



STUDY OF BUSINESS CASES

# HOSPITAL SANT JOAN DE DÉU

Can medical tourism improve the  
health of the healthcare sector?

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### INTRODUCTION

Each year, more than 11 million people visit other countries in search of medical treatments and operations. Medical tourism<sup>1</sup> represents a market estimated at 55 billion euros<sup>2</sup>, with potential annual growth of 20% in Spain<sup>3</sup>. If we add to this access for a convergent global middle class, which is advancing and growing each year (at an estimated rate of 15 to 25%), and an ageing population with increasing hospital care needs, the potential for businesses already in place that will mature in the coming years begins to become clear.

According to the Organisation for Economic Cooperation and Development (OECD)<sup>4</sup>, medical tourism is the term used to describe the practise of travelling to a new location to obtain medical treatment, combining time spent in the destination with medical treatment and tourist activities. The most sought after treatments are cosmetic

surgery, fertility treatment, dental care and elective surgery (non-emergency).

Spain is one of the principal global tourist destinations, and its attraction grows year after year. 2014 was a record year for tourism, with 64 million people visiting Spain, making it the third most popular destination country in the world, and the second in terms of income, behind only the USA, with 61 million euros. Spain also has one of the best accredited and most prestigious healthcare systems in the world (number seven according to the World Health Organisation) (See Annex 1).

Despite its unquestionable appeal for tourists and having one of the highest quality healthcare systems, this does not translate proportionally to a significant number of “medical tourists” that look to Spanish cities as a destination for treatment. This document aims to examine the reasons for this failure to take full advantage, or underuse, of existing resources.

### ABOUT THE SECTOR

When people think about where patients travel for surgery, the first names that come to mind are the USA, countries in central and northern Europe and perhaps some in Asia, including Singapore. However, an analysis of

1. Note: Different terms are used to describe the movement of people due to health reasons. The best known is health tourism, which is comprised of four main areas: medical tourism, wellness tourism, senior or elderly tourism, and disabled tourism. This document focuses on the first of these areas, medical tourism, which represents approximately 50% of patient tourists and 55% of healthcare billing.

2. Source: Patients Beyond Borders

3. Source: Fitur

4. “Medical Tourism: Treatments, Markets and Health System Implications: A Scoping Review”, OCDE



the ranking of the countries that attract the highest numbers of foreign patients shows, surprisingly, that countries like Thailand and Mexico occupy the top positions, above the United States, while others like India, Malaysia, Brazil, Turkey, Taiwan and Costa Rica are ahead of all of the European countries (See table and map below).

What makes a patient want to have surgery at a hospital in Thailand rather than one in the USA, Germany or Spain? The main reasons why patients choose a particular destination are price, quality, travel connections and safety.

### Price

In the USA 15% of the population has no health insurance; 55% have medical insurance provided by their employers; 27% have health insurance subsidised by the government; and 5% have private medical insurance. In total, 46 million Americans do not have health coverage, more than 100 million have elevated healthcare costs, and each year some 15,000 families are forced to seek mortgages on their homes to cover healthcare costs. The average cost of bypass surgery is 15 times greater than the

**Table 1: Top 10 countries for medical tourism**

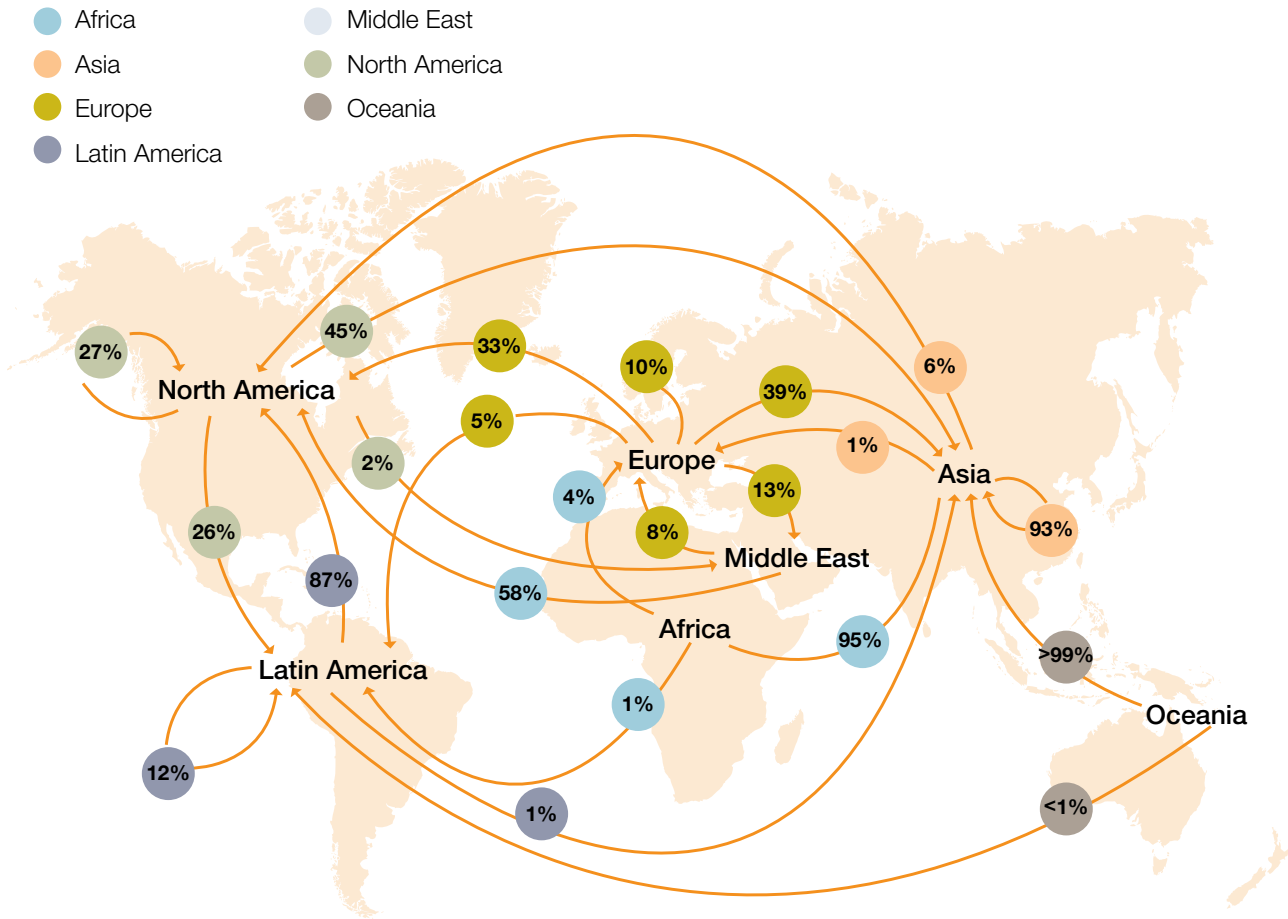
| Country    | No. of patient tourists per year | Observations   |
|------------|----------------------------------|--|
| Thailand   | 1,200,000                        | Specialised in rehabilitative plastic surgery. Some of these centres in addition to being top rate are low cost. |
| Mexico     | 1,000,000                        | Specialised in weight loss and dental care.  |
| USA        | 800,000                          | Pioneering treatments and unique diseases. Top rate specialists and facilities.                                  |
| Singapore  | 610,000                          | Specialised in cancer diagnosis and treatment. Modern and pioneering facilities.                                 |
| India      | 400,000                          | Specialised in orthopaedic and cardiovascular treatment.   |
| Malaysia   | 250,000                          | Top rate clinics and hospitals. Specialised in burns.  |
| Brazil     | 180,000                          | Specialised in plastic surgery. Els preus són un 60 % inferior respecte dels EUA.                                |
| Turkey     | 260,000                          | Specialised in eye surgery and check-ups. Top rate residency of western doctors. Prices 60% lower than USA.      |
| Taiwan     | 90,000                           | The most important health destination in Asia. Price 50% lower than USA.   |
| Costa Rica | 5,000 (15% of total tourists).   | Specialised in dental care and surgery.  |

Source: Patients Beyond Borders, Insider Monkey



Figure 1: Map of medical tourism travel

## Health tourism from the point of origin



Source: Mapping the market for medical travel, McKinsey 2008

cost in India, and a heart valve costs 16 times more than in Columbia (See Annex 2).

Each year some 1.2 Americans<sup>5</sup> cross the border in search of less expensive treatment in countries like Mexico and Costa Rica, number 10 number 12, respectively, in the global ranking for medical tourism (See Table 1). For example, the price of a hip replacement is \$40,000 in the USA. If a patient decides to go to Columbia for the operation, the price drops to \$8000. If the patient travels with a companion, the cost

5. Source: Deloitte

of both tickets, accommodation in a luxury hotel, and the operation are still well below the price of the operation “at home”. This alternative also provides an exotic experience while offering greater discretion and flexibility for the patient and the patient’s companion.

Although price is one of the main considerations in choosing a destination, tourists spent between six and ten times more than they spend on a typical conventional trip at the destination, between \$7,500 and \$15,000 per trip<sup>6</sup>.

6. Source: MTA and Fitur



## Quality

Spain enjoys a healthcare system with very high quality standards. However, it does not have the international recognition needed to establish itself as a medical tourist destination. So, it is imperative that hospitals obtain accreditation and certification of recognised prestige. Countries such as India, Mexico, Singapore and Turkey have worked together closely to form the<sup>7</sup> Joint Commission International or JCI, an international accreditation body and leader in the sector with a very high level of participation. Only six hospitals in Spain have JCI certification. So, it is imperative that Spanish hospitals which hope to play a significant role in the market obtain accreditation and certification of recognised prestige.

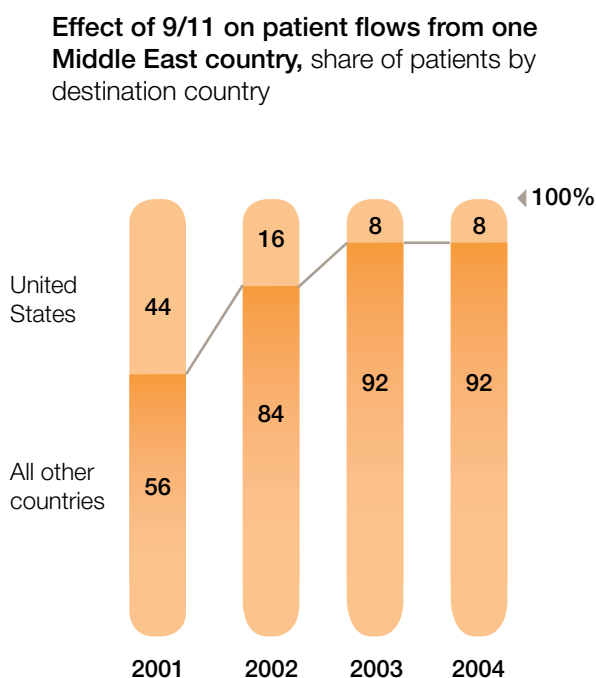
7. For further information: <http://www.jointcommissioninternational.org/>

Other internationally recognised certification models include EFQM, ISO (not specific to health) and DIAS (the last is for Europe). AENOR, the Spanish Association for Standardisation and Certification, is promoting UNE 179003:2013 on Risk Management for Patient Safety, which is relatively new and pending international standardisation.

