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An Examination of Rural Health Infrastructure of India

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ABSTRACT

India is the second largest populated country in the world with two-thirds of its population living in the rural areas. Rural India economy contributes about 45 percent to total employment in India according to the International Labour Organization. Contribution of Agriculture and allied activities in the total output produced in India measures up to 15 to 20 percent. Despite the significance of rural India, it is the most neglected when provision of basic human needs, public amenities and social sector infrastructure such as health and education is concerned. Among other compelling needs, health is an important component of the Human Development Index. Rural India suffers from lack of adequate access to healthcare. While the pace of development in India has increased after the economic reforms of 1991, the health sector has not experienced similar pace of growth. In this context, the present study aims at gauging the trends in rural health sector over a period of time. The paper examines changes in health indicators against the backdrop of rural health infrastructure in India.

KEYWORDS: Health Sector, Rural Sector, Health Infrastructure, Health Indicators, Health Personnel

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INTRODUCTION

India is the second highest populated country of the world with two-third of its population living in rural areas. Rural economy mainly comprises of agriculture and other related activities which provides employment to about 45 percent of the workforce. They contribute about 15 to 20 % to the GDP of India. Rural population constituted 70 percent of India's population according to Census 2011 measuring 833 million people. According to World Bank Data, rural population of India is estimated to be 66.4 percent in the year 2017, which implies a rise to 890 million persons. Despite rural population being significant part of the country, it still remains neglected in the provision of basic amenities like health, hygiene, sanitation, clean drinking water, education, etc. Among the two social factors of health and education, health is the most important element of human development index.Good health is a pre-condition for further physical and mental growth of individuals for constructive lives.

Economic reforms of 1991 unleashed the growth potential of the Indian economy resulting into rapid pace of economic growth. Despite this it has not led to desirable level of overall development of various sectors of the economy, particularly, the social sectors. Government expenditure on the social sectors leaves much to be desired. The health sector is no exception. Despite improvements in various indicators of health, there is a huge gap in the access to healthcare services between urban and rural population. Government expenditure on health sector measures to a meagre one percent of the national income of the country and 75 percent of it is concentrated in urban areas (Jaysawal, 2015).Thus rural population severely lacks in adequate health facilities.

According to the World Health Organization Public Health and Environment Database (2014)[1] rural India compares poorly with other BRICS countries even in access to simple facilities like improved sanitation. While more than 50 percent of rural population in China, Brazil and South Africa has access to improved sanitation, only 25 percent of rural population in India has access to improved sanitation.

The fact that there is a two way causality between social infrastructure and economic progress cannot be overemphasized. Improvement in health sector is one of the key to sustained equitable economic growth. In this context, the present study seeks to examine the selected dimensions of the rural health infrastructure of India.

REVIEW OF LITERATURE

The literature on health sector of rural area mainly consists of studies on the scenario of health sector of rural India, the challenges it faces and the effectiveness and lacunae in health policies and programmes of the government. These include studies such as Patil and Somasundaram

(2002)[2], Bhandari and Dutta (2007)[3], Kumar and Gupta (2012)[4], Wani, Taneja and Adlakha (2013)[5] and Jaysawal (2015)[6].

Patil and Somasundaram (2002) make a pertinent point in stressing on the need for a 'sociocultural model' rather than a 'biomedical model' so as to have long term perspective in improving the state of rural health in India. Bhandari and Dutta (2007) provide a stock of rural health infrastructure in terms of physical facilities as well as human resource availability and quality and the challenges They show that poor access and quality are major issues of concern for public health facilities in rural areas. Jaysawal (2015) has examined the challenges of rural health system in India and suggests strategies that can be implemented by the government to overcome them. The author laments the deplorable health infrastructure in rural India and calls for administrative measures in terms of regulations and strict monitoring.

A country report by the Swedish Agency for Growth Policy Analysis commissioned by the Swedish Ministry of Health and Social Affairs on India's Health Care System (2013)[7] uses various healthcare improvement parameters such as clinical outcome indicators and disease registries in India to gauge the health care system in India. The Report emphasizes on the need to lay down thorough mechanism to provide quality health services in the primary healthcare system. It also points out that much improvement in the quality of healthcare services could be improved with better management of the existing inputs. Similar issues are emphasized by Joumard and Kumar (2015)[8] who state that India's health sector can gain the most if government focuses on population wide preventive measures to improve the general quality of physical life. They also stress on allocating more public funds for the health sector and improving the management of public health care services.

