

# Business Model Innovation in Health Care Infrastructure in India

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## **Abstract**

Healthcare is a fast evolving sector, where global trends force healthcare providers to adapt quickly their business models. India is at the crossroads of an exciting and challenging period in its history. Making healthcare affordable and accessible for all its citizens is one of the key focus areas of the country today. India lacks strong healthcare infrastructure, on the other hand, the country has several inherent weaknesses in its healthcare system. *This article focuses on the recent business model innovation of healthcare providers their drivers, characteristics and the effect they have on these firms and the sector as a whole.* Healthcare providers are starting to innovate their business models in order to respond to new trends, which are also redrawing the industry architecture of the sector. The recent business model innovations reveals that incremental innovations, such as within-discipline grouping, aim for conservative forms of value gains such as cost reductions and efficiency and rely on strong forms of grouping, such as mergers and acquisitions, to accomplish this. On the other hand, more radical business model innovations, such as competitor- groupings, are incited using value drivers like novelty and innovation potential, and these innovations are implemented through more novel and less stringent governance mechanisms. *Though the costs involved in the complete upgrade of the healthcare sector are huge, there are enormous pay-offs in long-term investments in this sector. This will not only raise the quality of life for all but can also make the healthcare industry in India, a key enabler for economic growth.*

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Keywords: Business Model, Innovations, Cost Involved.

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## **Introduction**

In the last couple of years health care has been subject to a number of pressuring trends. As a consequence of these trends, health care is likely to be dominated by expansion of demands in the market and subsequently increasing healthcare expenditures. The Indian healthcare industry is at a very interesting position, delicately poised to grow exponentially over the next decade. However, the expenditure on the Indian healthcare sector both from public funds as well as private sources is amongst the lowest in the world and a large number of challenges need to be addressed urgently. These challenges might be in terms of the lack of financial support institutions and trained or skilled workforce, accessibility of healthcare services and quality of patient care etc. Thus, innovative solutions are required at government level as well as sector participants to ensure good quality of service, while at the same time managing cost increases and while governments and regulators are traditionally looking for innovative solutions at sector level as a whole, recent studies have shown that at company level, business model innovations seem to be company responses to changes in underlying market conditions. Indeed, numerous high- tech companies like Dell, and manufacturing companies operating in other sectors, such as Zara, are prominent examples of industries in which business model innovations have reshaped their industry landscapes. And while the term ‘business model’ seems to be very popular in the business press, its academic and theoretical underpinnings are less established. One of the most prominent streams of relevant literature defines business model as the structure of the value chain, i.e., ‘the set of activities from raw materials through to the final consumers with value being added throughout the various activities’ (Amit & Zott, 2010). When it comes to the healthcare industry, the definition of business model as an activity system is a useful theoretical lens with which to analyze the latest changes. Applying business model thinking, we arrived at the three main business model innovations, all of which represent a liaising or coupling between firms. While the liaising may vary in its extent or nature, all the linkages remain horizontal and consist of cooperation between different healthcare providers, located at the same level of the value chain. On the other side, the most controversial changes to the content were aiming for the least tangible, most innovative and creative gains, such as new knowledge and practice creation. These gains were accomplished, however, with very loose governance mechanisms, such as associations and alliances. This study uses a business model oriented approach aiming to address

the challenges in this sector and build sustainable and scalable enterprises while showcasing some companies that have institutionalized this business model approach to make profits while creating a significant social impact. The objective is to encourage potential entrepreneurs to learn from the working paragons outlined and develop a thought process that incorporates essential elements of sustainability both financial as well as social. The examples are classified according to the kind of healthcare intervention they provide (viz. technology, product, telemedicine etc.) and their successful business model component which makes them unique.

### **Literature Review**

*'The design of transaction content, structure and governance so as to create value through the exploitation of business opportunities'*. The business model can also be seen to define the structure of the value chain, i.e., *'The set of activities from raw materials through to the final consumer with value being added throughout the various activities'* (Amit & Zott, 2010). Further to their earlier work, where they point to the content, structure and governance as being core design factors of the model in their more recent work, Zott and Amit see business model as the activity system. An activity is defined as a focal firm's engagement of human, physical, and/or capital resources of any part of the business model to serve a specific purpose toward the fulfilment of the overall objective. Activity system structure describes how the activities are linked and it also captures their importance for the business model, for example, in terms of their core, supporting or peripheral nature. Activity system governance refers to who performs the activities. Franchising, for example, represents one possible approach to activity system governance.

While we found Amit and Zott's work to be of most use in the context of the healthcare sector, and will therefore use their theoretical lens in the analysis, it is worthwhile noting another, complementary, definition that is gaining prominence. In brief, business model construct describes how firms set up and organize their activity systems to compete in their market; and while business model has been traditionally used to describe the activity systems at firm level, a related set of principles and constructs have been developed to describe how industry sets itself up to compete and how firms position their business models within the industry. Industry architecture has been used as a term that describes the nature and degree of specialization of

industry players, or ‘organizational boundaries’, and the structure of the relationships between those players (Jacobides, 2006). Firms can benefit more from innovation by organizing their business models so as to become the bottleneck in the industry’s architecture and occupy the segments where there is limited mobility and softened competition (Jacobides, 2006). Industry architecture can be seen as a macro perspective on business models and we will therefore use it to understand how healthcare providers position their business model within the industry architecture as well as how their business model innovations shape the industry architecture.

The application of business model innovation in other sectors, such as high tech and production, has increased in recent years. In particular, authors have been focusing on business model innovations that lead to better commercialization of the product and technological innovations (Gambardella, 2010). At the same time, business model innovation is more limited in service sectors and, in particular, in health care. The purpose of this article is to breach this research gap, given that business model innovation seems to be a plausible approach to tackling recent healthcare issues; while at the same time understanding that the use of business model innovation within an industry architecture that is as complex as that in the healthcare sector can potentially add value to the business model literature.

