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# Health Infrastructure in India: Critical Analysis of Policy Gaps in the Indian Healthcare Delivery

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## **About the Authors**

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# Health Infrastructure in India: Critical Analysis of Policy Gaps in the Indian Healthcare Delivery

## *Abstract*

*Today the health infrastructure of India is in pathetic condition, it needs radical reforms to deal with new emerging challenges. On the one hand the role of private players is continuously increasing in healthcare sector, but simultaneously healthcare facilities are getting costly, and becoming non-accessible for the poor. The government hospitals are facing the problem of lack of resources and infrastructure; there are inadequate number of beds, rooms, and medicines. In this research paper the authors have discussed the present scenario of healthcare facilities and personnel. On the part of government there is lack of monitoring of the funds and resources, which are devoted towards the improvement of healthcare sector. The authors have suggested a model healthcare plan which revolves around preparing a long term strategy for qualitative as well as quantitative improvements in our healthcare infrastructure by focusing on workforce capacity and competency, information and data systems, and organizational capacity.*

*In this regard the authors have discussed the health plans of United States, and have suggested that India can also be inspired by them. The government is required to take an integrated approach, which must take into consideration meeting the regional differences with the help of the local people; it must prepare a decentralized structure which would be district based, involving active role for the local level institutions like Panchayats. It has been further observed by the authors that every year many people die because of the spread of different epidemics, and till now the government has failed to create a proper strategy which can prevent the spread of these epidemics and can provide for emergency measures in the affected areas. The authors have suggested that that government must prepare a comprehensive strategy to deal with epidemics, which must include a universal vaccination policy (in affected areas), establishment of special medical care centres, emergency response*

*plans, and measures for the improvement in habitation. The authors have stressed that there is a need of continuous action for the improvement of healthcare facilities in rural areas because generally there are very few government hospitals and even those are devoid of most of the medical facilities. Moreover, in the rural areas most of the people are poor and these areas are most prone to be affected by different types of epidemics as the people are unaware of the better hygiene practices and other disease preventive measures. The authors have also discussed the impact of national rural health plan (NRHM) initiated by the central government; the authors have pointed out that although the mission has impacted the lives of rural masses to some extent but simultaneously has failed to bring radical changes because of lack of implementation. The authors have opined that NRHM should be extended beyond 2012, and the government must regularly monitor the funds and other resources provided for the mission. In the end the authors suggest that there is no magical plan to improve the medical facilities for a vast population as of India, but the central government must take actions from all sides along with the help of other actors like state governments, NGOs, and media. Investment in healthcare sector to the tune of two to three percent of GDP is inevitable but insufficient to bring in radical changes; the government is required to keep vigilance on the utilization of allotted funds, and needs to create a motivation among the healthcare personnel for welfare of the people.*

## Introduction

*“Life is not merely being alive but being well.”*

*– Martial, 66 AD, Epigrams*

Health infrastructure is an important indicator for understanding the health care policy and welfare mechanism in a country. It signifies the investment priority with regards to the creation of health care facilities. India has one of the largest populations in the world; coupled with this wide spread poverty<sup>1</sup> becomes a serious problem in India. The country is geographically challenged; this is due to its tropical climate which acts both as a boon and a bane, a Sub Tropical Climate is conducive to agriculture however it also provides a ground for germination of diseases<sup>2</sup>. Due to a cumulative effect of poverty, population load and climatic factors India's population is seriously susceptible to diseases.

Infrastructure has been described as the basic support for the delivery of public health activities.<sup>3</sup> Five components of health infrastructure can be broadly classified as: skilled workforce; integrated electronic information systems; public health organizations, resources and research. When we talk about health infrastructure we are not merely talking about the outcomes of health policy of a particular country, but the focus is upon material capacity building in the arena of public health delivery mechanisms.

The Government of India's 1946 *Report on the Health Survey and Development Committee (also known as Bhore Committee)* had declared “the inadequacy of existing medical and preventive health organization” as one of reasons for India's poor health condition in its report. Moreover, the recommendations included an infrastructure plan for a three-tier health care system<sup>4</sup> at the district level to provide preventive and curative health care to dwellers in both rural and urban

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<sup>1</sup> As of the year 2010, more than 37% of India's population lives below the poverty line.

<sup>2</sup> The research conducted by various institutions and individuals over the past decades has exposed the vulnerability of Tropical Countries to spread of infectious diseases. See: Science Daily (20<sup>th</sup> February, 2008). “Emerging Infectious Diseases on the Rise: Tropical Countries Predicted as Next Hot Spot”, available at <<http://www.sciencedaily.com/releases/2008/02/080220132611.htm>>, site accessed on 31th November, 2011.

<sup>3</sup> Lloyd F. Novick, Cynthia B. Morrow, Glen P. Mays (2008). *Public Health Administration (Principles for Population-based Management)*, 2<sup>nd</sup> edition, Jones and Bartlett Publications, Massachusetts, p.56.

<sup>4</sup> At the lowest level, primary health centers (PHCs) were designed to provide basic medical care, disease prevention, and health education. The next tier, sub centers (SCs), were intended to provide public health services. A top tier of community centers and district hospitals offers specialist services.

areas. The Bhore committee report stressed on access to primary health care as a basic right, which subsequently became the basis of national health care system. Since the Bhore Committee nine other committees have been formed, to examine the challenges faced by the healthcare sector in the post-independence period, the latest being the *National Commission on Macroeconomics and Health*, 2005. The report highlighted the problem of lack of resources which have made the health system unaccountable and disconnected to public health goals, and inadequately equipped to address peoples growing expectations. The estimated total investment of Rs 74,000 crore consists of a whopping projected Rs 33,000 crore for capital investment required for building up the battered health infrastructure alone. The commission recommended that an institutional infrastructure which constitutes of a number of autonomous and self-financed bodies is a bare minimum to cope up with the health situation in India. Thus in the period of about 60 years the problem of health infrastructure has remained unresolved.

## Background

India has the 2<sup>nd</sup> largest population in the world. Robust growth and steady fiscal consolidation have been the hallmarks of the Indian economy in the recent years. The growth rate has been 8.6 per cent in 2010-11 and is expected to be around 9 per cent in the next fiscal year.<sup>5</sup> However in terms of health infrastructure the country is lagging behind. Economic development is not a necessary indicator of public health in a nation; in this regard reference to Human Development Index<sup>6</sup> gives a quite different picture as India is placed at the 119<sup>th</sup> position in the HDI out of a total of 169 countries.<sup>7</sup> China, the country with the largest population in the world features at the 89<sup>th</sup> position and is far better off than India. Life expectancy at birth in India is 64.4 years which is below the World Average of 69.3 years, and as per the HDI report this figure for China is 73.5

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<sup>5</sup> Rediff Business (25<sup>th</sup> February, 2011). "Indian Economy: A tale of robust growth" available at <<http://www.rediff.com/business/slide-show/slide-show-1-budget-2011-economic-survey-indian-economy-a-tale-of-robust-growth/20110225.htm>>, site accessed on 2<sup>nd</sup> December, 2011.

