

Specialty Hospitals - Leveraging Information Systems For Greater Success

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Abstract

In a developing country like India, rising per capita incomes across households have empowered the consumers to demand and expect only the best products and services. This is no different for people in need of health services. They expect to be taken care of by the best medicine professionals in the most modern healthcare facilities. This increasing demand has been identified as a viable business opportunity by many healthcare providers for providing specialized care to the prospective consumers or patients. Information systems not only play a vital role in ensuring the success of these new age specialty hospitals; but, also help them to consistently transform and grow for addressing some of the inherent challenges.

INTRODUCTION

The word 'specialty' has multiple synonyms which mean strength, focus and high quality. In today's competitive environment, all these attributes are very important for any consumer services organization, thus helping in exceeding the expectations of an aware customer. Healthcare organizations across the globe are no different to this and are transforming into Specialty Hospitals or Specialty Healthcare units. In the United States of America, since 1990, there has been a dramatic increase in the rate of addition of specialty hospitals [1]. In India too, the trend is no different and has been propelled by the interest of multiple corporate houses to tap the ever growing opportunity. Amongst other industries, hospitals have one of the longest gestation periods for breaking-even or to earn profits. The change in disease profiles which consists of critical lifestyle related problems has ensured better occupancy rates for specialty hospitals thus reducing the gestation period and making the overall business lucrative for the stakeholders. The consumer or patient is also in a win-win situation as he is assured of best in class care from the money invested for treatment. In a developing country like India, rising per capita incomes and growing awareness around preventive healthcare has ensured that these hospitals would be profitable in the long run.

REVIEW OF THE LITERATURE

According to a joint report released by World Health Organization and World Economic Forum, India will incur an accumulated loss of \$236.6 billion by 2015 on account of unhealthy lifestyles and faulty diet [2]. The five major lifestyle or non-communicable diseases are heart ailment, stroke, cancer, chronic respiratory diseases and diabetes. Indian population will need the support of specialized healthcare units or specialty hospitals to undergo treatment and obtain long term support against these diseases. Interestingly, according to the second report on healthcare sector by Technopak Advisors Pvt. Ltd, such specialty hospitals have the potential to earn revenues of \$ 50 billion (almost Rs. 2 trillion) by 2017, up from some \$ 20 billion, equivalent to about 57% of total healthcare revenues today [3]. Some of the specialty healthcare units in the national capital region, catering to these lifestyle related diseases are Escorts Heart Institute And Research Centre Ltd., Fortis Healthcare Centre for Diabetes at Fortis Flt. Lt. Rajan Dhall Hospital and Artemis Cancer Institute. In addition to the need of specialized health care units catering to the five lifestyle related diseases, the report also mentions the growth of the "boutique hospital" segment consisting of Apollo's women's health and maternity care centre, Cradle and Fortis Healthcare's La Femme – Center for Women. Fortis La Femme as an organization firmly believes in every woman being a very special person in body and mind [4]. The

facility strives to maintain itself as the complete comfort zone for healthcare needs of women and has positioned itself to provide medical expertise in diverse areas like Obstetrics, Gynaecology, Breast Surgery, complete body check-ups and many more. The Cradle, on the other hand has positioned itself as a revolutionary concept in childbirth and maternity care in India [5]. With its brand motto, 'delivering joy', the Cradle aims to ensure that every baby arrives into this world in a unique fashion and promises to offer world class healthcare while operating like a 5-star hotel. All these facts and numbers confirm that specialty healthcare is rapidly evolving in India and presents a big opportunity to current and prospective healthcare providers alike.

It is equally important to assess the role a country like India can play in the need of specialty healthcare across the globe. The country's progress within this healthcare vertical has been backed by consistent interest levels from the private sector. According to a report of the high level group on services sector, released by the Government of India's Planning Commission in March 2008, recent years have seen a phenomenal growth in private sector investment in healthcare [6]. The report further highlights that there has been significant corporate investment in the hospitals of the country and this is expected to be boosted with the help of Foreign Institutional Investors (FIIs) and foreign equity. The report lists some of the major proposed and newly established hospital projects, which are, Dr. Naresh Trehan's Medicity, Gurgaon (Rs. 1,200 crore – 1,600 beds) and Fortis Medicity, Gurgaon (Rs. 1,200 crore – 600 to 800 beds). The report further mentions that hospitals established by the private corporate players are not only world class, they have latest medical technological facilities and a pool of highly proficient doctors and nurses. According to a 2002 estimate, as many as 150,000 medical tourists travelled to India bringing in earnings of US \$300 million. The CII-McKinsey report of that year projected that this figure would go upto US \$2 billion by 2012. Being right at the centre of action with respect to this fast emerging opportunity, the capital of India, New Delhi, has successfully attracted medical tourists to its swanky and big corporate hospitals like Apollo, Fortis and Max. These corporate hospitals have now become one of the most sought after medical treatment destinations in the country. This transformation has been well complemented by travel and tour operators who are willing to offer customized holiday vacations or treatment packages in tie-ups with the hospital groups [7].

