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Developing Chandigarh as a Smart City: Evaluation of Healthcare as a Parameter of Social Infrastructure

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ABSTRACT

Urbanisation in the Indian landscape has primarily been a post-independence development and has been gaining momentum steadily over the decades. According to the Census of India 2011, around 31% of Indian population lives in urban areas and this number is estimated to reach 40% by 2031. This clearly demonstrates that India will be at the epicentre of urbanisation in the coming decades (Ahluwalia et al, 2014). However, with the sheer scale of urbanisation comes the spiralling pressure of swelling urban population on social infrastructure, the most affected being the healthcare system. The challenge that India faces today is the glaring gap between healthcare provision and patient burden. The present primary data based survey study aims to investigate the level of satisfaction of different socio-economic backgrounds about the availability and quality of healthcare and medical services which cater to the needs of the residents of Chandigarh as well as its surrounding regions. The study reveals that government intervention and policy plays an important role in proper facilitation of the healthcare services in both private and public healthcare facilities. This also highlights that the government needs to increase the share of public healthcare facilities as compared to private healthcare facilities to lessen the gap between the two and to improve patient satisfaction

1. Introduction

Urbanisation in the Indian landscape has primarily been a post-independence development and has been gaining momentum steadily over the decades. According to the Census of India 2011, around 31% of Indian population lives in urban areas and this number is estimated to reach 40% by 2031. This clearly demonstrates that India will be at the epicentre of urbanisation in the coming decades (Ahluwalia et al, 2014). However, with the sheer scale of urbanisation comes the spiralling pressure of swelling urban population on social infrastructure, the most affected being the healthcare system. The challenge that India faces today is the glaring gap between healthcare provision and patient burden. Over the last decade, to alleviate this crisis, cities have been receiving policy attention from the Government in the form of dedicated national-level programmes on urban development. In this backdrop, the 'Smart Cities Mission', a flagship programme was launched which sought to make 100 selected cities 'smart', primarily through an 'Area-Based Development' model under which the city would be upgraded by retrofitting or redevelopment.

To provide for aspirations and needs of the citizens, urban planners under the ambit of the Smart Cities Mission, aim at developing the entire urban ecosystem, which is represented by the four pillars of comprehensive development- Institutional Infrastructure, Physical Infrastructure, Social Infrastructure and Economic Infrastructure. Social Infrastructure as a subset of the infrastructure sector primarily includes assets like education and healthcare. Provision of healthcare in a developing country like India carries immense importance as health is the main component and a positive indicator of economic growth and development in a nation (Sengupta, 2016).

Cunrui Huang et al. (2010) conducted a study on emerging role of Private healthcare provision in China based on extensive literature review and from various sources of secondary data. In their study, by evaluating the content criterion and using secondary data it was found that increasing demand for healthcare cannot be solely met by the public healthcare sector. There is a need of collaboration between public and private healthcare sector. Their study suggested that the Chinese government should develop a policy and legislative framework that shape public-private partnership. **Sachika Ozawa and Damian G Walker (2011)** conducted a study on comparison of trust in public vs private healthcare providers in rural Cambodia. They used both quantitative and qualitative research techniques. Qualitative analysis showed that the trust of the people in public healthcare providers was very high. According to them public providers were more honest, sincere and have good medical skills whereas the private healthcare providers were more friendly and gave more personal attention. To measure and compare provider trust levels quantitatively, a household survey was carried out with 24 provider trust questions. It was estimated that in Cambodia, interpersonal trust between patients and providers may be more important in people's care-seeking decisions than impersonal trust in health care institutions. **Suhasni B Arya (2012)** conducted a comparison study of Public and Private Health service in Mumbai region by using secondary data from various sources and primary data was collected by using a

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sample of 300 respondents. It was found that health standards and facilities in public hospitals were extremely poor with poor standards of cleanliness and hygiene, overcrowded wards, long queues of patients waiting for hours for doctors to arrive, non-functioning x-ray machines. On the basis of the responses of the slum dwellers in Mumbai, it was found that each family in slum spent on an average 5-10% of their monthly income on availing routine medical treatment, 67% of respondents avoided treatment of their illness to prevent loss of subsistence, none of them was medically insured, 71% borrowed money to meet medical expenses and 93% of them attributed high medical expenses in private and public hospitals to be a cause for pushing poor population in debt trap. **Sanjay Basu et al. (2012)** gave a systematic review of comparative analysis of public and private healthcare systems of low and middle income countries and found the strength and weakness in both sectors. Private sector healthcare systems tended to lack published data by which to evaluate their performance, had greater risks of low quality care, and served higher socio-economic groups, whereas the public sector tended to be less responsive to patients and lacked availability of supplies. Contrary to prevailing assumptions, the private sector appeared to have lower efficiency than the public sector, resulting from higher drug costs, perverse incentives for unnecessary testing and treatment, greater risks of complications, and weak regulation. Both public and private sector systems had poor accountability and transparency.