### **Methodology**

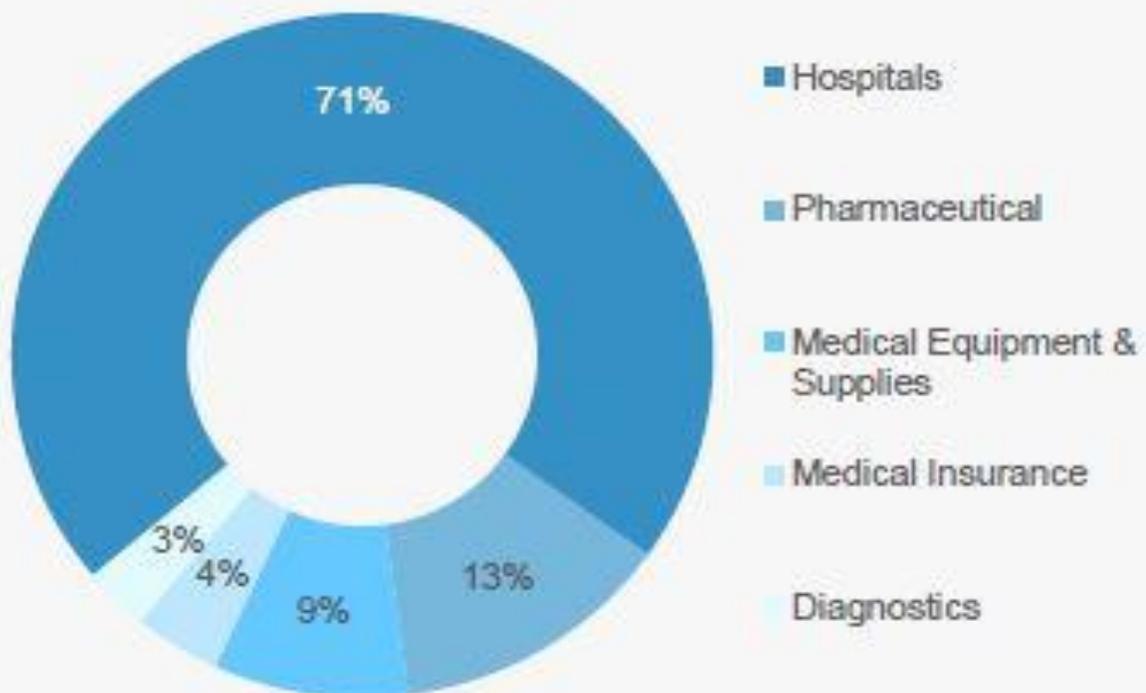
Regarding our case-study research, we opted for the research of four cases. Focusing upon less in number helps in a better performance and an in depth investigation but also a thorough collection of data is equally important for coming upon the right conclusion. The research protocol contained a set of questions that were the same for each interviewee in order to be able to draw certain patterns afterwards. With the purpose of developing a superior knowledge of the healthcare industry, a number of sources were meticulously screened. The main sources consisted of reports written by the Organization for Economic Co- operation and Development (OECD), the reports from PricewaterhouseCoopers (2012) or the World Health Organization (WHO), combined with existing articles and books on the subject. A detailed literature research made it possible to obtain a clear view of the healthcare sector in general.

### **Discussions**

The healthcare market in India is split into five key segments as outlined below:

- Hospitals – Government infrastructure including healthcare centers, district and general hospitals and private hospitals including nursing homes, mid-tier, top-tier and super specialized establishments.
- Pharmaceuticals – This includes the manufacture, extraction, processing, purification and packaging of chemicals to be used as medication.
- Diagnostic – Comprising of businesses and laboratories that offer analytics or diagnostic services including body fluid analysis. Medical Equipment and Supplies – Including establishments engaged in manufacturing and maintaining medical equipment's for surgical, dental, ophthalmic, laboratory etc. use.
- Medical equipment and supplies- It includes establishments primarily manufacturing medical equipment and supplies, e.g. surgical, dental, orthopedic, ophthalmologic, laboratory instruments, etc.
- Medical Insurance – Comprising of insurance to cover hospitalization expenses, reimbursements etc.

