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**Value Creation in Health Care:
The Case of the Princesse Grace Hospital (CHPG) Monaco**

By

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Abstract

Health care has to make transitions to be truly effective in the modern world. A change in paradigm is needed. This requires that value - defined as *the health outcome for a particular medical condition per unit of cost expended* - must be applied and added to health care, and health care itself must be treated as a business that performs in a competitive environment to ultimately provide client or customer satisfaction.

Health care today is typically service specific, necessitating that the client or patient visits different medical or clinical departments to get the range of treatment prescribed for his/her condition. We argue – following Porter and Teisberg - that health care should be patient-centric and that organization and treatment should be planned accordingly. Such planning must take into account the provision of a range of services directly accessible or networked regionally taking full advantage of technological advances in the field of medical technology and informational systems.

We examine whether such principles are currently being applied in Monaco (specifically in the Centre Hospitalier Princesse Grace) taking into account both Monaco's unique positioning and its geographical context in relation to the French health system as well as the resulting interaction in networking relationships. We explore how value in healthcare is currently being added and investigate plans for augmenting such efforts. Aspects of preventative and innovative initiatives are also discussed as a means of enhancing value.

Finally, we offer a set of recommendations that in the context of the local situation might be successfully applied. Continuous review of performance and the application of best practice and technologies are proposed to ensure that the provision of health care services can compete with the best in the world.

INTRODUCTION

Access to and delivery of quality healthcare is a growing concern in all countries. Given the heavy healthcare costs that weigh down economies, an efficient healthcare system is much sought after. Healthcare providers play a dominant role in this system.

Based on a new framework for healthcare delivery (called *the value-based approach*), we define the value for patients as health outcomes achieved per unit of cost spent. This novel approach, originally developed by Porter and Teisberg (2006), adapts strategic management concepts used in indigenous industries and applies them to the field of healthcare. It advocates value-based (or positive-sum) competition to drive efficiency in the health system¹. The concept of value creation is relatively straightforward and the strategic guidelines for the various players in the field of healthcare can be understood without difficulty by theorists, practitioners and the lay audience (including patients). Because the model is well-structured and easy to apply (it has a 'general rules' format and contends that firms that follow the recommended strategy will gain competitive advantage), it can be used to understand and compare the performance of any health provider in any country.

We explore how the Centre Hospitalier Princesse Grace (CHPG), the only public hospital in Monaco, creates value for its patients based on value-based principles and thus contributes to the discussion on introducing value-based measures in this specific locational context.

Section 1 takes a look at how health providers can create value for patients today and briefly recapitulates numerous strategic guidelines for health providers. Section 2 takes a look at the CHPG in the context of Monaco's healthcare system. Section 3 analyses the extent to which the strategic guidelines are being applied by the CHPG. Finally, in Section 4, we propose a set of general conclusions and recommendations for the CHPG which will highlight the key implications of a value-based approach to strategic decision-making.

I. VALUE CREATION IN HEALTH CARE

Health services or healthcare are preventive, curative and palliative interventions, whether directed to individuals or to populations. Healthcare is delivered by health providers. These include hospitals, clinics, medical centres, groups of practitioners or doctors working in their private practice.² The notion that a patient is a customer seeking a service has gradually been acknowledged by health providers (Williams and Johnson 2003). At the same time healthcare embraces both business and ethics (social responsibility dimension). Doctors take the

¹ See Porter (2009a)

² For the purpose of this study, we use the term health providers to refer to health facilities rather than to individual private practitioners. Health providers are in the business of dispensing care to patients, their customers. See World Health Organization Report. (2000). *"Why do health systems matter?"*

Hippocratic oath to provide care to any person in need. At the same time there should be access to healthcare for everyone as it is essential to both equity and efficiency³. Ideally, healthcare should be treated as a public good, i.e. a good that is non-rivalled and non-excludable. Indeed, an individual's healthcare consumption does not decrease the 'quantity of healthcare' available for others and ethically, no-one should be excluded from consuming healthcare regardless of whether or not they are able to pay for it. A health system that includes (mandatory) universal health coverage is closest to making healthcare a public good (Teisberg 2009, Karsten 2008)⁴.

Because of the ambivalent nature of healthcare, the reluctance to regard healthcare as a business is obvious. Those who believe that to view healthcare as a business leads to health providers focusing more on the bottom line than on delivering value for patients, have a point. For a long time, focus has been mainly on reducing costs to alleviate the growing deficit problem confronted by many healthcare providers in different nations⁵. And yet, in order to address inefficacy, high costs and inconsistent quality, the discipline of the market is needed, aided by business thinking and processes (Cohn and Hough 2008). In general, "good managers" understand what customers value and build an efficient organizations to deliver it. Therefore, it is primarily the quality of management that makes the difference between an organization that fails and one that succeeds. Health providers need to operate as smart businesses do, that is, to use the resources available in the most efficient way. Hence they may preserve their intrinsic values *and* benefit from operating as a business.

Obviously, value takes on different forms (depending on the industry and the context)⁶. In consumer markets, value is a function of the end user's needs, wants and demands. Health is a need and at the most basic level, what matters the most to patients are three things: (1) the quality of care they receive from the healthcare provider, (2) an ethical provider-patient relationship (which includes to be treated with dignity) and (3) the expenses they incur as a result of visits to healthcare providers (depending on the social security system).

The Institute of Medicine (1990) defines *quality of care* as "the degree to which health care services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge". Quality of care can be improved through operational effectiveness and strategic positioning (see Figure 1 below).

³ In June 2009 (!), the American Medical Association (AMA) has adopted a policy saying that doctors have an ethical obligation to care for patients, regardless of their ability to pay. The AMA publication "**American Medical News**" (AMN) reports that the new policy says that as long as it is "fiscally sustainable," doctors should accept uninsured patients, maintain relationships with patients who lose their health care coverage, and help patients access public and charitable programs. See: AMN, June 26, 2009

⁴ To make health care affordable and conveniently accessible to most people is also the subject of C. Christensen et al. (2009).

⁵ The Assistance Publique-Hôpitaux de Paris forecasts a deficit of 104 million Euros for Parisian hospitals for 2009 compared to 20 million Euros in 2008 (Les Echos, March 3, 2009)

⁶ Teisberg (2009)

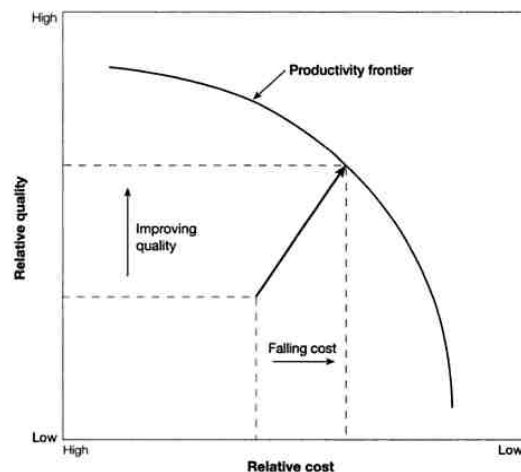


Figure 1 – Productivity frontier: Operational effectiveness versus strategic positioning (Porter and Teisberg 2006)

The (production) productivity frontier (PPF) represents the maximum value that the organization can deliver at any a given cost, using technologies, skills and purchased inputs. *Value in healthcare is the health outcome for a particular medical condition (this encompasses diseases, illnesses, injuries and natural circumstances such as pregnancy) per unit of cost expended.* Thus, for health providers, the frontier relates the quality of health outcomes achieved in addressing a particular medical condition to the full cost of providing care for that condition. Reaching this frontier means achieving operational effectiveness. As progress is made in technology, in medical fields and in management processes, the productivity frontier keeps shifting outward. In healthcare, just by implementing known best practices, providers can improve quality without raising prices. On the other hand, focusing on process compliance alone is not sufficient as it implies a standardized approach which does not take into consideration the complexity of a patient’s case. Health providers should aim to improve the health outcome of a patient’s medical condition because it provides more scope for maximizing quality of care. Indeed, in addition to striving for process compliance, hospitals need to consider how to best address the complex issues linked to providing excellent personalized care. This implies a new strategic approach for healthcare providers.