2. Research Methodology

The present primary data based survey study aims to investigate the level of satisfaction of different socio-economic backgrounds about the availability and quality of healthcare and medical services which cater to the needs of the residents of Chandigarh as well as its surrounding regions. The source of primary data that has been used in this study are the individual respondents per each household. The source of secondary data that has been used in this study is the Official Website of the Chandigarh Administration and the Census of India 2011. To gauge their opinion, the respondents have been administered a questionnaire orally and his/her response noted down. Keeping in time the restraints of time and resources the sample size has been limited to 100 respondents. A total of 100 respondents were interviewed on a structured questionnaire, out of which 68 were males and 32 were females. The survey was largely conducted in some of the northern and southern sectors of Chandigarh, rehabilitated colonies of Sector 25 and village Dhanas. Efforts were made to make the data collection representative of the population so that various categories of respondents were adequately represented.

3. Efficient healthcare and medical services: results of the analysis

Providing accessible, affordable and equitable quality health care, especially to the marginalized and vulnerable sections of the population is one of the key objectives of the Government. There are innumerable challenges to the delivery of efficient health services in India, given the paucity of resources and the plethora of requirements in the health sector. The Indian health sector has a mix of both public and private providers of health services. The private sector and the quality of care provided is variable, ranging from informal providers (quacks) to individually run nursing homes to large polyclinics and multiplex hospitals. The regulation for cost and quality of care is largely absent in most of the states. In the case of public sector, the health services are delivered through a network of health facilities including ASHA (a volunteer health worker) at the community level, Health Sub-Center (HSC), Primary Health Centres (PHCs), Community Health Centres (CHCs), District Hospitals, Government Medical College Hospitals and the state and central government assisted ESI hospitals and dispensaries. Outreach and community level services are provided through coordination between ASHA, Anganwadi Workers (AWW) and the Auxiliary Nurse Midwife (ANM) at the HSC. However, the Rural Health Statistics 2015 reports that at the all-India level, there is an overall acute shortage of adequately skilled healthcare personnel, specialists, surgeons and doctors. This underscores the need to highlight these issues and recommend solutions which can alleviate the problem.

TABLE 1: EXISTING HEALTHCARE INFRASTRUCTURE IN CHANDIGARH

S.No.	SMART CITY PARAMETERS	PRESENT STATUS IN CITY
1.	Availability of Telemedicine Facilitites to 100% residents	Yet to begin, not available in any form in Chandigarh
2.	30 minutes emergency response time	Not estimated by health department, only 23 ambulances for 13 lakh residents
3.	1 dispensary for every 15,000 residents (80 required)	43 dispensaries in the city, each catering to around 30,000 residents.
4.	Nursing home, child welfare and maternity centre: 25-30 beds per lakh (325 beds required)	Nearly 150 beds available across 15 nursing homes in the city
5.	1 family welfare centre for every 50,000 residents (26 required)	No specialised family welfare centres available

SOURCE: chandigarh.gov.in

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TABLE 2: DISTRIBUTION OF SAMPLE RESPONDENTS ON THE BASIS OF AREA OF RESIDENCE AND PREFERENCE OF HEALTH SECTOR

AREA OF RESIDENCE	HEALTH SECTOR PREFERENCE			TOTAL
	PRIVATE	PUBLIC	BOTH	
URBAN	23 (39.7%)	**06 (10.3%)**	29 (50.0%)	58 (100.0%)
RURAL	02 (9.1%)	**17 (77.3%)**	03 (13%)	22 (100.0%)
REHABILITATED COLONIES	02 (10.0%)	**18 (90.0%)**	0 (0.0%)	20 (100.0%)
TOTAL	27 (27.0%)	26 (26.0%)	47 (47.0%)	(100.0%)

SOURCE: FIELD SURVEY (2016)

Table 2 shows that majority respondents from the urban areas prefer private healthcare centres and hospitals in contrast to the residents of rural areas and rehabilitated colonies where most respondents prefer health facilities of the public sector. This is primarily because the inexpensive treatment at public hospitals makes them more accessible to residents from these areas. Irrespective of their area of residence, majority respondents feel that the existing number of government hospitals/dispensaries in Chandigarh is insufficient to cater to the needs of patients of the City as well as of those from other neighbouring states of Punjab, Haryana, Himachal Pradesh and Rajasthan. Also, the existing infrastructure is grossly inadequate to meet the current and future requirement in all three areas of patient care, medical education and research.