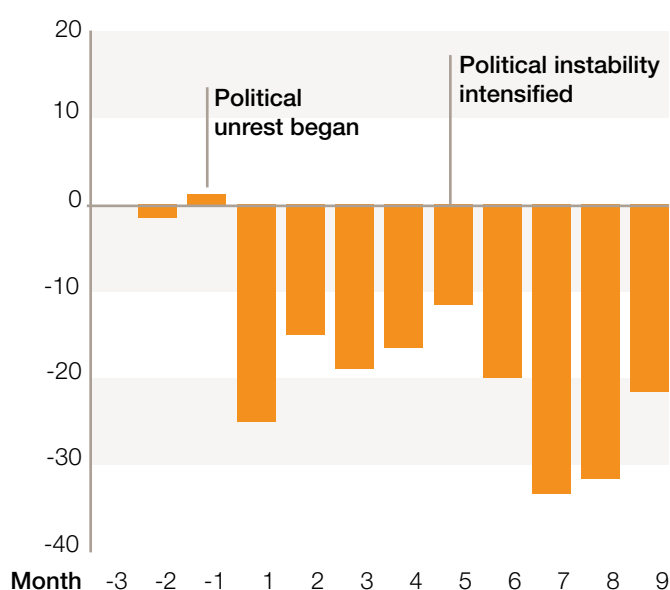
## Travel connections

Addressing the subject of travel connections is essential for providing sufficient transport infrastructure, especially air transport. Having good travel connections with the countries of origin is very important. Cities with good air connections should have direct flights or flights with a maximum of one stopover.

Figure 2: The effects of geopolitical instability on medical tourism



**Effect of political instability on medical travel: inflows to one destination country.**  
% change from average for 3 months prior to political unrest





## Safety

The main cause of dissatisfaction among medical tourists are issues related to a lack of safety or specialisation in the healthcare services that they need. Instability and geopolitical change have a significant influence on the decisions of patients who plan to visit certain countries. After September 11, 2001, the US drastically reduced the number of visas issued to patients coming from the Middle East, leading in some cases to patient quotas for operations in the US that went from 44% to 8%. It took six years for this to return to the levels seen before 2001. In general, geopolitical instability directly reduces medical tourism by an average of 33%<sup>8</sup>.

In addition to the four primary factors listed above, there are other variables that influen-

ce the final decision of tourist patients, such as the quality and coverage of national health systems, accessibility and waiting lists, infrastructure, technology and treatments, bureaucracy and legislation, cultural factors, privacy/anonymity, climate, and tourist services.

The most sought after specialities for foreign patients are fertility treatments, cosmetic surgery and oncological, as well as some treatments that do not require hospital admittance such as ophthalmology. In the field of assisted reproduction, Spain's very progressive regulation in this area, combined with techniques and professionals with very high success rates, has led Europeans to seek out the more than 203 Spanish clinics in search of fertility treatments. In terms of plastic surgery treatments, Spain is the number four country in the world for aesthetic operations, and the number one country in Europe.

8. Source: Mapping the market for medical travel, McKinsey 2008

**Table 2: Summary of international medical tourists travel by reason for selection**

| Main international markets of origin and health destinations |   |   |  |  |                                   |
|--|---|---|--|--|-----------------------------------|
| MARKET OF ORIGIN   | USA   | UK, Canada, Australia and Scandinavia                 | Middle East  | Developing countries                           | Emerging sources (Japan)          |
| DESTINATIONS   | Nicaragua<br>Thailand<br>South Africa<br>Malaysia | Germany<br>Belgium<br>France<br>Singapore<br>Malaysia | Germany<br>Jordan<br>India<br>Thailand<br>USA*                   | India<br>Jordan                                | Singapore<br>Malaysia<br>Thailand |
| REASON FOR CHOICE  | Lower costs, shorter waiting lists                | Shorter waiting lists                                 | High-income patients seeking surgeries and advanced technologies | Treatment not available in countries of origin | Lower costs                       |



### Medical tourism stakeholders

Being a pioneer in this new sector is often quite costly. Joining the market at this late date and aiming to excel in all the specialities could be disastrous, and would be very difficult to achieve. In the years to come, the medical tourism business will need large investments, which means choosing the right travelling partner and finding the right positioning are key. Being one of the stars in this game's future will open the door to new leadership positions, not only in relation to current peers, but also to unknown players who will appear in coming years.

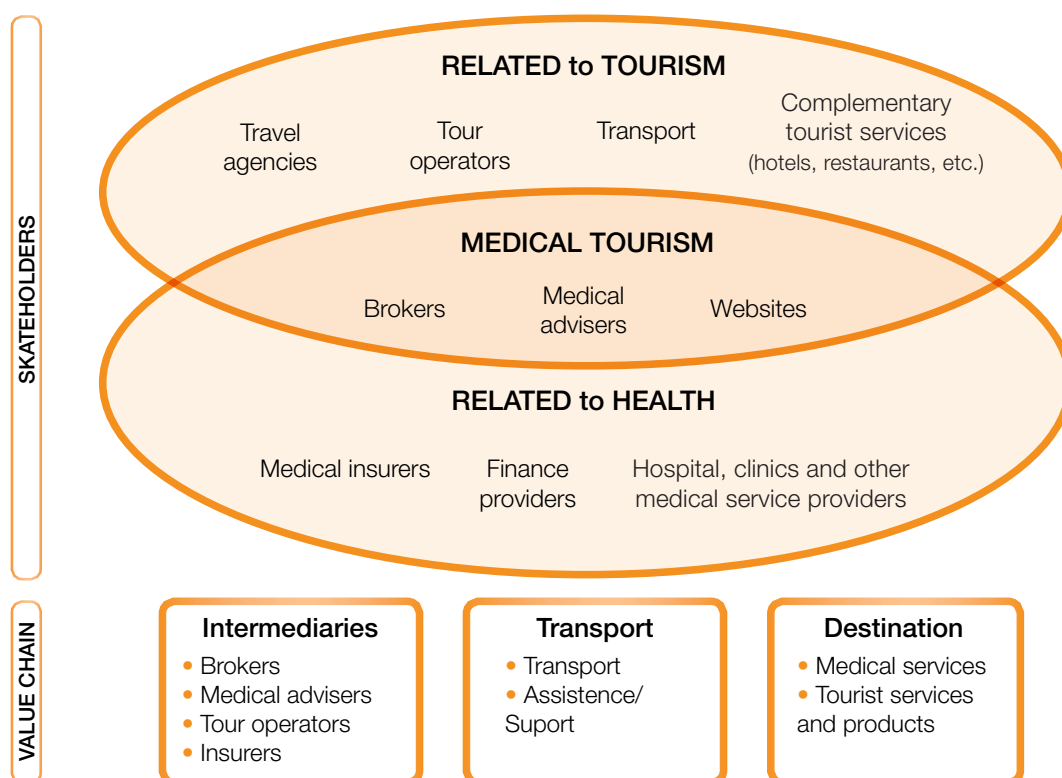
A wide variety of stakeholders are actively involved in the medical tourism industry. And, since this sector is still developing, many of the roles are still in the definition phase. The figure

below shows the stakeholder ecosystem and the resulting value chain. This clearly shows the mix of services and products comes from three areas: stakeholders belonging to the tourism sector (transport, tour operators, travel agents, hotels, restaurants, etc.); those belonging to the health sector (insurers, finance providers, hospitals, clinics, health centres, etc.); and those of medical tourism itself, mostly intermediaries (brokers, medical advisers, and websites).

### Channels

There are currently four main channels to attract patients: the internet, brokers, medical advisers and affiliated hospitals. The channel used is selected according to the type of client being addressed, and specifically the clients' market of origin.

Figure 3: Medical tourism sector stakeholders and value chain



Source: Created by authors based on the OECD report.



## Internet

Nowadays, the primary channel used to attract clients in the internet. “Searching online is one of the most common ways that individuals, medical tourists, and people who are searching on their behalf, find specialists and treatments.” So search engine optimisation (SEO), accessibility and making the websites of medical centres, associations and governmental bodies available in multiple languages are essential for maximising online sales.

A medical professional’s number of publications, its content and who published it serve as a predictor or rating of complexity<sup>9</sup> for patients, whether the patient searches online or through brokers or medical advisers. Doctors who do not publish attract fewer international patients, even if the doctor has a lower mortality rate than another team that publishes regularly.

## Medical advisers

Health advisers or medical advisers are physicians in the country of origin who diagnose the patient’s condition and play a decisive role in prescribing treatment in a foreign hospital. This is a very effective channel for medical tourists from South America.

Paying medical advisers is prohibited, but there are other alternatives for establishing lasting relationships via this channel:

- Organising training courses or stays in the destination hospital

9. Note: There is no official ranking for specialists or doctors in the different specialties, so publication rankings act in a similar way.

- Offering courses at prestigious universities
- Participating in clinical research projects
- For distance medicine, taking part in discussing cases

Scientific associations offer another important tool for medical advisers, either through the recognition and reputation of the doctors at the destination hospital, or through attendance and presentation of papers at international conferences.

## Affiliated hospitals

Hospitals in the US were the first to make agreements with countries of origin. This allows them to have more than a single point of contact and information to attract users, they also have patient advisers in the country of origin.

Many financial groups that own hospitals in the United States are acquiring partial or full ownership of hospitals in other destination countries, which contributes to the globalisation of medicine. Even prestigious universities like Harvard have entered the medical tourism market, acquiring shares in the Dubai Healthcare City project in the Emirate of Dubai and other projects in Mumbai, Seoul, Istanbul, Xinjiang and Islamabad, including an AIDS treatment centre in Botswana and a clinic in Scotland. Johns Hopkins Hospital in Baltimore owns a cancer treatment centre at the National University Hospital of Singapore and an important general hospital in Panama.

## Brokers

This channel is mainly used in Russia and Eastern Europe. The broker is responsible





for finding and welcoming the patient, securing an interpreter and transport to the hospital, and negotiating fees with the different stakeholders involved.

Arabs generally travel with their families, which means brokers must work together with luxury hotels to create hybrid packages, combining treatment for the patient with a luxury vacation for the patient's family. Since it's easy to combine these types of services with other tourist services, initiatives have been developed to offer a complete product that includes transport and everything for the tourists stay.

The complementary service offered to the patients depends partly on the destination and the main healthcare services associated with the destination. Each destination type can specialise in a type of complementary product or service. For example, the main appeal in Barcelona and Madrid is very specialised treatments and highly prestigious clinics. In more traditional coastal tourist destinations, the most sought after treatments are generally more related to elective procedures (cosmetic treatments, wellness, etc.).

## ABOUT THE SPANISH MODEL HEALTH

In 2013, healthcare expenditure in Spain was 93.05 billion euros, representing 8.9% of GDP. Public healthcare accounted for 66.52 billion euros (13.95% of total public spending and 6.3% of GDP), with a per capita cost of 1,393 euros per inhabitant.

The National Health System, or Sistema Nacional de Salud (SNS), includes all govern-

ment healthcare services as well as those of the Autonomous Communities, in accordance with the terms established in the General Health Law of 1986. Its primary defining characteristics are that it is publicly financed, offers universal access, is free of charge, and offers services of the highest quality and safety.

Public hospitals recorded 69% percent of surgeries and 80% of emergencies, however, most lack a billing department. If they are compared with Turkey, one of the countries that has built up its medical tourism the most, the percentage is similar (63%)<sup>10</sup>. However, their administrative model does permit billing by public entities, which allows for coordination between public and private hospitals.

Until the mid-80s two completely separate models of healthcare coexisted side by side: the healthcare model that provided services directly through state owned centres, or 'direct management'; and the private healthcare model that did not offer services financed by the state healthcare, except in specific situations to eliminate waiting lists. The direct management model using state owned centres has employees contracted under the statutory system (a variation of official government employment status) and is subject to governmental regulations for contracting services and works.