Fair and open competition is the critical driver of performance and innovation. It stimulates businesses to improve productivity levels and offers customers an alluring value proposition. Less competent businesses fail, leaving behind thriving, more efficient ones. Competition provides strong incentives to improve operational effectiveness and in the bargain customers are rewarded with better quality, wider choice and lower prices whilst suppliers earn a higher return on capital and higher wages.

In the domain of healthcare, it is particularly important that providers deliver optimal levels of quality – indeed, any wrong procedure or , a simple ‘defect’ could have serious negative implications for a patient. Without competition, health providers must rely heavily on strong and intelligent leadership in order to dispense superior quality. *Competition and market forces ensure that focus on value for patients is inevitable.*

Patients should have the option to choose their provider just as in any other industry a customer chooses the best products available for purchase. The ‘best’ provider should be the one that delivers maximum value for the prospecting patient suffering from a particular medical condition (Porter 2008). A medical condition is a set of patient circumstances that requires dedicated coordinated care. In order for the patient to make a discerning choice, information on providers’ performance should be transparent and visible. Competition based on value for patients requires competing on patient results. This form of competition is positive-sum: all participants in the system, patients, providers, health plans and the government benefit from better health outcomes at lower cost.

When it comes to the strategic implications for health providers the following organizational changes have to be implemented at different strategic levels:

(1) Redefine the business around medical conditions.

Care delivery in hospitals is usually organised around traditional medical specialities, e.g. radiology, cardiology, nephrology, urology, etc. This type of structure does not maximize value. Indeed, patients suffer from medical conditions that most often require a multidisciplinary approach. This is particularly seen in cancerology where decisions in treatment require tight collaboration between specialists.⁷ In the current system, a patient goes from one specialist to another, each one delivering discrete interventions. This type of compartmentalisation is neither beneficial to patients nor to hospitals. In a functional structure (where each function corresponds to a medical speciality), the lack of a coordinated care plan is detrimental to the patient with sometimes functions/medical specialities competing against each other over costs.⁸ Hospitals also have to bear the brunt of administrative costs, time delay and risks associated with shifting patients from one department to another. The business should be redefined around medical conditions (Porter and Teisberg 2006). Healthcare providers should not compete over the breadth of services but rather focus on delivering the best care for specific medical conditions (e.g. chronic disease, spine disorders, etc.). In addition, a patient should be properly followed throughout the whole cycle of care – from being accurately diagnosed to being cured and rehabilitated. The treatment and follow-up should be based on the patient’s needs: personalized care is necessary as each patient is unique. Value may be further increased by initiating prevention that would thus minimize the need for treatment. Finally, as in any business, the healthcare provider must understand its competitive market. The relevant market for most medical conditions should be regional or national. In this manner, competition takes place not only locally but also with the best health providers elsewhere. Striving for the highest standards of value will also encourage hospitals to have a strategic focus as well as create partnerships with other health institutions.

(2) Choose the range and types of services provided.

⁷ For ex., such specialists comprise gastro-enterologists, surgeons, cancerologists, and radiotherapist in the case of colon cancers.

⁸ The case of hand surgery is an example where two competing departments (the orthopaedic surgery unit and plastic surgery unit) within the same structure with overlapping competencies are competing against each other.

The choice of service lines that a hospital should provide depends on the complexity of the cases it undertakes, the patient mix, the facilities, the skills/specialists and technology available. Routine or simple services should be offered only if they can be delivered at a competitive cost, whereas complex services should be offered by providers that possess the necessary skills, expertise and experience. In the first case, it is easier to achieve competitive cost when there is sufficient demand. When there's insufficient demand, integrated care delivery across different health providers is required. As mentioned previously, creating partnerships with other health establishments is essential: patients can be referred to the appropriate specialized health centre. Ideally, a network of hospitals that complement each other should be created. Pursuing excellence leads to 'deeper penetration' in a particular field and later on, leads to developing closely related services. For example, the treatment of diabetes requires an initial diagnostic stage, then long-term follow-up with the prevention of cardio-vascular, renal, neurological and ophthalmological complications. Therefore a solid collaboration is necessary between the diabetologist/endocrinologist and the various medical and surgical specialities based on the needs of the patient. Porter's virtuous circle in health care delivery is driven by hospitals competing for excellence and is a result of the effects of experience and learning (see Figure 2)

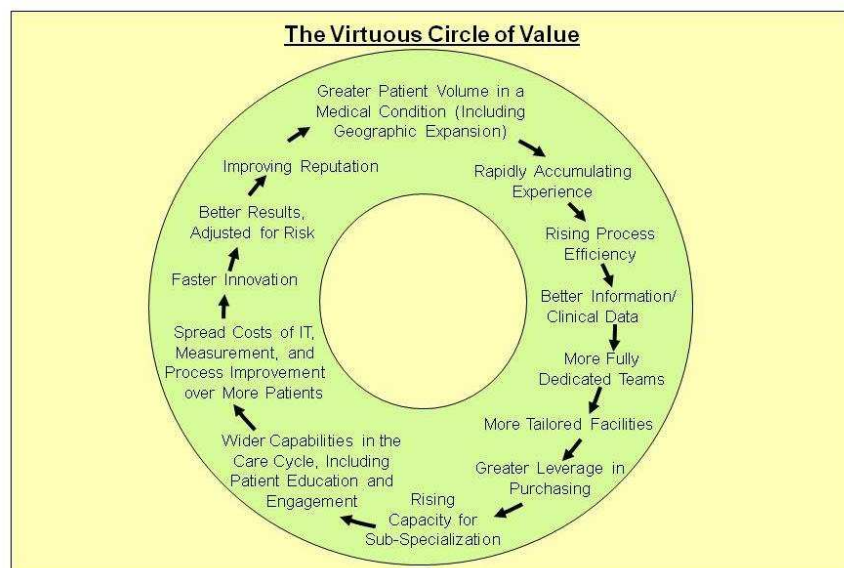


Figure 2 – The virtuous cycle of value (Porter and Teisberg)

When a provider gets more experienced in dealing with a medical condition (when there is sufficient demand and/or high volumes), this sets off a cascade of benefits from a value point of view. Efficiency increases as does the volume of patients. Hospitals can afford more dedicated teams, tailored facilities and eventually become experts in their fields of specialization and can chose to sub-specialize.

(3) Organization around medically integrated practice units (IPU).

Today, most hospitals have a supply-driven functional structure. A patient is sent to the most appropriate department although his/her condition may require a multidisciplinary approach. A temporary team made up of health practitioners available from the different relevant departments (e.g. internal medicine, oncology, etc.) is formed for the duration of the treatment. The functional structure is thus supply driven as the patient is treated based on the facilities and skills at hand. *Since the aim should be to create value for the patient, the latter should be the centre of all activities.* It is therefore suggested to move to a demand-driven structure, that of the *business or integrated practice unit*.⁹ Such strategic business units produce and sell goods and services to a market segment and have a well-defined set of competitors (Rugman and Collinson 2006). Following this logic, an *integrated practice unit* (IPU) should serve patients suffering from a specific medical condition or a set of related medical conditions. A special permanent team dedicated to such patients and accustomed to working together in dedicated facilities, should be responsible for their patients over the whole care cycle. Because they work together on a sustained basis, these specialized teams – organized in a cluster of medical circumstances - can achieve excellent results through continuous learning.

(4) Create a distinctive strategy in each IPU.

‘A business unit consists of a number of closely related products or services for which it is meaningful to formulate a separate strategy’ (Boddy 2005). Applying this definition to the IPU: each unit should have a distinctive strategy and distinguish itself from competitors by, for instance, selecting the type of service to provide or the type of patients to serve. Table 1 provides examples of the options a strategic business unit may choose from.

⁹ In the context of health care, Porter and Teisberg call this type of structure an “integrated practise unit”.