The Rural Health Statistics (2014-15)[9] emphasizes on effective and efficient utilization of existing health facilities across rural India and underlines the importance of reliable data on heath care system for the purpose of formulating apt health care programmes. The National Health Profile 2018[10] traces the state-wise health infrastructure in India and its impact on various health indicators in the backdrop of the demographic and socio-economic profile of the respective states.

OBJECTIVES AND METHODOLOGY

The present study is an attempt to capture the progress in rural health sector in India. Attempt is made to capture the progress through changes in various health indicators and health infrastructure both physical and personnel. Accordingly the objectives of the study are as under.

- To study the trends in physical infrastructure of rural health centres
- To study the trends in health personnel in rural health centres.
- To examine the trends in various health indicators of rural population in India

The rural heath infrastructure is measured in terms of number of primary health centres and the level of amenities entailed in them. Status of human resources in the rural health centre is measured in terms of trends in number of health personnel health, while health indicators examined include birth rate, death rate, mortality rates.

The study covers a period ranging from 1991 to 2016 for different dimensions examined. In the case of some parameters data prior to 1990 has also been used depending on availability. The study is based on secondary data sourced from various publications of Ministry of Health and Family Welfare, Government of India. Simple statistical tools like growth rates, ratios and averages have been used.

ANALYSIS AND INTERPRETATION

- Physical Infrastructure

The analysis of physical infrastructure in rural health sector has been done on the basis examination of various dimensions of Primary Health Centres (PHCs) in rural areas. The study analyses the growth in number of PHCs across the States and Union Territories of India over the period 2005 and 2015 and over the five year plans. Table 1 traces the growth in the number of PHCs over the five year plan periods. Although there is an increase in the number of PHCs over the plan periods, there is a drastic fall in the pace at which the growth has taken place. It indicates that is a severe lack of dedicated planned expenditure by government for rural health sector.

Table 1. Numbers of PHCs during Five Year Plans

Five Year Plans	PHCs	Growth Rate (%)
6th (1981-85)	9115	-
7th (1985-90)	18671	104.84
8th (1992-97)	22149	18.63
9th (1997-02)	22875	3.28
10th (2002-07)	22370	-2.21
11th (2007-12)	24049	7.51
12th (2012-17)	25308	5.24

Source: Rural Health Statistics, Ministry of Health and Family Welfare

The growth in number of PHCs has also been traced across the states/UTs of India. The States and UTs have been classified into different classes as per the number of PHCs it has and progress has been traced by finding out if there is an increase in the number of States and UTs in classes with more number of PHCs. Table 1 shows the results of the analysis. The analysis shows mixed picture. There is some improvement in the number of states with number of PHCs ranging between 501 to 1000 and 2001 to 2500; however, more or less the situation has remained the same over the ten year period.

Table 2. Numbers of Primary Health Centres

Year	2005		2015	
No. of PHCs	No. of States	Percentage of States	No. of States	Percentage of States
0-500	20	55.6%	19	52.8%
501-1000	04	11.1%	08	22.2%
1001-1500	05	13.9%	02	5.6%
1501-2000	05	13.9%	04	11.1%
2001-2500	-	-	02	5.6%
2501-3000	-	-	-	-
> 3000	01	2.8%	01	2.8%

Source: Computed from data sourced from Rural Health Statistics, Ministry of Health and Family Welfare

The status of the amenities at PHCs shows reasonable level of facilities, although there is much scope for improvement. Nearly 50 percent of PHCs lack simple facilities such as telephone and computers. Only 39 percent PHCs have operation theatre which implies that the rural residents have to go to distant places to avail the services. Table 3 shows the status of various amenities at the PHCs.