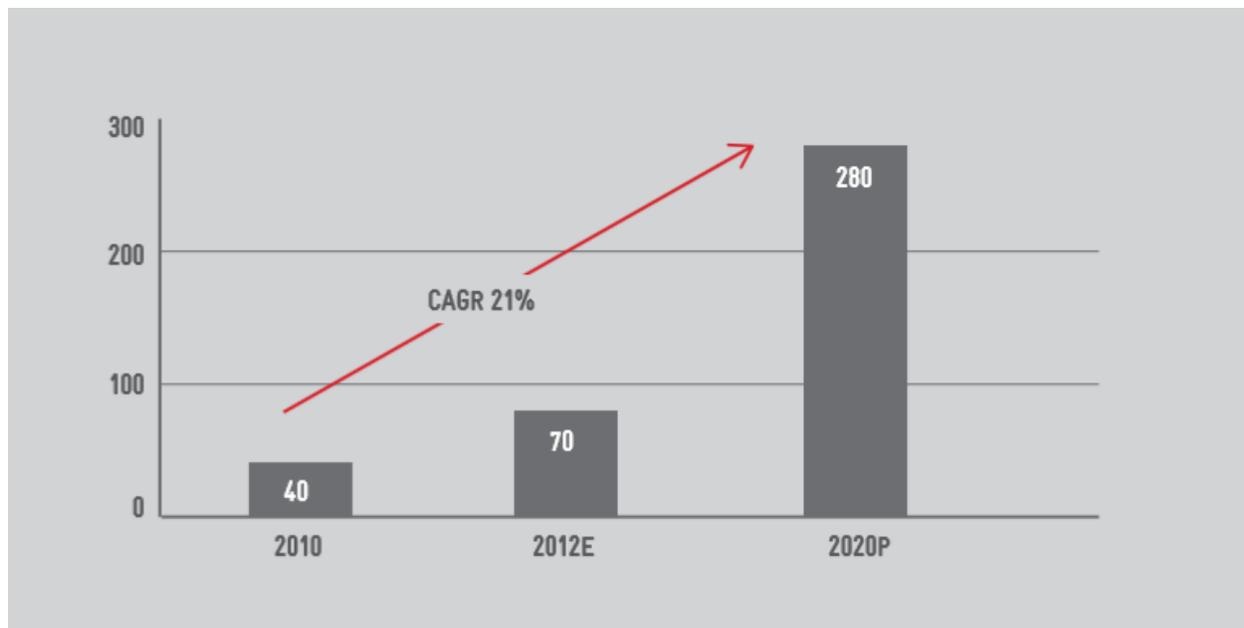
Market break-up by revenues 2012E



*Source: Hospital Market – India by Research on India, Aranca Research*

The healthcare ecosystem is an essential, complex sector that revolves around end-to-end healthcare provision within the boundaries of a given country or region. Over a relatively short period of time, healthcare sectors have become one of the fastest-growing sectors. Besides the growths in scale of the services offered, services of the healthcare ecosystems in developed countries are also expanding in scope; healthcare provision is no longer limited to the focus on curative treatments, but is redefining itself to focus on the prevention and the long-term well-being of the population.

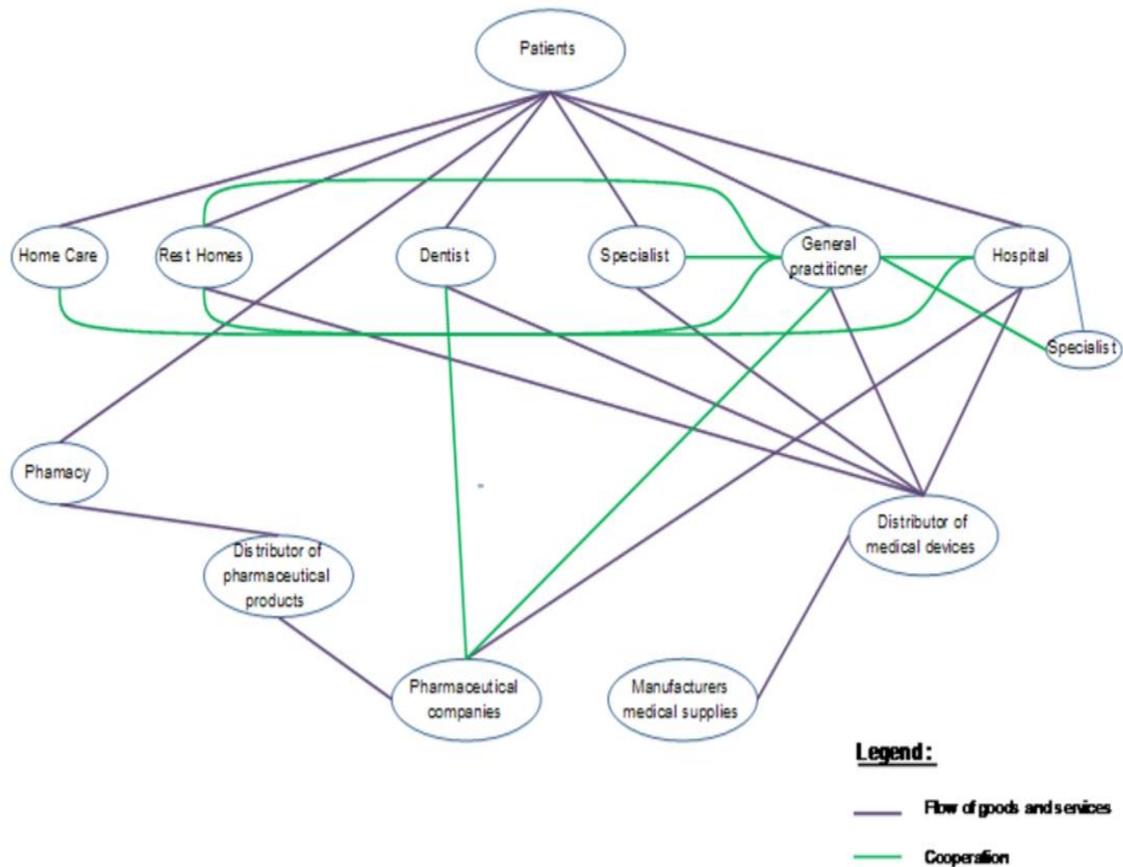
(Healthcare industry growth)



The healthcare system consists of patients, providers, payers or administrators who represent a basic set of actors, which may be supplemented by some additional actors, depending on the country. The differentiation among countries starts to appear at a level lower – within the main actor categories. In Belgium, for example, healthcare providers can be divided into three groups: healthcare professionals providing ambulatory care and services, hospitals and social-care facilities for the elderly and other groups with special needs. While Belgium uses categories of healthcare providers, the United Kingdom applies a strict hierarchy between providers. The use of a gatekeeper system is one of the main differences between the UK and Belgium concerning health care. According to an Indian Brand Equity Foundation (IBEF) Report on healthcare (Nov,

2011), the market size of this industry is expected to grow to USD 280 billion by 2020. A shift in policy has also been observed with the Government of India aiming to develop India as a global healthcare hub and a leader in medical treatment and facilities in South Asia. The Government's support has been displayed by a substantial deduction in excise duties and a higher budget allocation for the healthcare sector in recent years with custom duty on life saving equipment's being reduced to 5% (from 25%) and import duty on medical equipment lowered to 7.5%. Even though the industry is so large and expanding, India's healthcare spending pales in comparison to other developed (US and European) or emerging (China and Brazil) economies (KPMG, 2011). It is estimated that India has an average of 0.6 doctors for every 1000 people as compared to the global average of 1.23 (CII & Technopak Advisors Ltd, 2011). What is even more appalling is that the rural doctor to population ratio is lower by six times as compared to urban areas, showing a much higher concentration of healthcare institutions available to the urban rich class rather than the poor.

