India

(COUNTRY) INDIA

(RESEARCH) DATA COLLECTION SURVEY ON HEALTH SECTOR IN INDIA FINAL REPORT

February 17, 2014

Japan International Cooperation Agency

Dalberg Global Development Advisors/
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LIST OF ABBREVIATIONS

Abbreviation	Full Form
12th FYP	Twelfth Five Year Plan
ADB	Asian Development Bank
AIDS	Acquired Immune Deficiency Syndrome
ANMs	Auxiliary Nurse Midwives
APL	Above Poverty Line
ARI	Acute respiratory infections
ART	Anti-Retroviral Treatment
ASHA	Accredited Social Health Activist
AYUSH	Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy
BCC	Behavioral Change Communication
BMGF	Bill and Melinda Gates Foundation
BOP	Base of Pyramid
BPL	Below Poverty Line
CHC	Community Health Center
CGHS	Central Government Health Scheme
DFID	Department for International Development, Government of United Kingdom
DH	District Hospital
DHR	Department of Health Research
DLHS	District Level Household Survey (Government of India)
DOT	Directly Observed Treatment
DPT	Diphtheria, Pertussis, Tetanus
DST	Drug Susceptibility Test
FSW	Female Sex Worker
GAVI	Global Alliance for Vaccines and Immunization
GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria
GOI	Government of India
HIV	Human Immunodeficiency Virus
HR	Human Resource
ICDS	Integrated Child Development Services
ICMR	Indian Council of Medical Research
ICTC	Integrated Counseling and Testing Centre
IEC	Information Education and Communication
IMR	Infant Mortality Rate
IDA	International Development Agency
INR	Indian National Rupee
IDU	Injecting Drug Users
IPHS	Indian Public Health Standards
IRS	Indoor Residual Spray
ITBN	Insecticide treated bed nets
JSY	Janani Suraksha Yojana – the GOI's flagship maternal health program
LDC	Least Developed Country
LLIN	Long lasting insecticide nets

Abbreviation	Full Form
MDGs	Millennium Development Goals
MDMS	Mid-Day Meal Scheme
MMR	Maternal Mortality Rate
MNCH	Maternal, newborn and child health
MOHFW	Ministry of Health and Family Welfare
MSACS	Mizoram State AIDS control society
NACO	National AIDS Control Organization
NCD	Non-communicable diseases
NHM	National Health Mission
NICED	National Institute of Cholera and Enteric Disease
NIHFW	National Institute of Health and Family Welfare
NMHP	National Mental Health Program
NPCDCS	National Program for Prevention and Control of Cancer, Diabetes , Cardiovascular diseases and Strokes
NRCs	Nutritional Rehabilitation Centers
NRHM	National Rural Health Mission
NUHM	National Urban Health Mission
NVBDCP	National Vector Borne Disease Control Program
ODA	Official Development Assistance
OOP	Out of Pocket
ORS	Oral rehydration salt
PHC	Primary Health Center
PHFI	Public Health Foundation of India
PPP	Public Private Partnerships
RNTCP	Revised National Tuberculosis Control Program
RSBY	Rashtriya Swasthya Bima Yojana (which means National Health Insurance Program)
SC	Sub Center
SDH	Sub-district Hospital
SIFPSPA	State Innovations in Family Planning Services Project Agency
SNP	Supplementary Nutrition Program
STD	Sexually Transmitted Disease
STI	Sexually Transmitted Infections
TB	Tuberculosis
TI	Targeted Interventions
U5MR	Under Five Mortality Rate
UHC	Universal Health Coverage
ULB	Urban Local Bodies
UNAIDS	Joint United Nations Program on HIV/AIDS
UNICEF	United Nations International Children's Emergency Fund
UNODC	United Nations Office on Drugs and Crime
UNPFA	United Nations Population Fund
USAID	United States Agency for International Development
USD	US dollar ($)
WB	World Bank

Abbreviation	Full Form
WHO	World Health Organization

LIST OF MAJOR REFERENCE SOURCES [REPORTS AND DATABASES]

REPORTS

1. JICA India Office newsletter [2008]
2. NACO report [2012] [2011]
3. MDG India Country Report [2011]
4. RNTCP report [2011],[2012],[2013]
5. WHO Malaria report [2012]
6. National Health Profile report [2011]
7. WHO World health statistic report [2012], [2013]
8. Planning commission report of the working group on disease burden for the 12th five year plan
9. Government of India's Twelfth Five Year Plan [2012]

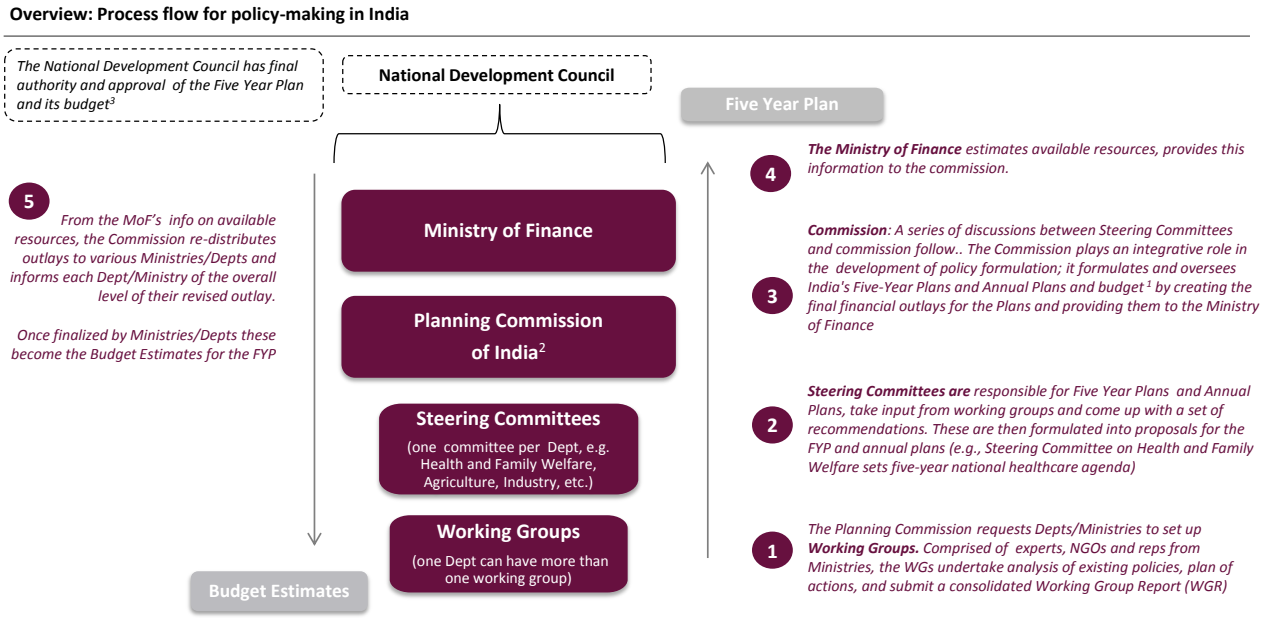
DATABASES

10. Ministry of Health and Family Welfare Statistics [2011]
11. WHO global health observatory database
12. National Vector Borne Disease Control Program
13. WHO/WNICEF Joint Monitoring Program
14. World Economic Forum
15. Central Bureau of Health Intelligence [2011]
16. Directorate General of Health Services statistics
17. Central Plan Outlays by Ministry/Department, Government of India [2011-2014]
18. India Census Data [2011]
19. Indian Public Health Standards [2012]
20. Rural Health Statistics, Ministry of Health and Family Welfare [2011]
21. OECD database
22. India Receipts Budget [2013-14]
23. DLHS III survey database [2007-2008]
24. United Nation MDG database
25. NRHM- HMIS database [2012]
26. Causes of death [2001-2003] Registrar General of India

I. INTRODUCTION TO INDIA'S HEALTH SECTOR

A. PUBLIC HEALTH PLANNING AND EXPENDITURE

India's health sector policy agenda is set by the Planning Commission, which is responsible for developing the nation's five year plans (FYP), annual plans and budgets. The current plan runs from 2012 to 2017. The country's healthcare priorities for a particular five-year period are formulated by a Steering Committee on Health and it's Working Groups; these priorities and recommendations are then passed onto the Planning Commission for approval. The commission then, in consultation with the Finance Ministry, decides the budget. Thereafter, the strategy is approved by the Cabinet and Chief Ministers of all states at a meeting of the National Development Council. The strategy for all sectors, including health, is developed through a consultative process in partnership with state governments, civil society organizations, academics, and technical experts. Figure 1 below lays out the key stakeholders and steps involved in the public health planning process in India.



Source: Planning Commission of India; http://planningcommission.nic.in/; Budget making process/structure (http://wcd.nic.in/gbhb/Link%20hand%20pdf/Hand%20Book%20Chap%204.pdf)

[1] Financial outlays are determined by the Commission based on gross budgetary support communicated by the Ministry of Finance. The inter-department financial allocations are determined by the Planning Commission, the inter-programmatic/schematic distribution of resources is made by concerned department.

[2] Structure of the Commission: An advisory board Chaired by the Prime Minister, members, include the Minister of State and 8 full time Senior members.

[3] The Union Cabinet reviews Planning Commission's Five Year Plan and approves the draft, the draft is then placed before the NDC .

Figure 1. Overview of process flow for public policy making in India

Health care in India has been central to FYPs since 1974 when the explicit objective of population control was mandated by a State Emergency. Following this, FYP objectives for healthcare evolved to include public programs for control of emerging diseases such as Tuberculosis (TB), Malaria, Leprosy and HIV-AIDS. It was only after the 9th FYP (1997-2000) that the Government began prioritizing the setup of public

health infrastructure and management systems for primary healthcare at the state, district and village levels. The 11th plan (2007-2012) is considered transformative in this regard with the setup of a National Rural Health Mission (NRHM) that now oversees and funds public health infrastructure and primary healthcare across the country. The 11th plan also aimed to promote inclusive growth through a comprehensive approach to healthcare via primary health, sanitation, clean drinking water, access to food, knowledge of hygiene, and ideal feeding practices for infants. The 12th FYP, set up in 2012, aims to leverage this established infrastructure to achieve Universal Health Coverage (UHC) in the country by 2017. The objectives of this ambitious target include integration of disease control with primary health provision, launch of a new Urban Health Mission and finally introduction of health financing schemes for all by 2020. Figure 2 below provides a snapshot of the evolution of FYP priorities for the health sector in India.

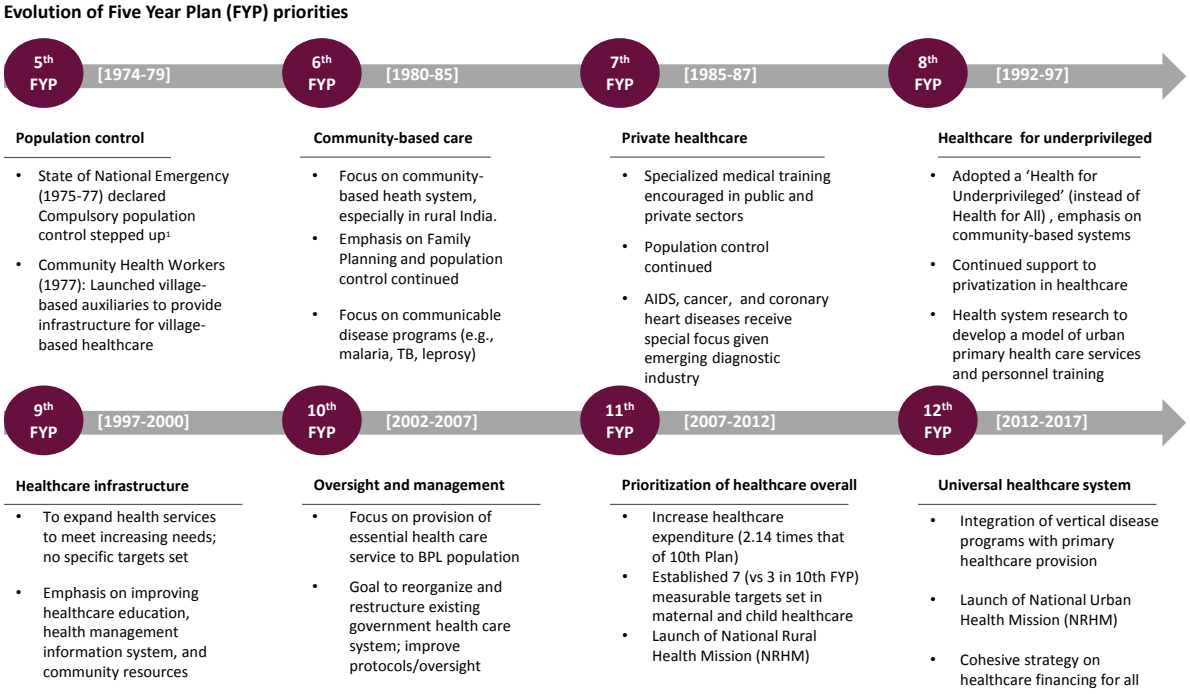


Figure 2. Evolution of FYP priorities for the health sector in India

To achieve its objectives, the Planning Commission has, in the last two decades, significantly increased its budget allocations for the health sector. Consequently, the Central government's allocation for the Ministry of Health and Family Welfare (MoHFW) has gone up from INR 14300 crore in 1992 to INR 229,750 crore million in 2012. The biggest jumps were seen between the 8th and 9th plan and then between the 10th and 11th plan. Figure 3 below provides a snapshot of budgetary allocations since 1992.