<i>Types of services that can be provided</i>	<i>Types of patients that can be served</i>
<ul style="list-style-type: none"> ▪ The overall severity or complexity of cases ▪ The degree of specialisation in particular sub conditions ▪ The emphasis on diagnosis and second opinions versus treatment ▪ The range of procedures or services performed ▪ The comprehensiveness of in-house services over the care cycle ▪ The convenience of locations ▪ The timeliness of services (e.g. waiting time) 	<ul style="list-style-type: none"> ▪ The age, gender, or ethnicity of patients ▪ The degree of emphasis on patients with multiple conditions ▪ The particular types of patients served in terms of disease or genetic variations (e.g. as in cancers) ▪ The extent of foreign or non-English speaking patients (<i>important for Monaco !</i>)

Table 1 – Types of services and types of patients that an IPU may choose from (Porter and Teisberg 2006)

Choosing such a novel approach creates incentives for the IPU to innovate. It is not sufficient in any case to follow recommendations and procedures alone. Procedures imply the standardisation of health care methods. There is an adage that says: ‘il n’y a pas de maladies, il n’y a que des malades’, which translates as ‘there are no illnesses, only people who are ill’, implying that each patient needs a personalised treatment (‘projet de traitement personnalisé’). Care delivery can be a very complex matter. Furthermore, pursuing excellence requires innovation in methods, technology and facilities. Hospitals with IPUs that differentiate themselves from competitors thus contribute to creating value for patients. A hospital’s location must be considered when devising the strategy of IPUs. There tends to be more competition in urban areas where the population density is higher. Hospitals in urban areas thus have more opportunity to create a distinctive strategy in each practice unit.

(5) Measure results, experience, methods, and patient attributes for each IPU.

A health care provider needs to know where it stands in order to improve its performance and create more value for patients. It is also a way to determine how the provider ranks among its competitors. Each IPU, because it serves a particular medical condition, works differently from each other and must therefore be responsible for carrying out evaluations that are specific and relevant to their field of expertise.

A ‘hierarchy of information’ (consisting of four levels) needs to be collected in order to support value-based competition¹⁰. (1) *Measuring patient medical outcomes*. Validated outcome measures are provided by clinical studies, organizations and government bodies (e.g. the Food and Drug Administration in the US). Whilst IPUs should be encouraged to develop their own measurement criteria covering the whole care cycle, using validated outcome measures enables external comparisons. (2) *Experience*. Information needs to be

¹⁰ One of the best sources available (for the US) is the Dartmouth Atlas of Health Care. The project uses Medicare data to provide comprehensive information and analysis about national, regional, and local markets, as well as individual hospitals and their affiliated physicians. See: <http://www.dartmouthatlas.org/>

collected on the number of patients attended to each year and by IPU. Such data would show the number of patients treated for a particular medical condition. (3) *Methods*. This enables the analysis of each step of the care delivery process. With experience and learning, methods can be improved over time. By spotting deficiencies in the manner in which activities are coordinated, corrective measures can be put into place. (4) *Patient attributes*. This includes age, gender, weight, co-occurring conditions, etc., anything that could help in the diagnosis and treatment of patients. The idea is to gather as much relevant information as possible about a patient to be able to deliver the best possible individualized care. Even if at present such information may seem unnecessary or not exploitable, understanding the causal relationship between patient attributes and treatment outcome will limit the risks for patients.

Today, most hospitals do not collect sufficient data. The reasons are essentially the cost of storing, tracking and analyzing patient information. In addition, because of a hospital's functional structure, it is difficult to collect relevant measurements. Also, one cannot neglect the ethical consideration of protecting patient data. Misuse of unprotected data is a potential risk for providers. It is more efficient to move to electronic records, to create information systems that allow quicker access and analysis of medical data and lower information storage costs in the long-run.

(6) Introduce a new pricing structure.

Rather than having each doctor/service issue a separate bill, one could advocate single bills for patients. This single bill should eventually cover the patient's full cycle of care. There are many advantages to following this approach: it facilitates benchmarking with peers, helps the provider better understand its costs and aligns pricing with value. Indeed, the contribution of each function to the overall value delivered becomes apparent and can be weighed against price.¹¹ Moreover, with greater price transparency, providers will better be able to communicate value.

(7) Market services based on excellence, uniqueness, and results

If a provider's focus is on creating value for patients, it is only natural that current marketing of health care services should shift to patient value. Providers should communicate their areas of expertise and highlight excellence in the delivery of care for particular medical conditions. This can be done by publishing results (hence the need for collecting data) of medical outcomes. Marketing should just not be solely focused on breadth of services, reputation or special patient amenities as it is at present.

(8) Grow locally and geographically in areas of strength.

¹¹ Porter and Teisberg envision predetermined prices for care cycles with of course a provisional fee for unexpected complications. This would further encourage coordinated and integrated care.

A provider will be more effective in delivering value for patients by choosing to specialize rather than expanding the breadth of services provided. There is a huge growth opportunity for specialized centres of excellence at the local, regional and even international level. One cannot ignore today the growing trend of medical tourism which is a consequence of health providers competing across borders. Pursuing excellence leads to deeper penetration in a particular field and later on, leads to developing closely related services.

Such specialized health providers will benefit from economies of scale and will be able to develop expertise through experience and learning (Porter et al. 2007). A network of dedicated facilities could thus be formed with common training, information and practices all under a central management team. With pre-established partnerships, referrals would lead to patients being cared for over the whole care cycle. As the hospital is able to build on its reputation, branding (and co-branding if including partners) will play its role by securing more patients, thus feeding into the virtuous cycle of health care delivery.

II. THE CHPG IN THE CONTEXT OF THE MONEGASQUE HEALTH SYSTEM

The CHPG is the most important health provider in Monaco – it is the only public hospital catering to the local population in Monaco and surrounding French areas. However, it does not work in isolation and it is necessary to put its role in context in order to fully appreciate how value is being delivered to patients.

1. Overall health status in Monaco

Monaco as a (small but) rich nation boasts a high quality of life for its residents. It falls within the affluent geographical area of the South of France. It should come as no surprise that it has efficient sanitary facilities, accessible drinking water, an immunized population, etc. Monaco's comfortable health status is well represented in Table 2 (see Appendix 1). For a list of all healthcare services in Monaco refer to Appendix 3.

2. Government policy

The Principality prides itself on the quality of its medical teams and equipment. The government places great importance on the quality of its healthcare facilities and ensures that there is excellent access to healthcare. The CHPG, being a public hospital, receives financial support from the government (see Appendix 1). However government is not the sole contributor. Others include the Monegasque health insurance ('caisses sociales') and the public French health insurance (in accordance with Franco-Monegasque agreements) who play a significant role (Vergély 2007).

Costs related to CHPG weigh heavily on the Principality, especially the current plan for the reconstruction of the hospital. In 2006, the hospital reported a deficit of € 9.6 million (and

subsequent budgets have forecasted that this figure would be on the rise). According to the Minister of State, 'Health has a price and it is normal that the State participates in these costs, just as it is normal that the government controls such costs' (Centre de presse de Monaco 2006). The Department of Health and Social Affairs (DASS) is in charge of managing public policies related to the domains of public health and social work. It aims to take care of elderly and disabled people and persons suffering from chronic and invalidating illnesses. Examples of current concrete actions are: the opening of the gerontology coordination centre in 2006, the inauguration of Villa Speranza in 2009, a day centre for people suffering from Alzheimer's disease or other similar diseases (troubles cognitifs du comportement). These institutions form a part of the spectrum linked to the CHPG.

3. The Role of Proximity and Collaboration: France and Monaco

Monaco, being the second-smallest country in the world with an area of 1.95 km², shares close ties with its neighbor France. The structure of the health systems in both countries is rather similar and although Monaco is not subject to French policy and laws, it uses French medical practices and recommendations as guidelines. From a public health perspective, Monaco is considered as part of the French healthcare network because of its proximity. Monegasque health providers serve both local and French residents. When analyzing supply and demand for healthcare from a regional perspective (the Alpes-Maritimes region), the Principality's contribution cannot be ignored.