Table 3. Facility at Primary Health Centre (2012-17)

Amenities at PHCs	Numbers	Percentage
No. of functioning PHCs	25308	-
PHC with labour room	17815	70.4%
PHC with operation theatre	9875	39.0%
PHC with at least 4beds	17796	70.3%
PHC with Telephone	13276	52.5%
PHC with computers	14293	56.5%
PHC without electric supply	1107	4.4%
PHC without regular water supply	1773	7.1%
PHC without all weather motorable road	1756	6.9%

Source: Rural Health Statistics, Ministry of Health and Family Welfare

- Health Personnel

Availability of health manpower is another important requirement for effective functioning of the rural health centres. Availability of adequate number of qualified and trained manpower is a serious issue as far as rural health sector is concerned. Doctors are typically averse to work in rural areas. This has serious implications for health of rural population which lacks awareness of basic hygiene and health issues coupled with their lack of literacy. There is also typically absence of effective training and sensitization among nursing aides. Table 4 shows the manpower status at the PHCs in terms of number of doctors and nursing staff.

Table 4. Numbers of doctors at Primary Health Centres

Particluars	2005	2015	Growth (%)	2005	2015	Growth (%)
	No. of Doctors			No. of Nursing Staff		
Numbers of required	23236	25308	8.9	46658	63080	35.2
Sanctioned	24476	34750	41.9	34061	74098	117.5
In position	20308	27421	35.0	28930	65039	124.8
Vacant	4282	9389	119.3	5280	11757	122.7
Shortfall	1004	3002	199.0	13352	12953	-3.0

Source: Rural Health Statistics, Ministry of Health and Family Welfare

The figures in the table reveal that there is better growth in the case of number of nursing staff than in the case of number of doctors. The shortfall of nursing staff has in fact reduced over the ten year period compared to the glaring increase in shortfall of doctors. The vacant position in both the segments has more than doubled over the ten years which highlights the deplorable condition as far as rural manpower is concerned. The issue of mandatory rural service for fresh doctors is still a debated issue in India with both pros and cons. While it displays the commitment and efforts of government towards rural healthcare, the idea is fraught with several difficulties such as fresh doctors left to perform the dual role under clinical as well as administrative responsibilities, leaving much to desire as far as their effectiveness is concerned.

- Health Indicators

Access to quality healthcare is an important requirement for good health. In developing countries like India, often death occurs due to lack of ordinary health facilities that can act as preventive measures. Timely and regular healthcare services and access to advanced medical care are necessary for saving lives from succumbing to illness and diseases. This is reflected in various health indicators. This paper examines the trends in various health indicators of the rural population to check whether there is an improvement over the years. Figure 1 depicts the trends in birth rate and death rate of rural population. The rural birth rate has declined by about 18 percent while death rate has reduced by 24 percent over the 15 year period when calculated on the base of hundred. This indicates improvement in the access of healthcare services. In absolute terms there is a decline of five births per 1000 persons and about two deaths less per 1000 persons. As far as life expectancy is concerned there is addition of five years over the 15 year period.

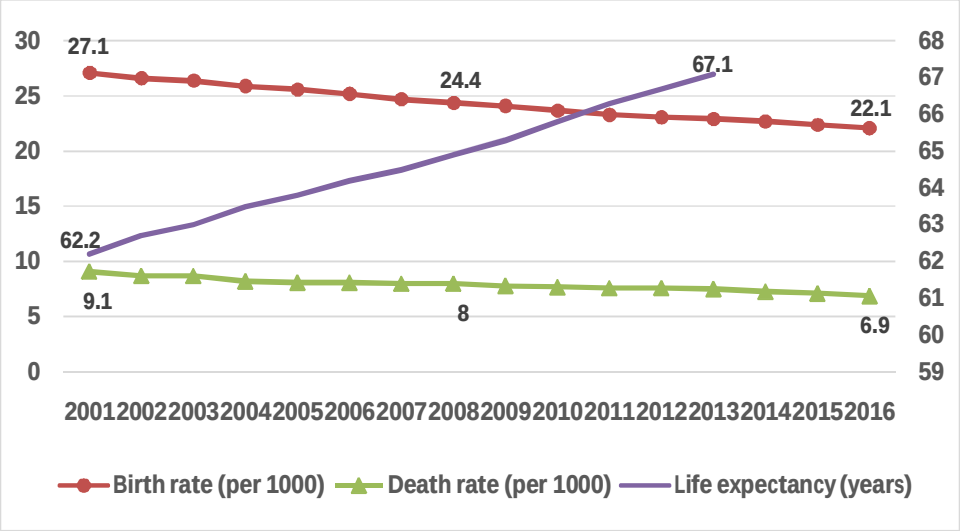

Figure 1. Birth Rate, Death Rate and Life Expectancy of Rural Population in India

Source: Ministry of Health & Family Welfare, Government of India.