FIGURE 1: USE OF TELEMEDICINE FACILITIES

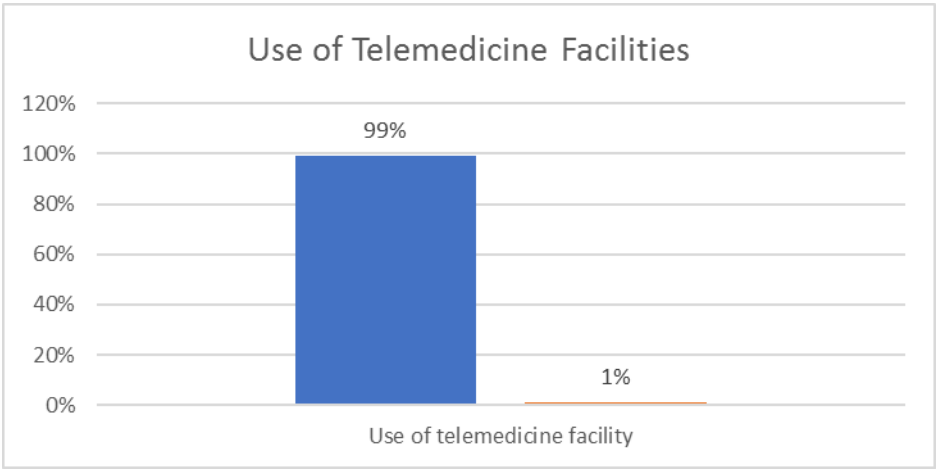

Figure-1 shows that only one respondent (from the urban area) has used the telemedicine facility and had a satisfactory experience. This highlights the lack of awareness among the city residents regarding the provisions of online telemedicine facilities.

Telemedicine is an emerging field in healthcare arising out of the synergistic convergence of Information Technology with Medical Science having enormous potential in meeting the challenges of healthcare delivery to rural and remote areas besides several other applications in education, training and management in health sector. The major goal of Telemedicine is to eliminate unnecessary travelling of patients by bringing High Quality medical services to the patients, rather than transporting them to distant centres. Chandigarh has a 'Telemedicine Project' at Government Medical College and Hospital, Sector-32 which connects it to PGI through Telemedicine project for better patient management and health services. However, its use is very limited among the patients because the lack of awareness is quite high.

4. Recommendations and Conclusion

The study reveals that government intervention and policy plays an important role in proper facilitation of the healthcare services in both private and public healthcare facilities. This also highlights that the government needs to increase the share of public healthcare facilities as compared to private healthcare facilities to lessen the gap between the two and to improve patient satisfaction. There is also need to appoint more staff and doctors because there is more people using the public healthcare facilities than private healthcare facilities. The gap between the cost of public healthcare and private healthcare is so high that a person whose income level are really low cannot afford private healthcare facilities. There should be some set rules and guidelines for private healthcare facilities also, so that their cost can be monitored and so that people with low income can also afford the private healthcare facilities.

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References

1. Anthopoulos & Vakali (2012), 'Urban Planning and Smart Cities: Interrelations and Reciprocities'. DOI:10.1007/978-3-642-30241-1_16. Corpus ID: 6143652.
2. Sengupta, K. (2016), 'Determinants of Health Status in India'. Springer India, ISBN 978-81-322-2535-5, DOI: 10.1007/978-81-322-2535-5, Edition Number 1, Pg 18-19.
3. Huang, Liang, Chu, Rutherford & Geng (2010), 'The Emerging Role of Private Health Care Provision in China: A Critical Analysis of the Current Health System'. *Asia Health Policy Program Working Paper No. 10.*
4. Ozawa, S. & Walker,D.G. (2011), 'Comparison of trust in public vs private health care providers in rural Cambodia'. DOI: 10.1093/heapol/czr045, PMID: 21729914.
5. Arya, S.B. (2012), 'Comparative Study of Public and Private Health Services in Mumbai Region availability and utilisation pattern'. Corpus ID: 166474407
6. Basu, S., Andrews, J., Kishore, S., Panjabi, R. & Stuckler, D. (2012), 'Comparative Performance of Private and Public Healthcare Systems in Low and Middle Income Countries: A Systematic Review'. doi:10.1371/journal.pmed.1001244.
7. Ahluwalia, I.J., Kanbur, R. & Mohanty, P.K. (2014), 'Urbanisation in India: Challenges, Opportunities and the Way Forward'. *Sage Publications Pvt. Ltd.* ISBN: 978-9353881122.
8. Economic Survey 2015-16
9. http://chandigarh.gov.in/

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