There is a large French population employed in the Principality. Franco-Monegasque social security agreements make access to healthcare easier for both parties: French residents can receive treatment in Monaco and Monaco residents can receive treatment in France and are still covered by health insurance. Of the 40,000 employees (including French residents) in the Principality, only the 1,940 public agents and 3,525 Italian frontier workers are not beneficiaries of the CCSS (Vergély 2007). In addition to the CCSS, Monaco also has private health insurers, i.e. complementary medical insurance contracts (known as 'mutuelle') are available to cover fees not paid for by the state system. Patients in Monaco and France are free to choose their providers and doctors. Besides the CHPG (which is the only public hospital in the Principality and provides a wide array of services), there is a Haemodialysis Centre (for kidney failure-related illnesses), an institute specialised in sport medicine (the IM2S) and a cardio-thoracic centre that has gained recognition well beyond the country's borders. In the case of serious health conditions that require specialised care and that the CHPG cannot provide, patients are sent to the Centre Hospitalier Régional Universitaire de Nice, a large medical hospital centre 20 km away.

4. Health coverage

The Principality of Monaco provides universal health coverage for all its citizens. The *Caisses Sociales de Monaco* (C.S.M.) is responsible for managing social security. Two of the four agencies that make up the CSM deal with health insurance. They are: The *Caisse de Compensation des Services Sociaux* (C.C.S.S.) and the *Caisse d'Assurance Maladie, Accident et Maternité des Travailleurs Indépendants* (C.A.M.T.I.). The C.C.S.S. manages medical insurance for employees. It is financed by contributions from employers calculated to reimburse the system's expenses, mainly composed of medical and family provisions. The rate of

contributions, as of 1st October 2008, is fixed at 15,1% (Caisses Sociales de Monaco 2009). “Dependant family members are covered by the contributions paid by employed family members. The unemployed, old age pensioners and people on long-term sickness benefit or maternity leave do not have to pay healthcare contributions. Foreigners immigrating to Monaco without jobs must produce proof of private health insurance in order to obtain their residence permit” (Europe-Cities 2009). The C.A.M.T.I. manages medical insurance for self-employed workers who are both the contributors and beneficiaries of the scheme. However, the latter need to take out additional insurance to cover family members.

III. THE CHPG AND VALUE CREATION

1. Service Provision and Proximity of Care

The CHPG is the only public hospital in Monaco. It has the status of a “CH” i.e. a ‘centre hospitalier’. Consequently, its mission is to ensure the provision of the full range of medical, surgical and obstetric care as well as long-term care (Fédération Hospitalière de France 2009). Because of its multi-faceted nature, the CHPG is a very distinct type of establishment but its specificities have been chosen to align with the needs and image of the Principality. The CHPG’s wide range of services covers at the very minimum, the immediate needs of the population it serves.¹² Furthermore, it has a good blend of activities, possessing features that are distinctive so that the vision of a hospital organized around medical conditions is ambitious but not unachievable. The manner in which the CHPG currently operates (like other CHs in France), portends that health providers are on the trajectory to become “business-unit”- structured.

Table 4 provides a number of examples of some of the pathologies treated at the CHPG.

Service	Pathologies treated
Explorations fonctionnelles de neurologie	<ul style="list-style-type: none"> ▸ Loss of consciousness ▸ Epilepsy ▸ Neuro-degenerative diseases ▸ Parkinson disease ▸ Inflammatory neurological diseases
Nephrology	<ul style="list-style-type: none"> ▸ Kidney related diseases, with or without renal failure whether hereditary or acquired. ▸ Pre-dialysis preparation ▸ Preparation for kidney transplant ▸ Treatment of lithiasis (kidney stones) ▸ Treatment of hypertension, idiopathic or of secondary causes, and its complications.
Orthopaedic Traumatologie Consultations	<ul style="list-style-type: none"> ▸ Degenerative ailments of the hip, knee and shoulder (arthrosis) ▸ Upper limb and peripheral nerve ailments ▸ Arthroscopic explorations and surgery ▸ Micro-surgical treatment (through endocopy) of carpal tunnel syndromes. ▸ Surgery of the foot ▸ General orthopaedic surgery ▸ Sport trauma ▸ Paediatric of the spine (scoliosis)

¹² The population encompasses the 35,000 inhabitants of the Principality as well as the 100,000 inhabitants in surrounding local areas that are dependant on the CHPG’s health services. When including the nearby town of Nice, the entire population amounts to 435,000 inhabitants (Horizon 2011). Monaco attracts many visitors whom the CHPG also has to serve.

Table 2 – Pathologies related to services (CHPG)

The ‘proximity of care’ plays an important part in making health care accessible to patients. It affects quality of life, especially in the case of chronic diseases. Because Monaco is closely aligned with and adopts most French practices, it is necessary to see how it sits within the French framework in the context of proximity of care. In France, the issue of geographic accessibility is addressed by an organised network of care delivery managed by the SROS (Schéma Régional d’Organisation Sanitaire), a project initiated by the French government. The SROS analyses the evolution of the French population’s healthcare needs (physical and mental, with particular attention paid to the needs of pregnant women and newborns) and determines the healthcare output required for each ‘health territory’. This approach is unique in France (Lucas-Gabrielli, Nabet et Tonnellier 2001). For each French department, the SROS delineates ‘health territories’ which are further sub-divided into ‘proximity of care territories’. Monaco is an independent nation and has a special status within the SROS (the SROS only takes into account the CHPG’s contribution to health needs when it plays a part in French health care networks, e.g. cancer and neonatology). From an economic perspective, proximity of care is expensive. It is not easy to balance cost and quality of care, especially when resources are limited. In all countries, financial constraints force a compromise between accessibility, quality and cost. The objective of proximity of care is to maintain as many health services as possible close to the citizens. This implies numerous health care units with reduced equipment and relatively reduced volume of activity. The CHPG has had to develop networks of care to redirect patients towards the CHU in Nice for care that is either too costly to maintain or for patient safety reasons (Vergély 2007). On the other hand, treatments that necessitate highly specialized and technical knowledge require better medical equipment and higher volumes of activity and thus a relatively reduced number of health units (Lucas-Gabrielli, Nabet et Tonnellier 2001). When healthcare providers specialize in particular medical conditions, these become their ‘reference’ activities – other providers refer their patients to them thus increasing the volume of patients they welcome. This is congruent with Porter and Teisberg’s virtuous circle of value. With more patients, the health centre gains more experience in delivering treatment for the medical condition in which it specializes, becomes more efficient thus reducing costs and earning a solid reputation whilst providing means to innovate.

The CHPG must offer services required by the population it caters to. Its “soins de proximité” include: emergency care, medical and obstetric care, paediatrics, pneumology, physical rehabilitation, orthopaedics, trauma and general surgery, psychiatry and long-term care among others. It offers a large pallet of medical services that can treat most basic medical conditions that population suffers from. However, in addition to fulfilling the role of a local hospital, the CHPG chooses to specialize in areas for which it has the appropriate medical experts and technologies and for which it will have a competitive advantage over other health providers in the area. Its ‘activités de référence’, i.e. the medical services for which the hospital has the highest level of technical infrastructure and know-how and experience in its health territory, are: cardiology, digestive surgery, specialised surgery, urology, hemato-oncology, radiotherapy, reanimation, nuclear medicine, therapeutic, biliopancreatic and esophageal endoscopy, therapeutic colonoscopy, interventional radiology (Pôle Santé 2008). In order to provide these ‘reference activities’, the CHPG has equipped itself with a state of the art technical support

centre. As a rule, small public hospitals will refer patients to hospital providers (usually important regional or university hospitals) with the appropriate reference activities. The CHPG is one such regional hospital.

Notice how for both reference and proximity of care activities, the CHPG lists medical specialties it offers and not medical conditions it treats! Whilst it thinks along those terms, the CHPG continues to define the pathologies it treats for each medical specialty.¹³

The CHPG, in its 'projet d'établissement' (literally hospital project), defines its general medical, paramedical and management objectives for the next five years based on its 'medical project'. The medical project reflects the health issues that concern the population and that need to be addressed by the health provider. (In France, these are determined by the SROS).