<sup>6</sup> "The first Human Development Report introduced a new way of measuring development by combining indicators of life expectancy, educational attainment and income into a composite human development index, the HDI. The breakthrough for the HDI was the creation of a single statistic which was to serve as a frame of reference for both social and economic development. The HDI sets a minimum and a maximum for each dimension, called goalposts, and then shows where each country stands in relation to these goalposts, expressed as a value between 0 and 1." <UNDP (2011). For more info see: "Human Development Index" available at <<http://hdr.undp.org/en/statistics/hdi/>>, site accessed on 2<sup>nd</sup> December, 2011.

<sup>7</sup> As per HDI index 2010 (available at [http://hdr.undp.org/en/media/Lets-Talk-HD-HDI\\_2010.pdf](http://hdr.undp.org/en/media/Lets-Talk-HD-HDI_2010.pdf)).

years. The following data obtained from National Health Profile 2010 shows condition of health infrastructure in India:

- A). Insufficiency of Hospital Beds:** There are 12,760 hospitals having 576,793 beds in the country. Out of these 6795 hospitals are in rural area with 149,690 beds and 3,748 hospitals are in urban area with 399,195 beds. Average Population served per Government Hospital is 90,972 and average population served per government hospital bed is 2,012.<sup>8</sup> This figure is far more dismal in states like Assam, Bihar and Jharkhand where there is only one bed for every 39,114,163 and 5,494 persons respectively.
- B). Dismal Number of Healthcare Centers:** There are 1,45,894 Sub Centers, 23,391 Primary Health Centers and 4,510 Community Health Centers in India as on March 2009 (Latest). These figures are insufficient keeping in mind the model of 2005 *National Commission on Macroeconomics and Health*, which recommended a Sub Centre for every 5,000 population, a Primary Health Centre for every 30,000 population and a Community Health Centre for every 1,00,000 population.<sup>9</sup>
- C). Insufficient Number of Blood Banks:** Total number of licensed Blood Banks in the Country as on January 2011 is 2,445. States in North East India are severely low on availability of Blood Banks except for state of Assam; remaining six states only have 43 licensed Blood Banks.
- D). Urgent Need of more Medical Colleges:** In terms of Medical education infrastructures the country has 314 medical colleges, 289 Colleges for BDS (Bachelor of Dental Surgery) courses and 140 colleges conduct MDS (Master of Dental Surgery) courses with total admission of 29,263 (in 256 Medical Colleges), 21,547 and 2,783 respectively during 2010-11. Population of the country during this period increased by about 1.3 % (

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<sup>8</sup> In 2006 the bed per thousand population ratio stood at 1.03 compared to an average 4.3 of comparable countries like China, Thailand, and Korea. Global Average in the same regard is 2.6, Indian Health Sector, Indian Law Offices p. 14

<sup>9</sup> Further lack of Public Health Facilities can be gauged from the fact that, India needs 74,150 CHC's per million population but has less than half that number, for more info see: Price Water House Coopers (2007). "Healthcare in India Emerging Market Report" available at <[http://www.pwc.com/en\\_GX/gx/healthcare/pdf/emerging-market-report-hc-in-india.pdf](http://www.pwc.com/en_GX/gx/healthcare/pdf/emerging-market-report-hc-in-india.pdf)>, site accessed on 4<sup>th</sup> December, 2011

approx 1.5 crores), thus, e.g., presuming that all these new admissions would serve the increased population for the period 2010-11, each medical professional (from medical college) would be serving a population of more than 500 people.<sup>10</sup> Nurses and midwives are not properly trained due to inadequate infrastructure, in several places nursing school were functioning more as appendages of the district hospitals. In 2004, 61.2% of nursing schools/colleges were found unsuitable for teaching.<sup>11</sup> Public hospitals and clinics have been found to be understaffed by 15-20 %, on average, this problem is more rampant in rural areas.<sup>12</sup>

**E). Concentration of Healthcare in Metro-cities:** Central Government Health Scheme (CGHS) has health facilities in 24 cities having 246 Allopath Dispensaries and Total 438 Dispensaries in the Country with 8, 47,081 registered cards/ families. This scheme shows wide discrepancies as majority (almost two-thirds) of these facilities are concentrated in four metro cities.

**F). Non-Availability of Urgently Needed Vaccines:** The availability of life saving vaccines is also not up to the mark, e.g. the gap between demand and supply of DPT in 2009-10 was above 26%; for the same period the gap for TT was about 16%, for ASVS (Scorpion) the gap was 54%. Substandard drugs are also a concern for India, poor enforcement of regulations are due to weak and inadequate drug control infrastructure at the State and Central levels, only 17 of the 31 States and Union Territories have drug-testing facilities, this is coupled with lack of manpower for enforcement of the regulations. Infrastructure is also inadequate in the area of production for medical

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<sup>10</sup> Insufficiency of manpower in terms of doctors can be inferred from the fact that India has a doctor- population ratio of 59.7 physicians for 100,000 populations; however the same statistic for developed countries goes up to 200.

<sup>11</sup> Ministry of Health and Family Welfare (2005), Report of the National Commission on Macroeconomics and Health”, available at

<<http://www.who.int/macrohealth/action/Report%20of%20the%20National%20Commission.pdf>>, site accessed on 5<sup>th</sup> December, 2011, p. 6.

<sup>12</sup> Rajat K. Gupta, Gautam Kumra, and Barnik C. Maitra (2005). “A foundation for Public Health in India”, *The McKinsey Quarterly Special Edition: Fulfilling India’s Promise*, available at

<[http://www.gken.org/Docs/A%20Foundation%20for%20Public%20Health%20in%20India\\_Gupta.pdf](http://www.gken.org/Docs/A%20Foundation%20for%20Public%20Health%20in%20India_Gupta.pdf)>site accessed on 5<sup>th</sup> December 2011.



equipment because according to an estimate India imports about 65 % of its medical equipments.<sup>13</sup>

The above statistics reflect the infrastructure inadequacies in India. If we compare India and China in terms of health policy, a clear idea can emerge with regards to the gaps between demand and supply of health facilities. Both these countries have a lot in common, like a rapidly developing economy and a large population. A study was conducted with the objective of comparing health systems in the two most populous nations of the world, this study shows the challenges faced by these countries and the lessons which can be learnt. Both countries were shown to have poor access to health care facilities. The urban areas were found to have far better infrastructure access than that in rural areas.<sup>14</sup> However, the role of government in China was shown to be far greater than that of India, in terms of total per capita expenditure on health, percentage of national GDP spent on health, health insurance, government contributions, etc. On the other hand Indian Health Sector was shown to be dominated by the private sector.<sup>15</sup> The report suggests that, India should learn from the Chinese public dominance system, and increase public expenditure especially in basic national health infrastructure, providers and other basic necessities of healthcare.<sup>16</sup>

## **Role of Government and need of an Integrated Approach**

As per the Constitution of India health care delivery is in the hands of the States.<sup>17</sup> In reality, States have struggled to maintain and administer health care facilities; they have become

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<sup>13</sup> supra 7 p. 15

<sup>14</sup> Ma, Sai & Sood, Neeraj (2008). *A Comparison of Health Systems in India and China*, Occasional Paper 212, Center For Asia Pacific Policy (RAND) at pg. 19, 20.

