Challenges for India's Smart City in Healthcare Area

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"Smarter cities use the system of systems to their advantage when supporting the needs of each citizen through social programs, healthcare and education." –

***IBM Smarter Planet**[i]*

Abstract

Today, India is less than 30 per cent urban and the quality of life in its cities is chronically low. India's economy is expanding rapidly. By 2030 it is expected to grow by five times, buoyed largely by the country's urban centres. In this background the newly elected federal Government of India launched the Smart Cities Mission in 2015, amidst much fanfare, with the stated purpose of improving the governance and infrastructural deficiencies that plague Indian cities. So in this background, I try to describe the smart healthcare facilities for smart cities. The paper has two main sections, the first section, which tells about different aspects related to Smart City and highlights the Challenges for Smart Cities in India. And second section discuss about Required Smart Health Care Facilities for Smart Cities. To achieve smart healthcare infrastructure, government must use modern smart health technology.

Keywords: - Quality of life, Chronically, Smart Cities, Smart Health Care.

Introduction

Every city has its own history, culture and identity. There is no doubt that we need to nurture, preserve and renew the urban fabric with changing times. However, there is also a need to build new cities. A city is an economy of agglomeration; it provides various advantages and opportunities. That is why we all flock to the cities in search of a better future. India's economy is expanding rapidly. By 2030 it is expected to have grown by five times, buoyed largely by the country's urban centres[ii]. In this background the newly elected federal Government of India launched the Smart Cities Mission in 2015, amidst much fanfare, with the stated purpose of improving the governance and infrastructural deficiencies that plague Indian cities (Anand el., 2018).[iii]

Smart City

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Implementation of Smart City Mission of the Government of India is under process. While there has been no universally accepted definition for a smart city, the Smart City Mission's objective is to promote cities that provide core infrastructure and provide quality life to its citizens a clean and sustainable environment and application of Smart Solutions.[iv]

The vision of the Smart City concept is to improve the capabilities and simplify numerous problems of the city through optimized energy consumption, carbon emission mitigation, maximum recycling, smart transportation, 24×7 services for inhabitants and intelligent security (Thirumaran and Rani, 2015)[v].

Source-Thirumaran and Rani, 2015

The Government of India launched its flagship programme- the 100 Smart Cities mission in June 2015 to achieve urban transformation, drive economic growth and improve the quality of life of people by enabling local area development and harnessing technology. Initially, the Mission aims to cover 100 cities across the countries and its duration will be five years (FY 2015-16 to FY 2019-20). The promises of the Smart City mission include reduction of carbon footprint, adequate water and electricity supply, proper sanitation, including solid waste management, efficient urban mobility and public transport, affordable housing, robust IT connectivity and digitalization, good governance, citizen participation, security of citizens, health and education (Meta, 2015)[vi].

Challenges for Smart Cities in India

The concept of smart cities has its challenges, especially in India. Few of the challenges are listed below-

- Smart Governance
- Smart Financing
- Smart Citizen
- Smart Health Care Facilities
- Smart Modern Infrastructure
- Smart Education
- Smart Technology
- Smart Transport
- Smart Energy
- Smart Building

Smart Healthcare for Smart City

Health is an important commodity not only for individual, but also for a country. Improvement of health status is therefore on the political agenda of every government. In India health has been a major policy issue since independence (Kumar, 2016).[vii] Healthcare is the right of every citizen and it needs to be provided. Built form or primary source of the healthcare is hospital. Government of India has listed Healthcare as 1 of the 10 parameter in the Smart Citi proposal of Smart Health Hospitals or a Medicity in Hospitals aims to provide better Healthcare facilities and Environment (Ahmad and Kaur 2017)[viii].

Each smart city will have multi-specialty hospitals, diagnostic centres, telemedicine and emergency medical services. The government has announced initial investment of Rs.48, 000 core, with more funding coming from private investors and abroad.[ix]

Healthcare is one key Smart City criteria, identified under this standard, with 7 healthcare indicators such as Number of In-patient hospital beds, Physicians, Nursing personnel per 100,000 populations, Average life expectancy, under age 5 mortality per 1K births, Suicide rate per 100K population and Mental health practitioners per 100K population1. For our discussion, we would focus on first three indicators (Gupta, 2017)[x].

Smart healthcare is the application of new technologies in ways that affect health care. These include, diagnosis monitoring patients, including the management of organisations involved in these activities. Use of new technologies would help citizens enjoy a number of online medical services, including key services such as requesting an appointment online or the possibility of having a digital record (Naqvi, 2015)[xi].

The goal behind developing a smart city is to improve the lives of its citizens and smart healthcare plays a significant role in achieving the objective. No doubt the health sector is seeing advancement over the past few years but, with the increasing population and urban lifestyle, it becomes critical to look after citizens in a more quick and efficient manner. Nonetheless, the sector is escalating up so fast that it is expected to make up almost 15 per cent of all smart city business by 2020 (Jagota, 2018)[xii].