With the development of healthcare transfers to the autonomous communities, each autonomous community can organise the provision of healthcare services in a different manner. Some autonomous

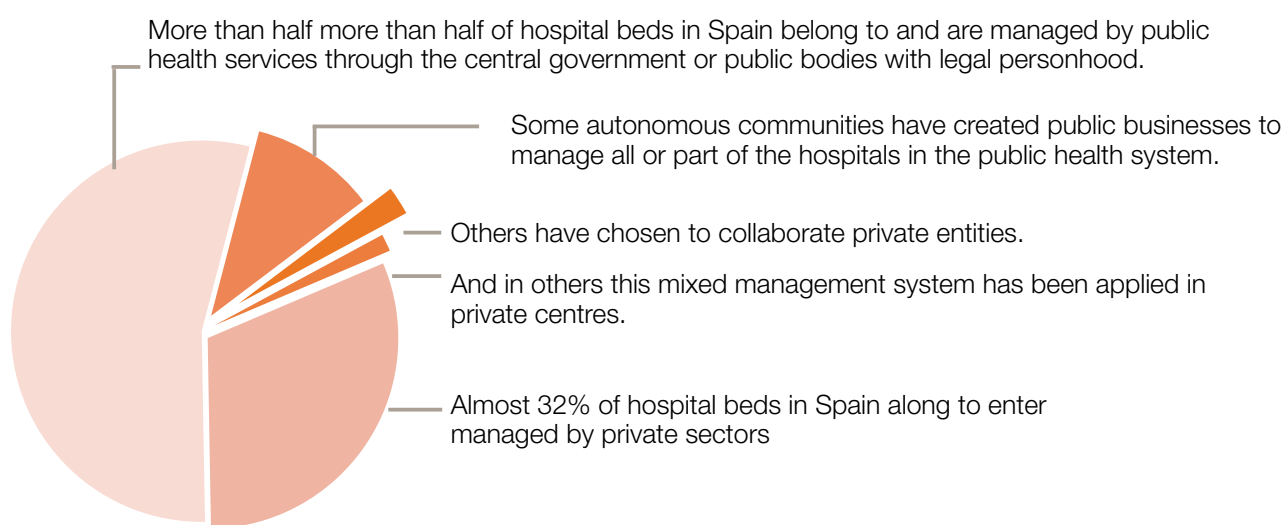
<sup>10</sup>. Source: EVALUATION REPORT ON MEDICAL TOURISM IN TURKEY, 2013)



communities have developed alternative models for greater efficiency and flexibility in the provision of services, while forgetting to consider alternative means of generating income, in contrast with other countries in the region. So, models based on traditional management approaches (management from central services) have coexisted alongside management models employed in institutions and clinical management units, while at the same time, a multitude of new public entities with different forms of legal personhood (public bodies, consortia, foundations, public corporations, autonomous bodies and public companies) have appeared. Indirect management formulas have also proliferated, in which the service is performed by a private entity under the supervision of publicly funded bodies and coordinated through a remarkably wide variety of contractual agreements of different durations (agreements, conventions, concessions for public works, and administrative concessions).

In terms of private healthcare, at the end of 2013, a total of 55 private hospitals were recorded (53% of existing hospital centres), corresponding to 52,360 beds (33% of total beds in Spain). The majority of private hospitals (62%) are general hospitals, surgical-medical hospitals and maternal-infant hospitals. The remaining 38 are long-term geriatric, psychiatric, trauma/rehabilitation, specialised, rehabilitation, ophthalmologic/ENT or other types of hospitals. Geographically speaking, the autonomous communities of Catalonia, Madrid and Andalusia have the greatest number of private hospitals and the greatest number of beds belonging to private hospitals. The Orden de San Juan de Dios is the private hospital group with the largest number of hospitals and hospital beds, representing 6.4% and 12.1% of the total. There are also 13 private university hospitals concentrated in the autonomous communities of Madrid (8), Catalonia (4) and Navarre (1) (See Annex 3).

**Figura: How is healthcare managed in Spain?**



Source: "La salud de la sanidad en España"

<http://www.elmundo.es/elmundosalud/documentos/2011/11/sanidad.html>



By business model they can be classified as follows:

1. Private hospitals that are with public subsidies
2. Hospitals under concession to the private sector
3. Hospital groups combined with an insurance company
4. Independent hospital groups Independent clinics.

### The Catalan Health Service

Catalonia has been managing its own healthcare system since 1990. The Ministry of Health creates healthcare policy and planning, and the Catalan Health Service (CatSalut) ensures that public services are provided effectively, and with evaluated and accredited quality, to the general population.

CatSalut operates as an insurer that guarantees the provision of healthcare services to the general public, contracting services from different providers, which must be not-for-profit. These provide services to the general public, which is paid for with public funding. Catalonia is possibly the autonomous community with widest range of services provided by publicly funded entities. In primary care, 77% of teams are in centres which are directly managed by the Catalan Health Institute (previously known as the INP of INSALUD), while 13% of primary care teams belong to other public entities, and 10% privately are in private hands, among these the so-called Associative Base Entities (Entidades de Base Asociativa or EBAs, representing 3.3% of total primary care teams), in which primary care management teams also serve as healthcare professionals.

Hospital care is primarily provided by centres that are not directly managed, with 58 contracted hospitals providing care that do not belong to the state used by the general public, and eight directly managed (those of the ICS, the Catalan Health Institute).

In specialised and hospital care, citizens insured by CatSalut (people who have the personal health card, called the Targeta Sanitària Individual, or TIS<sup>11</sup>) are treated according to the territory in which they reside in one of eight acute care hospitals managed by the ICS (e.g., Valle Hebrón, Bellvitge or Germans Trias), or in one of the 58 hospitals managed or owned by bodies of a public nature, or privately owned entities whose services are required to implement the policy set out in the Health Plan for Catalonia whose services have been requested. Each of the 66 hospitals in the public healthcare network has an assigned reference population which varies according to the centre's level of specialisation and the degree of complexity of the patient's condition.

Among this group of non-ICS hospitals are hospitals such as Sant Pau, the Hospital Clinic of Barcelona, Sant Joan de Déu, Mutua de Terrassa and Hospital del Mar. This mixed model ensures that the best professionals (public employees of the ICS or working for other businesses, foundations or consortia) and best healthcare services are integrated with the healthcare providers that serve citizens insured by CatSalut, while respecting Catalan businesses historically providing healthcare services (mutual healthcare organisations, foundations, consortia, and church centres).

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11. Personal health card.



### Medical tourism in Europe, an opportunity?

On 9 March Directive 2011/24/EU<sup>12</sup> was approved by the European Parliament and Council. The directive addresses the application of patients' rights in medical tourism to ensure the mobility of European patients, to establish rules to facilitate access to safe quality healthcare in the European Union, and to promote cooperation on healthcare matters among member states in accordance with the principle of the free movement of people, goods and services.

So, to receive treatment in another member State, patients are obliged to pay for the costs of the public or private healthcare they receive in advance and request reimbursement afterwards from their state of origin. This reimbursement must be acknowledged in advance, is dependent on the case (prior authorisation is required in some cases), and is limited to costs incurred by the state of origin for treatment. For this purpose, the member state will designate one or more national contact points for medical tourism healthcare.

Stakeholders in the sector who are promoting the legislative procedure foresee a significant increase in medical tourism. The reality up to now has been very different from what was expected. In 2014, in the United Kingdom, a total 727 of reimbursements and 46 rejections of preliminary authorisations

were recorded<sup>13</sup>. The trend in other member states has been similar.

### IS IT POSSIBLE TO CREATE A BARCELONA MEDICAL TOURISM BRAND?

Barcelona's potential for international tourism, together with a full range of cutting-edge healthcare services in Spain, make this city and the region one of the most attractive hubs for medical tourism.

Its tradition stems from the considerable prestige of its medical professionals (Puigvert, Gil-Vernet, Barraquer, Dexeus and others) which led to formation of the first Spanish centre for medical tourism over 25 years ago.

The flagships of medical tourism in Barcelona are the large hospital complexes offering a wide variety of treatments (Grupo Quirón, Dexeus, Teknon, the Planas Clinic, Hospital Sant Joan de Déu) and highly specialised centres (Barraquer Eye Clinic, Institut Comtal d'Oftalmologia, Marquis Institute, CEFER Institute for assisted reproduction, and García-Ibáñez Otology Institute). The prestige of these centres has been attracting an international audience for years.

The Barcelona Medical Centre<sup>14</sup> (BCM), is the oldest medical tourism institution in Spain (in operation for more than 30 years). This is a private association that currently includes

12. Regulation (EC) 987/2009 of the European Parliament and of the Council of 16 September 2009 laying down the procedure for implementing Regulation (EC) No. 883/2004 on the coordination of social security systems is applicable regulation when a citizen travels or temporarily resides in another EU member state, a different situation than what the directive covers.

13. Source: <http://www.imtj.com/blog/eu-directive-cross-border-healthcare-update/>

14. Participating members: Sagrada Família Clinic, Tres Torres Clinic, Diagonal Clinic, Barraquer Eye Centre, CITA, Aparicio Clinic, IMOR foundation, García-Ibáñez Otology Institute, MI Barcelona, Servidigest Medical Centre, and Echevarne Laboratories.



three general clinics, seven specialised centres, and one diagnostic testing centre), all located in Barcelona. The BCM has worked together with the Catalan Tourism Agency on several promotional activities.

In 2013, a new platform was developed, Barcelona Medical Agency, which brought together mid- -high complexity specialised centres, among them the partners of the Quirón Group (Quirón Hospital, Quirón Dexeus University Hospital and the Teknon Medical Centre), Barnaclinic (of the Clinic Group), Hospital San Juan de Dios, the Guttman Foundation and the Puigvert Foundation. This association currently has

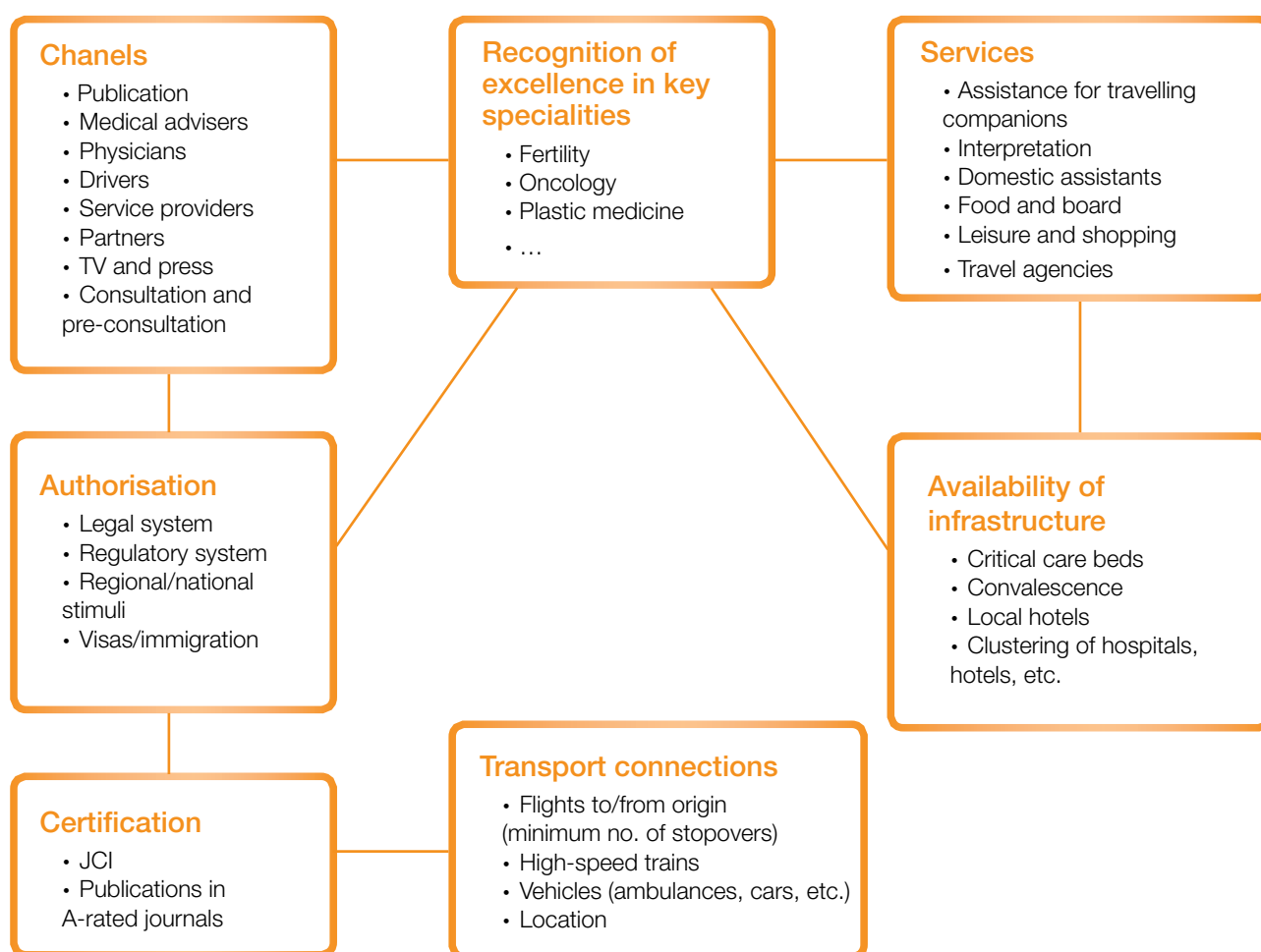
agreements with the Barcelona Tourist Office and Catalan Tourism Agency, which in recent years has been promoting medical tourism as a means of generating wealth.