<sup>15</sup> Ibid. p. 32; A laissez- faire approach has resulted in concerns with regard to the quality of care, the absence of public regulation, mandatory registration; regular service evaluations are root cause of the problem. Due to insufficient or non- implementation of existing laws such private entities cannot be effectively checked and made to comply with minimal requirements.

<sup>16</sup> Ibid p. 37

<sup>17</sup> The State List (List- II) in the Seventh Schedule provides for the following entries relating to health care:

Entry 6- Public health and sanitation; hospitals and dispensaries. Also article 47 of Constitution (relating to Directive Principles of State Policy) provides for duty of the state to raise the standard of living and improve public health in the following wording:

*“The State shall regard the raising of the level of nutrition and the standard of living of its people and the improvement of public health as among its primary duties and, in particular, the State shall endeavour to bring*

dependent on the Central Government for financial and programmatic assistance to implement health policies. For example, although states now account for 75 to 90 percent of public spending on health, most of these funds go to salaries and wages of healthcare personnel, making states dependent on the central government's fund for non-wage items such as drugs and equipment.<sup>18</sup> The system of following five year plans has crystallized the control of Central Government over states and all decision making powers rests in their hands. There is a structural mismatch in the institutions at the Centre and State levels, with many departments and agencies duplicating work or working at cross-purposes make governance in health ineffective e.g. de-recognition of certain nurse training institutions, by the Indian Nursing Council (INC) had no impact as they continue to function with the permission of the State Nursing Council. Thus correction by one body is made ineffective due to intervention of another. The health programmes mooted by the centre do not necessarily address the local and community problems of the people. These programs concentrate on achieving policy objectives and ignore problems at the micro-level which vary from place to place depending on geographic and other demographic factors.<sup>19</sup> Thus they end up becoming ineffective and unsustainable. An integrated and comprehensive approach<sup>20</sup> can solve this problem where requirements of infrastructure can be determined district-wise on the basis of population so that effectual infrastructure is established by the population present at the ground level. Such a decentralized system would provide for better administration and surveillance of local health problems, also emphasis would shift to long term strengthening and enhanced sustainability, finally it would result in saving public money as infrastructure solutions can be determined in a more cost-effective manner at the micro-level.

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*about prohibition of the consumption except for medicinal purposes of intoxicating drinks and of drugs which are injurious to health."*

<sup>18</sup> Supra 5, at pg. 25

<sup>19</sup> A.K. Jain (2004). "Planning Norms for Health Infrastructure" available at <<http://www.helpageindia.org/helpageprd/download.php?fp=aW1hZ2VzL3B1Ymxc2hpbmc=&f=MTMwNzA4NTI0Ny5wZGY=>>>, site accessed on 6<sup>th</sup> December, 2011. The article lays emphasis on the significance of local knowledge in the fields of urban and regional planning; adoption of comprehensive approaches for water supply, sanitation, operation and maintenance; role of town planners and architects in the creation of a healthy environment and medical infrastructure.

<sup>20</sup> According to the authors such an approach would imply, a separation of programme policy, design issues, budget requirements and overall actual field implementation. Devolution of authority needs to be at central, state, district and local levels. Involvement and empowerment of local bodies like the *Panchayats* (created by the 73<sup>rd</sup> and 74<sup>th</sup> Constitutional amendments) will provide for a more democratic and autonomous system, and will ensure that no-mismatch results between requirement and supply. Such delegation will not merely encompass right of such local bodies to use the government finance but would create a system of decision-making, responsibility and accountability to the immediate higher authority.

The phenomenon of rapid growth of private health sector has resulted in a situation where a large share of health infrastructure has come under the private players, the result of it is that these institutions have become commercial units and the social-welfare objective has taken a backseat. The Supreme Court in a recent judgment<sup>21</sup> directed government hospitals in Delhi to refer poor patients to private hospitals. This decision has been described as a pro-poor decision which aims at bringing the poor rural patients at par with the urban rich patients who till now had been the sole beneficiaries of such private institutions. The court directed that the private institutions would provide medical care free of cost to the poor, pending preparation of a scheme which would involve private players in treating the poor. The appeal was filed against an earlier decision of the Delhi High Court whereby, the High court had directed certain private hospitals to ensure free treatment to 10 percent in-patients and 25 percent outpatients, this mandatory ruling was given on the ground that the land for construction was given on an undertaking which bound the private players to provide free health care to people who belong to economically weaker sections of the society. The apex court directed that the Delhi Government and Private Health institutions should come together and draw up a plan for serving the poor. This decision would go a long way in strengthening the public health system as it would act as a bridge between the economic inequalities existing in our country. Among other health related problems existing in India, access to quality health care is a major issue. This may be addressed by collaboration between State Governments and private players, this would ensure that poor get their due from private institutions when government facilities prove insufficient or the government is unable to provide the necessary access to quality health care.

The Apex Court's concern for child health care was reflected in a case<sup>22</sup> involving the universalisation of the Integrated Child Development Scheme (ICDS) where the court directed extensive creation of infrastructure with regard to effectively serve the vast population (13.12.2006). Some of the directions included:

*“(i) Government of India shall sanction and operationalize a minimum of 14 lakh AWCs in a phased and even manner starting forthwith and ending December 2008. In doing so, the Central Government shall identify SC and ST hamlets/habitations for AWCs on a priority basis.*

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<sup>21</sup> Viswanathan, S (2006). “Getting for the Poor their Due in Private Hospitals” in *The Hindu*, 31<sup>st</sup> July, 2011.

<sup>22</sup> *People's Union for Civil Liberties vs. Union of India*, Writ Petition (Civil) No. 196 of 2001.

