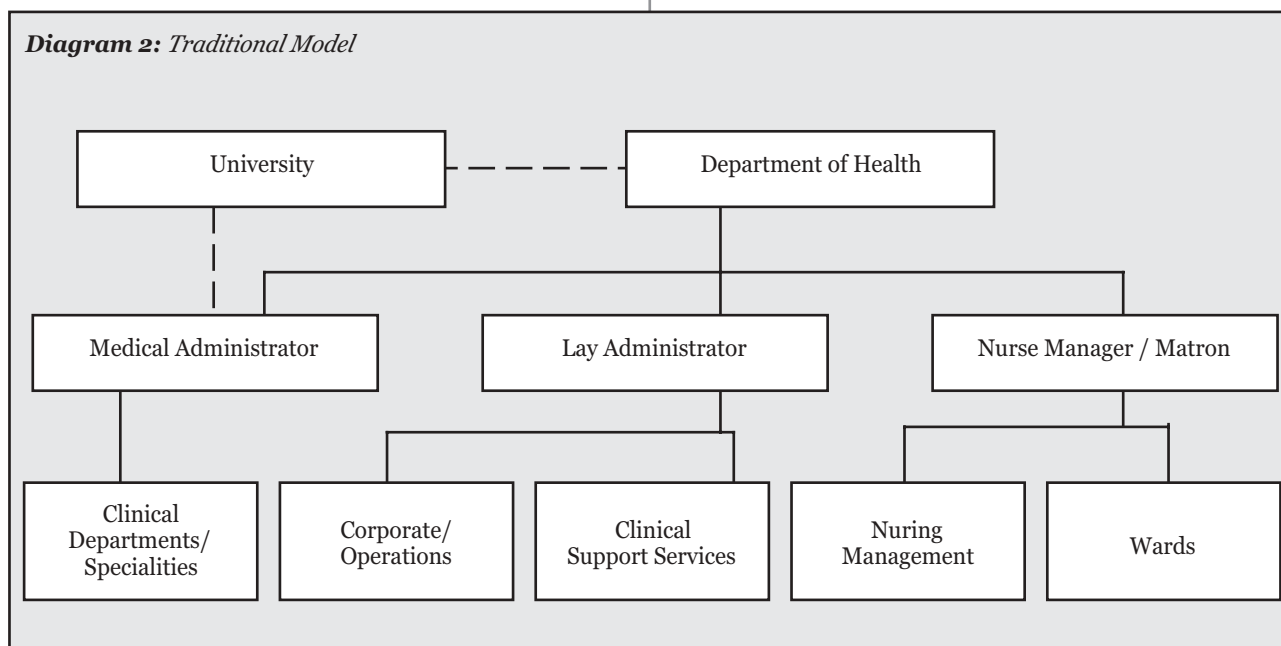


Table 3: Management Models (modified from O'Brien, 2002⁷)

Model	Key Feature	Key	
		Advantage	Disadvantage
Input Based	Organised around professional hierarchy of doctors, nurses etc	<ul style="list-style-type: none"> • Focus along professional categories of staff 	<ul style="list-style-type: none"> • Poor management focus • Little convergence at top • Little scope for teamwork • Not patient focused
Academic Based	Organised around Academic Departments with Professors as Service Heads	<ul style="list-style-type: none"> • Professional training well developed • Onus on clinical protocols, audit 	<ul style="list-style-type: none"> • Not patient focused • Creates distinction between academic & non-academic staff
Output Based Clinical Units of Management	Services organised around patient cohorts and speciality groupings	<ul style="list-style-type: none"> • Highly patient focused • Seamless delivery of service • Teamwork enhanced • Requires full integration of professionals • High engagement of clinicians in management 	<ul style="list-style-type: none"> • Professional standards /quality issues may slip • Potential for professional inconsistency across departments
Output Based Service Line Management	Organised around geographical or service lines	<ul style="list-style-type: none"> • High patient focus 	<ul style="list-style-type: none"> • Lower seamless of care • Dependence upon multiple lay managers • Poor integration of professionals

this new approach. Furthermore it would probably not be readily accepted by politicians or higher authorities since they view the role of clinicians in a very different light. This is understandable as these concepts created much turmoil in hospitals abroad until they were tested and, given time, more readily accepted. Nonetheless it is essential to equip clinicians with the necessary tools and skills to be able to manage their resources, be they personnel, medicines, equipment or funds. The adoption of a *managing* role by clinicians is inevitable in today's world of increasing accountability, transparency and cost containment and the sooner policy makers realise that it makes much more sense to bring your clinicians on board the management bandwagon than to alienate them, the better.

A hospital management model to suit Malta

Hospital management models

From experience in hospitals abroad, four main management models emerge (Table 3). Each model has its own benefits and drawbacks and one model is not necessarily superior to another. It is a question of which model best fits our needs and circumstances. Also certain aspects of one model may overlap with another and a hybrid solution may be more suitable.