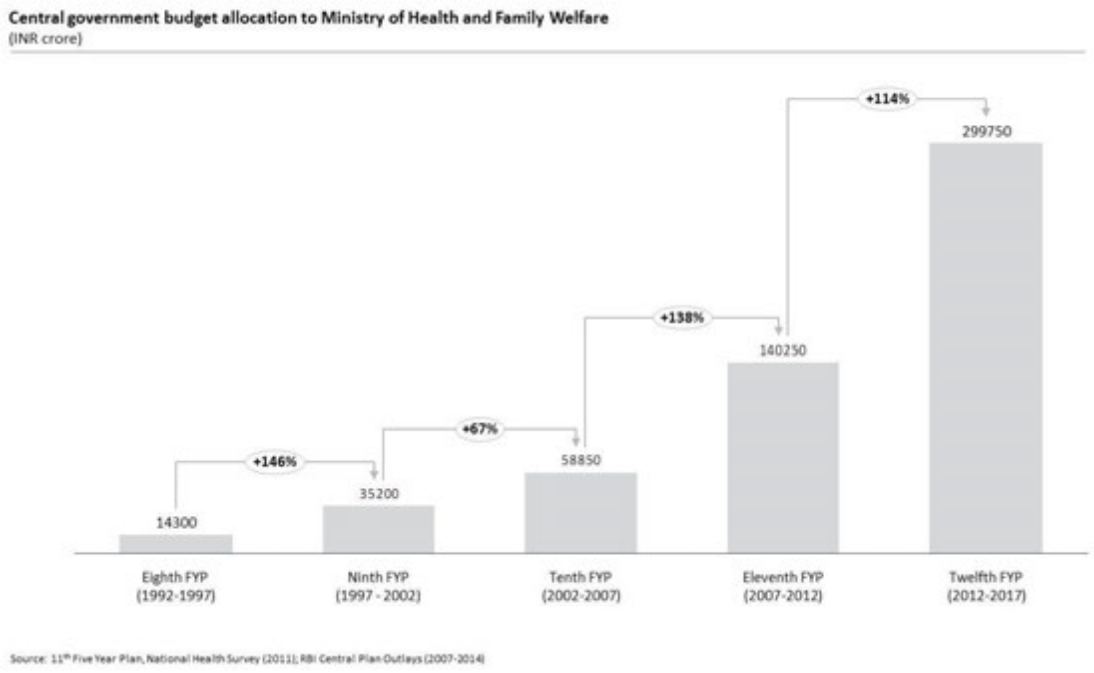


Figure 3. Central government budget allocation to Ministry of Health and Family Welfare (INR crore)

Constitutionally, health is a state subject; it lies under the jurisprudence of the state governments and not the Government of India (GoI). States contribute approximately two thirds of the total national healthcare budget. In the 11th Plan period (see Figure 4 below)**.**

The Central government funding is generated through general tax revenues and external aid. Central spending flows through four channels: through the MoHFW, directly to state governments, directly to social health insurance schemes, and directly to public providers. The largest portion of central government spending is allocated to MoHFW, which uses the money to fund core health activities including primary health, disease control, medical education, research, and health infrastructure. State government health budgets come from MoHFW grant transfers, general tax revenues, central government transfers and external aid. Funds are used to finance programs related to HIV/AIDS, disease surveillance, child health, reproductive health, malaria, and TB among others. State governments also directly fund public healthcare providers and contribute to social health insurance schemes.

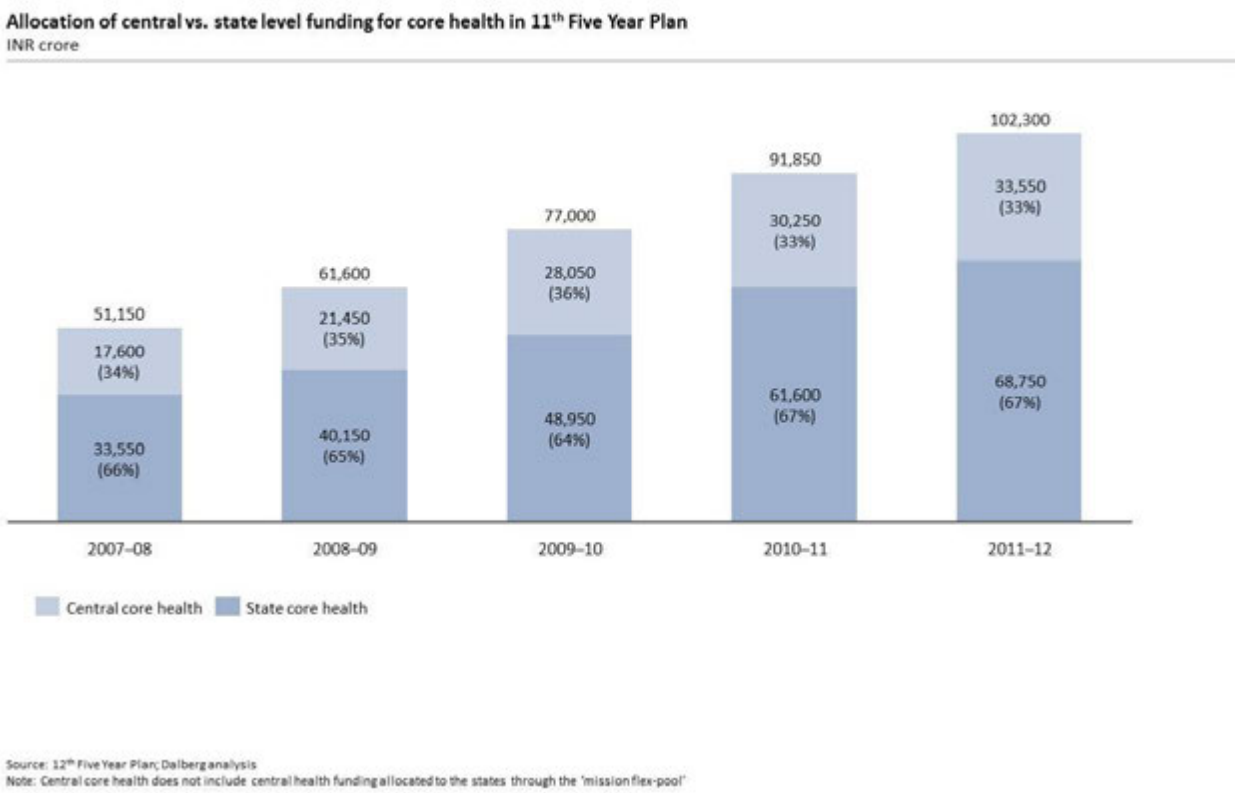


Figure 4. Allocation of central vs. state level funding for core health in the 11th FYP (INR crore)

Despite plans to increase budget outlays across FYPs, the government's actual expenditures have typically fallen short of projected budget allocations, both at the state and central levels. During the 11th plan (2007-2012), there was a funding gap of INR 41,250 crore or 30% of the projected budget for MoHFW. See Figure 5 below.

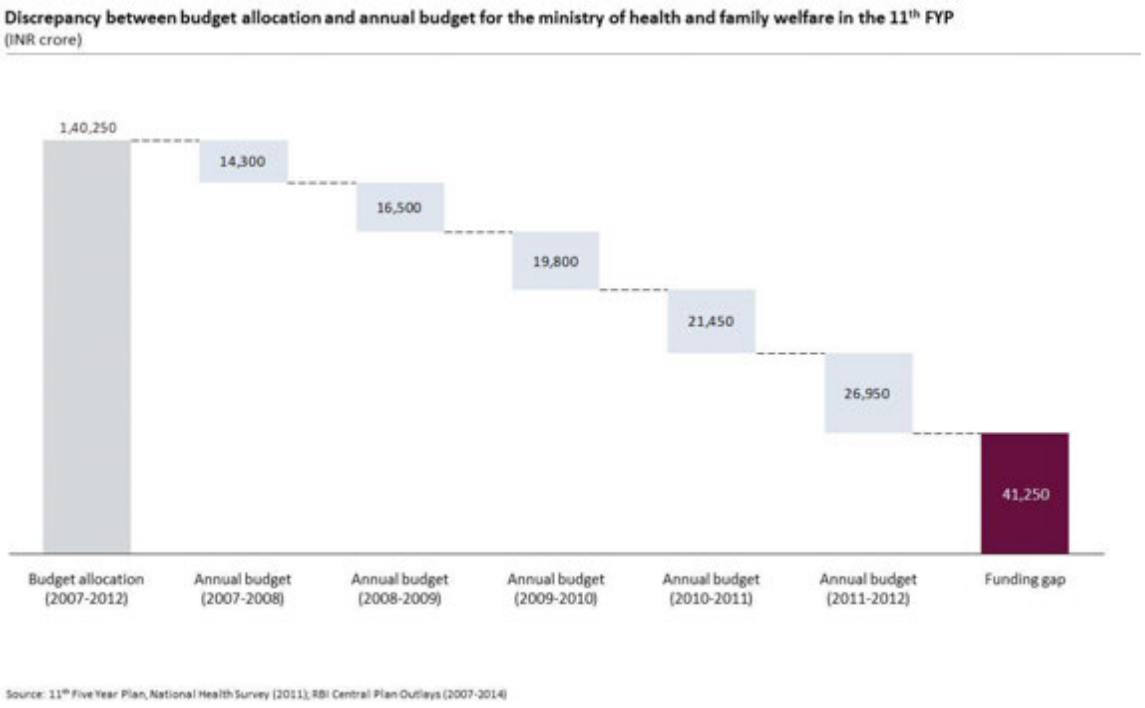


Figure 5. Discrepancy between budget allocation and annual budget for the (MoHFW) in the 11th FYP (in INR crore)

These trends suggest that India is already off track to meet funding allocations under the 12th FYP. Based on our analysis (See Figure 6 below), expenditure on core health is likely to be INR 550,000 crore short of targets, or about 45% below the total central and state government budget allocation of INR 1,210,000 crore under the 12th FYP[1]. Between FYs 2012 and 2017, actual public spending on core health is expected to reach INR 660,000. State spending is expected to increase proportionally to central government expenditure, but both will fall short of targets. The projected gap in funding for core health at the state level is expected to be INR 357,500 crore, and central government shortfall is expected to be INR 192,500 crore.

[1] Calculation assumes allocations, Central and state government expenditure and GDP growth follow historical trends, primarily recent trends during the 11th Five Year Plan.

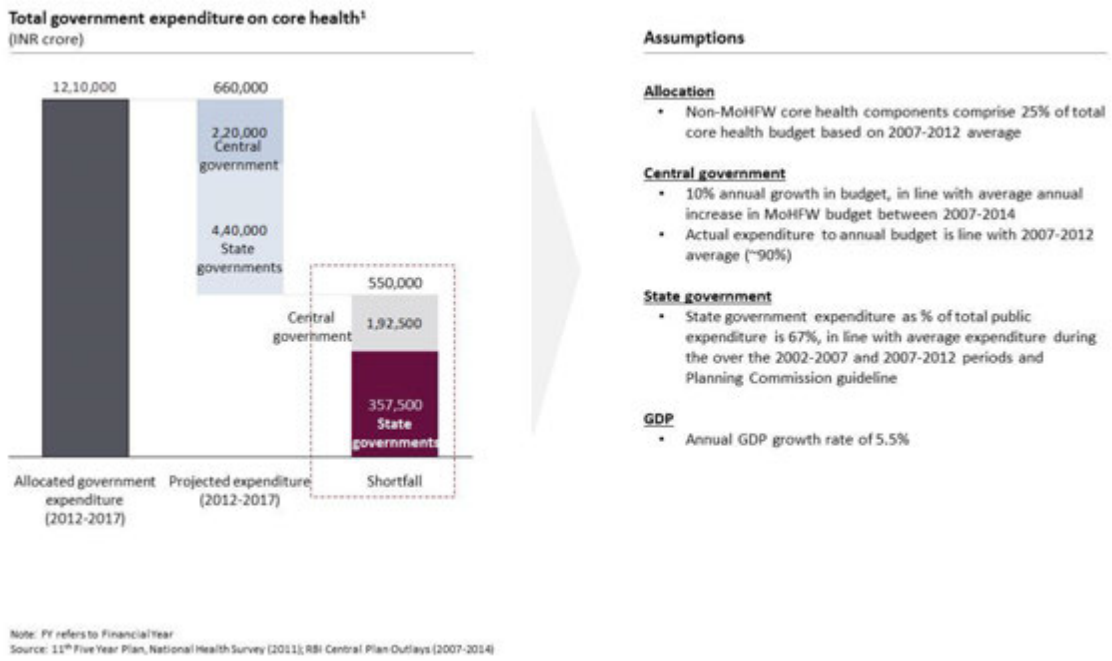


Figure 6. Government expenditure on core health

By all standards, national spending on healthcare in India is abysmally low. India has 16% of the world's total population but only represents about 1% of total health spending globally[2]. In 2011, India's public health spending was just 31% of its total expenditure, falling way below the other BRICS countries as well as the Least Developed Country (LDC) average of 40%. Global rankings of public expenditure on healthcare also place India in the bottom 20 countries in the world. It is needless to say that there is strong body of evidence that highlights the need for greater allocation and expenditure on the public health sector, through internal and external aid support.