The progressive healthcare sector in India has attention from

private and corporate business houses alike, the talent to service consumers or patients from across the globe and consistent cash flow support from an informed domestic consumer and visiting international patients. Information Technology as an enabler can add further traction to this growth and make the corporate or specialty hospitals more efficient. An information system which is focused on bringing out greater efficiency for a healthcare organization can be termed as a Health Information System (HIS). One of the primary goals of such a health information system is better healthcare economy and administration [8]. It is logical to assume that information systems would result in quicker benefits for a healthcare unit or hospital which has a specific area or opportunity to address. In simple terms, a 'specialty hospital' can be defined as the one that focuses on a 'single' domain of treatment to achieve excellence in providing health care, thus ensuring higher levels of patient satisfaction. Conducted in the capital region of New Delhi, this research study tries to validate the concept of specialty hospitals and the role that an information system can play in their successful progress. This study also tries to identify any other types of specialty hospitals based on their functional and operational breadth.

METHODS

The most commonly used approach for a research study is a combination of questionnaires and interviews [9]. Despite significant progress, the concept of speciality hospitals is continuously evolving in the Indian context. So, this dual approach of questionnaires and interviews was adopted for the study in discussion as well. The survey instrument includes statements indicating the possible strengths and opportunities of a specialty hospital and tries to address two key aspects; (a) support and agreement on the concept of specialty healthcare units/hospitals and (b) role and benefits of information system interventions in this category of hospitals. The statements listed in Table 1 were the core components of the survey. To effectively leverage a 5 point Likert scale construct [10], the advantage and disadvantage statements have been placed alternately between S1 – S9, thus eliminating chances of a responder bias in the results. The last three statements S10 - S12 check for any advantage that specialty hospitals may have when it concerns information system interventions.

Table 1

Survey instrument statements

No.	Specialty Hospitals...
S1	can provide more depth within the specialty it focuses on.
S2	have to cope with demand for services in allied specialties.
S3	can manage logistics with absolute ease.
S4	miss out on patients with multiple ailments.
S5	are in a position to attract the best talent available.
S6	are always under pressure to provide differentiated services.
S7	manage costs effectively.
S8	have to keep pace with increasing patient expectations.
S9	Increase patient awareness levels based on their focused approach.
Information Systems interventions in Specialty Hospitals ...	
S10	would be easier.
S11	will have a higher probability of success.
S12	empowers the providers to share the low cost benefits with end users/patients.

Since the survey administration was in person and face-to-face, unstructured interviews were also leveraged to gain in-depth insights from expert practitioners within the healthcare sector. The unstructured format ensured that discussions with participants were open-ended and provided enough opportunity to discuss relevant issues in perspective of the current specialty healthcare dynamics both specific to Indian context and possible global linkages. Apart from the basic concepts, aspects like healthcare areas needing higher focus and faster growing specialty units in the New Delhi region were also discussed. These interviews also supported the study by helping in obtaining insights around face and content validity of the twelve listed statements. The participants acknowledged that – (a) a combined assessment of the first nine statements will be helpful in defining a specialty hospital; (b) each of these statements appear to have a clear logical link to advantages and challenges faced by specialty hospitals and (c) the last three statements confirm close linkages between information system interventions and the specialty healthcare concept.

RESULTS

Based on responses from 60 survey participants, Cronbach's Alpha for 8 statements (5 advantage statements S1, S3, S5, S7, S9 + 3 statements on Information System Interventions S10 – S12) is 0.818. For these 8 statements, the average total score of 60 respondents is 31.28 (out of 40 – 8stmts * 5). This score indicates a strong 78% agreement to 5 advantages of specialty hospitals and confirms strong synergies which can be derived out of an information system intervention in these healthcare units.

The value of Cronbach's Alpha does vary or reduce when one or more of the 4 disadvantage statements are combined with these 8 statements. Table 2 indicates these different

values based on the statement combinations.

Table 2

Cronbach's Alpha due to "disadvantage" statements

Test#	Disadvantage Statements	Total No. of Statements	Cronbach's Alpha
1	S2	9	0.766
2	S2, S4	10	0.718
3	S2, S4, S6	11	0.671
4	S2, S4, S8	11	0.649
5	S2, S6, S8	11	0.641

The drop in Cronbach's Alpha value is significant when statements S6 and S8 get factored into the analysis of responses, thus hinting that both disadvantage statements S6 and S8 may not be measureable disadvantages for specialty hospitals. This aligns with some of the comments from respondents during the unstructured interviews wherein they mentioned that providing differentiated services or keeping pace with increasing patient expectations is normal or true for any kind of healthcare service provider. On similar lines and comments during the interviews, respondents did agree that coping with demand in allied specialties and patients with multiple ailments remains a challenge for specialty hospitals. However, these can be overcome through affiliations and a network model involving other providers.