### Selection of segment

Although in recent years, due to discontinuity and disruption that transformed the five forces model (Porter, 2008) in sector after sector, it continues to be useful for determining a sector's capacity for attractiveness and for selecting segments.

The study of the power of providers, clients, channels, intensity and rivalry among com-

Figure 4: The medical tourism ecosystem



petitors, barriers to entry and substitutes can be complemented with the impact of disruptors, entrants with business models that are disruptive in terms of time, cost, space, etc., a 'fixed' version of the five forces, the so-called 5 + 1 forces.

Figure 5 shows the sensitivity of three business models (M1, M2, and M3) for each of these variables, and indicates that M1, or a combination of M1 and M2, are the recommended strategies for Barcelona.

M1 is a business model based on high complexity, high risk, long convalescence and capital intensive medicine. This includes oncological diseases, transplant surgery, microsurgery and major trauma (orthopaedic and neurosurgery).

M2 is a simple medical business model, in which longer stays are required, and the probability of success is higher in Barcelona due to its experience, its level of hygiene and its processes. This includes fertility treatment and medium-complexity surgeries (hernias, endoscopy, etc.).

M3 is a high performance model with a significant focus on patient discretion, that includes plastic surgery, orthodontics, etc.

In Figure 5 the number of arrows defines the intensity of attraction. When the arrow points up (↑), attraction is high. When it points down (↓), attraction is low, and when it is flat (↔), attraction is neutral.

Based on this, M1 is attractive for five of the six forces. M2 is attractive for two. M3 is attractive for another two, but is more negative than M2.

In conclusion, Barcelona should pursue the M1 strategy, which is more attractive of the two.

## Reasoning

Here we will present the reasoning behind this assessment, based on opinion that could be verified empirically.

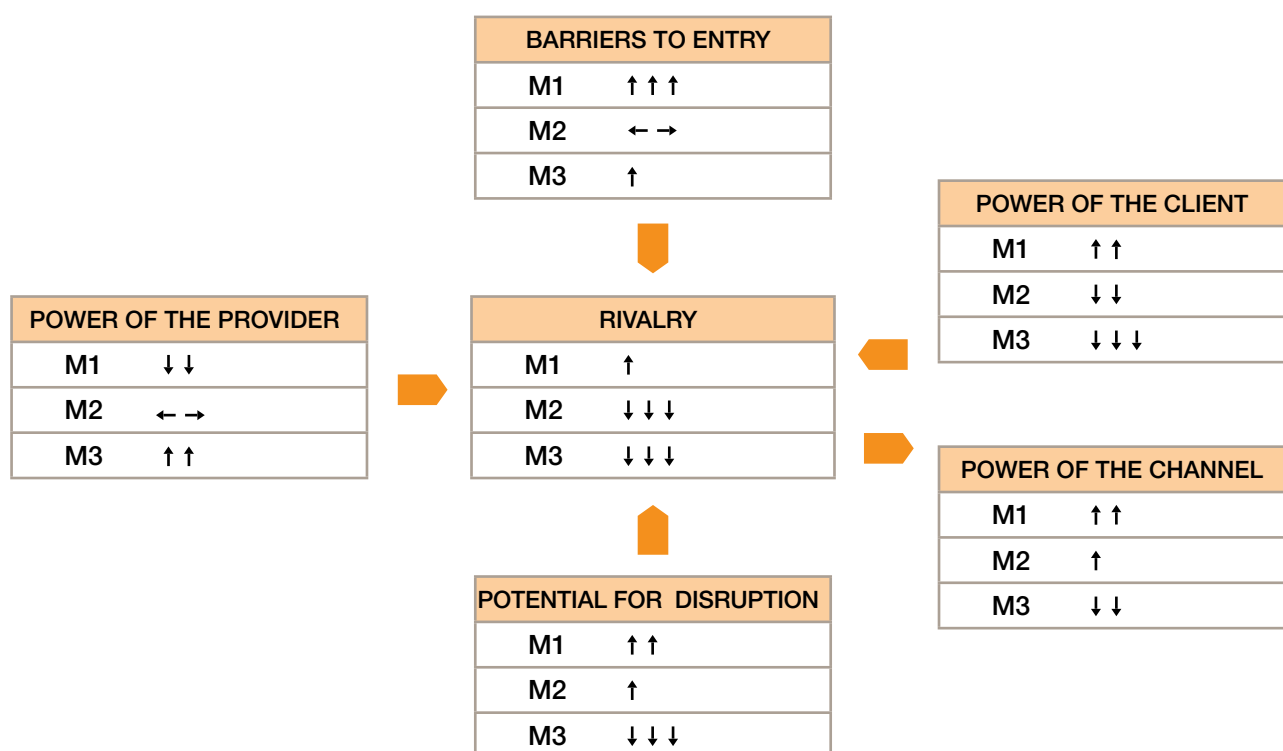
**The power of providers:** Suppliers in cities that provide healthcare products (medical equipment and supplies) and services (diagnoses, procedures and surgery, treatment, medication, etc.) have high attractiveness in M1, neutral in M2, and low in M3, which makes them unattractive, neither attractive nor unattractive, and very attractive, respectively. In M1 the physicians are highly-qualified professionals. They use specialised equipment provided by innovators and sold to large hospitals, often only to centres of excellence that attract specialists. Consequently, in M1 the attraction of the service provider M1 is high, and the attraction of the city is low. In M2 the capacity for attraction is neutral. The decisive factor in the provision of services is not know-how (although in areas such as fertility this is relevant), but reliability (success rates), hygiene and cost. In M3 the power of the service provider is relatively low, the bottom line is the ability to industrialise the process.

**Rivalry:** This is lower in M1, where the excellence of professionals in an asset that makes cities that have this unique and differentiates them. If this is the case, the important thing is to build on it. In M2 and M3, the level of competition is very high.





Figure 5: 5+1 forces model for M1, M2 and M3



**Disruption:** The possibility of changing business models is a constant in progress in surgery and pharmacology. However, with M1, the world of complex diseases, its complexity necessitates the participation of talented individuals and expertise of one or several specialists. It is less subject to the opportunities offered by industrialisation: it cannot be massified; it cannot be done faster; and it cannot be done remotely, as can be done with other non-invasive surgical treatments (e.g. endoscopy). M1 can be disruptively transformative through pharmacology, but it is a segment that is as heterogeneous as it is complex and is very resistant to substitutes.

**The power of the client:** The value placed on quality is unique for specialists, and the asymmetry of power for a patient with a serious condition that needs this service (for which there are no substitutes) makes

M1 more attractive. Given the availability of alternatives and substitutes, M2 is less attractive. Since M3 frequently involves discretionary healthcare there are generally alternatives and the patient can even opt to renounce or postpone treatment.

**The power of the channel:** This is enormous in M3, and much less in M1, where the existence of a system of academic publications that is frequently subject to blind evaluation, review by recognised peers, and backed by professionally unquestionable and public scoring, distances the four channels types: tourism, doctors at the point of origin, brokers, and websites. M3 is the most vulnerable, and, as such, the least attractive. M2, however, has medical advisers and a clear incentive structure (travel agents and brokers) that can be attractive to the extent that it is manageable.



**Barriers to entry:** These are more sustainable in M1 than in M2 and M3. These consist of the know-how required, the availability of capital (to buy sophisticated medical equipment available only to a few major hospitals in the world), and the brand, which in M1 is medical professionals (their last names and the centres where they work that endorse their publications). M3 is somewhat attractive in terms of access to capital. The brand also allows for differentiation of services that are brand-driven, hedonist and discretionary.

Barcelona is a one-of-a-kind hub in terms of the conditions that give it its attractiveness. It has the potential to compete in segment M1. In addition to top level specialists, it has invested in equipment for the public healthcare system, has costs that allow commoditisation of healthcare to be managed seen in M2. It is also one of the five cities most visited and sought after by travellers, with the widest range of services and products accessible to its most important target segments.

Barcelona could also pursue M1 + M2 + M3. However, M1 is the most attractive option, and the option which may find the most resistance from the public, increasingly singled out as “how healthcare should not be” by regional and state health authorities. If they change their approach and give Barcelona the go ahead for M1, it could lead to an international success story in the development of medical tourism.

### Proposed positioning

Chapter 2, About the Sector, showed how certain countries have developed

fertile environments for medical tourism, successfully positioning their brands as destination countries for many foreign patients. However, most of them have not positioned themselves in the market segment that is most interesting for Barcelona, the highly complex segment.

The figure above shows the current positioning of Barcelona (Spain) on the global medical tourism map. Barcelona must consolidate its position as one of the primary European medical tourism destinations specialising in high complexity treatments, offering services at competitive prices (similar to those of French or German medical destinations), but with a range of complementary tourist services and products superior to that of our primary competitors.

The price of Catalan hospitals is undoubtedly one of its main competitive advantages. However, a distinction should be made between two clearly distinct segments:

1) In the field of high complexity healthcare (M1), Barcelona offers very competitive prices since its main rivals, the US, the UK, etc., with the exception of some European countries such as Germany, have high structural costs and much higher final prices.

2) However, in the segment of “soft” or less complex healthcare (M3), the rivals are different and most countries that are direct competitors (Turkey, Poland, the Czech Republic and other Asian countries) have lower average prices. The M3 segment, as can be seen in the global map of medical tourism (Figure 6) is already covered by a large number of competitors.



From the point of view of demand, proximity is the main factor when analysing flows of patient origin. Origin countries must be a maximum of 6 hours' travel (by plane), or one transfer, away (2 legs). Any market that exceeds one of the two thresholds is not likely to have significant demand. Europe, Russia, North Africa and the Middle East are therefore generally the countries with the highest demand for medical tourism.