(Flow of goods and services in the Healthcare industry)



Healthcare expenditures are extremely high in most of the world, creating important questions about the sustainability of healthcare provision. The shape of a country's healthcare finance system is determined by two major choices: a funding model or a payment mechanism for healthcare providers.

### **Emerging Trends and Drivers for Growth**

The heavy rate of urbanization and modernization throughout the country has altered lifestyles of people drastically while technology has opened up a number of innovative cost effective treatments, transforming the way healthcare is delivered.

*Shift from communicable to 'lifestyle' diseases*

With the increasing pace of life and growing urbanization, many modern day problems like obesity, hypertension, blood sugar etc. are emerging as major ailments shifting the disease profiles from infectious to lifestyle diseases. This is also creating a dual disease burden on the healthcare system as new medical and infrastructure changes are being essentially required.

An analysis by KPMG estimated that nearly 50% of the spending on in-patient beds is now due to lifestyle diseases and the need for specialized intensive care has also increased manifold (KPMG, 2011).

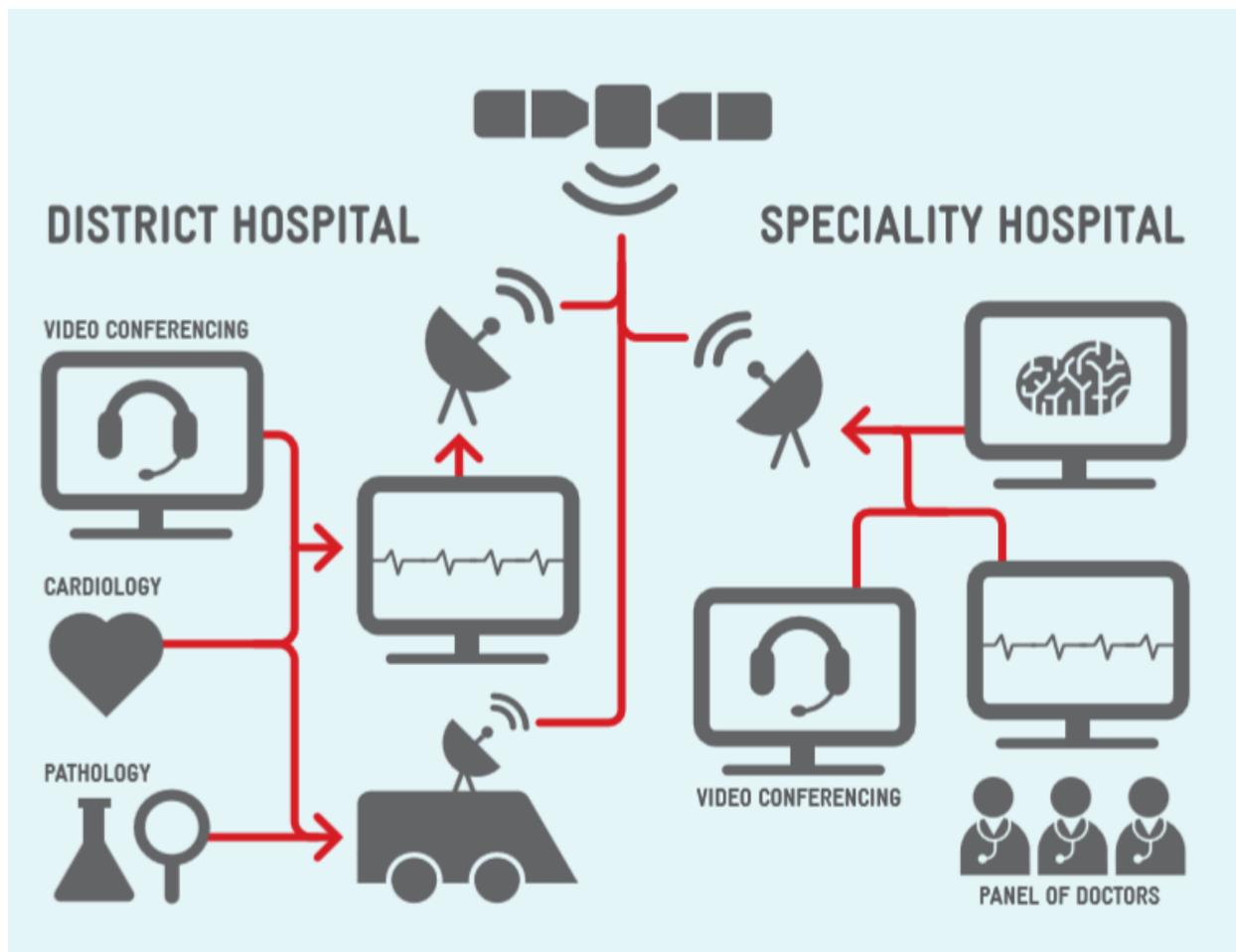
### High demand

There has been an exponential growth in demand for high quality and specialized healthcare services in tier II and tier III cities and smaller towns and the Government of India has also relaxed the tax burden on hospitals in these areas for the first five years (IBEF, 2011). The Government's support has been displayed by a substantial deduction in excise duties and a higher budget allocation for the healthcare sector in the recent years. Custom duty on life saving equipment's has been reduced to 5% (from 25%) and import duty on medical equipment lowered to 7.5%.