B. PUBLIC HEALTH IMPLEMENTATION

Implementation of public health program largely sits with the MoHFW, which oversees the core health programs instituted by the Department of Health and Family Welfare, Department of AIDS Control and AYUSH (Ayurveda, Yoga and Naturopathy, Unani[3], Siddha[4] and Homeopathy). Beyond this, the Central government also has large nutrition, financing, water and sanitation programs which are disaggregated and governed by other ministries outside the MoHFW. E.g., Nutrition and immunization programs for infants and pregnant women are implemented by the Ministry of Women and Child Development through the Integrated Child Development Scheme (ICDS), while the nutritious school feeding program is implemented by the Ministry of Human Resource Development through the mid-day meal scheme. Similarly, the largest health financing program, the Rashtriya Swasthya Bima Yojana (RSBY) is being

[2] 2010 figure.
[3] Traditional medicine widely practiced in South Asia.
[4] One who has achieved spiritual realization or attained perfection. Often refers to a high degree of physical as well as spiritual perfection or enlightenment usually accomplished through meditation.

implemented by the Ministry of Labour and Employment. Figure 7 below presents a framework that captures major categories of public health programs, implementing ministries and priority programs as per the 11th FYP.

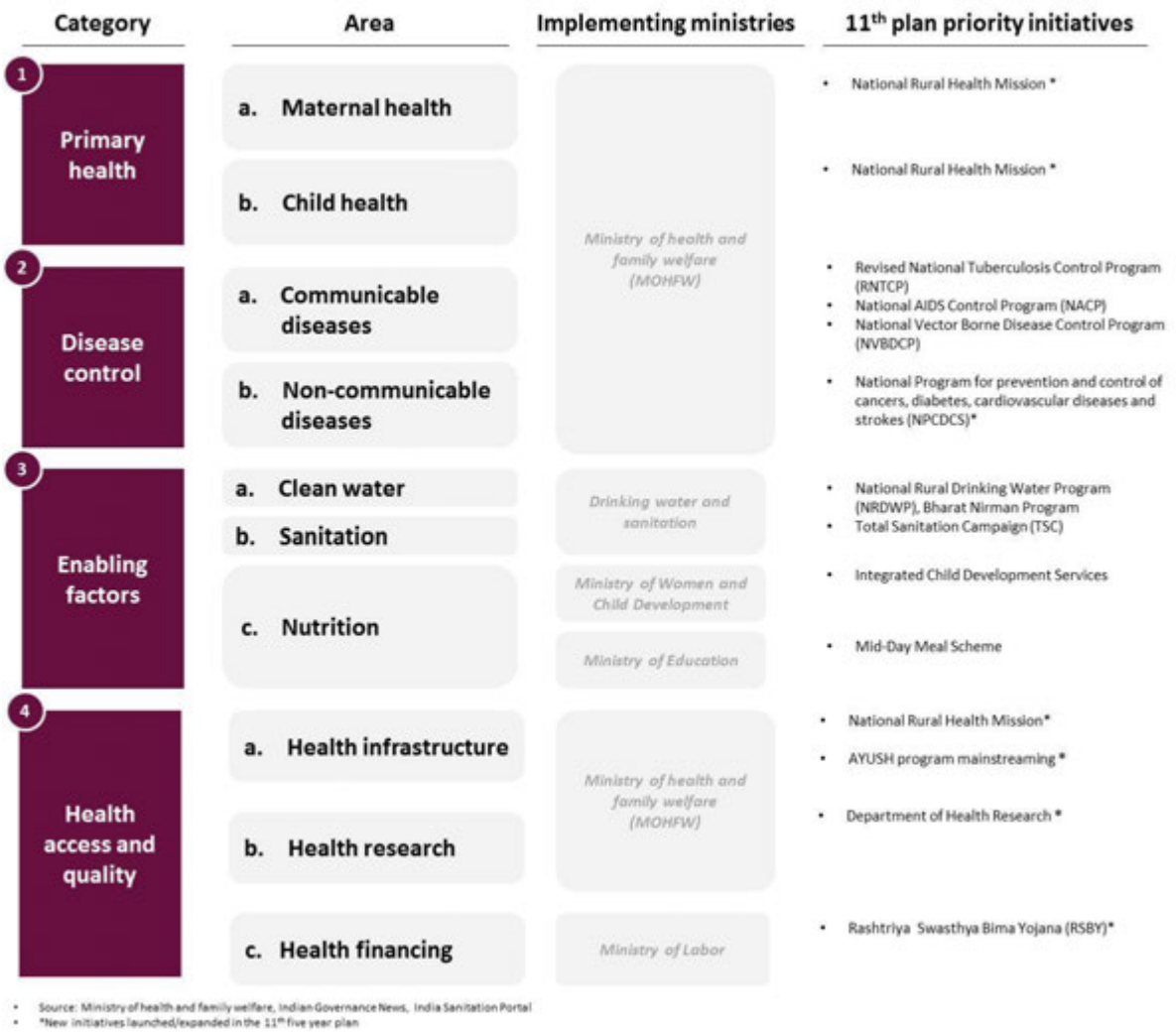


Figure 7. Implementation framework of core health and related areas by the GoI

As seen above, health systems for the country are cross-cutting and fall under various programs and schemes within and outside the health ministry. Of all the programmes listed, the largest and most significant in the 11th five year plan is the NRHM (See Annex, exhibit 3 and 4). This programme was launched in 2005 as the GoI's flagship program to strengthen the role of the state as a provider of health services in rural India. Its main objectives were centered largely on maternal and child health indicators. The NRHM aimed to achieve these objectives by revamping the health infrastructure by constructing Sub-centers, Primary Health Centers (PHCs) Community Health Centers (CHCs. Accredited Social Health Activists (ASHAs) have been installed in villages to carry out the main activities of the NRHM.[5] In the 11th FYP (2007-2012), the NRHM effort was intensified. In addition, vertical disease control programs for

[5] http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2800893/

major diseases such as Tuberculosis, HIV/AIDS and Malaria continued to expand outreach through more decentralized models of community based delivery. Finally, enabling factors such as water, sanitation and nutrition continue to be implemented outside the purview of the health ministry but do contribute significantly to addressing health challenges from a preventative perspective. The 11th FYP also introduced and helped expand a significant number of new programs to aid effective implementation of public health delivery in India. As highlighted by the exhibit above, these include the following:

1. **National Program for Prevention and Control of Cancers, Diabetes, Cardiovascular diseases and Stroke (NPCDCS) -** To deal with growing incidences of non-communicable diseases (NCD) the government established the NPCDCS in the 11th FYP. The program was initiated to achieve increased focus on NCDs through promotion of behavior change, early diagnosis, and improved medical management. It was designed to integrate some well-established NCD programs like Cancer control with newer areas of focus like Diabetes and stroke. Though conceived in 2007, it is still in a fairly nascent stage.

2. **Department of Health Research (DHR)** - An overarching body for health research, established in 2007, to advance scientific and technological health research that responds to national priorities. The objective was to focus research on Public Private Partnership (PPP) impact in health services, impact of health insurance, and urban health care. The DHR channels its efforts through the Indian Council of Medical Research and coordinates all medical, biomedical, and health-related research, advanced training in research, and epidemic disaster management.

3. **AYUSH** - This program was launched in the 11th Plan to mainstream traditional Indian medicine. In India, almost 80% of the population uses ayurvedic and other traditional medicines, often exclusively; making the demand for this project is indisputable. AYUSH facilities are co-located in primary health centers (PHCS), Community Health Centers (CHCs) and District Hospitals (DH).

4. **Rashtriya Swasthya Bima Yojana (RSBY)** - The RSBY health insurance program was launched in 2008 to provide health insurance to ~350 million people[6] living below the poverty line (BPL) in India, through a cashless in-patient system. Provisions to include out-patient care are under consideration. RSBY uses biometric smart cards for those enrolled. This card holds patient information but will soon be upgraded to hold a patient's medical history as well. The scheme is currently being implemented in 24 states with 34.4 million active smart cards, and has registered 5.2 million hospitalization cases.

[6] 1 INR- 0.02 USD; MPCE calculations based on 2010 Poverty Line; BPL estimates based on 2010 calculations; Middle to upper class estimates based on 2009 calculations
http://planningcommission.gov.in

National Rural Health Mission (NRHM)[7]: NRHM is an overarching program targeted at improving the overall health system. The program was designed as a unified, complementary program to the existing Reproductive and Child Health (RCH), immunization and disease control programs.[8] The initial objectives for implementation of NRHM were to reduce IMR and MMR, ensure population stabilization, prevent the spread of diseases and upgrade AYUSH. In addition to the initial objectives NRHM (post 2012), now also focuses on providing accessible, affordable and quality healthcare, through primary and secondary health channels. [9] There are multiple programs under the purview of NRHM – prominent ones include Reproductive and Child Health II, National Leprosy Eradication Program, Integrated disease surveillance project , the National AIDS Control Program and the National Mental Health Programme. The programme covers India's entire rural population (833 million) with a special focus on 490 million people in priority states. NRHM was formulated in response to the commitment of the government to raise public spending on health from 0.9% of GDP to 2-3% of GDP[10]. NRHM has adopted a multi-pronged approach to achieve the set objectives. Some of the core activities include training and capacity building of community health workers, augmenting the infrastructure of PHCs and CHCs, developing capacities for preventive healthcare and providing technical assistance to all channels of healthcare delivery.

For effective implementation of objectives, NRHM follows a decentralized organizational structure. While the planning and policy making takes place at the national level, each state mission has the power to adapt the programme implementation to meet the state's need. At the national level, NRHM is led by a Mission Steering Group (MSG) headed by the Union Minister of Health and Family Welfare and an Empowered Programme Committee (EPC) headed by the Union Secretary for Health and Family Welfare. The MSG and the EPC are required to periodically monitor the progress of the Mission. The Mission (at the national and state level) is headed by a Mission Directorate who is responsible for planning, implementation and monitoring of the mission activities[11].

Funding for NRHM activities are contributed by both center and state. The center contributes 75% of the total allocated budget and the state contributes the rest of it. Funds are disbursed from center only when the state presents previous year's budget utilization receipts. The NRHM has a mandate to ensure that 70% of financial resources are spent at the block level and below block

[7] http://www.nird.org.in/brgf/doc/rural%20HealthMission_Document.pdf
[8] http://nhsrcindia.org/pdf_files/NRHM_Eleventh_Five_Year_Plan.pdf
[9] www.nird.org.in/brgf/doc/rural%20HealthMission_Document.pdf
[10] www.nird.org.in/brgf/doc/rural%20HealthMission_Document.pdf
[11] PwC report

level and 20% at the district level. While the budget outlays for the programme is high (INR 20350 crore[12] in 2012-2013), utilization levels are low particularly due to the above mentioned clause.[13]

C. ROLE OF THE PRIVATE SECTOR

In India, the public health system focuses largely on primary health, and the private sector dominates service delivery in the secondary and tertiary health space. In addition, it is interesting to note that 80% of all outpatient care and 60% of all in-patient care is provided by the private sector. In addition, 68% of approximately 15,000 hospitals and 37% of 6,20,000 total hospital beds in the country are in the private sector[14] . These figures clearly point to the demand for healthcare services and the government's inability to provide an adequate number of facilities. A weak government health care delivery system, coupled with the poor quality of care offered by it, is a major contributing factor to the growth of the private health care system.

However, the access and reach of private players in the health sector is not indicative of the quality of service they provide as a whole, across the country. On one hand, the Indian private health sector offers world class hospitals, providing best-in-class treatment at lower costs than developed/high income countries, with the medical tourism market expected to hit INR 22,000 crore by 2014. At the same time, there are an estimated one million quacks in India, endangering people's lives. As highlighted by Figure 8 below, only 16% and 52% of self-proclaimed physicians in rural and urban areas respectively, have a medical degree. In addition to this, quality control of drugs is weak; almost 25% of total recorded drug revenue in 2008 was from spurious drugs.