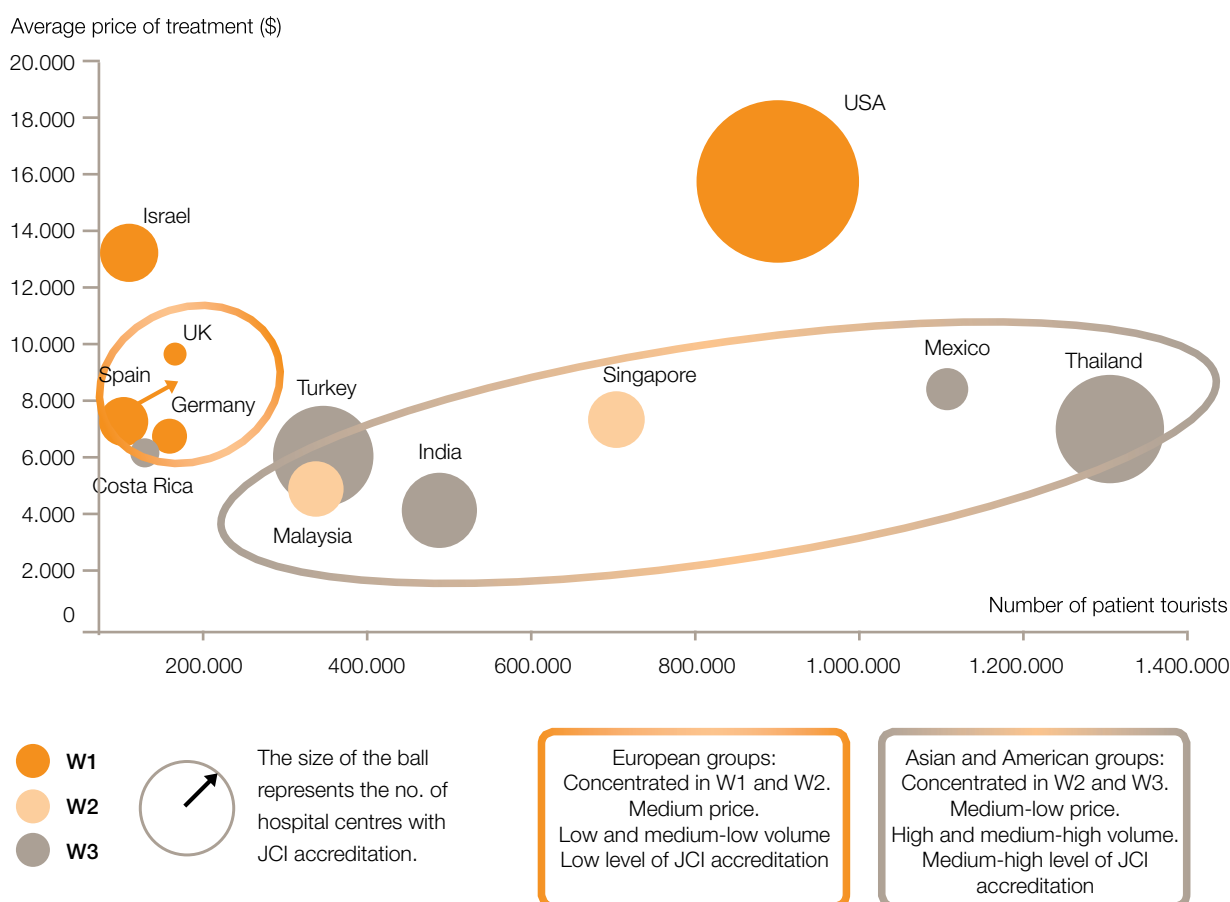
Many of these potential patients are already familiar with Barcelona as a tourist destination, and in 2014 over eight million visitors enjoyed its excellent cultural, architectural and culinary activities as well as its great shopping. All this, added to its

Mediterranean climate, are essential pillars to promote tourism as a complementary element for patients during post-operative and rehabilitation stages, as well as for those accompanying them.

Boston, Houston, Rochester and the region of Bavaria are what M1 should aspire to be. They are not only examples of what can be done, but what should be done.

The case of Boston is undoubtedly the most successful example of a city that is competitive in M1. Thanks to the extraordinary potential of their healthcare providers, Boston is the best example for infrastructure, talent, brand and prestige. Massachusetts General

**Figure 6: Global medical tourism map**



Source: Created by author from analysis of multiple sources (OECD, World Medical Tourism Association, Patients Beyond Borders, Insider Monkey, and JCI).



Hospital, the Boston Children's Hospital and Harvard Medical School, are leading examples of modern medicine. They have become symbols of the city, making Boston famous and consolidating its position as the world capital for healthcare.

Less distant examples, such as the region of Bavaria, can serve as inspiration for what good management can achieve in this sector. A Bavarian government initiative identified the potential impact that biomedicine could have on economic development and jobs creation in the region. By building its medical tourism sector, the region has been able to attract a significant number of patients from the UAE and other Asian countries that used to go to the US by combining a policy of very competitive prices with the creation of alliances with other areas of excellence (the Bavarian Technology Center, etc.) as well as offering a range of services to attract international patients. In addition, they have developed training initiatives, creating an MBA in international health and in medical

tourism and have become an example of how internationalisation is used to strengthen and promote local skills.

Barcelona must therefore position itself as a European centre for high complexity medical tourism (M1), offering competitively priced services and a high-quality range of complementary services. Once it has positioned itself in M1, the high complexity ecosystem will act as an attractor for M2 and M3 segments, which will benefit from the prestige of the high complexity market. So, once a brand of excellence and prestige in biomedicine and research has been established, it will serve to attract users from other areas (plastic surgery, orthodontics, etc.).

## WHAT HUMAN RESOURCES DOES BARCELONA NEED TO CREATE A BCN MEDICAL HUB?

There are three main obstacles that impede Barcelona from positioning itself as one of

Summary of positioning table

| Positioning  | Characteristics  |
|--|--|
| <b>High quality and complexity</b>                           | Barcelona is positioned as a high-quality destination focused primarily on medium- and high-complexity treatments and surgeries.   |
| <b>Competitive price</b>                                     | Services priced competitively compared to other destinations of similar quality, basically the United Kingdom, France and Germany.   |
| <b>Proximity</b>   | Concentrated primarily in European destinations with commercial connections to Spain, preferably served by low-cost carriers. But relevant markets such as Russia and South America should not be forgotten. |
| <b>Excellent complementary tourist products and services</b> | Barcelona has wide variety of cultural, artistic, architectural, culinary and shopping opportunities.  |
| <b>Climate</b>   | The Mediterranean climate is a key selling point for promoting the destination, highlighting its advantages in the post-operative and rehabilitation phases.   |



the principal medical centres in Europe: underuse of health resources, a lack of brand, and a need for international prestige and quality to be recognised.

Each of these three obstacles requires a series of measures to be implemented by the relevant stakeholders. The table below summarises each of the obstacles, the measures to be taken and the associated stakeholder.

### **1. Underuse of health resources the need for regulatory change**

Barcelona has the resources to become an important player, with a focus on high quality and medium and high complexity healthcare (M1 and M2). However, there is a systemic problem, or in the administrative model, which is that most hospitals that could actually compete in high complexity healthcare are not able to bill for their services.

What are the initial conditions and resources needed to achieve the proposed objectives? The investment required depends on regulatory restrictions. M1 has an inherent capacity to be profitable if public hospitals could conduct business privately in specialised areas (most of them in M1) without affecting their social security patients. Monetising facilities that are at times performing at only 50% capacity and will create a sustainable revenue situation for the healthcare centres, their employees, and even the government (billing for the use of their facilities). In the case of Catalonia, this would only require the removal of one Article, Article 2 of Law 21/2010. Contrary to the interests of many private groups and certain political parties, many medical

professionals firmly believe in the need for a citywide strategy with a level playing field for all providers as well as taking advantage of the excellent existing facilities.

### **2. Lack of a brand and international prestige: the need for a communications strategy and joint commission**

Positioning Barcelona as one of Europe's leading benchmarks in medical tourism means carrying out the right promotional activities, both internally and in markets of origin. This requires designing projects, actions and tools so that all players, and public and private bodies involved can work together.

Some of the most ambitious local initiatives have not achieved the objectives that were initially proposed due to several factors. These include a lack of support from the government and failure to develop a joint positioning and communications strategy.

An example of this is the Barcelona International Medical Academy (BIMA), a platform of some twenty renowned doctors from public and private healthcare centres headed by Dr Antonio de Lacy (surgeon at Clínic Hospital and an expert in minimally invasive surgery). BIMA did not have the necessary support from public bodies, only offering professional attention but without the support of leading healthcare centres. Top doctors are what attract patients to the leading hospitals where they work. Healthcare professionals who are isolated and do not have the support of a hospital find it hard to attract a significant critical mass. We believe that doctor-product-hospital interaction is important that



engages with public players as well — and a joint marketing and promotional strategy that endows the system with the necessary prestige to create a globally known brand should be sought.

### 3. Recognition of quality

Raising awareness about the need for international accreditation is essential. A joint effort by players in the sector to obtain JCI certifications would position Barcelona among destinations to consider.

Initiatives such as the Barcelona Medical Centre or the Barcelona Medical Agency are contributions by players in the sector can help to make the city of Barcelona one of the world's leading healthcare hubs. These platforms are responsible for both client acquisition as well as providing a comprehensive solution for travelling to and staying in Barcelona for both patients and their companions: travel arrangements, booking of accommodation, interpreting services, allocation of a doctor, transportation in Barcelona, insurance, and information about leisure and tourism in Barcelona.

## THE CASE OF THE SAN JUAN DE DIOS HOSPITAL IN BARCELONA

The best example for studying the opportunity represented by medical tourism for the economy of Barcelona is the San Juan de Dios Hospital. Of the four factors or drivers of medical tourism analysed in Section 2, About the sector, the most important one for competing in a highly complex services is quality, as this involves higher barriers to entry. The decisive factor that a patient with a complex condition looks at when opting for a certain hospital is the presence of highly specialised multidisciplinary units.

San Juan de Dios Hospital is a successful case when it comes to adopting this 'product'. How is it possible to multiply by 50 the number of foreign patients in just four years? The process of transformation is described below.

### Preliminary considerations

Sant Joan Déu Hospital belongs to the Brothers Hospitallers of Saint John of God, a religious order 1,231 members strong

| Barrier                                     | Means   | Stakeholders   |
|---|---|--|
| 1. Underuse of health resources             | Regulatory change   | Autonomous governments   |
| 2. Lack of brand and international prestige | Joint communication and promotion strategy  | Central, autonomous and local governments<br>Health service providers<br>Star physicians and specialists |
| 3. International recognition of quality     | International accreditation (JCI)<br>Development of marketing and attracting foreign patients | Central, autonomous and local governments<br>Health service providers<br>Joint Commission                |





and present in 50 countries. It operates a network of 300 centres staffed by 40,000 professionals, and is supported by donations from 300,000 benefactors.

With respect to volume, the Sant Joan de Déu hospital in Barcelona admits approximately 25,000 in-patients annually, receives more than 220,000 out-patient appointments, deals with 112,000 emergencies, performs 14,000 surgical operations and delivers 3,200 babies. It employs a staff of 1,556 and has 325 beds and 13 operating theatres at its disposal. Its annual turnover is €140 million, with investment of €4 m.

Key milestones in the history of the Sant Joan de Déu hospital include its founding (in 1867), its conversion into a semi-public hospital (in 1973), its integration into the regional network of public hospitals (1983) and the start of its cooperation with the Hospital Clínic as part of its transformation into a university hospital (1993).

In 2005, the 2005-2008 Strategic Plan (PAIDHOS) was launched with the aim of transforming it into a centre of excellence and a national and international leader in the treatment of complex paediatric conditions, but without diminishing its role as a local hospital. It is currently immersed in developing the 2020 PAIDHOS plan.

### **Opportunity presented by crisis: birth of the department of international medicine**

The initial signs of economic crisis in Spain appeared in the course of 2007. However, the public health sector did not suffer any significant effect until the so-called '5% decree'

of May 2010<sup>15</sup>. As of that moment, expectations changed drastically, and hospital management saw the need to seek alternatives that would provide sustainable income in the long term. In 2012, the decision was taken to develop a department of international medicine.

"The crisis was an opportunity. This is not just rhetoric, but an accurate description of the reality of the moment. We would never have considered going out to look for patients if the Catalan Health Service had not cut our budget by €20 million".

"The other triggering factor was the 20% drop in the birth rate and the exodus of immigrants, the results of which barely corrected the effect on the native population. We are a maternal-infant hospital and the impact was direct. It was like a steady drip. Week after week, our cardiology department attended to immigrant families who requested their children's medical records prior to returning to their countries of origin. We were running out of patients and funds. The alternative was to create a department of international medicine".