(ii) *Government of India shall ensure that population norms for opening of AWCs must not be revised upward under any circumstances. While maintaining the upper limit of one AWC per 1000 population, the minimum limit for opening of a new AWC is a population of 300 may be kept in view. Further, rural communities and slum dwellers should be entitled to an "Anganwadi on demand" (not later than three months) from the date of demand in cases where a settlement has at least 40 children under six but no Anganwadi."*

However, this ambitious plan is yet to be fulfilled. As per status report filed by Director, Ministry of Women and Child Development (representing Union of India), in pursuance of directions of the court, the required infrastructure is yet to be built. Yet substantial work has been done in regards to the direction of the court, as per affidavit (status report) the total number of sanctioned AWCs and mini AWCs stood at 10.90 lakhs (2007). This has been achieved by appropriate enforcement mechanism utilised by the court. Such a Scheme- Specific approach (herein, ICDS) has provided positive results and can be repeated for other welfare schemes as well.

## **Judicial Intervention**

The Indian Constitution provides for a framework for Welfare and Socialist model of development. Health rights are social rights provided under the Directive Principles and are not justiciable. The right to life provided under Art. 21 of the Constitution of India or various Directive Principles have been used time and again to demand access to health care. However, it would be too much to expect from a country predominantly filled with poor people to get their rights enforced in the law courts. In *State of Punjab vs. Ram Lubhaya Bagga*<sup>23</sup> the Supreme Court observed that the State had an obligation to provide health care facilities to government employees and to citizens, the obligation was however only to the extent of its financial resources for fulfilling the obligation. In regards to the constitutional obligation of the State, it is incumbent that it must provide for basic infrastructure for maintaining and improving public health. The State renders this obligation by opening Government hospitals and health centers, but

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<sup>23</sup> (1998) 4 SCC 117

in order to make it meaningful, it has to be within the reach of its people and provide all the facilities which are provided for in other hospitals.

The need for health infrastructure especially in emergency situations was further discussed in the landmark case of, *Paschim Banga Khet Mazdoor Samiti vs. State of W.B.*<sup>24</sup> the issue before the Supreme Court was the legal obligation of the Government to provide facilities in government hospitals for treatment of persons who had sustained serious injuries and required immediate medical attention. The petitioner who had suffered brain hemorrhage in a fall from the train was denied treatment at various government hospitals because of non-availability of beds. The court held that, providing adequate medical facilities is an essential part of the obligation undertaken by the State in a welfare state. The Government discharges this obligation by running hospitals and health centers. Article 21 imposes an obligation on the State to safeguard right to life of every person. Preservation of human life is thus of paramount importance. Any failure on part of the government hospitals to provide timely medical treatment to a person would result in violation of the right to life. An Enquiry committee was set up in this case to investigate the problem, the committee recommended that proper medical aid with scope of equipments and facilities should be made available at all health centers and hospitals to cater to emergency patients, it also suggested other infrastructure improvement measures and issued directions to that effect which would be applicable to all the states. The Supreme Court observed that while financial resources would be required for the implementation of the above directions, the constitutional obligation of State to provide adequate medical services to the people cannot be ignored.

The Supreme Court has held that the failure to provide timely medical care amounts to violation of the right to life under Article 21. The state has an obligation to provide medical facilities in such circumstances, and financial inability or lack of infrastructure is no justification to avoid this obligation. Whenever the state fails to discharge its constitutional obligation, the patient or immediate kin may approach either the Supreme Court or the High court under Articles 32 or 226 of the Constitution, as a legal remedy.<sup>25</sup> The National commission in the case of *T. Vani*

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<sup>24</sup> (1996)4 SCC 37

<sup>25</sup> Desai, Mihir and Chand, Dipti (2007). *Healthcare Case Law in India*, CEHAT & ICHRL Pub., Mumbai, p 37.

*Devi vs. Tugutla Laxmi Reddy*<sup>26</sup> held that a hospital can be held guilty of negligence if it does not have adequate infrastructure, to deal with emergencies. This case thus introduced element of tortious liability in regards to lacking infrastructure issue.

## **Suggestions for Better Infrastructure**

1. Geo-coding: It involves the introduction of data systems for monitoring health status. Such systems would allow entities at all levels to have a geographic information system capable of showing diseases portrayed through maps, risk of spread of diseases, environmental hazard and service delivery.
2. Health Policy budgets should include and integrate infrastructure plans. Mere request for infrastructure funding may face opposition because they are generic in nature and do not have the effect of directly addressing health problems which are overt in nature such as prevention of spread of infectious diseases, maternal and child health etc.
3. Reduce urban bias: Health facilities should be developed in the rural sector by public authorities and incentives for the same should be provided to private bodies.
4. Most public health facilities have poor infrastructure as regards to equipment used for medical tests (e.g. X-ray, blood tests, and other complicated tests). Such equipment which is mostly imported is very costly. Government can solve this problem by reducing or complete waiver of import duties and taxes. The equipment should be made available to the public at large by public-private cooperation and by encouraging indigenous production of such equipment by both public and private bodies at competitive prices.
5. A substantial increase is needed in the number of medical education institutions and the government should make provisions for better quality of medical professionals to serve the masses.

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<sup>26</sup> 2003 1 CPJ 180

## Model Health Plan

An appropriate health model should be consisting of various elements which ensure that the health department of a country is fully prepared to deal with challenges relating to health of its citizens. The status report on Public Health Infrastructure prepared by the Department of Health and Human Services (Centers for Disease Control and Prevention)<sup>27</sup> provides a helpful model through its recommendations. Although these recommendations have been prepared keeping in mind the problems existing in United States of America, certain aspects of the recommendations can be helpful in providing answers to the Indian Health Problems as the report is based on global health factors and International Health Communities. As per the report the issue of health is no longer a localised concern, in today's globalised society diseases and health problems have crossed all boundaries and this is a matter of great concern as diseases continue to become more radical the means of fighting them are still primitive and insufficient.

According to the report (at pg 6), *“the three components of the basic public health infrastructure are:*

***Workforce Capacity and Competency:*** *the expertise of the professionals who work in Federal, State, and local public health agencies to protect the public's health.*

***Information and Data Systems:*** *up-to-date guidelines, recommendations, and health alerts and modern, standards-based information and communication systems that monitor disease and enable efficient communication among public and private health organizations, the media, and the public.*

***Organizational Capacity:*** *the consortium of local and State public health departments and laboratories, working side-by-side with private partners, to provide the essential services of public health.”*

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<sup>27</sup> Centers for Disease Control and Prevention (2010), *Public Health's Infrastructure*, CDC Publishing USAA, available at <[www.uic.edu/sph/prepare/courses/ph410/.../phinrastructure.pdf](http://www.uic.edu/sph/prepare/courses/ph410/.../phinrastructure.pdf)> site visited on 6th December, 2011.