2. Hubs of Medical Excellence

In 2002 France announced 'Plan Hôpital 2007', an important reform plan for its hospitals. Part of this plan involves the restructuring of the hospitals who are encouraged to develop patient-centric hubs of medical excellence ('pôles d'excellence'). These hubs can be likened to large clinical departments focused on delivering care for specific medical conditions (or a set of related medical conditions) and including only the medical specialties needed to achieve this task. A doctor (the 'chef de service') is in charge of each hub and is responsible for defining and organizing the hub's activities, the types of services that should be provided and the types of patients that can be served. This is equivalent to the integrated practice unit advocated by Porter and Teisberg. The CHPG in Monaco has opted to employ such a structure similar to the structure of the hospital centre in Carcassonne, France, that has been identified as a model throughout France. This structure is represented in Figure 8 below.

Several medical specialties are grouped under one hub¹⁴. Grouping medical specialties into hubs of excellence prevents the compartmentalisation of hospital services and facilitates a multidisciplinary approach to delivering care to patients. The care delivery process is simplified and improved. Communication and patient flows are organized between the clinical, medical, administrative or logistical hubs and resource management can be optimized¹⁵. While today the CHPG's services are offered on the basis of the old Pavilion system that physically separates medical/surgical specialties, Monaco is already making progress towards integration of services.

¹³ Some of the CHPG's reference activities are very specific. For example, in internal medicine, specialisation fields include therapeutic endoscopy, pancreatology, intestinal immune pathologies (celiac diseases and intestinal inflammatory diseases), digestive cancerology, viral hepatic and biliary pathologies, and proctology. In cardiology it is particularly competent in the diagnostic and therapeutic care of cardiac rhythmic disorders.

¹⁴ For example, *diabetes mellitus* being a complex chronic endocrine disease (a typical case of long-term care) with complications that lead to cardiovascular disease, kidney failure, retinal lesions and neurological problems, would ideally require treatment provided by a modern medical hub (vascular diseases encompasses cardiology, nephrology, dialysis, endocrinology and neurology).

¹⁵ E.g. common area for beds, all patients in one place. Doctors visit patients whereas before the patient was wheeled from one service to another.

These comprise, for example, medical imagery, which now encompasses services of nuclear medicine, MRI, interventional and conventional radiology. In interventional radiology, the CHPG is very experienced in the fields of gynaecology and obstetrics (post-partem haemorrhaging) and cancerology (chimioembolisation and tumour removal). Another example is the mother-child pole, which will regroup maternity, obstetric care, gynaecology functions.

It is expected that in the year 2020 (when the new hospital is expected to be finished), the “hubs of excellence”-system will have evolved to be fully in place. The CHPG, unlike its French counterparts, does not require to make profound modifications in its organizational structure as it already geared itself to operate more like a large clinic (Horizon 2011, 2006). The current reference activities will determine the hubs of excellence.

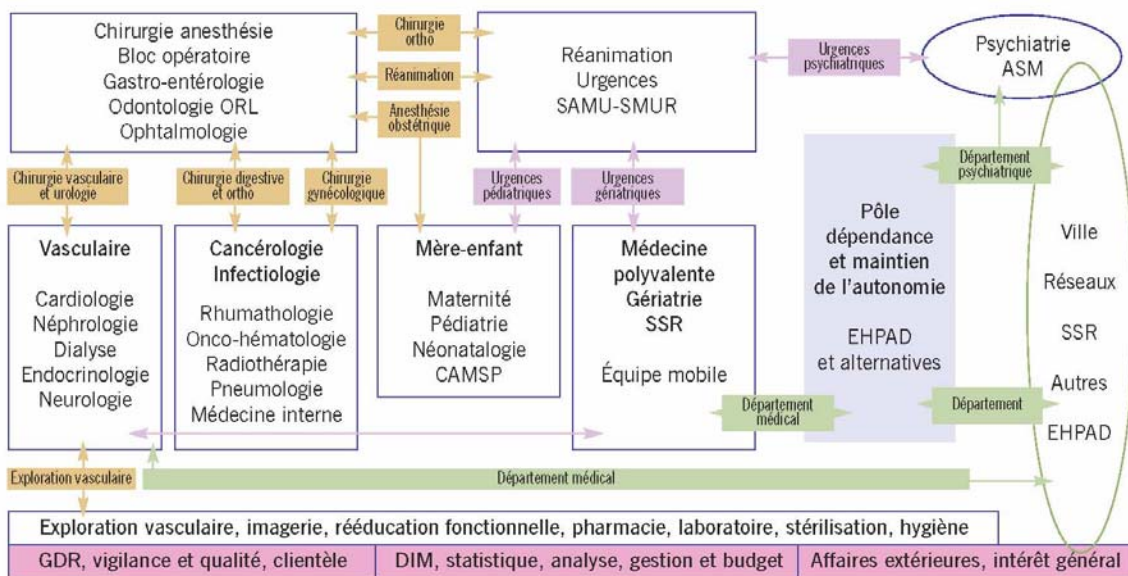


Figure 3 – Scheme of the medical and technical hubs of activity at the hospital centre in Carcassonne

Source: Revue Hospitalière de France (2009)

3. Networks of Care

There are different networks of care in France. The more developed networks are organized around specific pathologies, like, for example, cancer, aids and diabetes. Others are organized around health issues that affect particular areas and populations. These networks ensure that there is a complementary and coordinated delivery of care evenly spread out in the area.

Many networks designed to deal with the ‘proximity of care’ are informal and left to the initiative of the providers themselves. There is an ongoing census to identify these networks. Monaco participates in a number of formal regional networks such as the “Sécurité Naissance”

Paca Est/Haute Corse/Monaco” (safe birth) network¹⁶ or the “ONCAZUR” network. The ONCAZUR network covers the East and West Alpes Maritimes, Haute Corse and Monaco and manages the coordination of care for cancer in those territories. It includes public and private providers, aftercare establishments and home care. It serves about 30% of the PACA region, that is 1,500,000 inhabitants. There is an incidence of 8,000 new cancers every year. (Oncazur 2009)

In 2006, the CHPG announced that it would develop cancer treatment for women and would focus more specifically on breast cancer treatment. This has been made possible with the arrival of specialist Dr Marie-Christine Missana with an impressive track record, having previously worked in the Hôpitaux de Paris as clinical manager and at the Institut Gustave Roussy, first cancer centre in Europe. Dr Missana specialises in breast cancer surgery (and more specifically for women with a genetic risk) and esthetic reconstructive plastic surgery. The doctor has developed a new surgical technique of mammary reconstruction using endoscopy. The CHPG wants to use this high level of skills to consolidate its existing surgical provision in other areas such as visceral surgery, gynaecology and thoracic surgery.

In its recent “5-year strategic medical plan”, the CHPG states its will to intensify its collaboration with health centres *within* the Principality. This includes (1) “The Monaco Dialysis Centre” (CHPM) as part of a nephrology network, taking care of patients who suffer from kidney failure. Half of the residents in the Alpes-Maritimes department, i.e. 1523 persons, visited the CHPM for a dialysis check-up in 2003 (SROS/IRCT 2005); (2) the Cardio-Thoracic Centre which provides complete treatment for all thoracic and cardio-vascular diseases. It works in collaboration with the cardiology department at the CHPG, and (3) the IM2S, the Monaco Institute of Sports Medicine and Surgery.