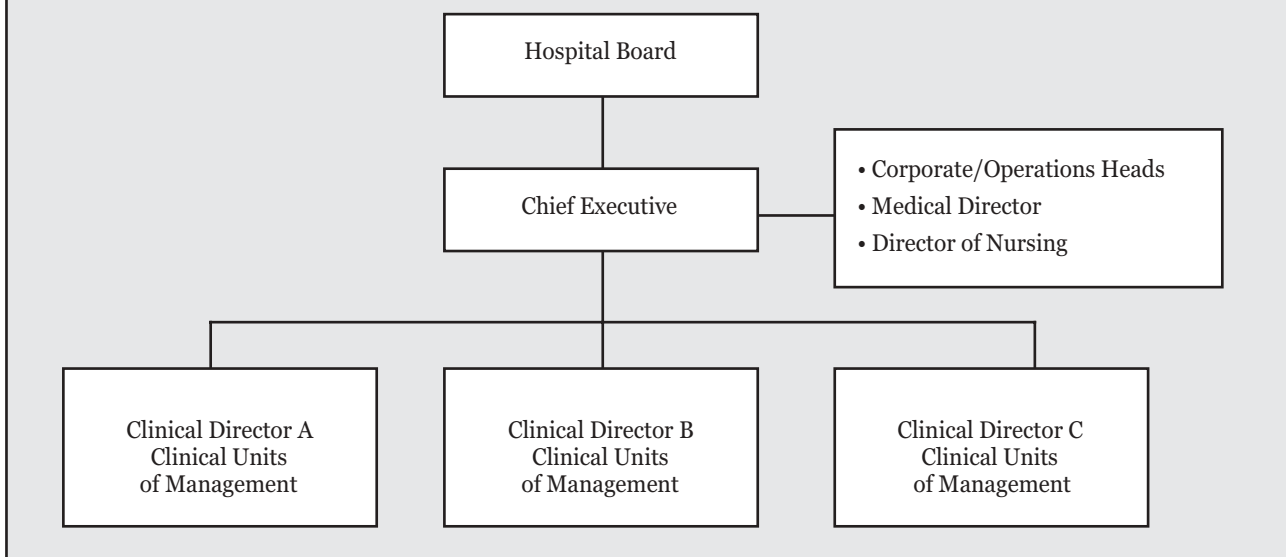
Traditional models

Traditional models of hospital management are rooted in the input based model where decision taking is centralised, authority lines are not clearly defined, professionals are organised around homogeneous hierarchies rather than around the patient and the organisation is slow to react to change. We would recognise this model as that pertaining to our present system of hospital administration. (Diagram 2)

A proposed new management model

A new management model needs to be adopted to facilitate and encourage clinicians to take up their new role and to be versatile and vigorous enough to face the challenges ahead. We need to move to a model that is decentralised and flat, with single clear lines of accountability and authority and with a focus upon outputs and quality. The output based model, organised around the Clinical Unit of Management, is one such model (Diagram 3). It is predominantly patient focused and ensures professional integration, communication and teamwork. These key attributes are lacking in present day systems and need to be further developed. It also serves to motivate clinical staff to take up a more active role in the management of their department or service, empowering staff to take clinical and

Diagram 3: Clinical Unit of Management Model



management decisions as close as possible to the patient. If properly introduced, it will inculcate an attitude towards accountability and performance management and support the principle of decentralisation and devolution of authority and responsibility down to clinical unit level.

The concepts revealed by this model take root from industry models based on Strategic Business Units (SBUs). Their first and most successful application in health systems was in the USA at the Johns Hopkins Hospital. In fact the 'Clinical Unit of Management' model is also referred to as the 'Hopkins' model and nowadays many of the leading large teaching hospitals abroad have adopted this model. The precept behind this model centres on the devolution of authority and responsibility to the manager of a 'unit', who takes up responsibility for its resources and for the quality and delivery of the service entrusted to that unit. Although the manager is usually a clinical person, this model transcends professional hierarchies as he/she may be asked to lead staff belonging to professions other than his/her own.

Conclusions

This paper espouses the philosophy behind the adoption of modern management concepts and models. It explores the possibility of new avenues for managing our hospitals and offers the opportunity for clinicians to take up a more strategic role. Although disagreement and reservations may exist in the adoption of these proposals, the Clinical Unit of Management has proven its efficacy over the last 15 years and is worth exploring. Clinicians have always complained, justly so, that they are not involved enough in the decision making process and do not have real power to effect change. The suggestions put forward in this paper go a long way to rectify this anomaly. It is now up to our doctors, nurses and paramedics to take up the challenge and prove to all that it can work.

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