The above three essentials have been considered to be interrelated and any adverse effect on one has a ripple effect on the others. Thus, all three elements need to be given equal consideration at all times. The elements of Public Health Infrastructure provide a background as to the areas which need attention and improvement.

In terms of Workforce Capacity and competency the report recommends that the workforce should be professionally qualified. There is also a requirement on behalf of the Professional Agencies (like Indian Medical Association) for drawing up a list of core competencies for public health professionals so that specific competencies required for individual fields can be identified and developed. A list of competencies<sup>28</sup> has been provided with the report which broadly includes: Analytical skills, Communication Skills, Policy and Development/ Program Planning Skills, Cultural Skills and Public Health Science Skills. These competencies need to be continually strengthened through a system of lifelong learning to ensure a workforce ready to meet the latest demands.

Information and Data Systems, provide support when emergency response to diseases is required. As the old saying goes, “*A stitch in time saves nine*”, the same is applicable to the use of data systems which are the least expensive and most effective tool in preventing the spread of diseases. Timely communication between health professionals can go a long way in saving lives. Thus, there needs to be a strong and responsive communication system which is evenly distributed in all areas (urban and rural).<sup>29</sup> In the United States, a national Health Alert Network (HAN), consisting of a network of Centre and State funded websites had been established which provided basic implantation of Internet Connectivity, broadcast communications and distance

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<sup>28</sup> Sample Public Health Competencies, Appendix C.

<sup>29</sup> This problem is more prominent in the Indian Scenario where a huge divide exists between urban-rural infrastructures. Some of instances of use of IT in the Indian Health Scenario include:

1. The Apollo Health Street Limited in collaboration with the Department of Technology (within the Ministry of Communication and Information Technology) has created the Information Technology Infrastructure for Health (ITI) Framework in 2003. The Framework is meant to create an integrated health care information network. The infrastructure under this includes Video conferencing, Telemedicine Software, communication equipments, medical diagnostic instruments.
2. The Central Government had announced the setting up of Integrated Disease Surveillance Project (IDSP) sponsored by the World Bank, this project relates to the creation of a national disease surveillance system.

However, the IDSP has met with little success; this is primarily due to the lack of funds and lack of interest from central authorities, for more info see: Mallikarjun, Y. (2006). “Disease Surveillance System Due to Lack of Funds” in The Hindu, 15<sup>th</sup> August, 2011.



learning capacity at local level. As per recommendations provide by the report all health care departments must have immediate access to current public health recommendations, health and medical data, treatment guidelines, and information on effectiveness of public health interventions.

In the view of some observers, the private hospital chains have become the primary consumers and financiers of Health Information Technology Infrastructure in India, also it is forecasted that privatisation of Medical Insurance will become a major driver of Information Technology adoption in the future, this would result in comprehensive patient information databases and the development of Information Technology infrastructure in the field of health to accommodate such data and create individual health profiles.<sup>30</sup>

The information and data systems are also helpful in an international scenario. In the view of some authors two regimes exist in the contemporary world which provides necessary intervention in the field of Global Health<sup>31</sup>, they include:

**Global Health Security:** It deals with emerging infectious diseases that threaten wealthy countries. The reason for such diseases is primarily social and economic transformations caused due to globalization.

**Humanitarian Biomedicine:** It targets diseases which affects the poorer nations of the world. Its main goal is to alleviate the suffering of individuals, regardless of national boundaries. Intervention is thus necessary from International Organisations and States which can take up the burden of dealing with the problems of the poor countries. Such intervention becomes necessary as in these countries; public health infrastructure in national-state level is in poor condition or non-existent. It is a socio-technical project and it aims at providing medical assistance both through technical assistance and development of new medication meant to deal with “neglected

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<sup>30</sup> Pushwaz, Virk., Khan, Sharib., & Kumar, Vikram (2006). “India HIT case Study”, available at <[pacifichealthsummit.org/downloads/HITCaseStudies/.../IndiaHIT.pdf](http://pacifichealthsummit.org/downloads/HITCaseStudies/.../IndiaHIT.pdf)> site accessed on 6<sup>th</sup> December, 2011.

<sup>31</sup> Lakoff, Andrew (2010). “Two Regimes of Global Health”, available at <<http://muse.jhu.edu/journals/humanity/v001/1.1.lakoff.html>> site accessed on 7<sup>th</sup> December, 2011.

diseases”, they are medicines which are not produced by commercial pharmaceuticals and biotech industries because of low demand in the developed world.

There is a need to base health model on information sharing; the *International Health Regulations (IHR)* is an important instrument in the global disease surveillance system. It puts a legal obligation on nation-states to accept global intervention and regulation to check rapidly moving pathogens which can easily cross borders in a globalised world. Any disease which is classified as, “Public Health Emergency of International Concern” would be covered by IHR regulations and would come under the ambit of public health information which has to be shared by member states for the purposes of early detection. Thus there is a need for the creation of permanent national level surveillance programs which can coordinate with its international counterpart and thus facilitate necessary intervention as and when it is required to effectively redress the health issues as and when they arise. This would require relaxation of strict adherence to sovereignty principles and thus seek for external intervention for public welfare. An important role in this regard has to be played by media and non-governmental agencies to disclose all forms of information which the government is hesitating to disclose. This information sharing can be effectively achieved through effective information and data systems.

Organisational Capacity is a multi-layer system in which performance has to be delivered from State and Local Public Health Organisations simultaneously. A situation in which one level outperforms the other will be detrimental to public health as a patchwork system cannot effectively handle health issues as and when they arise because uncoordinated work merely amounts to wasted resources and efforts. In response to this the United States has introduced *National Public Health Performance Standards Program*; the purpose of this program is to develop clear and measurable performance standards which can be used at the different levels for setting goals and measuring performance based on the standards and goals set over a period of time. It is aimed at strengthening state and local partnerships and thus provides effective response to day to day problems and emergency situations. It improves organisational communication and collaboration as officials at different levels frequently hold joint meetings to report their status, this helps in saving time and resources.

The lessons learnt from such continual evaluation and joint planning can be used in subsequent plans for effective execution of Public Health Schemes.