4. Pricing system

Part of France’s healthcare strategy (‘Plan Hôpital 2007’) is to introduce a new billing system for hospitals called “T2A” (‘Tarification à l’Activité’). Monaco has also chosen to adopt this activity-based billing system. Most French public hospitals have chosen to shift to the new billing system in stages. The CHPG made a 100% shift to the T2A system in 2008. In anticipation of this date, the administrative, management and medical teams had been rigorously prepared. Indeed, the CHPG is the first public hospital within the French system to apply the T2A. Before the reform, there were two different billing systems for private and public hospitals in France. The public hospitals were given a global budget based on historical costs which did not reflect a hospital’s true activities and did not encourage innovation and competition. Private hospitals billed each hospitalization based on activities and length of stay. This system had its flaws e.g. unnecessary repetition of medical actions, difficulty to know in advance the cost of a diagnosis. The T2A reform provides a unique billing approach for public *and* private health care providers that enables to better compare performance. The T2A is an activity-based billing system that is inspired by the American classification system: a flat rate is set for each hospital stay and for each Diagnosis Related Group (DRG). In France, DRGs are known as GMH ‘Groupes de Malades Homogènes’. Of course, costs adjustments can be made for exceptional

¹⁶For more information see ARH PACA 2009

cases. Thus, in this system, each hospital stay has a set value which is determined by the patient's medical condition (and its seriousness), the length of stay and the tests and technical interventions performed during the stay. The CHPG's decision to shift to the T2A system was based on a number of reasons: (1) The French and Monegasque systems are linked to such an extent that it would be very difficult to consolidate two different billing systems. French and Monegasque patients regularly cross borders to access healthcare services. The situation would be extremely complex for the social security system and the health providers. There would be no means to compare prices. (2) T2A is part of a reform to improve performance and quality of care. The benefits of this system have already been seen in the Monegasque private sector (T2A was introduced in March 2005 for the private sector). (3) Previously, the CHPG tariffs were based on "costs per day": the longer a patient's stay, the more the hospital revenue. The trend observed in Monaco is that the length of stay in hospitals is decreasing but the number of patients being admitted is increasing. The day price in Monaco is set by the French authorities (since French social security finance 60% of the stays in Monaco) according to the Franco-Monegasque agreements and is not always to the advantage of the Principality. The big question, however, is: How does shifting to the T2A system of billing create value for patients? We identify the following: (1) As bills are activity-related, shorter stays are preferred to longer ones. This encourages less invasive treatment and promotes preventive care which, in turn, reduces the duration of the hospital stay. The danger is that private providers may opt to offer treatment only for medical conditions that do not require long hospital stays. (2) The French reforms compel all private and public hospitals to have the same billing system and same prices (as advocated by Porter and Teisberg). By Monaco following suit, this means that the CHPG can compare its results with other providers. (3) Hospitals that have more 'activity' are incentivised to continue delivering value (they are financially rewarded for creating value). (4) Hospital beds in the CHPG are finite in number and the demand for them is high. Since the T2A encourages the hospital to release patients sooner, this obliges the creation of partnerships with other providers so that the creation of networks is fostered which ultimately ensures that the patient is cared for throughout the whole cycle of care. (Boulay 2009)

5. Preventive Care

The CHPG undertakes preventive action in several fields. Its efforts to educate and screen the population are supported by the government (Direction de l'Action Sanitaire et Sociale – DASS) through its policies and laws (e.g. no-smoking law) and the National Education Board. Other associations such as the Croix Rouge Monegasque also play a conducive role. The CHPG includes a centre for free and anonymous screening tests for aids, hepatitis B and C, called "Centre de Dépistage Anonyme et Gratuit" (CDAG). The closest other screening centre is located in Nice at the University Hospital Centre, while one screening centre in Menton closed in 2005. Since that time, the number of visits to the CHPG has increased significantly. In 2008, 1000 tests were made (this corresponds to approximately 2000 patient visits). (Rouison 2008)

The advantage of CDAG is that (unlike big hospitals such as the Nice CHU) there is a true feeling of anonymity.¹⁷ The proximity of laboratories, medical equipment, general medicine and internal medicine departments is an added advantage. Patients do not have to make appointments

¹⁷It is located in the remote "Louis II Pavillion" where its entrance is also made discreet.

(people come on a voluntary basis) and rarely come into contact with one another at the dispensary. There is only a single doctor and one nurse on duty and no waiting period is entailed. Nurses in training may be called to assist the team temporarily when there is a heavier than usual inflow of patients. (Rouison 2008) The CDAG is now taking the initiative to educate the population (in collaboration with the “Monegasque National Education Board”), organizing information sessions for high-school students and offering external services, for example, to prisoners.

The CHPG’s screening services comprise cervical cancer (5th cause of death in France and in the Principality), breast cancer for women, colorectal and prostate cancer for men. A ‘Cancer Prevention Day’ had been organized in August 2006 to inform people about ways to prevent cancer by ways of improving life hygiene. The “Centre for Colorectal Screening” was created by Professor Rampal in 2005. The idea is to detect cancer patients at an early stage, before even the symptoms show. This public health campaign targets about 15,000 people (Pôle Santé 2008). It is the general practitioner who advises patients whether to do the test or alternatively, one can make a visit to the Monegasque centre for “Colorectal Screening”. A letter from this centre is regularly sent to the high-risk population group (individuals between ages 50 and 75 years) to remind them to take the test (which is for free).

The CHPG has featured prominently in the Principality’s strategy to prevent deaths due to sudden cardio-vascular attacks. The ‘Association Monegasque de Lutte Contre La Mort Subite’ was created in 2004 by two cardiologists from the CHPG (AMLCMS 2008). The official website states that each year 400,000 Americans and 50,000 French people die of a sudden heart attack. This disease kills as much as do aids, breast and lung cancer combined. Cardiologists are responsible for taking the appropriate measures for their risk prone patients. AMLCMS decided to organize effective emergency care for the general public by making defibrillators available in public places. In Monaco, these machines are fixed in the streets and in places that gather a lot of people (shopping centre, hotels, etc). The Monegasque Red Cross trains people to use these semi-automatic defibrillators for free in a short two-hour session.

Finally, smoking in public places has been banned in Monaco since 1st November 2008. The department for social affairs and health oversees the application of this new law. Since this law has been put into place, there is now a two-month waiting period (previously only one month) for an appointment at the CHPG which provides free consultations to help quit smoking. There are plans to recruit more medical staff to cope with increased demand (Département des Affaires Sociales et de la Santé 2009).

6. Research and innovation

Monaco uses cutting edge technologies and medical equipment. A good technical support centre is crucial for the diagnosis and treatment of medical conditions and particularly so for the activities in which the CHPG specializes in (for its hubs of excellence and reference activities).

In 2001, the CHPG was the second establishment in Europe (after Zurich) to acquire a TEP/CT scan (or PET scan) required in nuclear medicine. In 2006, the new SPECT/CT camera was acquired. Such an investment pays off as Monaco responds to demand from Monegasque, French

patients from the PACA region and even international patients. The PET scan provides clearer readings and helps doctors better identify the prognosis of a cancer and provide more appropriate treatments. (Vergély 2008).

Similarly, the CHPG purchased a catheterization room for its specialized cardiac rhythmic study unit: at the time, only four other hospitals in Europe owned such technology (the only one in France was located in Bordeaux)¹⁸. The CHPG is a centre of excellence for interventional endoscopy and has made a conscious effort to provide its surgeons with the latest equipment to remain at the top in their profession (these include state-of-the-art gastroscopes, colonoscopes, magnifying endoscopes, endoscopic video capsules, echo endoscopes).

Because the CHPG chooses to be highly specialized, this necessarily involves research. All hubs of excellence and 'reference' services conduct research. Innovative approaches to diagnosing and treating patients are the result of research by specialists who are given the best available tools and technologies at their disposal. For example, Dr Missana, a surgeon specialising in reconstructive surgery for cancer patients has developed a new technique for mammary reconstruction using endoscopy (Vergély 2007). The pathology department conducts research in collaboration with the cytogenetic unit for solid tumours in the CHU in Nice to further the CHPG's expertise in the cancer department. The pathology department is also equipped with the latest automated systems. Pathologists are now able to provide results faster (also, pathologists can work on other tasks in the meantime) (Dupre 2008). These machines can colour up to 720 slides simultaneously and prepare 1080 slides in one hour (Pathologie de la Cellule au Diagnostic 2008). They also provide better technical performance and diagnostic reliability.

The cardiology department regularly publishes research articles in French and English medical journals and participates in medical congresses. (Saoudi 2008)

The CHPG's gradual reorganization into poles of activities is a management innovation. In addition, Monaco has decided to adopt the pricing system T2A, the idea being to encourage value creation, efficiency and competition. At present, it is too early to test the benefits of this decision. Finally, starting a school for nurses is a new and proactive idea as it inculcates within the students the culture of the hospital and the dynamics of the hubbing system while at the same time addresses the shortage of nurses (a worldwide problem).