The Sant Joan de Déu hospital is redefining its vision in this manner, to turn itself into a hospital that is also a centre of national and international excellence in terms of paediatric care, by positioning itself as a European point of reference with respect to international treatment of foreign patients, with a single operational objective in mind: to achieve turnover of approximately €4.5 million by 2018, based on treatment of 315

<sup>15</sup>. Royal Decree Law 8/2010 of 20 May adopting extraordinary measures for the reduction of public debt



patients annually. This operational approach is to be channelled via the Sant Joan de Déu Institute of Paediatric Medicine, the unit which supports the hospital's activities in the private sector (See Appendix 4).

The main strengths of Sant Joan Déu hospital at that moment included clinical excellence in paediatric patient care, with internationally recognised teams and appropriate technical facilities, along with its prime location in Barcelona, with all that this implies in terms of tourism infrastructure (an attractive city, availability of accommodation, an airport with direct connections to many destinations, etc.).

On the other hand, it still lacked development, or was only just starting to develop in terms of team coordination and the definition and implementation of processes, and was scarcely recognised as a provider of 'health sector products' on an international scale, as clinical excellence did not translate directly into 'visibility' or 'reference position'. The human and physical resources at its disposal were likewise insufficient.

"The first initiative was the creation of the department of international medicine, while the second was the setting up of 'units of specialisation'. So we had to work on our organisation, talent and infrastructure".

"The creation of the international department required activities not covered by normal operations: translation, creation of own spaces for the customers concerned, with a corresponding circuit and operating procedures... We have much to improve with respect to the

process of international patient care as a whole, from reception and budget management to in-patient and out-patient care for the persons concerned and those visiting or accompanying them. So we need new skills and languages (English, Russian, French, Arabic) and new organisational roles such as case manager and commercial administrator".

"We are organised, like all hospitals, by service provided: neurology, cardiology, and so on, but the factor that motivates patients internationally is the presence of highly specialised units, which are in most cases multidisciplinary, allowing them to cover various services. To put it simply, we cannot compete internationally by merely saying that we have a very good cardiology department; we must also stress that we offer a paediatric arrhythmia unit that is unique in the world. Epilepsy is another case in point, as our epilepsy surgery unit is likewise unique. An international patient is not going to seek out a neurologist when opting for a certain destination, but is rather more likely to look for an epileptologist who also offers an advanced portfolio of therapies that are not available in the patient's country of origin. The patient will also be treated by a team of specialists working together, consisting of a neurologist, a neuropsychologist, a neurosurgeon, a neuropsychologist and a psychiatrist".

"Talent and infrastructure are required for the formation of these units. Let's consider the area of cardiology. We have created a unit for the treatment of congenital heart disease and another for arrhythmia." . Who are we looking



for? Dr. Brugada, of the Hospital Clínic, and probably one of the best arrhythmia specialists in the world, who has already worked with us thanks to our association with Clínic. Which needs, for its proper functioning, infrastructure and a new haemodynamics facility costing €1.8 million, financed by the Daniel Bravo Foundation. Squaring the circle”.

“Our capacity to attract talent is limited. The salary differentials are abysmal: €70,000 for a head of department, against €180,000 for a deputy head in France; without even going into the levels of remuneration at key hospitals in the United States, which are double the latter amount. We do manage to attract staff, as our “private character” makes this possible, but almost exclusively from within Europe. This would not be viable in the United States, save for expatriate Spaniards wishing to return home for personal or lifestyle reasons”.

“All international surgery takes place after normal hours, so as not to interfere with usual treatments or diminish operating theatre capacity, and therefore involves payments for overtime. While the rates are not particularly high, members of staff dedicated to international activities can improve their salaries. Other specialist areas such as oncology are dealt with during normal hours, as appointments are all conducted in the same manner, regardless of the patient's origin. The team is assigned a profit share based on the turnover that it generates in this respect, to act as a professional incentive”.

## Post-crisis: the consolidation phase

Ever since the department of international medicine started to function in early 2013, management has considered it necessary to conduct a department centred marketing plan. In this manner, and in parallel with the first essential steps from a commercial point of view (development of a portfolio, rates, presentations and brochures and a website in various languages), the plan initially implemented in 2014 has continued to develop.

### *Product*

While the main pathologies affecting adults and treated in the field of international medicine are well defined, there is only limited public sector experience when it comes to paediatric patients with oncological conditions, rare diseases, congenital heart defects or other congenital anomalies that require complex surgery; along with neuro-surgical conditions and congenital eye diseases.

A series of target products is being selected for marketing in the current paediatric areas of reference. This includes highly complex treatments, along with those experiencing a strong demand on the market.

“The catalogue was too extensive, and we have seen the need to select and promote only those highly complex treatments required to position ourselves as a hospital of reference. With this in mind, we have created a catalogue containing the main procedures on offer, with supporting material for intermediaries”



| Segmentation by product type |  |   |   |
|------------------------------|--|---|---|
| Area                         | Speciality                                   | Product   |   |
| Heart                        | Cardiological surgery                        | Congenital heart defects<br>Arrhythmia: ablation treatment  |   |
| Neurosciences                | Neurology<br>Neurosurgery                    | Neurometabolic disorders<br>Epilepsy and epilepsy surgery<br>Neuromuscular disorders<br>Intellectual disability<br>Psychomotor impairment   | Cephalalgia<br>Sleep disorders<br>Autism<br>Nervous system tumours<br>Craneo-facial deformities<br>Spinal deformities   |
| Traumatology                 | Traumatology                                 | Scoliosis<br>Brachial plexus surgery<br>Congenital deformities, with reconstructive surgery<br>CTEV<br>Bone tumours   | Hip pathologies<br>Bone infection (micro-surgical reconstruction)<br>Cerebral palsy sequelae<br>Tendon transposition  |
| Onco-haematology             | Oncology                                     | Retinoblastoma<br>Lymphoma<br>Neuroblastoma<br>Brain tumours  | Ewing's sarcoma<br>Osteosarcoma<br>Wilm's tumour (nephroblastoma)<br>Medulloblastoma  |
|                              | Haematology                                  | Childhood leukaemia and transplant of medula osea<br>Haemoglobinopathy<br>Congenital and acquired bone marrow failure: Fanconi anaemia, Shwachman–Diamond, Diamond–Blackfan, etc. | Congenital and acquired neutropenia<br>Acute immune thrombocytopenia and other thrombocytopenia<br>Coagulation factor deficiency<br>haemolytic anaemia<br>Cytopenia, erythroblastopenia, leukopenia |
| Maternal-foetal              | Maternal-foetal medicine                     | Foetal surgery  |   |
| Others                       | Ophthalmology                                | Treatment of congenital and childhood glaucoma<br>Orbital tumours   | Intraocular childhood tumours (retinoblastoma)<br>Childhood penetrating keratoplasty  |
|                              | Odontology                                   | Preventative oral treatment<br>Conservative dentistry<br>Dental aesthetics  | Ambulatory oral surgery<br>Orthodontics: orthopaedics, dental braces, aesthetics and tongue   |
| Surgery                      | General surgery<br>General thorax            |   |   |
|                              | Urology<br>Plastic and maxillofacial surgery |   |   |
| ENT                          | ENT  | Cochlear implant  | Others  |
| Endocrinology                |  | Growth disorders  | Others  |



### Price

“Our only alternative was to compete on price, by placing ourselves in a band between about 10% and 40% below our main competitors, the main one of which is in Israel (Schneider Children’s Medical Center, Assuta), while the closest ones geographically are in Germany (Heidelberg University Hospital) and the UK (Great Ormond Street Hospital for children). We nevertheless intend to carry out fine adjustments as we immerse ourselves in the realities of the market”.

### Markets/channels

“In order to reach a decision regarding marketing strategy, we need to segment the market into key geographic areas in this sector, while determining the sales channels to be promoted on a country

by country basis. We are selecting as priority areas countries in Eastern Europe and Russia, Latin America, Africa and the Middle East, all with direct access to Barcelona, with a middle to upper class demographic with resources, but with limited access to treatments in their home countries” (see Appendix 5).

The resulting matrix is as shown below.

### Promotion

“We have acted both at individual player level and in terms of cooperation. With regard to the former, we have set ourselves the objective of developing initiatives relating to attendance at conferences, while cultivating relationships with medical centres and clinicians considered to be ‘key leaders of opinion’ in the target regions, along with remote activities involving

|                                 | Region                     | Broker | Medical adviser | Insurer | Website | Agreements with hospitals | National strategies |
|---------------------------------|----------------------------|--------|-----------------|---------|---------|---------------------------|---------------------|
| PI priority development regions | Eastern Europe /Russia     | +++    | -               | +       | ++      | ++                        | +                   |
|                                 | Latin America              | -      | +++             | +++     | ++      | ++                        | +                   |
|                                 | Africa and the Middle East | ++     | -               | -       | +       | ++                        | +                   |

|                                       |                             |    |   |    |   |   |   |
|---------------------------------------|-----------------------------|----|---|----|---|---|---|
| Primarily reactive attraction regions | USA and Canada              | ++ | - | +  | + | - | - |
|                                       | Western and Northern Europe | -  | - | ++ | + | - | - |
|                                       | Asia                        | +  | - | -  | + | - | + |



such centres and specialists (training, second opinions, remote diagnostics, etc.) without forget web-based promotion and the use of various social networks”.

“Being able to count on scientific publications in prestigious academic journals is vital to our reference procedures. But we also need to highlight other indicators (such as performance), which may create added attraction for the potential customer. Results in such fields as cardiology are very easy to measure. The Aristotle score<sup>16</sup> alone gives us a mortality rate of 1.8%. The European average is 4.8%. We are equal to Boston Children’s Hospital. This should be a strong sales argument in our favour.”

“We belonged to Barcelona Medical Centre (BCM), a platform designed to seek out international patients, but with little success in our case at least. We decided to leave and join the BMA (Barcelona Medical Agency), whose members include entities of the calibre of the Chiron Group, the Clínico, Guttman and Puigvert. The BCM was a medical cluster of limited complexity and, and not of operational interest to us. We need to cooperate with entities that know and complement this market, which is one of high complexity. This platform has supplied us with 8% of our patients to date, representing 25% of our international turnover”

16. In recent decades systems to objectively measure the efficiency and quality of medical services have been developed. In following with this, systems have been established to group patients with similar diagnoses to facilitate comparison of performance, quality and costs indicators. In the case of congenital heart disease, and surgical options to correct it, there are already risk stratification methods (RACHS-1 and Aristotle).

## Levers of future growth

When the authors ask the question “What are the key levers for the hospital of reference in the city of reference?” the response of the Sant Joan Déu hospital can be summed up as:

- 1) Prioritising what we offer: “we cannot be good at everything, so let’s find those products that really make us excel”.
- 2) The patient experience. “To offer an all-round service that solves all the problems created for the family in the event of a serious medical condition affecting a child, while paying maximum attention to preserving dignity, and not treating them as second class citizens **as might be the case elsewhere**”.
- 3) e-health: “The exchange of information prior to the stay, with remote consultation and the provision of a channel of communication for continuous monitoring in cases where an actual visit to the hospital is not required”.
- 4) Technology: “Continuous investment to maintain our leading position, with priority given to our top services”.
- 5) Operations: “Medicine is an activity susceptible to industrial production methods in which we nevertheless continue to take a highly traditional and artisanal approach. Standardisation allows one to improve these processes and workflows. The surgeon may be the artist whom we appreciate, but the manner in which the patient enters and leaves, and the materials used, can all be standardised”.





6) Commitment. “None of this can be done without the commitment of the people concerned, as it involves a paradigm shift. We are going to change from being a 90/10 hospital (denoting the proportion of public to private) to a 70/30 one. We need to equip ourselves with the right tools for generating commitment”.

7) Advanced therapies: “If we want to be top level players, we need to develop experimental treatments and therapies. We have a clinical trials unit that carries out around 100 trials a year, which is a lot in terms of paediatric medicine.”

8) Teaching: “The key to creating a new generation of consultants lies in today’s students, who will be recommending patients to us in the near future. We have a virtual platform for online training and an ‘outreach programme’ which still requires funding.”