## **Lack of Comprehensive Framework to Deal with Epidemic Diseases**

The recent spread of Encephalitis in parts of Eastern Uttar Pradesh reminded us the long persisting lack of a comprehensive plan to deal with the epidemic diseases. It has taken around 500 lives till now in the Eastern Uttar Pradesh, and more than 3000 people (mostly children) have been suffering from it<sup>32</sup>. The cases of encephalitis have been reported from many districts, and mostly from Siddhartha Nagar, Sant Kabir Nagar, Kushinagar, Gorakhpur, Maharajganj, Deoria, and Basti, but when it comes to hospitals and healthcare centres, there is only one hospital in the region, which has been equipped to deal with the cases of encephalitis<sup>33</sup>. These recent cases of encephalitis are not something special or unpredictable, even in last year (2010), there were 33,50 reported cases of encephalitis, although the death toll was not that high as this time. The first spread of encephalitis took place in 1978, and from that time it has taken more than 15000 lives (which consists mostly children), and has crippled around similar numbers, but no attention was paid on improving the health infrastructure facilities or vaccination for the treatment and prevention of it<sup>34</sup>. In 2009 a little initiative was taken by the government when it sanctioned Rs. 588.17 crore under the National Rural Health Mission to pay for 135 additional staff engaged by it, to deal with the annual outbreak of encephalitis, but no funds were provided in the subsequent year 2010; even in the present a meager amount of 63.25 lakh has been sanctioned, which covers the salary of 36 employees<sup>35</sup>.

Encephalitis is just another instance to show the failure of the government to systematically deal with the outbreak of deadly epidemic diseases. Every year there are other many epidemics which take hundreds and sometimes even thousands of lives as like Dengue, Malaria, Cholera, Diarrhea, Pneumonia, etc, but there are hardly any radical changes in the inherent flawed policy of government. Most of these epidemics can be controlled a proper vaccination policy is adopted, and timely preventive measures are taken in case of spread of an epidemic. There is need of some specialized health care centres (especially in rural India) and well trained staff, which can take sufficient emergency measures to stop the spread of epidemics. So far there is no national level planning to improve the standard of government hospitals, or to increase the different facilities in government hospitals. The government hospitals inherently lack the adequate

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<sup>32</sup> PTI (2011). "Encephalitis Toll Rises to 488" in *The Hindu*, 25<sup>th</sup> October, 2011.

<sup>33</sup> Special Correspondent (2011). "Hospitals in UP to have Dedicated Ward for Encephalitis" in *The Hindu*, 6<sup>th</sup> November, 2011.

<sup>34</sup> Dhar, Aarthi (2011). "Residents of Eastern UP to Make Health an Election Issue" in *The Hindu*, 30 October, 2011.

<sup>35</sup> Ibid.

facilities to deal with the cases of different epidemics and deadly diseases; moreover at many places the hospitals are understaffed and lack even the basic healthcare facilities as like beds, X-ray machines, etc.

India is lagging behind in the matters of research with regard to different type of communicable diseases, their testing, and treatment. In June 2011, more than 50 children died in Bihar because of a mysterious disease which included the symptoms of high fever and unconsciousness; the doctors from the National Institute of Virology visited the hospital full of infected children after several days but even they could not identify the disease<sup>36</sup>. In such an environment when our medical institutions are not in a condition to diagnose these virulent diseases, we cannot accept that we would succeed in the treatment or prevention of such diseases. There is great need of establishment of medical research centres which must specialize in the matters related to different types of communicable and infectious diseases, and other epidemics.

A comprehensive vaccination policy is the most important aspect of an epidemic response plan. Vaccination has been proved highly effective in the control of many types of epidemic diseases as like Smallpox, Diphtheria, Pertussis, Poliomyelitis, Measles, Yellow Fever, Mumps, etc. Our policy makers have failed to provide full vaccine coverage to all our population, even after so many hefty claims of improvements in the healthcare facilities. It has been estimated that around 20% of our population is not covered under the vaccination coverage<sup>37</sup>. There are around 11 million children (out of the total twenty five million children born in India) who are not vaccinated because the government administered vaccines don't reach to them, and they are too poor to afford the vaccine from the private players<sup>38</sup>. Moreover there are pressures from the World health Organisation (WHO) and the developed countries to shift the vaccination responsibility to the private players from the government; if the government succumbs to such pressure then it would be fatal to the extremely poor population of India<sup>39</sup>.

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<sup>36</sup> Although the symptoms were somehow similar to that of Japanese Encephalitis, but its possibility was ruled out subsequently, for more info see: PTI (2011). "54 Died Due to Mysterious Disease in Bihar: Minister" in *The Times of India*, 21<sup>st</sup> July, 2011.

<sup>37</sup> Lauridsen, Jorgen., & Pradhan, Jalandhar (2011). "Socio-economic Inequality of Immunization Coverage in India" *Health Economics Review*, Vol. 1, available at <<http://www.healtheconomicreview.com/content/1/1/11>

<sup>38</sup> Simha, Vijay (2010). "More than a Pinprick" *Tehelka Magazine*, Vol. 07, Issue 24. Available at <[http://www.tehelka.com/story\\_main45.asp?filename=Ne190610coverstory.asp](http://www.tehelka.com/story_main45.asp?filename=Ne190610coverstory.asp)>, site accessed on 9<sup>th</sup> December, 2011.

<sup>39</sup> India provides six primary vaccines current and Trivalent Vaccine or DPT is one of them; DPT is vaccine for three diseases namely Diphtheria, Pertussis, and Tetanus. The WHO is pressuring the government to include two more diseases in the vaccination namely Hepatitis B and Haemophilus Influenzae (type) B, but if the same is accepted then the cost of this vaccine would increase from Rs. 15 to Rs. 525, and India would be required to spend around Rs. 735 crore on the cost of vaccination alone. Obviously the government, which is already suffering from the problem of lack of funds, would not be able to afford the costs of this new vaccination policy and it would be shifted towards private players. In such a case the coverage of the vaccination policy would reduce substantially, because most of the people would not be able to afford it because of high cost of vaccination. Moreover the Indian

To fight with the epidemic disease there is need for a national plan, which can provide a long term framework to prevent the spread of such diseases as well institutes mechanisms for emergency response facilities in case of outbreak of epidemics/pandemics and other diseases. The following recommendations merit attention

- **A Government Backed Universal Vaccination Policy:** The government must provide universal vaccination to all the needy people. The government must not come under the pressure from the international institutions and the developed world, and must not give up the vaccination policy in favour of the private hands. There is a need of proper cold storage facilities to conserve the vaccines and to retain their effectiveness, but unfortunately the government hospitals in rural areas lack sufficient cold storage facilities. Many times large amount of vaccines are spoiled during transportation or because of lack of adequate storage facilities. Therefore the government should provide adequate facilities to preserve the vaccines, and further train the staff of government hospital with regard to cold storage as like the appropriate temperature.
- **Need of Special Medical Research Centres:** There are very few medical centres or hospitals which are specialized in the matters of research about the epidemics, hence the government should establish new medical research centres and hospitals which must be specialized in the treatment of specific epidemic diseases and devoted to research in this regard. These special medical research centres must be adequately equipped with the proper testing facilities and special drugs required to treat the epidemics. There must be coordination and corporation between different research centres and other medical institutions (including district level hospitals). Moreover in the big hospitals special departments must be created to deal with the epidemic diseases.
- **Need of a Comprehensive Emergency Epidemic Response Plan:** If a quick policy response is provided in case of outbreak of an epidemic, we can substantially reduce the number of casualties<sup>40</sup>. An emergency epidemic response plan must be prepared, which can provide the