### Emergence of tele-medicine and technology driven healthcare services

Telemedicine is a fast-emerging sector in India; many major hospitals (Apollo, AIIMS, Narayana Hrudayalaya) have adopted telemedicine services and entered into a number of PPPs. In 2012, the telemedicine market in India was valued at USD7.5 million, and is expected to rise at a CAGR of 20 per cent, to USD18.7 million by 2017. Telemedicine can bridge the rural-urban divide in terms of medical facilities, extending low-cost consultation and diagnosis facilities to the remotest of areas via high-speed internet and telecommunication

(Telemedicine utilizing ICT – simple but efficient)



### Evolution in delivery models

New delivery models to reach un-serviced areas are also being developed and some have already demonstrated sustainability while others are informative pilot projects. Growth in day-care centers, elder homes, ayurvedic and natural medicines are also good examples of evolving models.

### Strong demand

Healthcare revenue in India is set to reach USD280 billion by 2020; expenditure is likely to expand at a CAGR of 17 per cent over 2011– 20 • Rising incomes, greater health awareness, lifestyle diseases and increasing access to insurance will contribute to growth

### Attractive opportunities

Investment in healthcare infrastructure is set to rise, benefiting both ‘hard’ (hospitals) and ‘soft’ (R&D, education) infrastructure • Medical tourism is emerging as one of the most lucrative investment areas in the country

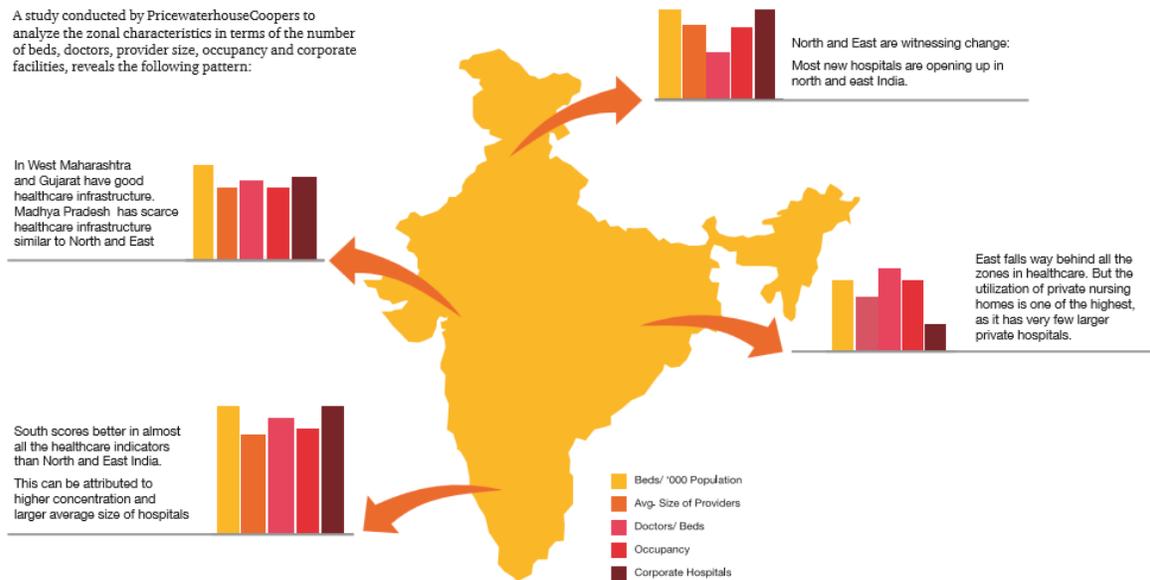
Policy support

The government aims to develop India as a global healthcare hub • Policy support in the form of reduced excise and customs duty, and exemption in service tax • Initiatives like NRHM would boost healthcare in rural areas

Quality and affordability

Availability of a large pool of well- trained medical professionals in the country • India has an advantage over its peers in the West and Asia in terms of cost of high-quality medical services offered.

(Recent investments in the sector)



Source: PWC report 2012

**Growth Drivers**

A combination of demographic as well as economic growth drivers is pushing this industry. Some big ones are outlined below:

### Demographics

- While 60 percent of the population is in the younger age bracket, there is an expected increase of geriatric population from current 96 million to around 168 million by 2026. This represents a huge patient base and creates a market for preventive, curative and geriatric care opportunities.
- Income of people has also increased significantly, providing more people access to healthcare services. The per capita income is set to touch USD 1354.2 by 2016 (Clements, et al., 2012) (NRHM, n.d.).
- Education levels have improved and more people understand the value and benefit of proper healthcare facilities.

### Economic factors

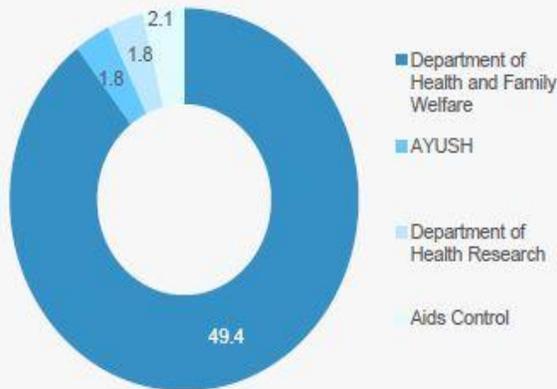
- Tax benefits are being provided by the government to encourage growth, along with subsidies, higher depreciation on medical instruments etc.
- Custom duty on imports of life-saving equipments has been reduced to 5% from 25% and import duty on secondary medical equipment has gone down to 7.5%
- India is also transforming into a South Asian hub for high quality and cost effective health treatment and surgery with people from many developing nations regularly arriving as medical tourists
- Health insurance coverage has also increased substantially (at nearly 39% CAGR between 2006-2010) with the market sized at nearly USD 1730 million by 2010 (KPMG, 2011)