9) Digital marketing and social networks: “The creation of communities of patients results in a comfortable environment for both the patient and the hospital itself.”

the rivalries that emerge between individual hospitals or health groups, we enter a difficult ecosystem with multiple barriers; often in the shape of potential travelling companions and those who define the sector by putting up barriers to entry and preventing access to the ecosystem by different players likely to attract other participants.

If we are to adopt health model that willingly embraces international medicine, we require the collaboration and interaction of multiple agents and public and private bodies, and a change in the regulatory framework; without which all current and future initiatives will be doomed to take no advantage of existing potential, whether from the health perspective or as a tourist destination.

## CONCLUSIONS

International medical tourism can be seen as a real opportunity for Barcelona, one that improves, transforms and enhances an existing product while taking advantage of the growing demand of a developing sector, which, in turn, diversifies and complements the current non-seasonal approach to tourism.

The health sector is complex by definition. If we then add to this inherent complexity



## ANNEX 1

### Comparative rankings for tourism, health system and international medicine

---

| Turism      | Quality of Health System | Medical Tourism |
|-------------|--------------------------|-----------------|
| 1-France    | 1-France                 | 1-Thailand      |
| 2-USA       | 2-Italy                  | 2-Mexico        |
| 3-Spain     | 3-San Marino             | 3-USA           |
| 4-Chlna     | 4-Andorra                | 4-Singapore     |
| 5-Italy     | 5-Malta                  | 5-India         |
| 6-Turkey    | 6-Singapore              | 6-Malaysia      |
| 7-Germany   | 7-Spain                  | 7-Brazil        |
| 8-UK        | 8-Oman                   | 8-Turkey        |
| 9-Russia    | 9-Austria                | 9-Taiwan        |
| 10-Thailand | 10-Japan                 | 10-Costa Rica   |



## ANNEX 2

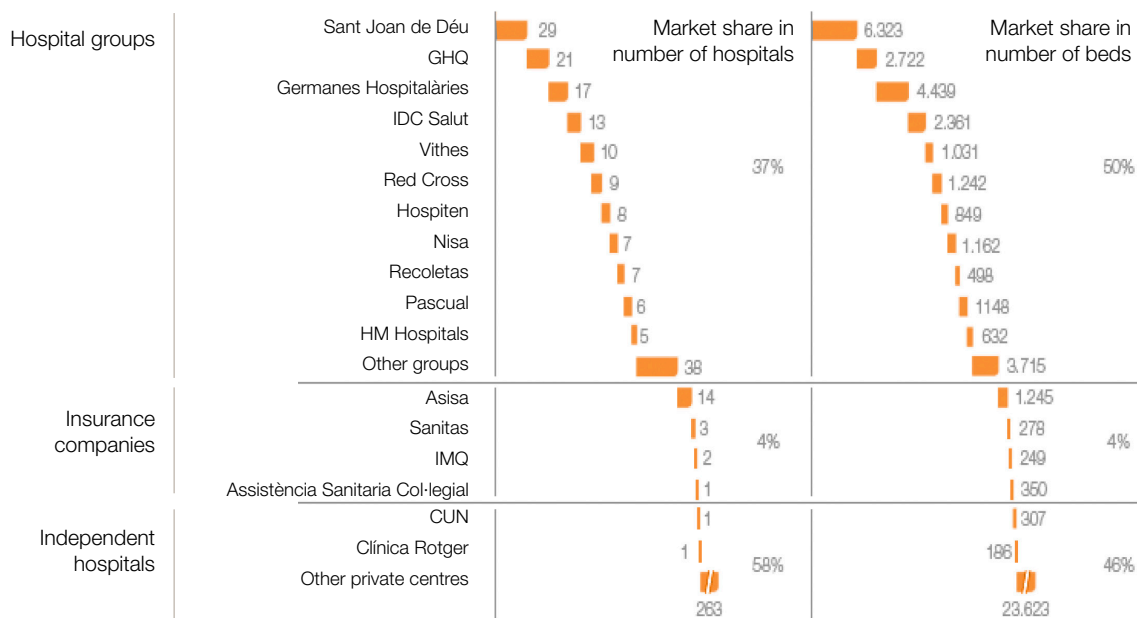
## Comparative cost by country for different surgical procedures

|                                       | USA       | Costa Rica | Colombia | India    | Jordan   | South Korea | Mexico   | Israel   | Thailand |
|---------------------------------------|-----------|------------|----------|----------|----------|-------------|----------|----------|----------|
| Bypass                                | \$123,000 | \$27,000   | \$14,800 | \$7,900  | \$14,400 | \$26,000    | \$27,000 | \$28,000 | \$15,000 |
| Angioplasty                           | \$28,200  | \$13,800   | \$7,100  | \$5,700  | \$5,000  | \$17,700    | \$10,400 | \$7,500  | \$4,200  |
| Heart valve replacement               | \$170,000 | \$30,000   | \$10,450 | \$9,500  | \$14,400 | \$39,900    | \$28,200 | \$28,500 | \$17,200 |
| Hip replacement                       | \$40,364  | \$13,600   | \$8,400  | \$7,200  | \$8,000  | \$21,000    | \$13,500 | \$36,000 | \$17,000 |
| Hip revision                          | \$28,000  | \$13,200   | \$10,500 | \$9,700  | \$9,000  | \$19,500    | \$12,500 | \$20,100 | \$13,500 |
| Knee replacement                      | \$35,000  | \$12,500   | \$7,200  | \$6,600  | \$9,500  | \$17,500    | \$12,900 | \$25,000 | \$14,000 |
| Spinal fusion                         | \$110,000 | \$15,700   | \$14,500 | \$10,300 | \$10,000 | \$16,900    | \$15,400 | \$33,500 | \$9,500  |
| Dental implant                        | \$2,500   | \$800      | \$1,200  | \$900    | \$900    | \$1,350     | \$900    | \$1,200  | \$1,720  |
| Gastric band                          | \$14,000  | \$9,450    | \$8,500  | \$7,300  | \$7,000  | \$10,200    | \$6,500  | \$17,300 | \$11,500 |
| Gastric hose                          | \$16,500  | \$11,500   | \$11,200 | \$6,000  | \$7,500  | \$9,950     | \$8,900  | \$20,000 | \$9,900  |
| Gastric bypass                        | \$25,000  | \$12,900   | \$12,200 | \$7,000  | \$7,500  | \$10,900    | \$11,500 | \$24,000 | \$16,800 |
| Hysterectomy                          | \$15,400  | \$6,900    | \$2,900  | \$3,200  | \$6,600  | \$10,400    | \$4,500  | \$14,500 | \$3,650  |
| Breast implants                       | \$6,400   | \$3,500    | \$2,500  | \$3,000  | \$4,000  | \$3,800     | \$3,800  | \$3,800  | \$3,500  |
| Rhinoplasty                           | \$6,500   | \$3,800    | \$4,500  | \$2,400  | \$2,900  | \$3,980     | \$3,800  | \$4,600  | \$3,300  |
| Facelift                              | \$11,000  | \$4,500    | \$4,000  | \$3,500  | \$3,950  | \$6,000     | \$4,900  | \$6,800  | \$3,950  |
| Liposuction                           | \$5,500   | \$2,800    | \$2,500  | \$2,800  | \$1,400  | \$2,900     | \$3,000  | \$2,500  | \$2,500  |
| Stomach lift                          | \$8,000   | \$5,000    | \$3,500  | \$3,500  | \$4,200  | \$5,000     | \$4,500  | \$10,900 | \$5,300  |
| Ocular surgery (laser, both eyes )    | \$4,000   | \$2,400    | \$2,400  | \$1,000  | \$4,900  | \$1,700     | \$1,900  | \$3,800  | \$2,310  |
| Cornea (per eye)                      | \$17,500  | \$9,800    | -        | \$2,800  | \$5,000  | -           | -        | -        | \$3,600  |
| Cataracts (per eye)                   | \$3,500   | \$1,700    | \$1,600  | \$1,500  | \$2,400  | -           | \$2,100  | \$3,700  | \$1,800  |
| Assisted reproduction treatment       | \$12,400  | -          | \$5,450  | \$2,500  | \$5,000  | \$7,900     | \$5,000  | \$5,500  | \$4,100  |
| Average price of different operations | \$15,918  | \$6,633    | \$4,922  | \$4,400  | \$4,872  | \$9,003     | \$6,644  | \$12,322 | \$7,197  |

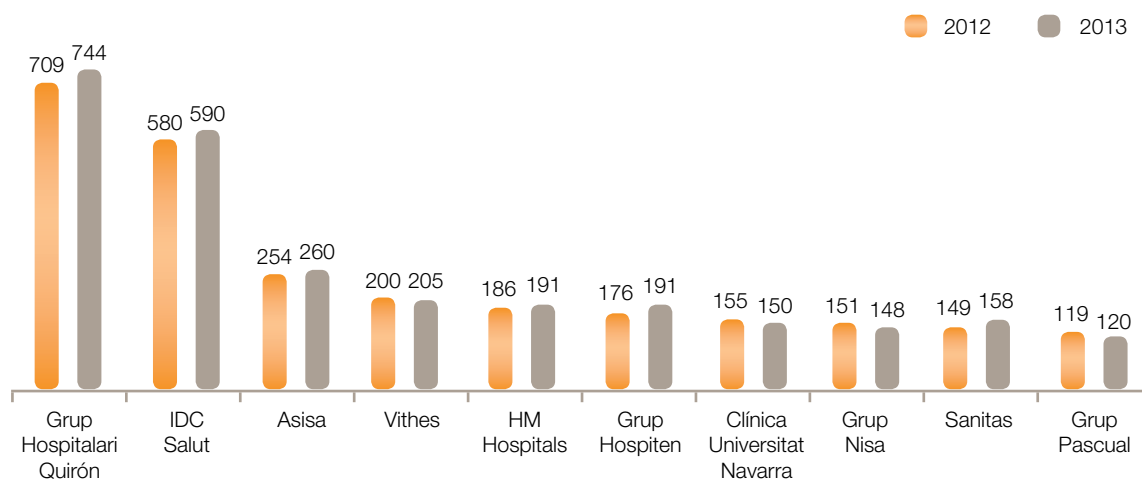
|                                       | Vietnam | Malaysia | Poland   | Singapore | Turkey   | Spain    | UK       | France   |
|---------------------------------------|---------|----------|----------|-----------|----------|----------|----------|----------|
| Bypass                                | -       | \$12,100 | \$14,000 | \$17,200  | \$13,900 | -        | -        | -        |
| Angioplasty                           | -       | \$8,000  | \$5,300  | \$13,400  | \$4,800  | -        | -        | -        |
| Heart valve replacement               | -       | \$13,500 | \$19,000 | \$16,900  | \$17,200 | -        | -        | -        |
| Hip replacement                       | \$9,250 | \$8,000  | \$5,500  | \$13,900  | \$13,900 | \$12,832 | \$14,000 | \$11,783 |
| Hip revision                          | -       | \$12,500 | \$9,200  | \$16,350  | \$10,100 | \$13,416 | \$15,750 | \$13,563 |
| Knee replacement                      | \$8,000 | \$7,700  | \$8,200  | \$16,000  | \$10,400 | \$13,416 | \$16,625 | \$12,775 |
| Spinal fusion                         | \$6,150 | \$6,000  | \$6,200  | \$12,800  | \$16,800 | -        | -        | -        |
| Dental implant                        | -       | \$1,500  | \$925    | \$2,700   | \$1,100  | \$1,288  | \$3,500  | -        |
| Gastric band                          | -       | \$8,150  | \$6,700  | \$9,200   | \$8,600  | -        | -        | -        |
| Gastric hose                          | -       | \$8,400  | \$9,400  | \$11,500  | \$12,900 | -        | -        | -        |
| Gastric bypass                        | -       | \$9,900  | \$9,750  | \$13,700  | \$13,800 | -        | -        | -        |
| Hysterectomy                          | -       | \$4,200  | \$2,200  | \$10,400  | \$7,000  | -        | -        | -        |
| Breast implants                       | \$4,000 | \$3,800  | \$3,900  | \$8,400   | \$4,500  | \$5,670  | \$7,613  | \$2,817  |
| Rhinoplasty                           | \$2,100 | \$2,200  | \$2,500  | \$2,200   | \$3,100  | \$4,491  | \$6,125  | \$4,534  |
| Facelift                              | \$4,150 | \$3,550  | \$4,000  | \$440     | \$6,700  | \$7,198  | \$11,813 | \$5,777  |
| Liposuction                           | \$3,000 | \$2,500  | \$1,800  | \$2,900   | \$3,000  | \$3,259  | \$5,250  | \$3,717  |
| Stomach lift                          | \$3,000 | \$3,900  | \$3,550  | \$4,650   | \$4,000  | \$6,591  | \$8,418  | \$4,482  |
| Ocular surgery (laser, both eyes )    | \$1,720 | \$3,450  | \$1,850  | \$3,800   | \$1,700  | -        | -        | -        |
| Cornea (per eye)                      | -       | -        | -        | \$9,000   | \$7,000  | -        | -        | -        |
| Cataracts (per eye)                   | -       | \$3,000  | \$750    | \$3,250   | \$1,600  | -        | -        | -        |
| Assisted reproduction treatment       | -       | \$6,900  | \$4,900  | \$14,900  | \$5,200  | -        | -        | -        |
| Average price of different operations |         |          |          |           |          |          |          |          |
|                                       | \$4,786 | \$5,072  | \$4,397  | \$7,504   | \$6,311  | \$7,573  | \$9,899  | \$7,431  |