[12] http://indiabudget.nic.in/index.asp
[13] PwC report
[14] WHO health statistics 2012, 2013, National health statistics, New horizon in Indian healthcare report, Annual report to the people on health, 2010, MOFHW

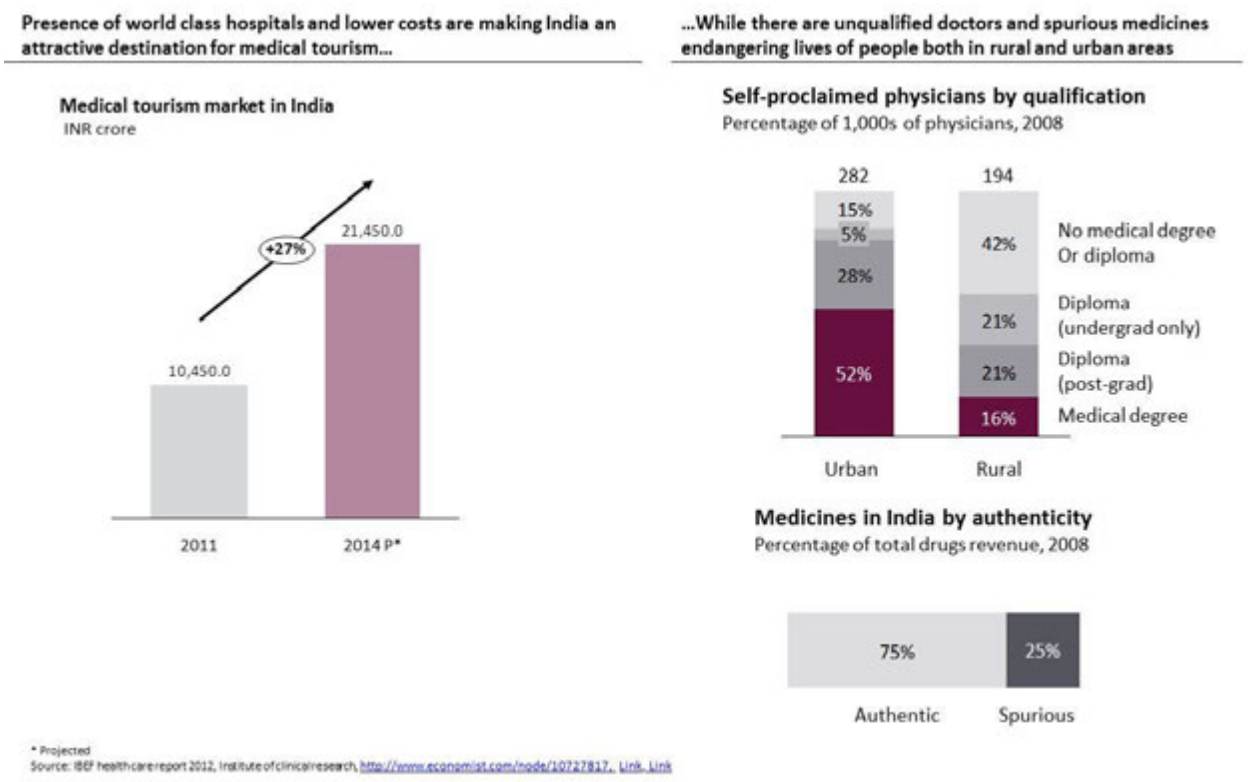


Figure 8. Contradictions in the Indian private healthcare sector

On the supply side, the government is now building partnerships with reputed private institutes to increase coverage and improve quality of health services. These partnerships are now being seen in different aspects of the sector. The Government of Maharashtra in collaboration with GE and Enso group aims to modernize the diagnostic capabilities of district hospitals in the state. The Government of Uttar Pradesh in collaboration with Hindustan Latex Family Planning Promotion Trust, SIFPSPA and USAID aims to provide affordable and quality institutional deliveries and Maternal, Newborn and Child Health (MNCH) services through the model. And the Government of Andhra Pradesh in collaboration with Star Health Insurance launched Rajiv Aarogyasri which aims to provide free health insurance to BPL families through a PPP model. The private sector in India has innovated significantly on low-cost models for healthcare too. The Government has also engaged 'certified' private sector institutions in the provision of drugs and diagnostics for National AIDS Control Organization (NACO), Revised National Tuberculosis Control Program (RNTCP), the dissemination of in-patient treatment via the RSBY, and other government schemes like the Central Government Health Scheme (CGHS).

On the demand side, majority of India's population remains without health financing coverage and as a result, the burden of healthcare financing falls onto the individual (see Figure 9 below). Out of pocket (OOP) spending accounts for nearly 69% of the total healthcare expenditure in India[15]. OOP spending

[15] World Health Report 2009 and IBEF Healthcare Report 2009 [New horizons in Indian healthcare, Parthenon Group]

primarily finances service fees at private providers and to a lesser degree services not provided for free at public facilities. Households in India spend, on average, 5.8% of total household expenditure and 10.5% of non-food expenditure on healthcare. About 14% of rural households and 12% of urban households in India spend more than 10% of their total expenditure on healthcare, which constitutes a significant financial burden on the household. The RSBY was the first health financing scheme to introduce cashless transfers that can avoid additional debt burden on the poor. As exhibited by Figure 9, until 2010 75% of the total population of the country was uninsured and 20% were covered by government sponsored health schemes. Private sector insurance accounted for only 5% of the total population covered. Projections for 2015 show that almost half the population can be expected to be covered by some form of insurance scheme. A large part of this growth is expected to be driven by the RSBY scheme. Private sector insurance in India will make up only around 7% of the total insured market.

Health insurance in India is offered through government sponsored health insurance schemes (GSHIS), private insurance and various smaller schemes. In 2010, approximately 300 million Indians, only 25% of the population, had some form of health insurance coverage, primarily through GSHIS.

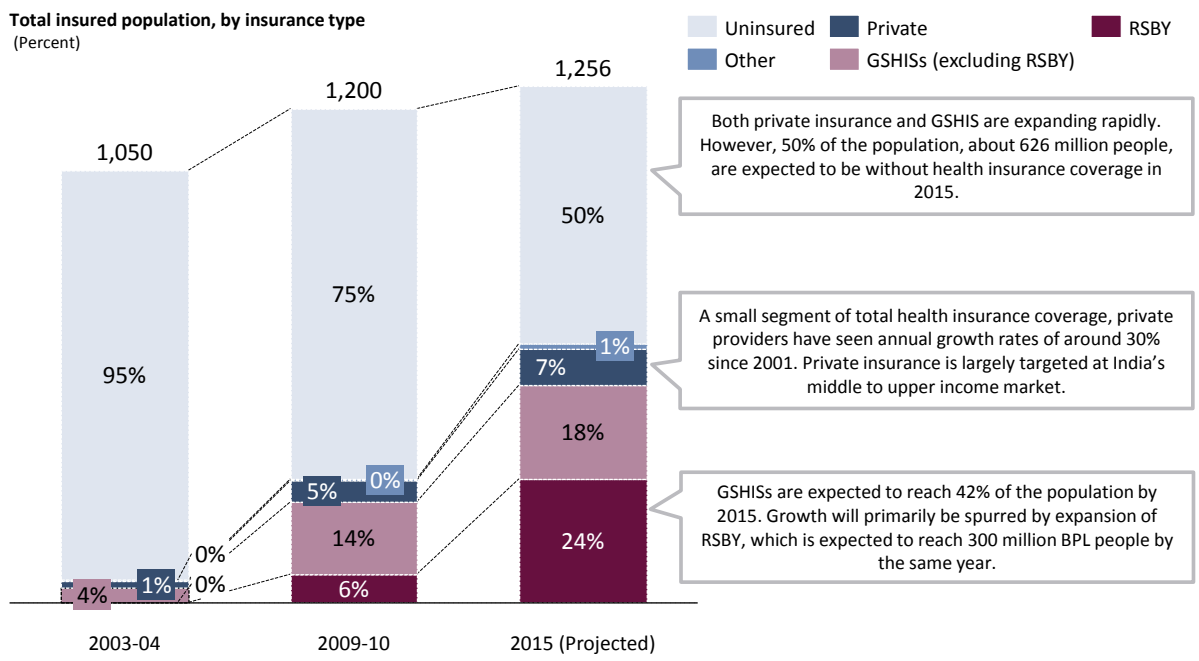


Figure 9.Current and projected status of health insurance coverage in India

D. ROLE OF DONORS

India has consistently been the highest recipient of health related Official Development Assistance (ODA), followed closely by Ethiopia, Nigeria, Kenya and Tanzania. However, even the latest figures (2010) highlight that foreign aid for health in India was only 1.3% of the total health expenditure[16]. It is clear that

[16] World Health Statistics 2013

while the role of ODA in health sector support has been long established, the state continues to be the primary contributor to the growth and development of the public health system. The entire spectrum external assistance contributed to the health sector in India primarily comes from the following four sources:

1. **Bilateral Aid Agencies:** Development aid agencies often come in to countries with a bilateral diplomatic understanding with the government. This is contrary to multilateral agreements like NATO or ASEAN, for instance. These agencies can choose to put in resources directly or in coordination with other agencies and international organizations. These organizations are dependent on the national budgets of their respective countries. Examples of such agencies include JICA, Department for International Development (DFID) and USAID among others.

2. **Multilateral Agencies:** Multilateral transactions are those undertaken by international agencies whose membership is made up of member governments, who collectively govern the organisation and are its primary source of funding. Transactions can be with governments, private sector organizations as well as non-governmental organizations. Contributions are pooled so that they lose their identity and become an integral part of the organization's financial assets. Examples of such agencies include United Nations Children's Fund (UNICEF) and World Bank's International Development Agency (IDA) among others.

3. **Global Public-Private Partnerships (PPP):** These are governance mechanisms instituted to foster cooperation between an international intergovernmental organisations and the private sector. They operate as a financing institution and do not implement projects themselves. They support programs that evolve from a country's national plans and priorities. These include Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM) and the Global Alliance for Vaccines and Immunization (GAVI).

4. **Private Foundations:** They support programs that evolve from a country's national plans and priorities. The initial endowment is made by the founding individual or family which is then used to generate resources for the foundation, through interest or other investment income, like the Bill and Melinda Gates Foundation (BMGF) and Clinton Foundation.

IDA through the World Bank and DFID has been the largest health sector donor to the country (see Figure 10 below). In addition to ODA sources, there are donors like the BMGF which provide significant amount of assistance; BMGF accounted for greater health ODA contribution than the US, with aid of INR 726 crore in 2011.

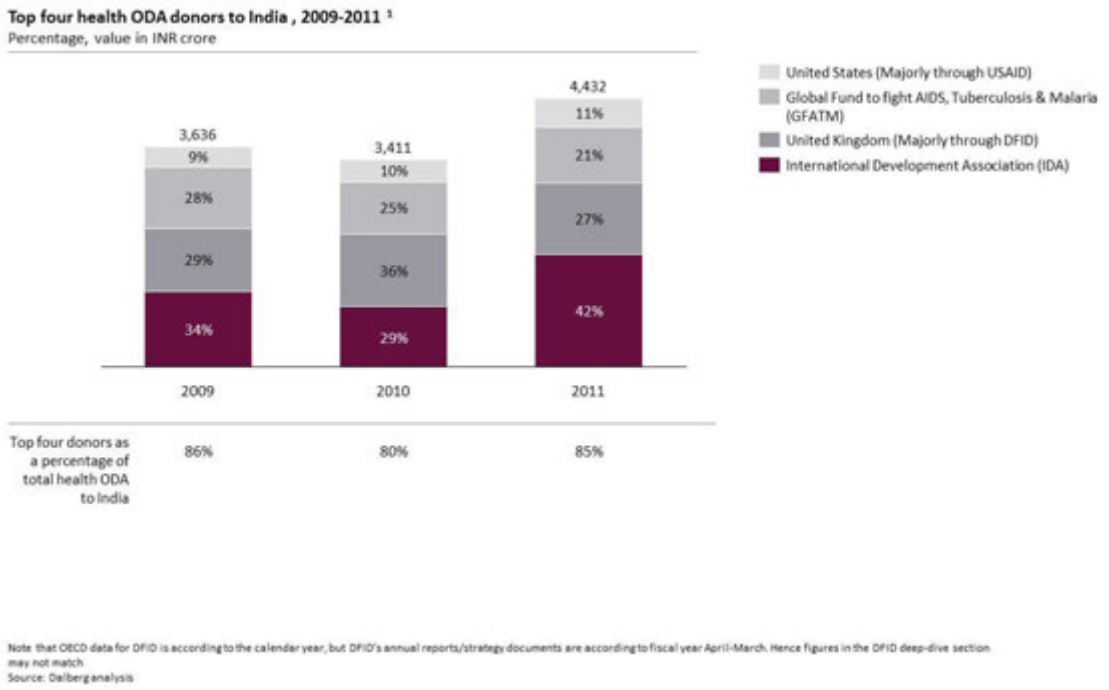


Figure 10. Top four health ODA donors (2009-2011)

In terms of specific areas of support, maternal and child health is heavily supported by donors like DFID, BMGF, UNICEF and USAID while GFATM takes the lead across all the major communicable diseases like TB, HIV and Malaria. NCDs are largely un-served even though their prevalence has now established the strong need for tackling this challenge. Nutrition is increasingly getting more attention from donors, with UNICEF, USAID, World Bank and World Health Organization (WHO) working on the issue. Cross-sector concerns like water and sanitation are part of larger programs and lack a focused intervention (see Figure 11 below).