Presently, In India private healthcare accounts for almost 68% of the country's total health care expenditure which is higher than all other BRIC countries (see below). Nearly 82% of the hospitals in India are privately owned. In this sort of an emerging and expanding market, healthcare enterprises with sound business models are successful in being sustainable and impacting the lives of a large number of people. Private participation in the healthcare sector has also increased rapidly due to substantial investor interest and rising merger and acquisition activity as a number of return oriented business models and domains have been identified. The sector has also evolved through increased R&D investments and specialized delivery models. Many foreign enterprises are entering India through joint ventures and local healthcare units. Singapore's Pacific Healthcare made its first foray into the Indian market by opening an international medical center which is a joint venture with India's Vitae Healthcare from Hyderabad. Singapore's Pathway Healthcare group also entered India in 2003 with a joint venture with Apollo group to build the Apollo Gleneagles Hospital for USD 29 million in Mumbai. Sectors such as pharmaceuticals and biotechnology have also seen a significant traction over the past few years with Grant Thornton Deal Tracker estimating healthcare to be about 14% of total M&A deals (KPMG,report).

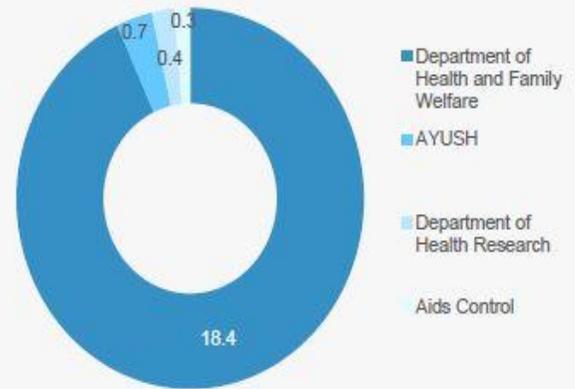
### **Healthcare under 12<sup>th</sup> five year Plan**

The key areas where the Planning Commission of India focuses is that it has allocated USD55 billion under the 12th Five-Year Plan to the Ministry of Health and Family Welfare, which is about three times the actual expenditure under the 11th Five-Year Plan. The share of healthcare in total plan allocation is set to rise to 2.5 per cent of GDP in the 12th Plan from 0.9 per cent in the 11th Plan. The 12th plan focusses on providing universal healthcare, strengthening healthcare infrastructure, promoting R&D and enacting strong regulations for the healthcare sector.

Proposed budget allocation for Departments of Ministry of Health and Family Welfare under 12<sup>th</sup> Plan (USD billion)



Budget allocation for Departments of Ministry of Health and Family Welfare under 11<sup>th</sup> Plan (USD billion)



## **Business Model Innovation**

Besides the changes in the industry architecture introduced by governments and regulators, the healthcare sector is subject to changes coming from the level of other industry actors. A number of innovative business model driven enterprises have been developed that work towards community health development. Most numerous among them are rural low-costs hospitals that offer standardized care to patients and optimize their processes and supply chain to ensure affordability and quality. The below discussed models are 3 major types of business invitations that are applicable in many parts of the world successfully and can be replicated for a Fruitful and Consistent business model if the fields of Healthcare management in the country.

### **Within-discipline grouping**

The most visible change in the healthcare sector is grouping within the same discipline. Mergers between hospitals are the most standard accompanying governance mechanism, even though there are other types, such as associations of hospitals and group practices. The best example to illustrate within- discipline grouping represents hospital groupings through mergers. The government plays an important role in the wave of mergers where means of measures, stimulating the realization of economies of scale play a crucial role, for example, the government imposing a minimum bed capacity of 150 beds per hospital. Several other initiatives to stimulate cooperation between healthcare providers of the same discipline, such as partnership possibilities, were introduced in an attempt to control supply and reduce healthcare expenditures. These initiatives combined with other market forces can result in several mergers. Within-discipline grouping can have multiple different motivations at company level. Since the sector is under financial pressure, nearly all types of grouping are inspired by cost-cutting motivations.

In order to imply the grouping model successfully the benefits should outweigh the disadvantages. Financial benefits are the most important benefit of mergers, as a means to accomplishing within- discipline grouping. These benefits can be purely financial or operational. Economies of scale are an example of operational financial benefit. An increase in the scale will in many ways lead to cost reductions.

#### *Across-discipline grouping*

Across-discipline grouping is the second type of liaising that has been present in the healthcare sector. Hospitals are the oldest and most mature examples of this type of grouping – they group different disciplines at one location and make it possible for different specialists to work together and share patients in order to provide patients with a total solution. Next to changes within-hospital, the emergence of multi-disciplinary groups can be seen as another example of this type of change. The main trigger for the establishment would be the vision about care and their concepts of health care and other care are very similar. The effects of grouping different healthcare providers depend for a large part on the organization and structure of the group and therefore some shared effects can be identified. The specific benefits are primarily the existence of different kinds of complementarities. The different disciplines available would be complementary on the basis of costs, infrastructure and target groups. the general effects of across- discipline grouping can be observed; besides the economies of scale described in the

previous section, cross-pollination is the most crucial effect. Across-discipline grouping tends to create the possibility of cross-pollination. Patients can be shared between disciplines and new patients can be obtained through existing disciplines. Since most groups of different disciplines are complementary on the basis of patients and services, patients that are interested in one of the group services might also be interested in other services of the group.