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companies have no expertise in the manufacturing of vaccination for these two diseases and obviously the vaccines would be imported from the multinationals of foreign countries, who would drive their policies on profits. Moreover there have been deaths in Sri Lanka and Bhutan, which have been attributed to these new vaccines, hence in such a such it would a harbingers of destruction of Indian healthcare system if the government accepts this new policy. For more information see: Simha, Vijay (2010). "More than a Pinprick" *Tehelka Magazine*, Vol. 07, Issue 24. Available at <[http://www.tehelka.com/story\\_main45.asp?filename=Ne190610coverstory.asp](http://www.tehelka.com/story_main45.asp?filename=Ne190610coverstory.asp)>, site accessed on 9<sup>th</sup> December, 2011.

<sup>40</sup> Bowdoin College at Brunswick, Maine (United States of America) has prepared an epidemic response plan which has been prepared to provide guidance to the personnel of the colleges to prepare for epidemic spread cases; it includes guidelines with regard to preparation of an action plan, management, and recovery from epidemic diseases. Identification of essential personnel, infection control measures, personnel planning, evacuation, risk assessment, etc are some of the most noticeable features of the plan. For More info see: Bowdoin College (2009). "Epidemic Response Plan", available at

government guidelines for quick action; it must include different aspects as like risk assessment of epidemics, preventive measures to stop further spread or infection, a plan to provide adequate number of staff and medicines.

- **Improvement in Habitation Conditions:** Most of the epidemics (including Dengue, Malaria, Cholera, Diarrhea, Arsenicosis, Encephalitis, etc.) spread because of lack of availability of safe water<sup>41</sup>, sanitation, and other related issues. The living conditions in several rural areas and slum areas in cities are very poor, and once a disease has been spread out, it infects a large number of people in very short time. The government must invest in improving the access of public to safe drinking water, creation of sanitation facilities, and improve the standards of living of the general public. It would reduce the incidence of epidemic spreads, and in turn it would decrease the expenditure of government on the treatment of different epidemics.

## Need to Strengthen Rural Health Infrastructure

The rural infrastructure of India is in a very sad state of affairs. Although the government initiated National Rural Health Mission Programme (NRHM) aims to bring qualitative and quantitative changes in the rural infrastructure, however the goal to provide a universal access to healthcare facilities remains a distant dream in rural India. Under the NHRM some steps have been taken for the transformation for rural health infrastructure, and undoubtedly some changes have been ushered in. NRHM provides different standards of healthcare institutions at different levels, namely Community Healthcare Centre (CHC) for a population of 80,000 to 120,000 people; a Primary Healthcare Centre (PHC) for a population of 30,000 (20,000 in hilly areas); and sub-centres at the lowest for a population of 5,000 people (2,000 in hilly areas)<sup>42</sup>. At the ground level it has been realized that the funds which have been created for the NHRM are

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<<http://www.bowdoin.edu/facilities/safety/pdf/Epidemic%20Response%20Plan%2005.21.09-2.pdf>>, site accessed on 12<sup>th</sup> December, 2011. The plan although is confined to the officials of the college, but India can inspiration from it and can prepare a national level plan by making a comprehensive strategy with the help of medical institutions and regulatory bodies.

<sup>41</sup> In this regard it would be appropriate to remind that around 1.5 million children die each year because of consumption of contaminated drinking water, and even among these 1.5 million India has highest number of deaths at 386,600. For more info see Kelland, Kate (2009), "Vaccines, Hygiene Could Stop Diarrhea Deaths: UN" available at <<http://www.reuters.com/article/2009/10/14/us-diarrhoea-children-idUSTRE59D3L620091014>>, site accessed on 14<sup>th</sup> December, 2011.

<sup>42</sup> Gill, Kaveri (2009). A Primary Evaluation of Service Delivery under the National Rural Health Mission (NHRM), Working Paper1/2009, Planning Commission of India, pg. 13, available at <[www.planningcommission.nic.in/reports/wrkpapers/wrkp\\_1\\_09.pdf](http://www.planningcommission.nic.in/reports/wrkpapers/wrkp_1_09.pdf)>, site accessed on 15<sup>th</sup> December, 2011.

hardly sufficient to meet its stated objectives namely to provide affordable, equitable, and good quality healthcare service to rural poor<sup>43</sup>.

There are also variations in the levels of implementation of NHRM<sup>44</sup>; it has been observed that those states which have a good infrastructure even before the inauguration of NHRC, are implementing the NHRM in a better way with regard to utilization of funds, and other are lagging behind<sup>45</sup>. Uttar Pradesh has been provided around one third of the total allocation of NHRC, but unfortunately around 40% of this allocation has remained unutilized by the state government<sup>46</sup>. Moreover in most of the states there is lack of detailed data with regard to the utilisation of finances under NHRM, and their consequent impact in improving the delivery of health care services, which makes it extremely difficult to assess the success or failure of NRHM. There have also been cases of grave mismanagement and irregularities in the implementation of NRHM as like non-appointment of personnel.

The impact of the success of NRHM mission is accessed only through the deployment of healthcare personnel and by establishing medical care centre at different levels, but this criteria is faulty as it does not tell us the impact of NHRM on the poor people; to know the ground reality we have to access the impact of the infrastructure created by NHRC in terms of the reduction of medical expenses bared by people<sup>47</sup>. It has been reported that most of the Indians spend around 70% of their out of pocket income on medicines and healthcare services<sup>48</sup>, hence to bring

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<sup>43</sup> The total health expenditure of India is around 1% of the GDP, and it was around 1.3% of GDP in 1990-91. It was promised by the UPA government in 2004 that it would increase the share of healthcare to 2% to 3% of GDP (the same was also provided under the National Rural Health Mission Document, but actually this promise has remained unfulfilled. For more info see: Kurian, N.J. (2010), "Financing Healthcare in India" in *The Hindu*, 15<sup>th</sup> January, 2010

<sup>44</sup> It would be appropriate to remind here that matters of "public health and sanitation" and "hospitals and dispensaries" have been provided under the State List (Entry 6); therefore the funds sanctioned by the central government are utilised by the state government.

<sup>45</sup> Jacob, K.S. (2011). "For a New and Improved NHRM" in *The Hindu*, 7<sup>th</sup> August, 2011.