According to National Hospital Directory data of the Ministry of Health and Family Welfare on large format Hospital services provider, there were only around 1048 large public and private hospitals in India in 2015. Large private hospitals reflects that out of total hospitals listed around 77 per cent are located in 15 states and within these 15 states these hospitals are located only in 33 districts of the total 640 districts of India. Some selected smart cities have limited large public and private hospitals in 2015, in New Delhi 34, Vadodara 8, Surat 6, Faridabad 29, Jammu 13, Bengaluru 22, Kochi 7, Indore 32, Mumbai 23, Hyderabad 27, Pune 18, Ludhiana 41, Amritsar 25, Chennai 20, Kanpur 2 and Kolkata have 21 hospitals (Kumar,2015)[xiii]. In this situation government required modern updated smart infrastructure to make smart healthcare facilities, as below-

Required Smart Health Care Facilities for Smart Cities

- Availability of telemedicine facilities to 100% residents

- 30 minutes emergency response time

- 1 dispensary for every 15,000 residents

- Nursing home, child welfare and maternity center—25 to 30 beds per lakh population

- Intermediate hospital (Category B)—80 beds per lakh population

- Intermediate hospital (Category A)—200 beds per lakh population

- Multi-specialty hospital—200 beds per lakh population

- Specialty hospital—200 beds per lakh population

- General hospital—500 beds per lakh population

- 10,020 Family welfare center for every 50,000 residents

- 1 Diagnostic center for every 50,000 residents

- 1 Veterinary hospital for every 5 lakh residents

- 1 Dispensary for pet for every 1 lakh residents

- Pre Primary to Secondary Education

- Area equivalent to 15% of residential area for building hospitals

- 1 pre-primary/nursery school for every 2,500 residents

- 1 Primary school (class I to V) for every 5, 0 (Kobenka, 2016)[xiv].

To achieve above mentioned position government must build smart healthcare infrastructure and use modern smart health technology in this sector. 'Smart Health Technology' combines Smart Technology and latest mobile device with health.

Below are some key challenges, which the healthcare industry is facing for providing Health Care Facilities in Smart Cities: (Gupta, 2017)[xv]

- *Year over Year increase in healthcare infrastructure cost* – In order to improve the healthcare services, Smart City administrations have been spending significantly in associated infrastructure (i.e., number of beds, medical equipment, etc.). For a developing nation like India, supporting a fifth of world population, the growth in average hospitalization costs annually is over 10%. This burden is being passed on to patients and payers. A major chunk of hospital beds is occupied by patients for health monitoring purposes and not treatment, consuming a major share of available bandwidth.

- *Gap between required and available medical workforce* – With a growing aging population, the demand for physicians and nursing personnel has intensified around the world, which is already experiencing doctor shortages.

- *Lack of capabilities to capture and share centrally available clinical data in real time* – Most medical devices are supported by proprietary communications protocols and therefore cannot send clinical data over Internet protocols (IP) to a server on a healthcare network. Ensuring that all the devices speak the same language, so that data collected can be read and understood, is becoming increasingly difficult due to the growing number of network proprietary devices. As a result, many healthcare facilities have "islands" of data that cannot be shared and stored in a centralized location in an automated fashion.

Conclusion

The future of India lies in cities, so public and private sectors must join hands and come forward to build up 100 New Smart Cities. Even though it is 7060 Cr for the initial investment for set out Smart Cities, let we put hands together to make India more developed. Let us hope soon India will provide Quality of Life to its citizens, like citizens of other smart cities like New York, Singapore, San Francisco etc. So welcome to the Future of Indian 100 Smart Cities.

References-

[i] https://www.ibm.com/smarterplanet/us/en/smarter_cities/overview/

[ii] https://www.rvo.nl/sites/default/files/Smart%20Cities%20India.pdf

[iii] Anand, Ashwathy, AjaiSreevatsan and PersisTaraporevala,(2018), *'Policy Brief – An Overview Of The Smart Cities Mission in India',* www.cprindia.org

[iv] https://www.grantthornton.in/insights/articles/smart-cities--whats-in-it-for-business/

[v] Thirumaran*,* Dr. J. and Dr. T. SanthiyaRani,(2015), 'Smart Cities & Challenges in India - A Vision', International Journal of Innovations in Engineering and Technology (IJIET) 5 Dec 2015, Volume 6 Issue 2, ISSN: 2319 – 1058, page 60-70

[vi] Meta (2015), 'Smart Cities in India: An Overview', https://cis-india.org/internet-governance/blog/smart-cities-in-india-an-overview

[vii] Kumar, Shailendra, (2016), " Health in the Era of Neoliberalism: A Journey from State Provisioning to Financialization", ISID Working Paper 196, ISID New' Delhi.

[viii] Ahmad Mohammad Laraib and Ar. Narinderjit Kaur (2017), Smart Health Hospitals in Smart City Perspective. International Journal of Civil Engineering and Technology, 8(5), 2017, pp. 1271–1279. http://www.iaeme.com/IJCIET/issues.asp?JType=IJCIET&VType=8&IType=5

[ix] http://healthanalyticsindia.com/newsdata/india-pushes-plan-for-100-smart-cities.html

[x] Gupta, Nitin,(2017) How IoT Can Significantly Improve Healthcare in the Context of Smart City, file:///C:/Users/Sarvpriya/Desktop/smart%20sity/97883703ad4bc6b6ec3d99a84cbcfcb8f641.pdf

[xi] Naqvi, Asgar,(2015), https://www.grantthornton.in/globalassets/1.-member-firms/india/assets/pdfs/ smart_city-phdcci.pdf

[xii] Jagota,Hema (2018), 'Smart healthcare in smart cities',Ahttps://www.financialexpress.com /lifestyle/health/smart-healthcare-in-smart-cities/1272993/

[xiii] Kumar, Shailendra, (2015), " Private Sector in Healthcare Delivery market in India: Structure, Growth and Implementations", ISID Working Paper 185, ISID New' Delhi.

[xiv] Kobenka, Deborah(2016), 'Promoting smart cities healthcare in India, https://healthcareuk.blog.gov.uk/2016/06/13/promoting-smart-cities-healthcare-in-india/

[xv] Gupta, Nitin,(2017) How IoT Can Significantly Improve Healthcare in the Context of Smart City, file:///C:/Users/Sarvpriya/Desktop/smart%20sity/97883703ad4bc6b6ec3d99a84cbcfcb8f641.pdf