### Competitor-grouping (Coopetition)

The most pioneering type of liaising is cooperation between competitors, also called 'coopetition' where competitors cooperate in order to improve quality for hospitals in the network. Coopetition is similar to within-discipline grouping, but with looser government mechanisms in contrast to mergers. Competitor-grouping happens with regard to specific topics and the enforcement of cooperating is not possible. For transparency, regular consultation and coordination with respect to one another's autonomy. Multiple aspects provide motivations for cooperation at the highest possible level. First, medical programmes have become increasingly multidisciplinary and interdependent, sometimes requiring new forms of cooperation, such as associations, consultant shelves and even the exchange of medical staff. Second, training in non-university hospitals can certainly benefit from the relevant patient-care programmes when coordinated between the applicable regional hospitals. Third, there is a growing importance for telematic-infrastructure for the coordination of care programmes, training and research and it is clear that agreements and standards must be established for communication of patient records, images and training seminars. Talking about the mobility of people which was limited earlier and therefore their choice for healthcare providers mainly depended on the distance they needed to travel. As the mobility of people increased, competition became national. In order to face this new type of competition, networks that share knowledge and try to improve quality as well as structure, are a possible solution.

The hospitals from this type of a model evolve a competition model towards a cooperation model. The hospitals can share knowledge on core activities, such as surgery techniques, profits and which equipment is most cost-effective, as well as on support activities, for example, by means of performance indicators, in order to determine the most efficient procedures. All hospitals in the network can share information about how they run their reception, for example,

more details about their telephone central office. Some hospitals perform this in-house, while others may outsource it. Advantages and disadvantages based, for example, on costs, reliability and efficiency may be provided. Each hospital can, based on this analysis, decide if it will keep it in-house or outsource it. The members of the network share critical information in order to learn from one another and to improve their functioning. Benchmarking can be good for industry performance, since players are confronted with other players that do better and they will try to improve themselves. Stimulating benchmarking in the healthcare sector could be a first step towards better industry performance.

### **Evaluation**

In recent years, global trends such as globalization, population ageing, technological advancements and patient involvement have significantly influenced national healthcare ecosystems, prompting them to innovate their industry architecture in a quest for financial sustainability and a shift towards a more encompassing and long-term view towards health. The three main groupings that we have identified represent within-discipline grouping, usually practiced through mergers and acquisitions, across-discipline grouping, through the formation of the 'alliances' and competitor-grouping or 'coopetition' through very loose grouping that can be described as 'association'.

Within-discipline grouping was the first type of grouping to be examined in our research. Mergers and acquisitions are the most prominent mechanisms to obtain these groups. Parties involved in this type of grouping are primarily driven by efficiency reasons and therefore require strict government mechanisms. Efficiency improvement will allow both parties to improve financial as well as operational positions, but only if they cooperate, combine and work together 100 per cent. In order to protect themselves against free-riding of the other parties, members are likely to strive for mergers and acquisition, i.e. they want all the other parties to engage as much as possible.

Across-discipline grouping was the second type of grouping discussed in this article. This type of grouping requires less strict government mechanisms since the different parties involved are mostly driven by the benefit from cross-pollination. Alliance is one of the most useful

mechanisms to obtain a looser, but still tight, government mechanism. Members of the alliance benefit from other members, but do not need to cooperate as much as members of same discipline grouping. Members of different discipline groups can already benefit from being in the same room, because, for example, patients will be informed about all the members. Across-discipline grouping also benefits from increased efficiency, but in order to obtain them, mergers and acquisitions are not necessary.

The third and most complex type of grouping consisted of competitor-grouping. Coopetition, i.e. competitor-grouping, can occur with loose government mechanisms. All the members of a network will form an association. Loose government mechanisms are possible because members will cooperate only on some aspects and the main goal is knowledge-sharing and service innovation. Members benefit from sharing information, but the goal is not to oblige them to work together. Members have no direct efficiency gains from being part of the association; nevertheless, they are able to improve their performance, for example, by learning from other members of the association.

## **Government Policies**

### *Encouraging the private sector*

The benefit of section 10 (23 G) of the IT Act has been extended to financial institutions that provide long-term capital to hospitals with 100 beds or more. Government is encouraging the PPP model to improve availability of healthcare services and provide healthcare financing.

### *Encouraging investments in rural areas*

The benefit of section 80-IB has been extended to new hospitals with 100 beds or more that are set up in rural areas; such hospitals are entitled to 100 per cent deduction on profits for five years.