		DFID	Bill & Melinda Gates foundation	The Global Fund	The World Bank	World Health Organization	unicef	USAID
Primary Health	Maternal health	✓	✓	×	×	×	✓	✓
	Child health	✓	✓	×	×	×	✓	×
Infectious disease	Tuberculosis	✓	×	✓	×	×	✓	✓
	HIV	✓	✓	✓	✓	✓	×	✓
	Vector borne	×	×	✓	✓	✓	✓	×
Non- communicable diseases	Cancer	×	×	×	×	×	×	×
	Diabetes	×	×	×	×	×	×	×
	CVD	×	×	×	×	×	×	×
Nutrition	Child nutrition	×	✓	×	✓	×	✓	×
Cross cutting issues	Systems strengthening	✓	×	×	✓	✓	✓	✓

✓ Projects undertaken × Projects not undertaken

Source: Donors websites, Dalberg Analysis

Figure 11. Areas of health sector engagement for major donors in India

Donors working in India have adopted traditional approaches of engagement including long term loans, grants and technical assistance (see Annex, exhibit 12). More often than not, projects implemented in collaboration with external donors were largely funded by the donors themselves and executed along with technical and capacity building support. With the 12th FYP, the Indian government has increased its budgetary allocation to public health and has since been encouraging external aid to focus on technical assistance and capacity building, operational and otherwise, to expand and improve existing health infrastructure and programs. In order to provide this targeted support, donors are being encouraged to collaborate with each other and also with state governments. This effort is giving rise to new trends in the methods donors adopt to give assistance to India. The most prominent are:

1. **Donor-donor partnerships:** Joint assistance projects have shown success in recent times. The GoI encourages donors to work in partnership if their contribution is less than a certain amount. Some examples of such partnerships include

    a. **IDA, DFID, United Nations Population Fund (UNPF):** These three organizations jointly provided financial and technical assistance to the GoI for the pan-India Reproductive and Child Health Program (Phase II). 35% of the program costs were donor-funded, with IDA contributing 15%, DFID contributing 18% and the UNPF contributing 2%.

b. **DFID and UNICEF:** DFID is providing INR 616 crore to UNICEF India with the objective of enhancing progress towards child related Millennium Development Goals (MDGs) and strengthening government capacity for planning, monitoring, implementation and community engagement, to better realise the rights of children. This partnership has provided 18% of overall UNICEF costs in India.

c. **WHO and multiple bilateral/multilateral agencies:** The National Polio Surveillance Project, a collaboration between WHO and the GoI involves partners such as DFID (funding surveillance, social mobilization, polio vaccine purchase and operations for polio immunization campaigns), UNICEF (providing technical leadership in social mobilisation), World Bank (funding operations for polio vaccination campaigns and vaccine purchase) etc.

2. **State-level models:** Constitutionally, health is regarded as a state subject. Some Indian states are looking to make large investments in healthcare improvement. This, combined with support from the Central government has resulted in a number of state and district level partnerships set up independently by donors. Recent examples include:

BMGF

- **Family Health Initiative – Ananya**: INR 440 crore assistance to promote integrated delivery approach for mother and child healthcare in Bihar (2010 to 2015) (Details in Figure 12)
- **Integrated program in Uttar Pradesh:** Support to Uttar Pradesh government to improve health, agriculture and financial services to the poor(2013 to 2017)

DFID

- **Sector wide approach to strengthening health in Bihar: INR** 1193.7 crore assistance to improve health, nutrition and water and sanitation outcomes(2008 to 2016)
- **Madhya Pradesh Health Sector Support:** INR 847 crore assistance to deliver MCH and nutrition services in the poorest and underserved areas(May 2007 to Dec 2015)

IDA

- **Uttar Pradesh Health Systems Strengthening:** INR 836 crore assistance to improve the efficiency, quality and accountability of health services delivery in Uttar Pradesh(2011 to 2017)

- **Karnataka Health System Development and Reform:** INR 781 assistance to increase utilization of essential health services - public health, preventive and curative(2006 to 2013)

WHO

- **Integrating adolescent health services in Tamil Nadu:** WHO supported the state government in using Mapping Adolescent Programming and measurement framework (MAPM) in developing converged district action plans focusing on adolescents (2008)

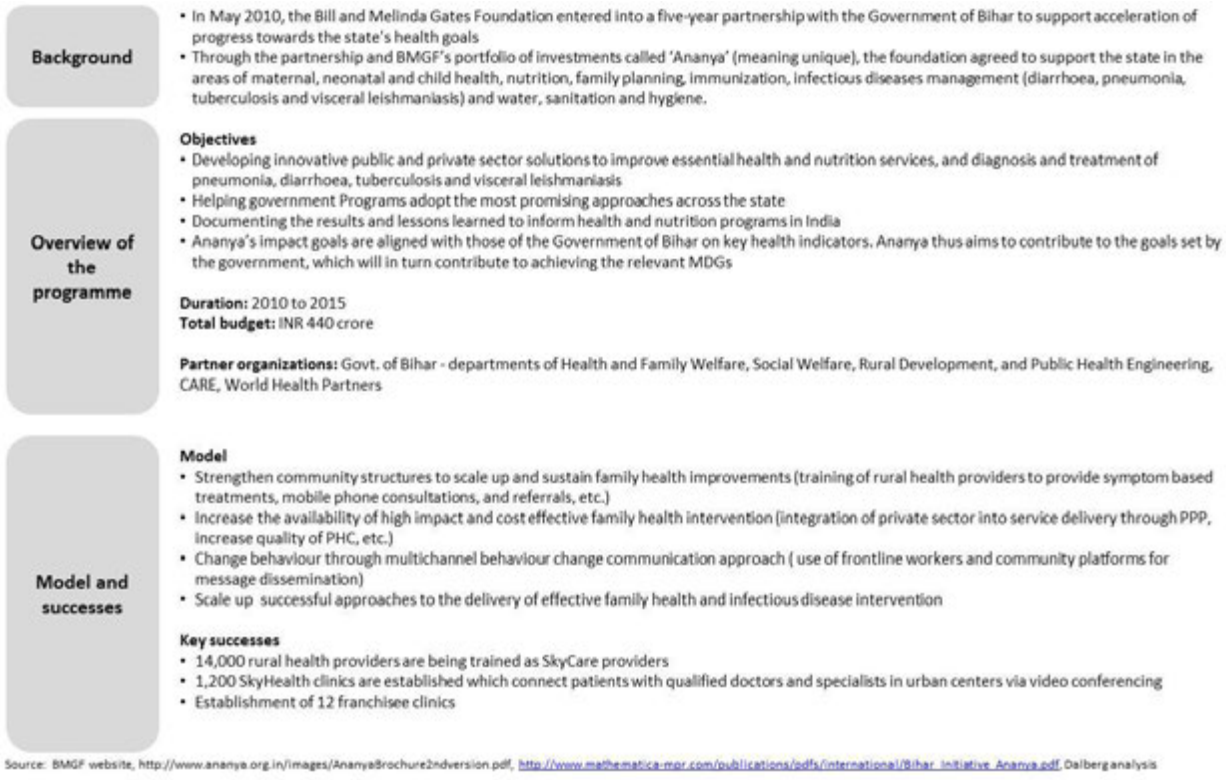


Figure 12. Case Study - Ananya

To ensure equitable and relevant distribution of donor support across states and poor performing districts, the government has also appointed lead donors for targeted districts in each state (see Annex, exhibit 13) These donors are mandated to coordinate with all actors working in public health within the state, assist the government in monitoring and evaluation on public health, and spread awareness in the state. (Detailed profiles of major health sector donors in India can be found in Annex, exhibits 14-54).

II. HEALTH SECTOR PERFORMANCE IN THE ELEVENTH FIVE YEAR PLAN PERIOD (2007-2012)

A. OVERVIEW: IN LIGHT OF MDGS

Over the last decade, India has undergone a phase of economic and social transition that is strongly reflected in its healthcare performance. Key infectious diseases such as HIV, TB and malaria that were growing and rampant in the early 2000s have been brought under control by large and highly targeted interventions. For example, to address the growing burden of TB in the late 1990's the Government revised its TB control program to adopt the WHO recommended DOTS strategy. Since then, the DOTS strategy has been implemented at a national scale and has made progress in meeting defined national/international targets. These large scale interventions have improved outcomes. The TB incidence rates for instance have shown a decline of 14% from 216 (per 100,000) in 2000 to 185 (per 100,000) in 2010.[17] Similarly, India has demonstrated a 57% drop in estimated annual new HIV infections from ~270000 in 2000 to 116000 in 2011.[18] Malaria has also shown a 25% fall in annual incidence from 2 million cases in 2001 to 1.5 million cases in 2010.[19] . However, due to the otherwise large population of the country, disease burden remains despite declining trends in incidence. For example, in communicable diseases alone, India contributes to 20% of the global incidence of TB (2.3 million) and 7.5% of the global burden of HIV (2.4 million).[20]

Besides disease control, India is also lagging behind on the core indicators of primary health. The latest national Maternal Mortality Rate (MMR) (212) for 2009-2010 has missed the government target for 2012 (109) by a wide margin. While the decline for Infant Mortality Rate (IMR) and Under Five Mortality Rate (U5MR) has accelerated over the last five years, India is still unlikely to meet the 2017 FYP targets for child health at the current rate. The country also suffers from the lack of a basic enabling environment that promotes health and well-being for its population. 2011, 66% of the national population did not have access to improved sanitation.[21] The situation is worse in rural regions with 77% without improved sanitation access.[22] Additionally, child malnutrition rates in India are the second highest in the world after Bangladesh23, 47% of all Indian children are malnourished and states like Madhya Pradesh have more malnourished children than sub-Saharan countries.

Millennium Development Goals (MDGs) were established in the year 2000 as a result of the Millennium Summit of the UN. These goals served to rally the world around a common idea of improved health

[17] WHO global health observatory data,[http://apps.who.int/gho/data/view.main.57040ALL?lang=en]
[18] As quoted by NACO report, 2012 [Link]
[19] Page 36 - National Vector Borne Disease Control Program section, Planning commission report of the working group on disease burden for the 12th five year plan: communicable diseases
[20] Page 14 - 16, Planning commission report of the working group on disease burden for the 12th five year plan
[21] For MDG monitoring, an improved sanitation facility is defined as one that hygienically separates human excreta from human contact.
[22] WHO/WNICEF Joint Monitoring Program [www.wssinfo.org/data-estimates]
[23] According to World Bank (2009) estimates.
http://web.worldbank.org/wbsite/external/countries/southasiaext/0,,contentmdk:20916955~pagepk:146736~pipk:146830~thesitepk:223547,00.html

indicators. India's health performance can be assessed core health indicators as outlined in the MDGs and the achievement of 2015 targets. This assessment also serves to locate India's progress in comparison to other countries. Figure 13 shows, the agreed upon MDGs and highlights the four goals that have clearly articulated health related targets.

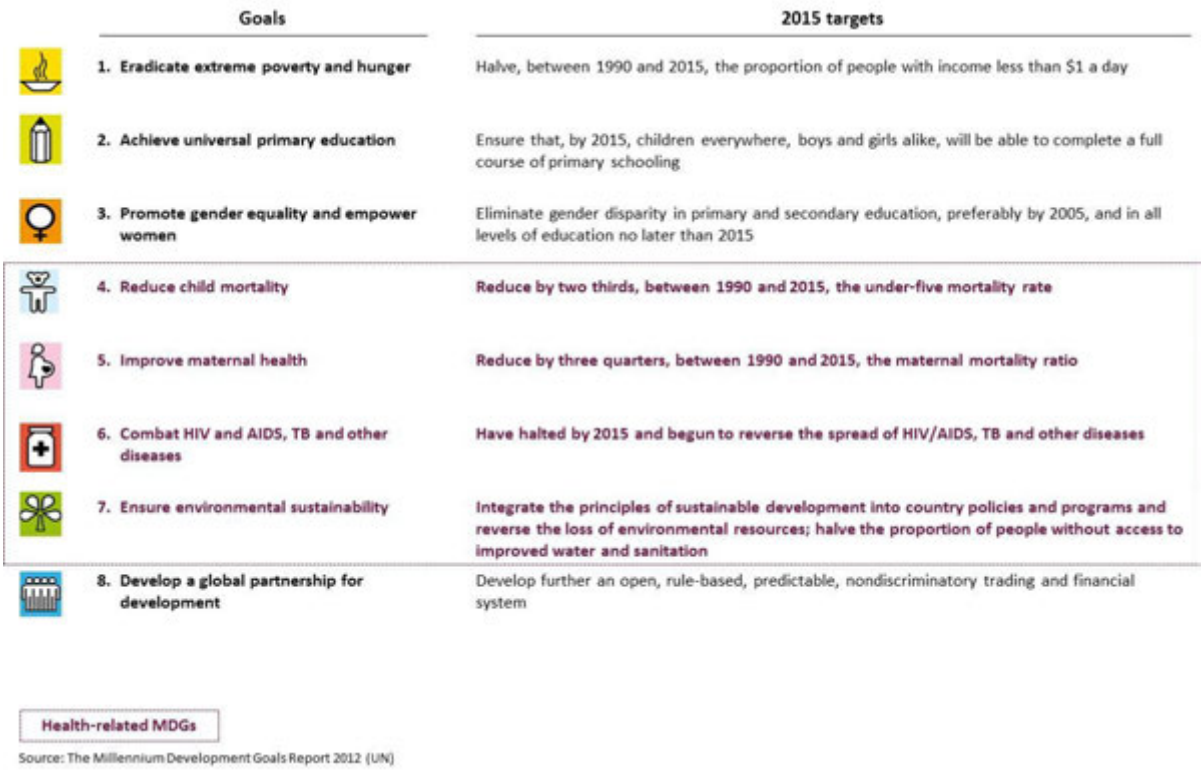
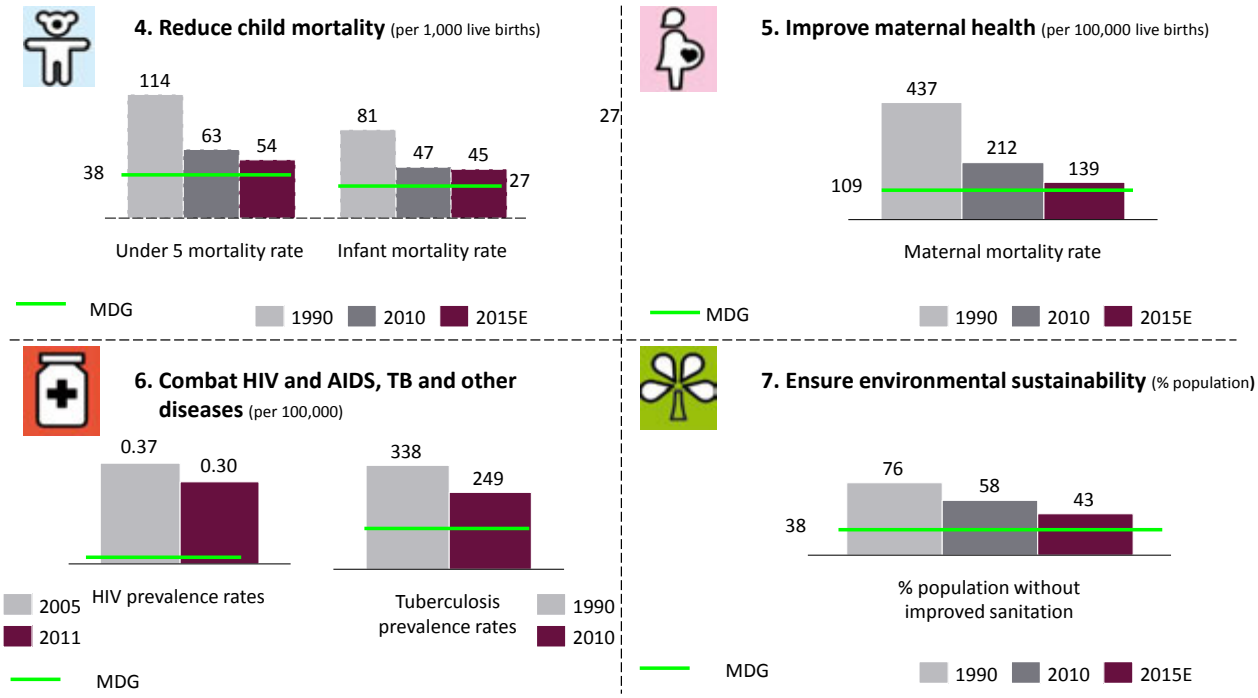