In summary, specialty hospitals have distinct advantages and are able to make good use of the health information system concepts. Further, the challenges they face can also be overcome with efficient health provider network they establish over time with the help of these information systems.

DISCUSSION

Combining the positive aggregate scores from the survey and qualitative interview inputs, it has been validated that Specialty Hospitals or Healthcare units are better equipped to address challenges within the medical area or domain they focus on. Further, due to the strong focus and availability of top-level talent, these units can manage logistics with ease and in a cost effective manner. These units are also able to educate their current and prospective patients on the benefits of proactive healthcare in the long run. This overall strong value proposition does come along with a few challenges like coping with patients having multiple ailments at the same instance thus needing attention from experts belonging to more than one healthcare area. These units also need to consistently live up to their image around their niche focus

and keep pace with increasing patient or consumer expectations. The advantages and challenges when combined with the open-ended inputs from survey respondents help in defining a few different types of specialty hospitals. Table 3 exhibits that these primarily differ in the number of focus areas defined and communicated to prospective patients.

Table 3

Types of Specialty Hospitals

Type	Healthcare Focus Areas
Single Specialty	Single area of focus and excellence e.g. cardiology or cancer care.
Allied Specialty	Two or more closely linked areas e.g. mother and child care.
Super Specialty	Single area of focus where consistent research and development has resulted in the hospital achieving high excellence standards in one area and addresses the needs of a few allied areas.
Multi Specialty	Multiple centres of excellence within one hospital results in the creation of a strong healthcare brand.

In the long term, through continued research and development around critical patient treatments, ‘single’ and ‘allied’ specialty hospitals transform to a ‘multi’ or ‘super’ status. In most of the cases these are simply known as ‘specialty hospitals’ constituted by a number of ‘centres of excellence’.

The survey and interviews also confirmed that information system intervention in the case of specialty hospitals is easier, has a quicker and higher rate of success and most importantly empowers the providers or leadership of the hospital to pass on any cost benefits to the end customer / patient. The sharing of this benefit can be in the form of partial discounts on long-term treatment investigations or special rates for family members with similar medical histories. It is important to note that sharing of low-cost benefits will have a different timeframe for different healthcare areas before they reach the patient.

The results of the survey and the interviews with the respondents have confirmed that ‘Specialty Hospital’ as a concept can transform the Indian healthcare industry. It can provide the necessary high – end care and treatment to all age groups of the country. Since information systems are able to integrate faster with specialty hospitals, costs to patients would reduce over time while maintaining similar or higher healthcare standards.

The review of trends and literature already indicates that the trend of speciality healthcare is here to stay for long. This will not only serve the Indian population but would be very cost viable option for overseas patients as well. While they promise success and consistent patient service, speciality

hospitals do need high cash inflows during the initial phase of their setup. This requirement of the healthcare sector has been addressed through the interest shown and money invested by corporate groups like Fortis, Apollo, Artemis and Max healthcare. These corporate speciality hospitals find it relatively easy to attract the best talent available and upgrade their service standards per the consumer or the patient mindset. Consumer (in this case the patient) mindset becomes an important factor to address when a healthcare provider needs to pass on the inflationary rise in costs to the end consumer.

CONCLUSIONS

Responses to the survey statements and similar comments in the parallel interviews have confirmed that speciality care is in the process of transforming the Indian healthcare sector. Speciality hospitals or healthcare units will have distinct advantages to support ever increasing demands of an aware patient or consumer. A well integrated information system will further equip these units to overcome a few challenges around allied specialties or patients with multiple ailments. Over a period of time, the speciality hospitals do evolve into a super, multi or allied status. Some of the survey participants highlighted that the statements do not clearly mention the challenges or disadvantages specific to the operational aspects of healthcare specialty domains e.g. cardiology, oncology, etc. Through in depth brainstorming discussions with such participants, it was duly agreed that defining these challenges is out of scope from the current study and can be addressed later by using a case study based approach for specialty hospitals operating in diverse healthcare domains. Using a case study based approach will make it easy to have a purposive sample of experts related to these speciality healthcare domains [11]. This is based on the fact that case studies have been a preferred option when the researcher does not have good control over events [12]. The case study based approach helps in identification of operational nuances of diverse organizational setups, in this case specialty hospitals catering to different health problems.

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