## ANNEX 3 • Main private health groups in Spain

### Market share related to hospital infrastructure



### Ranking by turnover

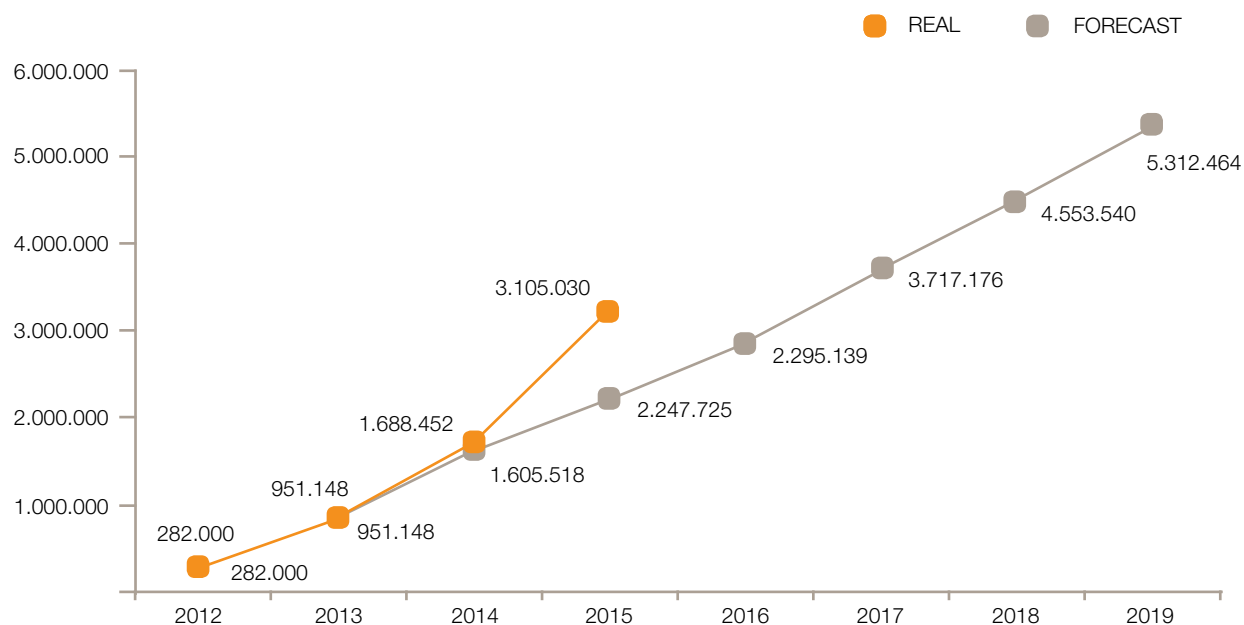


Source: "Private health. Providing value. 2015 Situation Analysis" IDIS.

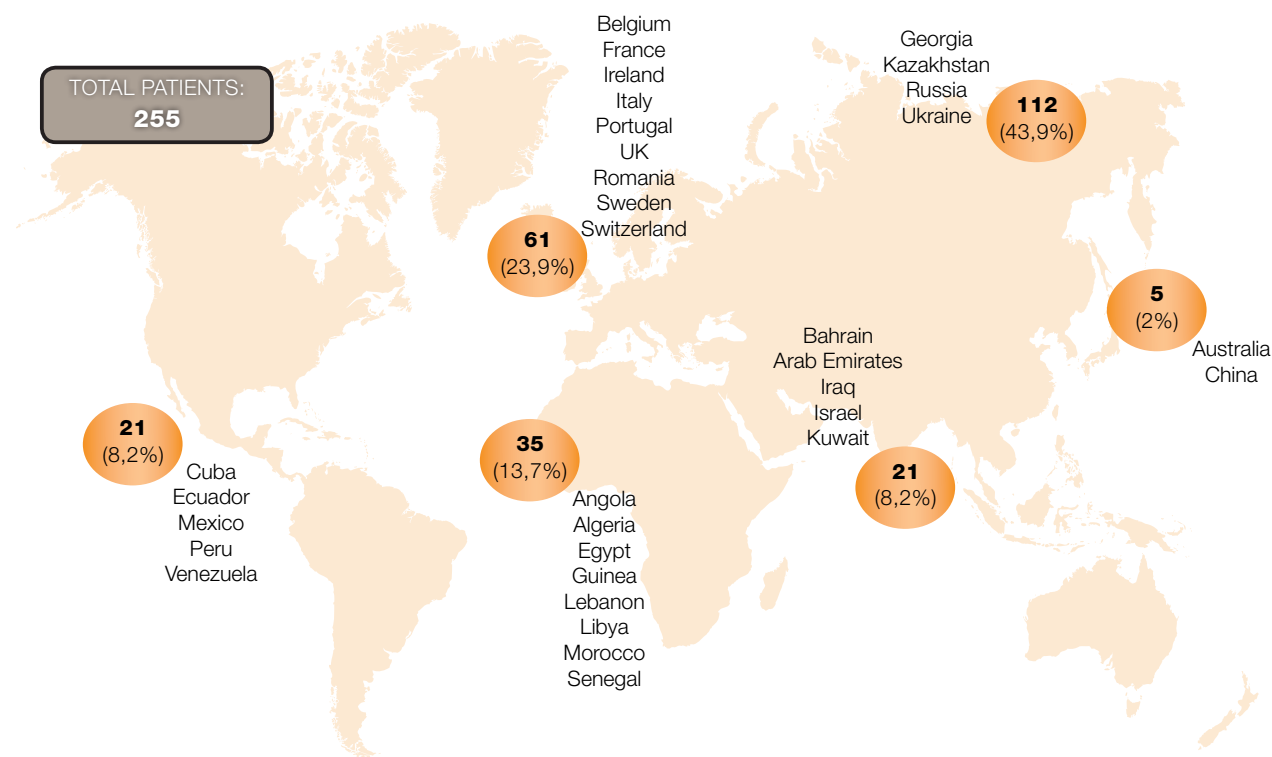


## ANNEX 4 • Development of turnover figures and numbers of patients treated by the department of international medicine at the Sant Joan Déu Hospital

### Development of turnover figures



### Number of patients treated in 2014, by geographical area



Source: Sant Joan Déu Hospital



## ANNEX 5 • Examples of the positioning of the Sant Joan Déu hospital by geographical area

### Russia and Eastern Europe

#### Primary reason for seeking treatment in a foreign country:

Inadequate access to complex treatments and country of origin.

#### Primary treatments required:

Onco-haematology      Surgery

#### Acquisition channels in which to execute proactive strategies:

|                      |   |
|----------------------|---|
| Broker               | Linguistic and cultural barriers in Russia and its ex-Soviet satellites for countries that export healthcare services (among which is Spain) have led to the appearance of this type of agent, and makes them essentially necessary. Thirteen brokers for Russia and the Ukraine have been identified that can refer paediatric patients to the HSJD. The HSJD has directly contacted these brokers via email. Although it should be the brokers that take the next step, it is recommended that the HSJD contact them in the following weeks inks if they do not establish communication. This channels will provide patients in the short term. |
| Website              | Due to the importance of language, a well-designed well-positioned website in Russian on the search engine Yandex is needed.  |
| National strategies  | The commercial missions promoted (or partially sponsored) by the ICEX (Ministry of Economy and Competiveness) as well as hospital and business groups that export healthcare services are possibilities for establishing contacts in foreign countries. Agreements can be made with private Russian or Ukrainian centres to find patients in the medium term.   |
| Affiliated hospitals | The intermediation of physicians, representatives who speak Russian, and possibly attending conferences are necessary to be able to establish fruitful agreements.  |

#### Channels which should not be priority:

|                  |   |
|------------------|---|
| Medical advisers | This should only be done with doctors about good relations chips with Russian countries.  |
| Insurers         | Although these exist, the difficulty to enter these channels and the small volumes they currently generate, means this channel should be left for a second phase when the business volume justifies the investment of the resources required. |

Source: Sant Joan Déu Hospital





## ANNEX 5 • Examples of the positioning of the Sant Joan Déu hospital by geographical area

### USA and Canada

#### Primary reason for seeking treatment in a foreign country:

Seeking more competitive prices in other regions with similar quality and technology.

#### Primary treatments required:

Surgery

#### Acquisition channels in which to execute proactive strategies:

|         |  |
|---------|--|
| Broker  | More than 50 agencies specializing in healthcare tourism have been identified in the United States. Some of these businesses move more than 500 patients a year, making it worth the effort to consider them as a possible sources of patients. Some of these have been contacted, and although have relatively few paediatric patients, could be interested in learning more the services of the HSJD and in providing patients from time to time. Six brokers have contacted the HSJD who have access to patients in the United States, and two have answered directly, showing interest in learning about the hospital in greater detail. |
| Website | The positioning of the hospital's website in English can help to find patients, and help those who make referrals locate the hospital.   |

#### Canals que no es recomana prioritzar:

|  |   |
|--|---|
| Insurers                                 | The primary insurance companies offering healthcare in the USA have been identified. Establish alliances is complicated and requires a significant amount of bureaucracy, including hospital identification, tax identification and national provider number. Since this is rather difficult and requires a significant investment of resources, it is recommended that this channel not be prioritized in this first phase. However, if there is time to gain a more in depth understanding of this channel, it could have potential, since insurers may be interested in reducing treatment costs. In the case of HSJD this could lead to a savings of 50%. |
| Affiliated hospitals<br>Medical advisers | In this region, this is not considered a viable channel, since they have the capacity to provide complex treatments, making HSJD a competitor for patients.   |
| National strategies                      | The national commercial missions and strategies in this market have not been considered to date.  |

Source: Sant Joan Déu Hospital



## ANNEX 6 · KID'S CLUSTER

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KID'S CLUSTER is a prominent group of companies that cooperate and innovate for children. In the case of the Sant Joan de Déu Children's Hospital, the Cluster has become a vital instrument to aid the creation of collaboration projects with different sectors such as the editorial or the textile sectors, and it has driven local development initiatives such as in the hotel industry.

Belonging to KID'S CLUSTER has served as a real learning curve of what working in a key multi-discipline cluster involves. Gaining a first-hand understanding of the work philosophy and dynamics it creates is always an enriching and useful experience for the development of the Hospital's projects.

Source: <http://www.kids-cluster.com/ca/>



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