Figure 13. Millennium Development Goals

While India has worked toward achieving MDG goals, it lags behind on some major goals. Figure 14 below gives an overview of India's progress between1990 and 2010 and the estimates for 2015 in all four health related MDGs. As is seen, India's achievement has been commendable since 1990, but trends show that India will fall shy of all its health related targets for 2015.



Source: Twelfth Five Year Plan (2012-2017); NACO Annual report 2011-2012; Millennium Development Goals India country report (2011)

Figure 14. Overview of India's MDG performance

More specifically, MDG 4 is about the reduction of child mortality, and MDG 4A more specifically aims to reduce under five mortality by two thirds between 1990 and 2015. To achieve this, countries must take a holistic view which includes awareness and immunization.

As shown in Figure 15, India has made significant progress between 1990 and 2010 in all indicators of child mortality. However, it remains shy of its MDG targets for 2015. For instance, in 2010 the under-five mortality was 63 but has to be reduced to 38 (per live 1000 births) by 2015. In comparison, China despite its large population has done well to come close to the 2015 targets and has already achieved its target for reduction in under five mortality rates.

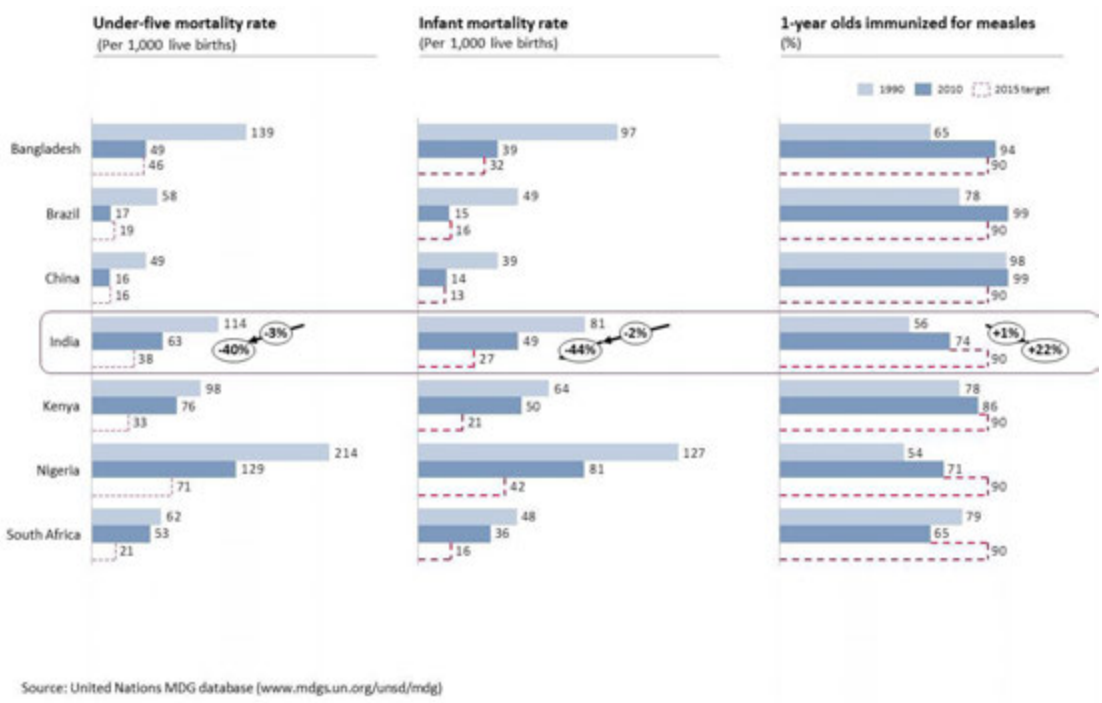


Figure 15.MDG 4A: Under Five Mortality Rate

MDG 5 speaks of an improvement in maternal health. There are two components to achieving MDG 5, target 5A aims to reduce maternal mortality ratio (MMR) by two thirds and 5B targets the achievement of universal access to reproductive health. India has made progress in reduction of this ratio. As seen in Figure 16, the MMR dropped from 600 in 1990 to 200 (per 1000 live births) in 2010 but historical rates of decline are likely to be insufficient to be able to meet the MDG 2015 target. China's progress is remarkable in this indicator, as it was able to reduce MMR from 120 in 1990 to 37 in 2010 and is well on its way to achieve its target of 30 by 2015.

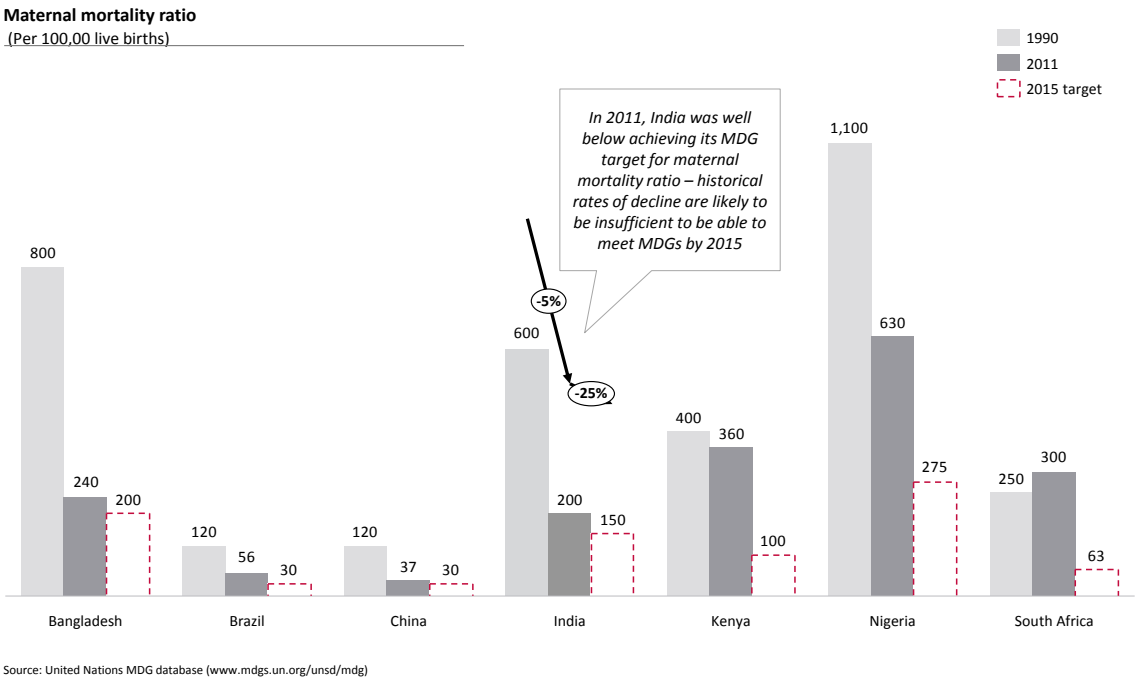


Figure 16. MDG 5A: Maternal Mortality Ratio

MDG 6 aims to combat HIV AIDS, malaria and other diseases. MDG 6C specified the halting and reversing incidence of major diseases. In India (see Figure 17), TB prevalence has declined by 1% per annum on average since 1990. In order to meet MDG targets, it needs to fall by 1.8%. Similarly, TB deaths have fallen by 3% annually, since 1990 but to achieve MDG targets, death rates need to fall by 5%. In contrast, China only recorded 249 TB cases (per 100,000) in the year 2011, and only 4 deaths (per 100,000) were causes by the disease in the same year.

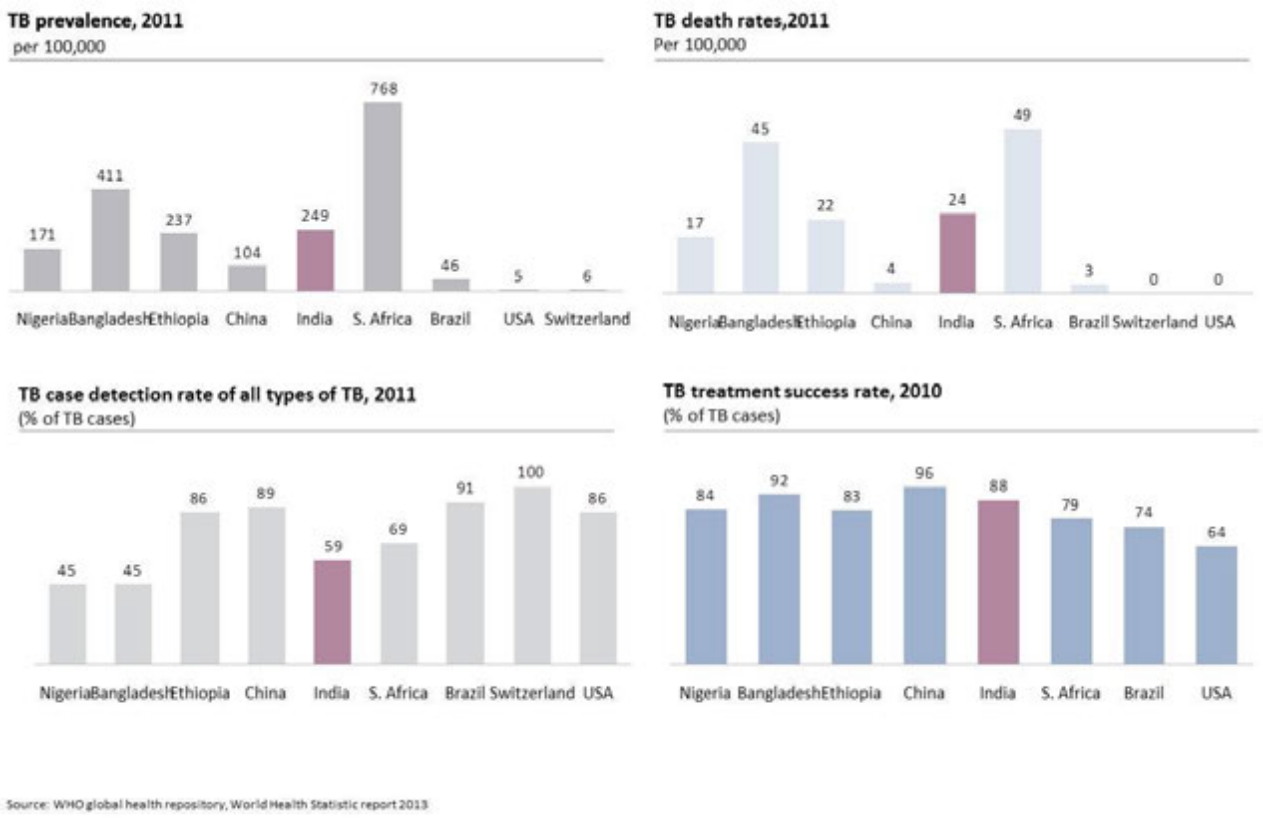
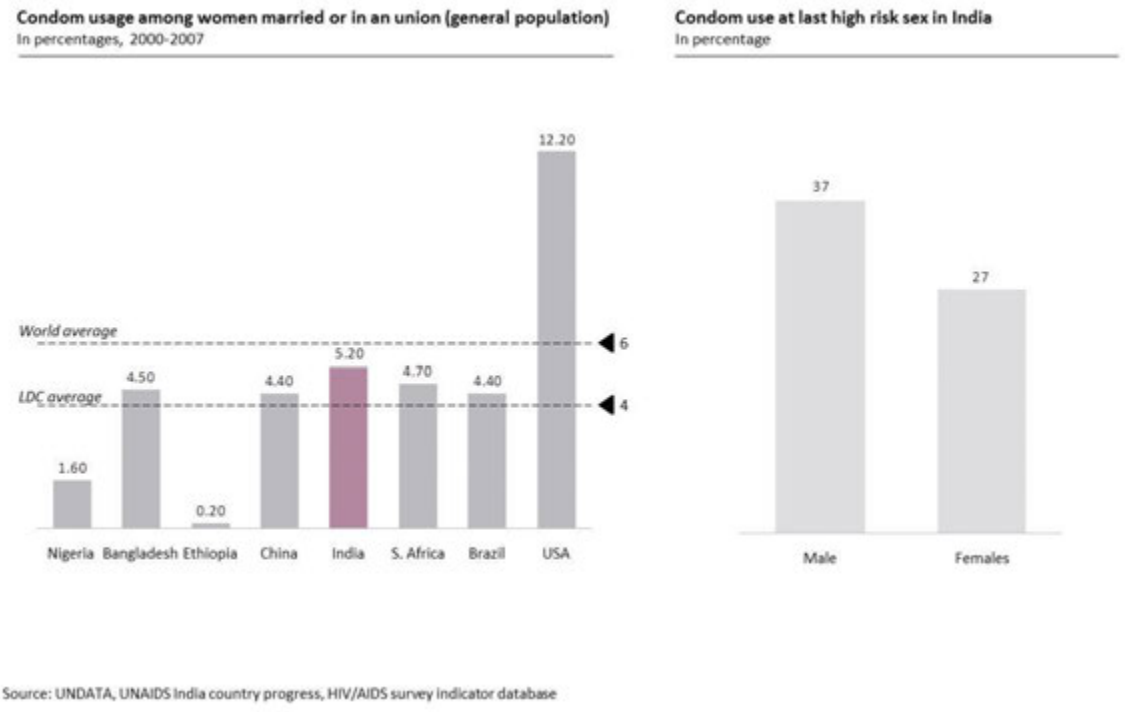