<sup>46</sup> Gill, Kaveri (2009). A Primary Evaluation of Service Delivery under the National Rural Health Mission (NHRM), Working Paper1/2009, Planning Commission of India, pg. 20, available at <[www.planningcommission.nic.in/reports/wrkpapers/wrkp\\_1\\_09.pdf](http://www.planningcommission.nic.in/reports/wrkpapers/wrkp_1_09.pdf)>, site accessed on 15<sup>th</sup> December, 2011.

<sup>47</sup> It has also been reported by the planning Commission that in the year 2004-05, an additional 39 million people were pushed into poverty due to out of pocket payments; moreover out of the total medical expenditure per capita medicines alone account for 74% expenditure in rural India. For more info see: Nagarajan, Rema (2010). "Costly Healthcare Pushes 39 Million into Pverty" in *The Times of India*, 10 January, 2010.

It has also been warned that if proper steps are not taken further 3.2% population would come under poverty line. For more info see: Staff Reporter, (2011). "High Spending on Health to Push Indians into Poverty" in *The Hindu*, 8<sup>th</sup> Novermber, 2011.

<sup>48</sup> Staff Reporter, (2011). "High Spending on Health to Push Indians into Poverty" in *The Hindu*, 8<sup>th</sup> November, 2011.

substantial changes in the health infrastructure, the government must strive to reduce the expenditure on healthcare<sup>49</sup>. It has been argued by K S Jacob (Faculty, Christian Medical College, Vellore) that greater financial inputs for governance and a coordinate approach between the NRHM and state medical services is crucial for the improvements in health infrastructure<sup>50</sup>.

NRHM, even with all its inherent lacunae, has proved to an extraordinary tool to improve the rural health, although the programme would end in 2012. If the programme is not extended by the Union Government it would be too much to expect from the state government to continue the schemes which have been started under the NRHM, and maintain the infrastructure created under it. Therefore it is imperative that the central government must not stop the funding for the NHRC; it must continue through the 12<sup>th</sup> five year plan, and further. The central government must focus on the integration of the state health services, NHRC, and other related schemes/programmes. There is greater need for continuous monitoring of the implementation of plans and utilisation of funds allocated. Moreover the central government must also focus on some issues of the non-medical expenditure, which are nevertheless related to the good health of citizens as like making people aware about the hygienic practices, sanitation, cleanliness; creation of infrastructure for availability of safe drinkable water for rural India<sup>51</sup>, etc.

## Conclusion

Today the public infrastructure in India is becoming more and more inaccessible to the public at large, because of the inadequate government healthcare services and high cost of treatment at the private medical institutions. The Central Government should increase the share of healthcare expenditure from one percentage of GDP to around three percent of GDP; the state governments should also increase their share of funds allotted for healthcare. To provide equitable access to

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<sup>49</sup> The government started *Janani Suraksha Yojana*, under which direct conditional cash transfer schemes was initiated, it has been observed that the schemes has emerged as a big success both in reducing the maternal mortality and reducing the expenditure of healthcare during the delivery and afterwards.

<sup>50</sup> Jacob, K.S. (2011). "For a New and Improved NHRM" in *The Hindu*, 7<sup>th</sup> August, 2011.

<sup>51</sup> In India around 350 million people have no access to safe drinking water, which directly affects their healthcare. If the government would invest substantially in providing the people safe water and sanitation facilities, it would bring down the case of malnutrition and other many disease, For more info. See: PTI (2011). India to Blame itself for Low HDI Ranking: Infosys Chairman Narayana Murthy" in *The Economic Times*, 18<sup>th</sup> July, 2010. The government must expand the NRHM to provide water purifiers to the rural people on subsidized rates, and creating sufficient physical infrastructure for sanitation facilities.



the healthcare services and to continuously raise the standards of healthcare services must be the twin goals of the government.

It has to be remembered that education and healthcare are two sectors which must be given more and more importance by the government because of our dependence on service sector. The prospect of service sector would depend upon the human capital (professionals), and a better health among the general populace would definitely have a positive impact on the service sector. There are no ready-made solutions or exact steps which can guide us to improve the healthcare facilities and nutritional level of people, but rather there is need to take action from different angles. Diversion of more monetary resources towards the healthcare is an extremely necessary but insufficient step, unless there is a motivation among the healthcare professionals towards serving the people even the diverted funds would not yield extraordinary results.<sup>52</sup> The government must focus on the healthcare infrastructure both qualitatively as well as quantitatively.

Many times there have been outbreaks of different diseases in one country, and the same was actually not disclosed by it at international level. But in this globalised world there are chances that disease may be transmitted to other nations, hence it must be provided by WHO that the States should be obliged to share information about the outbreak of diseases. Moreover, an international surveillance network must also be created to take appropriate steps to take preventive measures to stop the transmission of disease<sup>53</sup>. Although the step may involve cooperation among the countries yet, the Indian government must take an initiative in this regard and present such a plan before the international community.

Many scholars have suggested Public Private Partnership as a solution to the problem to deal with budgetary constraints which the government faces frequently while implementing different healthcare plans and schemes. But it has to be remembered that with the advent of private players the cost of services is increased considerably, and in India where the majority of the population is poor it may lead to inaccessibility to healthcare services. The government must

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<sup>52</sup> It must be ensured by the government that the resources granted for the purpose of different plans of healthcare are used by the authorities for public purpose in a sustainable manner; rampant corruption and mismanagement have the potential to reduce the effectiveness of government expenditure.

<sup>53</sup> Although International Health Regulations have been issued by World Health Organisation, which have also been agreed upon by 194 countries of the World, but still their strict compliance could not have been secured till now. Moreover there is need of some more broad guidelines with regard to different health issues.

rather focus on the better utilization of the funds and the resources employed by it in the healthcare services.

The government must also review its health policy at regular intervals, possibly every two years to assess the impact of different schemes and programmes which are run by it. The government must identify the areas which are lagging behind in healthcare services, and special focus must be provided for such areas. Special attention must also be given to the areas which are hit by epidemics, floods, and other natural disasters, because the chances of the spread of disease are greater in such areas. Suitable preventive measures must also be taken by the government in the form of vaccination and creation of better sanitation facilities to stop the occurrences of diseases.

The National Rural Health Mission is a wonderful programme which has brought many changes in the quality of healthcare services in the rural areas. But the mission must also include in its ambit the urban poor and specially the people who live in slums. The mission can be more effective if there would be a better utilization of resources; a better monitoring and auditing system would further expand the horizons of the mission. There is also need of better coordination among the different actors which are working directly or indirectly in the areas of healthcare namely Central Government, State Government, and the Civil Society. A more comprehensive, coordinated, and integrated approach would yield more fruitful results and bring radical changes in our healthcare system.

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