In 2007, a surgical intervention by the gastro-enterology service (performed on 15 voluntary patients) was broadcasted in real time to Boston. Medical surgeons - one from Monaco, the other from Marseille – demonstrated via satellite, techniques involving endoscopy to a live audience of 500 endoscopy specialists in the United States. They could ask questions while the endoscopy was in progress. Renowned hospitals such as the Beth Israel Deaconess Medical Centre, the Boston Medical Centre, the Massachusetts General hospital were part of this project. (Centre de Presse 2007)

¹⁸ Two immense magnets weighing two tons each surround the operating table; the surgeon manipulates a joystick to control the magnetic navigation system to very precisely direct the probe in the patient's heart (Saoudi). Professor Saoudi, head of the cardiac department, operates ten patients a week, each intervention lasting on average two to three hours. The surgical techniques developed are revolutionary and reduces the risk of typical complications (e.g. heart perforation) for patients that occur in cardiac catheterization.

The project of a virtual university at the CHPG was announced in February 2008. The aim of creating the 'Université Médicale Virtuelle de Monaco' (UMVM) is threefold: to train doctors and paramedicals, educate with regard to health matters, train researchers and publish results of research (Croix-rouge monégasque 2009). To begin with, classes will be restricted to subjects related to the neuropaediatrics medical treatment (Professor Evrard, a specialist in this field, initiated the project). Meanwhile, numerous renowned specialists have also agreed to participate.

7. Information Systems

Although the Principality's health system is closely tied up to that of France, the CHPG unlike French hospitals, is under no obligation to obtain an accreditation or certification. Indeed, Monaco is an independent country; neither do the Franco-Monegasque health agreements stipulate the need for a French quality seal of approval over the CHPG. Nevertheless, the CHPG chose (as part of its own internal quality initiative) to undergo the certification procedures delivered by an external French organization, the HAS, the 'French National Authority for Health'. In May 2007, the CHPG obtained a 'certification without recommendations' which means that the HAS encourages the healthcare provider to carry on with its plan of action.

8. Infrastructure Improvement

The CHPG facilities are going to be revamped. Because of the lack of space on the Monegasque territory, the new and improved CHPG will be rebuilt on the same location but will also have an additional site, the Cap Fleuri (actually located 2 km away from the main building in Cap d'Ail, France). Since the CHPG cannot altogether stop functioning for the duration of the renovation, the construction work will take place in stages all the while ensuring that security and safety measures are taken. The new hospital gives the opportunity to reorganise space to maximise efficiency and to transform itself into a 'luxury' hospital with all the amenities it entails.

The new building will add another 10,000 m² to its current 65,000 m² (Vergély 2007). The reorganisation will enable to regroup the medical, surgical, gynaecology and obstetric activities, psychiatry, technical and logistical services (Rubolini 2009).

With regard to the creation of a luxury hotel with maximum comfort for patients, Jean-Paul Proust, president of the CHPG asserts from experience, the beneficial impact comfort can have on the morale of patients (Giordano 2008). Rooms are sea-facing with a balcony and are directly linked by intercom to the doctors' offices located on different floors. Attention has been paid to audio levels so that a patient's intimacy and privacy are maintained. A catering service has already been set up (since 2007), bath towels and dressing gowns are provided. Staff have been tapped from the hospitality industry (DeFenzo 2008). The CHPG has chosen not to increase the number of beds despite the increased space provided by the hospital: consequently each patient has more room. With such reorganization bringing efficiency and luxury amenities, value is created for patients. It will truly be a modern facility: the CHPG aims to have a communications

system that works on a ‘zero paper’ policy: e.g. patient’s beds will be equipped with multimedia terminals and touch-screens will allow access to telephone, TV, meal menus, quality questionnaires, etc. (DeFenzo 2008)

9. MARKETING INITIATIVES

Monaco is unique and so is its public hospital centre. The CHPG’s multi-faceted nature makes it a very distinct type of establishment but with specificities that have been chosen to align with the Principality’s needs and image. The Monegasque government wishes to make the Principality’s healthcare system one of quality. The CHPG is developing axes of reference and poles of excellence in well-defined areas and has heavily invested in healthcare in the last decade. Between 1999 and 2006, medical staff was considerably increased. Between 2002 and 2009, activity in the pathology department alone progressed by a stunning 235% (Pathologie de la Cellule au Diagnostic 2008). Since pathologists assist many medical specialties, the increase in staff and the development of new services is reflected in the activity of the pathology units. In addition, the construction of the new modern CHPG (planned to be finished in 2020) is estimated at around 630 million Euros (La gazette de Monaco 2008).

In 2007, the hospital’s deficit was budgeted at around 17 million Euros¹⁹. Investments have been made to raise the public health standards and improve quality of care altogether. The recent accreditation of the CHPG by the “Haute Autorité de Santé” gives the hospital more credibility.

Besides, Monaco is a very popular tourist destination and markets itself as a luxury destination. The notion of well-being and lavish lifestyle in Monaco is ever-present with its many spas (Thermes Marins, Métropole Espa, Port Palace, etc.), its grand hotels and restaurants. The marketing campaign ‘Nouveaux Sens’ launched by the “Department for Tourism and Conferences” “sought to promote longer health breaks including thalassotherapy, balneotherapy and access to the seas” (Vergély 2007). The “Department for Tourism and Conferences” now plans to foster medical tourism in the years to come, attracting international patients with its quality health centres (the IM2S is also promising). In this context, Monaco will be competing with other important ‘medical tourism’ destinations such as London, Geneva and Boston who attract a target clientele from Gulf countries, Russia and Central Europe. Hospitals, medical institutions are forbidden to advertise in France. Therefore, other methods need to be used to promote the Principality’s healthcare centres: press releases, editorials, trade press, medical conferences (the CHPG specialists already take part in the many medical congresses organised in the Principality), and word of mouth referrals. With its new high-tech facilities and special ‘luxury’ services, one can be confident to get attention but it is necessary, for the sake of value-based competition that the CHPG needs to publish results in its respective areas of expertise. The published results will promote the quality of its performance most effectively.

¹⁹ Mr. Denis Ravera, Government Counsellor for Health and Social Affairs, says this figure is acceptable since it is a political choice (Vergély 2007).

10. Competing Across Borders: Monaco vs. France

In every country a lot of importance is placed on the need for healthcare providers to control costs. The rising deficits in France and Monaco accentuate this aspect. However, focusing primarily on reducing costs leads to zero-sum competition. This is obviously the wrong kind of competition. Due to an effective coverage system, patients are given the choice to go to private or public practices. In France, the private sector is more efficient: patients have a shorter waiting period, experience more efficient service and there is a growing trend for people to turn to private rather than public providers. Thus private clinic service delivery comprises 40% of the volume while cost levels are just 22% (Sandier, Paris et Polton 2004). Evidence of increased competition in the Monaco – East PACA region seems to confirm that rivalry between neighboring countries (such as Monaco and France) can lead to more efficient outcomes and higher productivity if you do not compete on costs alone but rather try to improve health care results. Some examples may illuminate the point where the patient is the ultimate winner in the competitive game. (1) The inefficient surgical cardiology department at the CHU in Nice had to shut down as competition from Monaco (the Cardiothoracic Centre and CHPG combined) and from the private clinic “Arnault Tzanck Institute” in Cannes became too strong. (2) The Dialysis Centre (CHPM) has been gradually attracting more patients by providing an ever efficient service that is very much in demand. Today, more than 50% of the residents in the Alpes-Maritimes-region get their dialysis treatment at the CHPM. (3) The pathology department at the CHPG works on samples given to them by the different departments at the CHPG, the Menton hospital and independent doctors in Monaco. During the last seven years, activity in the pathology department alone increased by 235% (Pathologie de la Cellule au Diagnostic 2008). Since pathologists assist many medical specialties, the increase in staff and the development of new services indicates a greater reliance on Monaco than on laboratories in France. Such increase cannot be accounted for due to a rise in population or a higher incidence of disease. (4) Monaco has attracted highly qualified specialists.²⁰

IV. CONCLUSION

The CHPG follows strategic recommendations for health providers that ultimately lead to improvements in health care results and value creation for patients. The reorganisation of the CHPG’s structure into poles of activities can be likened to the concept of integrated practice units (IPUs) as being proposed by Porter and Teisberg. It is patient-centric and involves a multidisciplinary approach (with dedicated teams) to specific medical conditions. CHPG’s activities of reference will gradually develop into poles of excellence. Improving quality and specialisation enables the CHPG to deliver the best possible care in its area of expertise and thus improves value. The patient mix, demand, and the restrictions caused by the facilities determine the range of services to be provided. The development of health care networks (Porter et al. 2009) ensures that patients are cared for throughout the care cycle. This, too, will drive

²⁰ For example, Dr Bernard Benoit (world-wide reputed echographer), Dr Serge Fayad (obstetric), Dr Roth (internal medicine), Dr Castanet (dermatology), Dr Jacquot (orthopaedist).

improvement in value. Also, the CHPG refers patients to partners or network partners for services it does not offer. The chef de service contributes to determining the strategy for his/her service. Information systems are being developed that will ease data collection and its analysis. Innovation occurs on several levels of analysis: reorganized structure, investments in high-tech medical equipment, research, education, modern hospital building. Finally, by modernizing the infrastructure, the CHPG is creating value for its patients and is already reaping the benefits of the virtuous cycle of value. Government in the Principality is recognizing and supporting these efforts.