Figure 17. MDG 6C: TB prevalence

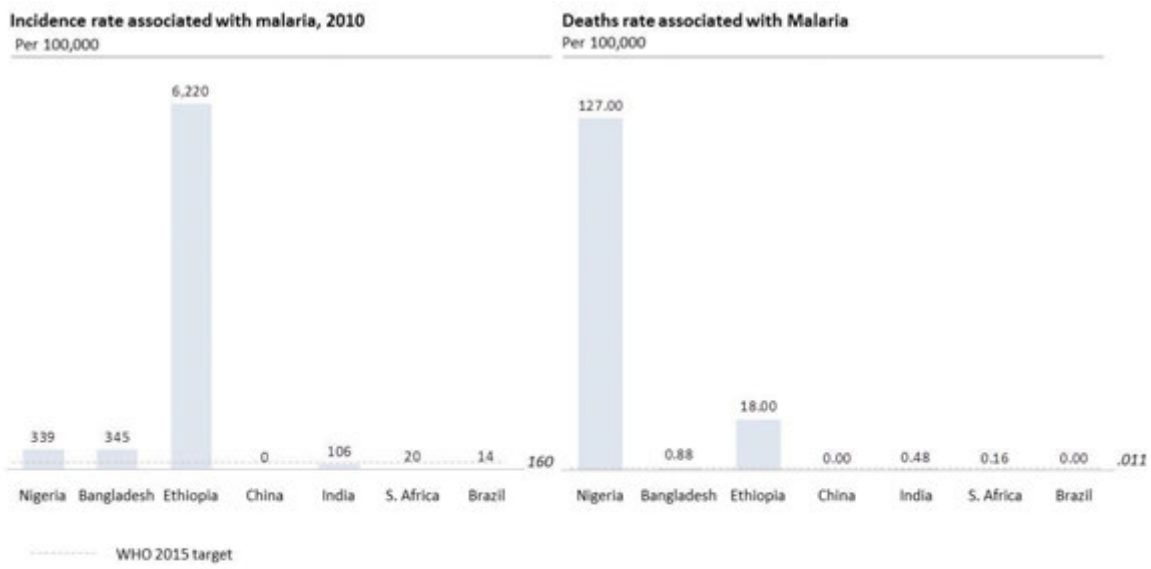
With regard to AIDS, preventing the spread of the disease depends on the usage of condoms. In India, condom usage is low, well below the world average (see figure 18). Condom usage among married women or in a union is only 5.20% and the world average is 6%. However, India is above the average in Least Developed Countries. The average of condom users in Ethiopia is just 0.20%. In the high risk groups in India, 37% of men and 25% of women use condoms, this speaks of the spread of the disease in India.



Source: UNDATA, UNAIDS India country progress, HIV/AIDS survey indicator database

Figure 18. MDG 6C: AIDS Control in India

The other major disease that is part of the MDG 6C is malaria. The incidence rate of malaria in 2010 was 106 people per 100,000 people in India (see figure 19). In China, the incidence was 0 whereas in Ethiopia it was 6220. Death rates associated with malaria were .48 per 100,000 in India, and zero in China. Nigeria had the highest number of malaria related death with 127 per 100,000.



Source: WHO global heath observatory

Figure 19. MDG 6C: Malaria Incidence

MDG 7 is geared towards ensuring environmental stability, and target 7C brings to fore issues of access to improved water sources and sanitation facilities. India has achieved its target for the proportion of people without safe drinking water but the sanitation target remains elusive. Figure 20 exhibits both access to improved water resources and sanitation facilities. In 2010, India had only 8% of its population that do not have access to improved water resources but sanitation is not available to 41% of the Indian population. China has improved beyond the 2015 goals in both water and sanitation with only 8% of the population living without improved drinking water resources and only 35% without sanitation.

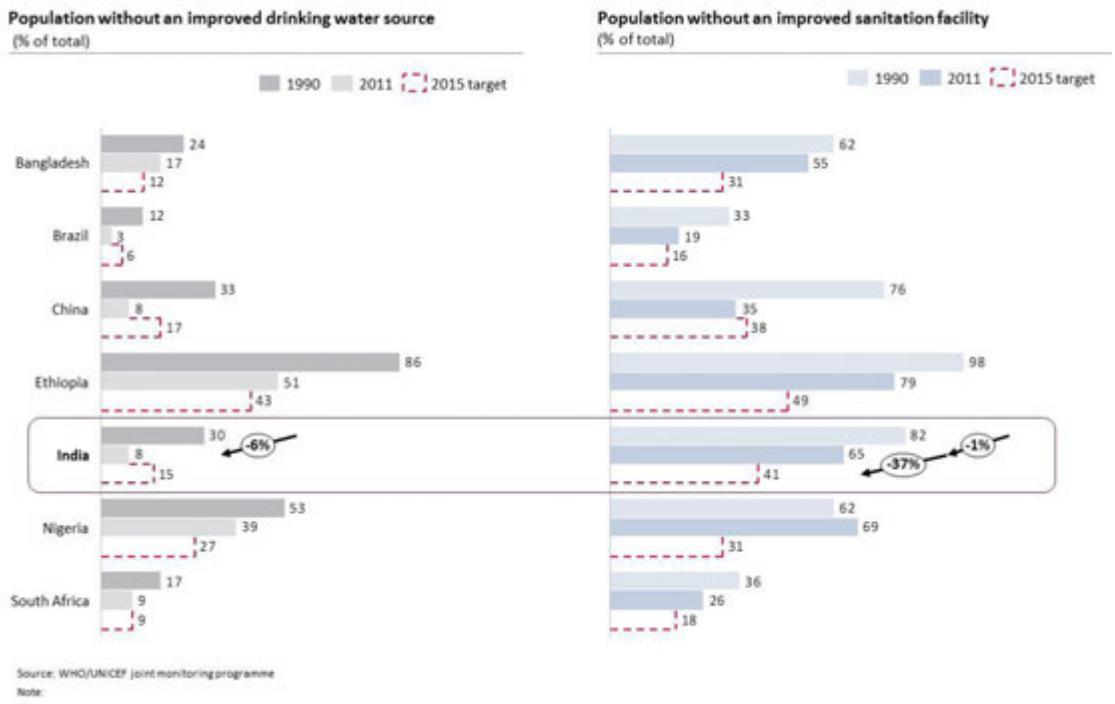


Figure 20. MDG 7C: Water and Sanitation

In addition to the recognized MDG areas of focus such as primary health and infectious disease control, other challenges are emerging. NCDs such as cancer, cardiovascular diseases, and diabetes are emerging as a major health challenge in India. In 2012, India had 61 million diabetes patients and 2.84 million cancer patients[24]. Among the NCDs, cardiovascular diseases account for 52% of mortality[25], followed by chronic obstructive pulmonary diseases, cancer, diabetes and injuries. The 12th FYP has recently recognized prevention and management of NCDs as a priority area and has formulated an integrated National Program for Prevention and Control of Cancer, Diabetes, Cardiovascular Disease and Stroke (NPCDCS).

[24] As quoted by World Economic Forum Blog, David E. Bloom and Elizabeth T. Cafiero, Press Trust of India (20th March 2012) [Link]
[25] Page 9- Executive summary section, Plannng commission report of the working group on disease burden for the 12th five year plan: Non-Communicable diseases

Accordingly, we have assessed India's health indicator performance against MDG and 12th FYP targets to guide focus areas of discussion for this study Figure 21 below highlights priority health areas that we will study in greater detail in the following sections.

	Health Indicator	Performance	Targets	12th FYP Focus	MDG focus	Comments
Primary health	Infant Mortality Rate (Per 1000, 2011)	44	26.67 (2015)	✓	✓	Unlikely to meet targets
	Maternal Mortality Rate (Per 100,000, 2011)	212	109 (2015)	✓	✓	Unlikely to meet targets
	Institutional delivery(%, 2008)	47%	Universal coverage (2015)	✓	✓	Unlikely to meet targets
	Full Immunization rate(%, 2012)	44%	Universal coverage (2015)	✓	✓	Unlikely to meet targets
Disease	Tuberculosis prevalence rates (per 100,000, 2011)	256	169 (2015)	✓	✓	Unlikely to meet targets
	Malaria incidence rate (per 100,000, 2012)	80	Reverse the incidence (2015)	✓	✓	Government data and international data differ
	HIV prevalence rates (%, 2011)	.33%	Halt and reverse the spread (2015)	✓	✓	Unlikely to meet targets
	Diabetes prevalence rate in India (2012)	8%	25% relative reduction in incidence rates	✓		
	Cancer incidence rates (per 100,000, 2011)	99	25% relative reduction in incidence rates	✓		WHO in 2012 defined targets for NCDs
	Leprosy prevalence rate (per 10,000, 2012)	.68	No specific target			
	Kala azar incidence rates (per 100,000 of population, 2012)	1.7	No specific target			
	Incidence of Japanese encephalitis	.69	No specific target			
	Dengue incidence rate (per 100,000, 2012)	4.2	No specific target			
	Chikungunya incidence rate (per 100,000, 2012)	1.33	No specific target			
	Polio incidence (per 100,000, 2012)	0	Complete eradication (2017)		✓	No new cases since 2011
Enabling environment	Households without access to improved source of water (%, 2011)	8%	17 (2015)	✓	✓	Met targets, however definition is very broad
	Households without access to improved sanitation (%, 2011)	65%	38 (2015)			Unlikely to meet targets
	Percentage of children showing some degree of malnutrition, 2012	48%	No specific target	✓	✓	

Figure 21. National health sector priorities for India

In addition to these specific health sector challenges, our analysis will also assess the state and performance of cross-cutting health systems that are crucial to the improvement of health outcomes in the country. In particular, our focus will be on four main areas – health financing, health infrastructure, human resources and research.

B. NATIONAL-LEVEL FINDINGS

1. PRIMARY HEALTH - MATERNAL HEALTH

Although India has made progress in maternal health over the last decade, including a decrease in the maternal mortality rate, historical trends are not sufficient to meet the MDG target due to gaps in the provision of maternal health services before, during and after pregnancy.

As of 2011, the MMR in India is 212 deaths per 100,000 live births.[26] The MMR has consistently decreased by an average of 5% a year since 1990. However, meeting the MDG 5A target of 109 would require an annual decrease of 15% between 2011 and 2015[27]. Additionally, it is likely that many maternal deaths go unreported in India, as deaths in private facilities and deaths due to medical termination of a pregnancy are often not reported.