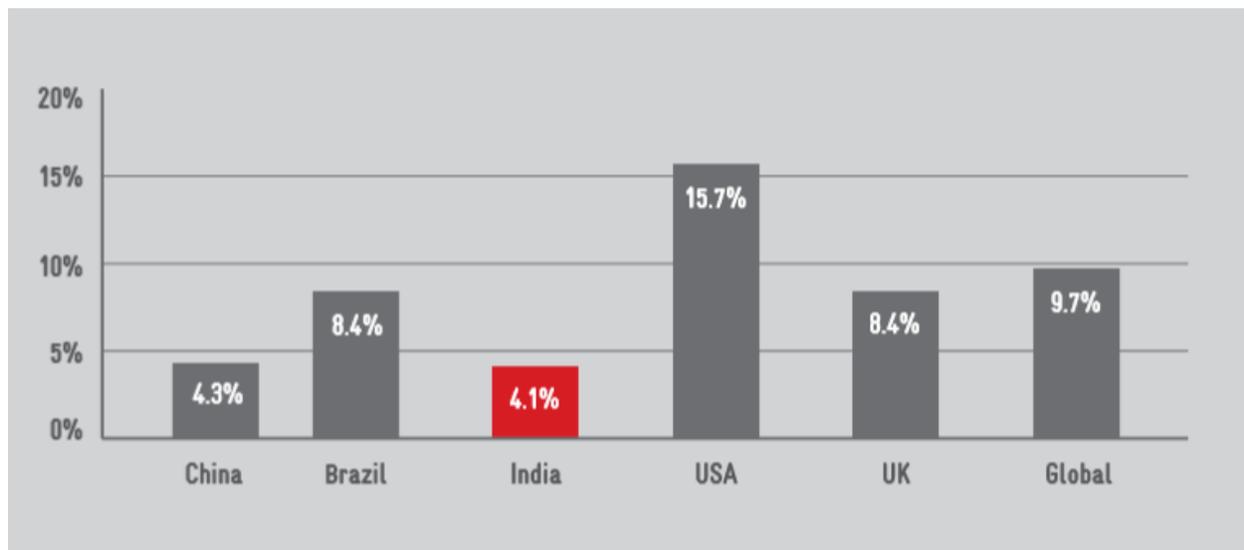
### *Tax incentives*

Customs duty on life-saving equipment has been reduced to 5 per cent from 25 per cent and exempted from countervailing duty. Import duty on medical equipment has been reduced to 7.5 per cent.

### Incentives in the medical travel industry

Incentives and tax holidays are being offered to hospitals and dispensaries providing health travel facilities.

#### (Public Spending in Healthcare)



### Key Findings

- There has been a significant growth in the healthcare sector over the past five years and its expected to reach USD 280 billion by 2020.
- A number of enterprises have come up over the past five-ten years that are working towards healthcare for the part of society currently underserved. The successful ones among these are those that are following a business innovation approach
- The main challenges on the field still are in terms of logistics, lack of awareness, government apathy and rudimentary delivery channels
- Innovations that build on technology, ICT as well as private-public partnerships (PPP) are relatively more successful and a number of good examples can be found on the ground. These along with specialized care hospitals represent the next generation of low cost rural healthcare and are developing quite rapidly

- The focus has now also come on process optimization, standardization and inclusive models to ensure long term sustainability and cost effectiveness

## **Value Creation**

### **Target Segment**

#### *Challenges*

- Consumers are mainly from the rural areas and are illiterate or semi literate. Government schemes seem to spoil market dynamics.
- There is a lack of resources to tackle every bottleneck/node in the value chain.
- Consumers are not technology savvy.
- There is very little awareness among consumers. There is a problem in communication.

#### *Solutions*

- Businesses should not depend on Government as sole customer but should leverage Govt. programmes instead.
- Infrastructure existing should be ridden on instead of creating new channels/infrastructure.
- Businesses should attempt to foster change in consumer behavior.
- Long term approach and vision should be adopted Businesses should find point of contacts for influencers

### **Delivery**

#### *Challenges*

- Physical connectivity is a problem
- Last mile delivery challenge especially in remote places.

#### *Solutions*

- Capacity building/training should be done at the doorstep .
- To approach consumers/influencers events like festivals/melas should be banked upon.
- Create a network of peer influencers.
- Make product aspirational and create demand/pull from market .
- Get real needs assessment done and feed the needs into designing the product/service.

## **Investments**

### Challenges

- Who is the purchase influencer/decider?
- There is an HR cost in getting people with right technical skills.
- Without incentives which are costs, volunteers cannot be procured.
- There is a cost in getting bandwidth and technology.

### Solutions

- Try to subsidize costs by getting in grants and corporate sponsors
- Price product a little above ability to pay
- Learn the value chain/distribution chain and cut the middlemen
- Do proper cost benefit analysis and price product accordingly
- In presence of a wide spectrum of offering, find gaps that are not catered to by these offerings and value it and price accordingly

## **Enablers**

### Challenges

- Lack of support infrastructure eg. blood banks
- Lower tiers (below doctors/nurses) medical professionals are not properly trained
- Govt. support programmes are mostly failures

### Solutions

- Train existing Govt. workers eg. Aasha workers for common services.

- Identify appropriate platforms for advocacy
- Use RTIs/tools for circumventing bureaucracy
- Educate bottlenecks in systems/processes to policy make

## **Conclusion**

The healthcare industry is facing multiple challenges. In order to deal with those new arising problems, restructuring by means of industry architecture redesign, as well as business model innovations, may be an answer. To contribute to our understanding of how business model innovation may help redesign health care, innovations as the study identified horizontal grouping to be the underpinning characteristics of all prominent changes in Within-discipline grouping, Across-discipline grouping, Cooperation healthcare business models. Furthermore, we noted that they vary with respect to nature and the extent of liaison and we distinguish three main archetypes: within-discipline grouping, across- discipline grouping and competitor-grouping. More modest changes in content, such as within-discipline grouping, were associated with very concrete and tangible gains in efficiency. To capture this value they seemed to be relying on the strongest liaison mechanisms – mergers and acquisitions. On the other side of the spectrum, the most controversial changes to the content, such as competitor-groupings, were aiming for the least tangible and most innovative and creative gains, such as new knowledge and practice creation. Contrary to what one may expect, these gains were accomplished using very loose governance mechanisms, such as associations and practice exchange.

Business model innovation has already proven to be successful in many other industries and regions. While business model innovation can be proven to bring several benefits to the companies involved. Furthermore, it indicates high standards of healthcare delivery; with the right business model innovations in place.

Our research on business model innovation has a number of shortcomings. We have only four case studies, while more case studies, especially with regard to competitor-grouping, would strengthen external validity. Furthermore, the research was qualitative; it would surely be interesting to conduct quantitative research that shows whether there is a clear statistical and economical association between the business model innovations and the performance of the

healthcare providers. Other extensions for the research may go in the direction of understanding the business model innovations of payers, for example, contributing to an integrated understanding of how the innovations function beyond the firm level and affect the performance of the healthcare ecosystem as a whole.

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