In the light of these positive efforts, however, the real challenge lies in the proper implementation of those (strategic) principles. Whilst some have been in existence for some years and can be tested and verified for optimal provision of services, the CHPG is crossing new frontiers in terms of specialist care, innovative treatment as a business, new billing structures and the digital hospital. Each of these has to pass the test of practicability, relevance and efficacy. Especially, CHPG needs to start to publish results of medical outcomes. This requires a rigorous approach of results measurement. By creating more transparency of data, value-based competition and results-driven health care are encouraged. In addition, CHPG should focus on enhancing 'medical tourism', given that health providers in neighboring countries (and other parts of Europe) do not have a healthcare system as comprehensive as Monaco. Ensure that the pricing reform T2A does not make the CHPG lose focus of creating value for patients, that is, one has to align financial success and medical success. Seeking accreditation from reputed organizations for promotion on an international level would certainly help to reach this ambitious goal.

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Appendix 1

	Statistic	Rank	Source
Life expectancy male	76.3 years	21/225	CIA (2009)
Life expectancy female	84.09 years		
Infant mortality male per 1000 live births:	5.77 deaths	192/224	CIA (2009)
Infant mortality female per 1000 live births	4.19 deaths		
Physicians per 1,000 people	5.81	1/148	WHO (2006)
Hospital beds per 1,000 people	19.57	1/148	
Overall health performance	81%	13/19	WDIB (2005)
Overall health performance (per capita)	24.993 %	2/19	
Per capita government expenditure on health (in international dollars)	3,388	1/185	WHO (2006)
Per capita total expenditure on health (in international dollars)	4,258	2/185	
<u>Total</u> expenditure as % of GDP	9.9 %	13/187	WDIB (2005)

Table 3 – Statistics on Monaco Health

Appendix 2

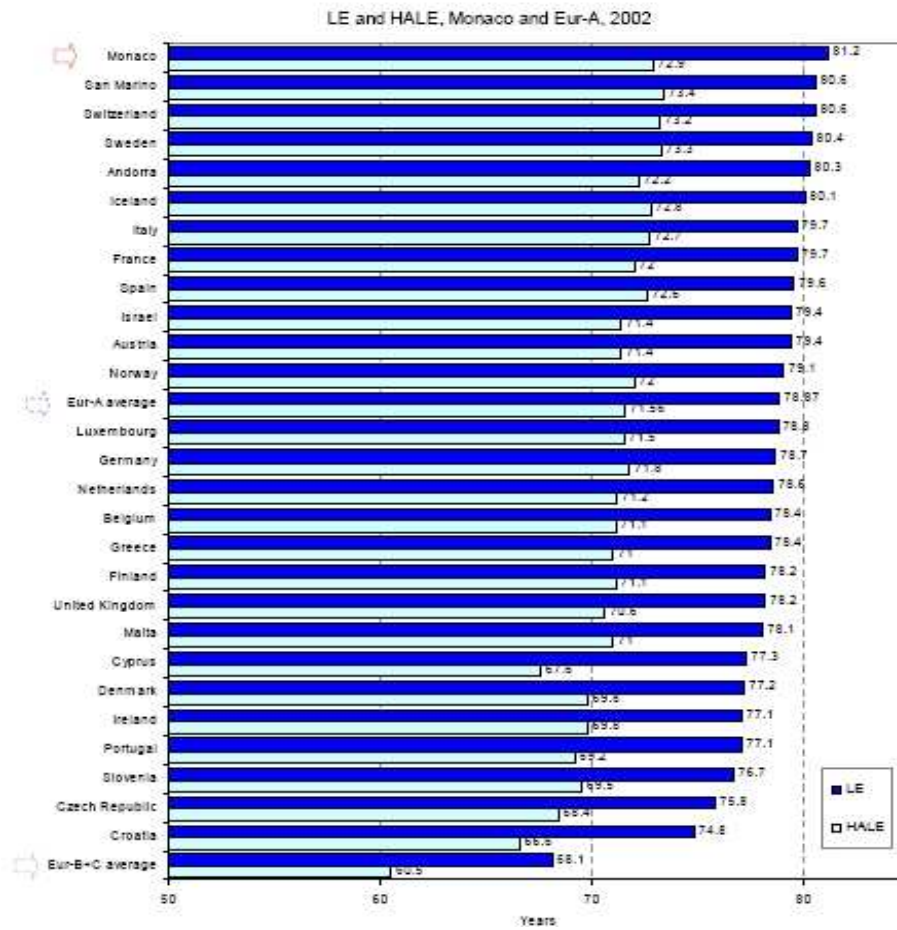


Figure 4 – LE and HALE, Monaco and Eur-A, 2002 (OECD)

Appendix 3

List of health establishments in Monaco

Health establishments

The Monaco Cardio-Thorax Centre

4 surgeons, 2 reanimation-anaesthetists, 3 cardiologists, 1 doctor specialising in extra-corporal circulation

The private Monaco Haemodialysis Centre

2 nephrologists

The Monegasque Institute of Sports Medicine

3 orthopaedic surgeons, 2 reanimation-anaesthetists, 4 doctors including one specialising in rehabilitation and functional re-education

Private practices

Radiology practices:

- ***The private medical Imaging Centre***
4 doctors specializing in radio-diagnosis and medical imagery
- ***The Monte-Carlo Life Check Centre***
1 doctor specializing in radio-diagnosis and medical imagery

The private ophthalmology and ENT Centre

1 ophthalmologist, 2 ENT specialists

10 GP practices (11 general practitioners)

2 cardiology practises (3 cardiologists)

3 reconstructive plastic surgery practices (3 surgeons)

1 endocrinology practice (1 endocrinologist)

1 dermatology practice (1 dermatologist)

3 medical gynaecology practices (3 gynaecologists)

1 sports medicine practice (1 doctor practicing sports medicine)

1 neurology practice (1 neurologist)

1 paediatrics practice (1 paediatrician)

2 pneumology practices (2 pneumologists)

1 psychiatry practice (1 psychiatrist)

1 rheumatology practice (1 rheumatologist)

Source: Vergély 2007

APPENDIX 4

List of abbreviations

- APHP – Assistance Publique-Hôpitaux de Paris
- CDAG – Centre de Dépistage Anonyme et Gratuit
- CHPG – Centre Hospitalier Princesse Grace
- CHPM – Le Centre d'Hémodialyse Privé de Monaco
- CHU – Centre Hospitalier Universitaire
- DRG – Diagnosis Related Group
- GMH – Groupes de Malades Homogènes
- HALE – Healthy Life Expectancy
- HAS – Haute Autorité de Santé
- IFSI – Institut de Formation aux Soins Infirmières
- IOM – Institute of Medicine
- IPU – Integrated practice unit
- LE – Life Expectancy
- OECD – Organisation for Economic Co-operation and Development
- PACA – Provence-Alpes-Côtes-d'Azur
- PU-PH – Practicien Universitaire- Practicien Hospitalier
- RCP – Réunions de Concertation Pluridisciplinaires
- SROS – Schéma Régional d'Organisation Sanitaire
- T2A – Tarification à l'Activité
- WHO – World Health Organisation