Other important health indicators, particularly, for rural population are those related with child mortality. Improvement in these indicators is very crucial because absence of health care in rural areas is the major cause for child mortality, unlike in urban areas. These improvements also have implications on the birth rate as it may help discourage the number of children per couple. This in turn can lead to better quality of life both for the mother and the family, as a whole, as well as better prospects for improving the standard of living, in the chain effect, as the children may be in a better position to take benefit of opportunities to scale up the economic ladder.

Figure 2 depicts the various mortality rates related to children. It can be observed that the improvement in these rates is much more pronounced in the decade of 2010. Infant mortality rate (IMR) and still birth rate have reduced to nearly half of its value at the beginning of the study period which is a very positive outcome of the rural healthcare system. However, the Infant mortality rate of rural India compares poorly with that of urban India. The IMR for urban population was 23 in the year 2016 whereas for rural population it was 38 which is 65 percent higher. This clearly indicates the impact of poor access to healthcare services in the rural areas. The IMR of India as whole compares poorly with that of developed countries and European Union member countries where the rates are mostly around five. This indicates the long journey India needs to travel as far as health indicators are concerned.

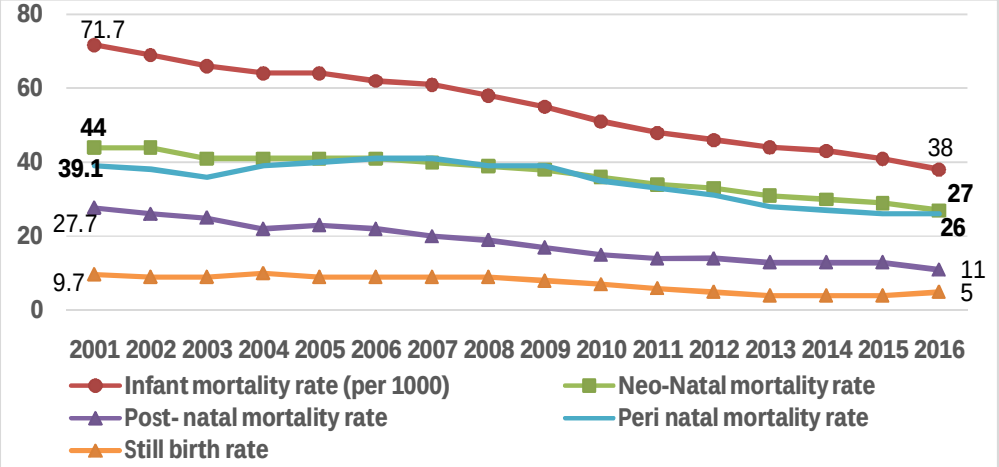

Figure 2. Child Mortality Rates in Rural India

Source: Ministry of Health & Family Welfare, Government of India.

CONCLUSION

The three pronged analysis of rural healthcare services reveals much about the state of affairs of rural health. There is definite improvement in the health indicators even as the situation in physical and human infrastructure has not improved as much as desired. The improvement in health indicators may be attributed to improved quality and access of health services in the rural areas. Although India's economic growth should have been followed by improvement in its social sectors too. While economic growth is relatively easy to achieve, benefits of social infrastructure typically show results in the long run. Therefore, governments typically behave in a myopic manner giving more importance to the immediacy of economic targets at the cost of sustainable social development. However, improving the social sector, including, health is a crucial precondition for sustained economic growth in an increasingly global world if India is to capitalize on the so-called demographic dividend. The analysis indicates that government must increase the rural health infrastructure and more importantly put in place effective mechanisms that can improve the management of the existing health infrastructure in the rural areas.

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