India's poor MMR is driven by a lack of comprehensive healthcare for women, denoted by poor indicators of care before, during and after pregnancy (see Annex, exhibit 55). Despite government efforts, gaps exist across the entire spectrum of women's healthcare in India, from family planning to antenatal care to childbirth.

a. Family Planning - On average, only 55% of married women in India use any form of contraception[28] (see Annex, exhibit 56), leaving them with less control over the three most critical factors associated with a high risk pregnancy: giving birth before 20 years of age, giving birth less than two years apart and having more than three births. Contraception use is lowest among the youngest groups; just 11% of married women aged 15-19 use contraception, while 28% of married 20-24-year-old women and 52% of married 25-29-year-old women use contraception.[29]

b. Antenatal care - Once pregnant, antenatal care plays a significant role in improving overall maternal and infant health. Yet only one in five pregnant women in India receives full antenatal care, which is defined as three antenatal check-ups (one per trimester), at least one tetanus toxoid injection and at least 100 iron folic acid tablets taken[30] (see Annex, exhibit 57).

c. Institutional delivery - More than half of pregnant women in India give birth at home, often without proper medical care and beyond the reach of emergency services. Home births are most common in rural areas; 62% of pregnant women opt for a home delivery[31] (see Annex, exhibit 58). Lack of awareness is cited as the top reason that pregnant women do not choose an institutional delivery; 29% of women claimed they chose a home delivery for this reason. About 22% of urban women and 25% of rural women claimed lack of access was their primary reason for opting for a home delivery. Poor quality of care (19% of urban women and 15% of rural women), lack of

[26] MDG India country report 2011
[27] Dalberg analysis based on data from United Nations MDG database (www.mdgs.un.org/unsd/mdg)
[28] DLHS III (2007-2008)
[29] DLHS I, II, III
[30] Government of India - DLHS III
[31] DLHS III

affordability (15% of urban women and 17% of rural women) and cultural and social beliefs (12% of women) were additional reasons that women did not have an institutional delivery.[32]

As seen in Figure 22, 73% of maternal deaths occur as a direct result of complications that can potentially be prevented by proper family planning and antenatal care, or can be treated during delivery with proper institutional care and emergency services. The most common causes of maternal deaths include hemorrhage (25% of total deaths), sepsis (15%), unsafe abortions (13%), hypertensive disorders (12%) and obstructed labour (8%) – all complications that are related to a lack of institutional and emergency services.[33]

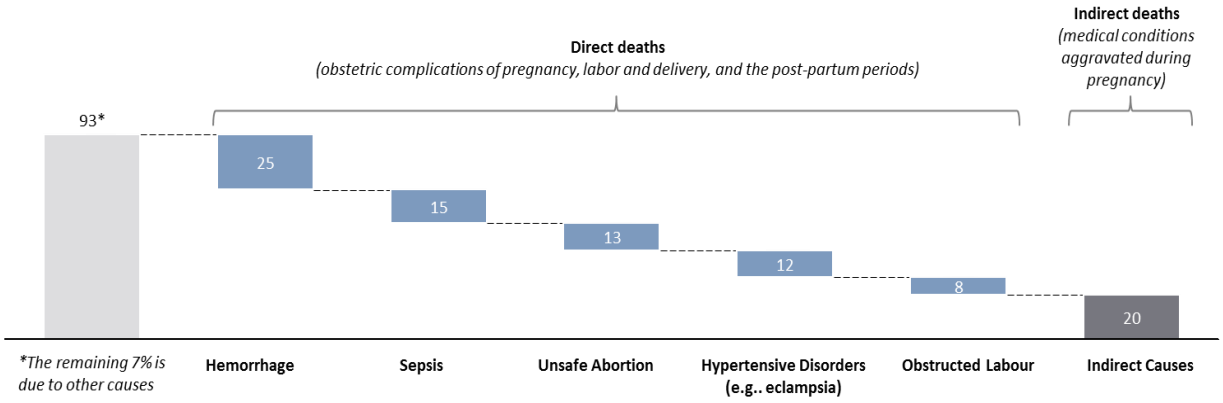


Figure 22. Leading causes of maternal mortality (% of total deaths)

In India, maternal health falls under the scope of the NRHM. The NRHM's flagship MNCH program, Janani Suraksha Yojana (JSY), serves 9.5 million beneficiaries every year. JSY was established to reduce maternal and perinatal mortality rates by increasing the number of institutional deliveries through conditional cash transfers (see Annex, exhibits 59 and 60). An independent evaluation of JSY by the UNPFA found JSY has a positive impact on rates of institutional deliveries and antenatal care visits[34] (see Annex, exhibit 61). The evaluation surveyed 6000 JSY beneficiaries and 260 ASHA workers across five states and found that institutional delivery rates were higher for this cohort than for pregnant women in general.

Despite its successes, JSY faces several policy and infrastructure challenges towards fulfilling its vision, most notably administrative obstacles that lead to delays in cash disbursement to beneficiaries (see exhibits 23). Disbursement should be immediate to reimburse the family for any costs incurred during pregnancy

[32] DLHS III
[33] Heilbrunn Department of Population and Family Health, Columbia University http://healthandrights.ccnmtl.columbia.edu/reproductive_health/causes_maternal_mortality.html
[34] UNFPA - Concurrent assessment of Janani Suraksha Yojana in selected states [2008], India's Janani Suraksha Yojana, a conditional cash transfer program to increase births in health facilities: an impact evaluation

and delivery (transportation etc.) and provide for the nutrition and health expenses of the new mother and child in the first few weeks following the birth. An immediate payout can reduce financial hardship and improve perinatal outcomes.

Delays in transfer of funds from the central government are passed on to end beneficiaries, resulting in large variations in the time between delivery and disbursement. Figure 23 shows the time of receipt of JSY benefits following discharge from the hospital. The performance of different states varies; in Bihar, for example, 34% women receive the grant more than four weeks after discharge. Within the JICA targeted states, Madhya Pradesh fares well; 39% of women receive their disbursement at the time of discharge and

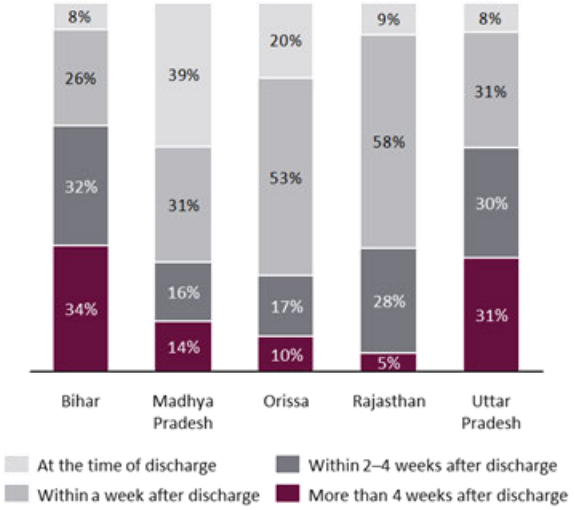


Figure 23. Time of receipt of JSY cash benefits (% of total beneficiaries, 2010)

another 31% receive disbursement within one week. In Rajasthan, only 9% of women receive an immediate disbursement but 58% receive it within one week.[35]

In addition to delays in disbursement, the JSY program relies on an inadequate and overburdened public health system. Both the quality and availability of maternal health infrastructure in public health institutions is below par and emergency obstetric services are inadequate (See Annex, exhibit 62). The public health system suffers from a lack of physical infrastructure; only 81.5% of the need for PHCs has been met and 65.8% of the need for CHCs.[36]

[35] UNFPA - Concurrent assessment of Janani Suraksha Yojana in selected states [2008]
[36] Rural Health Statistics 2011 (MOHFW

Within existing PHCs and CHCs, the quality and availability of maternal health infrastructure is lacking; 81% of CHCs do not have a stabilizing unit for newborns, 13% of CHCs do not have an operating theatre and 34% of PHCs do not have a labour room[37]. The public healthcare system has a 60% shortfall in MNCH specialists in CHCs nationally. Of the 4,800 required obstetricians and gynecologists, there are currently only 1,400, or 29% of the need (Figure 24). The government's efforts to improve the health of mothers while making in-roads in the provision of better public health still lags behind on many fronts; the biggest problems are not just the inefficient systems but the lack of requisite infrastructure and essential numbers of health personnel.

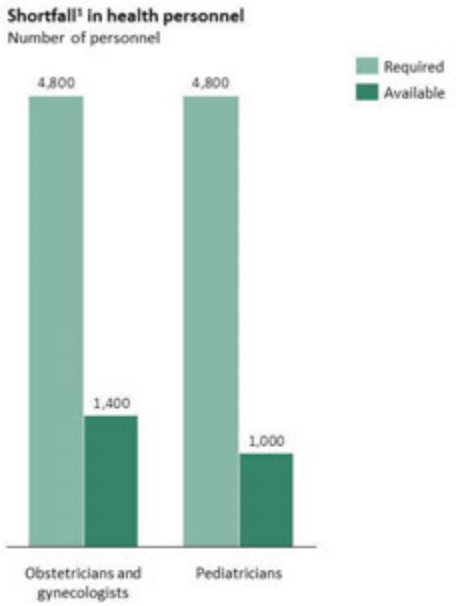


Figure 24 Shortfall in health personnel

Stakeholder outreach corroborated challenges enumerated above. They also said that new schemes like JSY insist on institutional delivery but the infrastructure on the field is not equipped to deal with this. There is inadequate support to the primary health infrastructure, which is overburdened. In addition to poor infrastructure, the problem of low quality staff was pointed out by the stakeholders. Across low performing states, it is observed, that only part of the staff comes to work every day in the public health centers. Women prefer to go to private facilities because doctors are available and they perceive better care. Also stakeholders believe that operational systems are weak (human resources, staffing, logistics, referral, monitoring) which add to the existing problems.

2. PRIMARY HEALTH - CHILD HEALTH

Despite historical improvements in child health indicators, including the IMR, the U5MR and the immunization rate, India is not on track to meet the MDG 4 targets. A large number of child deaths are due

[37] Rural Health Statistics 2011 (MOHFW)

to preventable and curable ailments caused by poor care during childbirth, improper perinatal practices, poor breastfeeding habits, poor hygiene and living conditions, and lack of access to common treatments.

In 2010, the IMR is 49 per 1000 live births, down from 81 in 1990.[38]. In urban areas, IMR is comparatively lower at 31 per 1000 births[39]. Despite an average historical reduction of 2% a year, the IMR would need to decrease by 14% annually between 2010 and 2015 to meet the MDG target (see Figure 15) U5MR has fallen an average of 3% annually since 1990, and is currently 63 per 1000 live births.[40] However, the U5MR would need to fall 10% a year from 2010 to 2015 to reach the MDG target of 38 (see Figure 15). Immunization rates have been rising, up 1% a year since 1990. Currently, 74% of children are fully immunized.[41] However, reaching the MDG target of 90% would require a 5% annual increase between 2010 and 2015 (see Figure 15). Infant and child deaths (< 5 years) account for 19% of all deaths in India.[42]

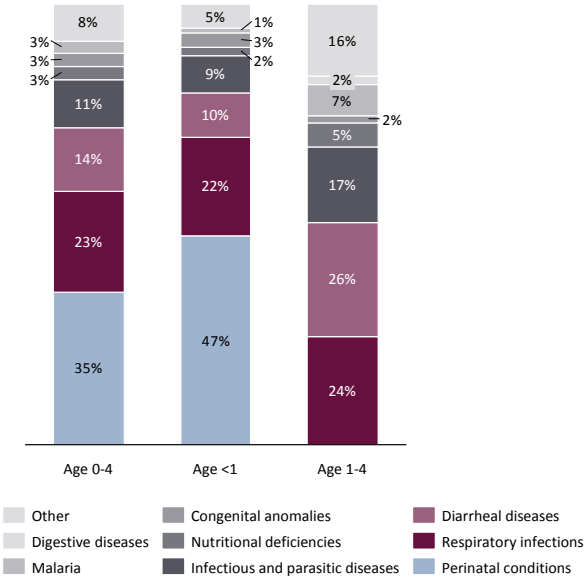


Figure 25 Leading causes of child death (under 5) in India, in % 2010

Almost half of India's neo-natal deaths (<1 month) are caused by birth asphyxia and birth trauma, sepsis, pneumonia and tetanus (Figure 25) – conditions which can be avoided by increases in quality and coverage of delivery and postnatal care. Diarrhea and acute respiratory infections (ARI), which account for 37% of deaths under 5 years,[43] are closely associated with factors such as poor home environments, malnutrition and lack of access to essential services. Deaths due to these diseases are largely preventable through optimal breastfeeding practices and adequate nutrition, vaccinations, hand washing with soap, safe drinking water and basic sanitation, among other measures. Once a child gets sick, death is avoidable

[38] United Nations MDG database (www.mdgs.un.org/unsd/mdg)
[39] http://www.censusindia.gov.in/vital statistics/srs/Chap_4_-_2010.pdf
[40] United Nations MDG database (www.mdgs.un.org/unsd/mdg)
[41] United Nations MDG database (www.mdgs.un.org/unsd/mdg)
[42] Causes of Death (2001-2003)-Registrar General of India
[43] Causes of Death (2001-2003)-Registrar General of India

through cost-effective and life-saving treatments such as antibiotics for bacterial pneumonia and solutions made of oral rehydration salts for diarrhea. The key drivers of poor child health, and in particular infant and child mortality, are the following:

a. **Delivery and perinatal care**: Many of the drivers of poor maternal health discussed in the previous section also negatively impact child health. Only 19% of married women receive full antenatal care, and only 47% of births across India are institutional deliveries. A portion of births are considered high risk as 20% of infants are born to mothers below the age of 20, 28% of infants are born within two years of the mother's last delivery and 37.4% of infants are three or higher in birth order.[44] Following delivery, neonatal care is also insufficient. Eighty one percent of CHCs do not have a stabilizing unit for newborns.[45] Improper neonatal care practices, such as bathing a newborn in cold water, are common and can lead to birth trauma, one of the leading causes of death in newborns.

b. **Poor breastfeeding habits**: Breastfeeding can drastically reduce the risk that an infant will contract diarrhea and pneumonia. Infants who are not breastfed are 15 times more likely to die of pneumonia and 11 times more likely to die of diarrhea.[46] As of 2005-06, only 46% of women in India exclusively breastfeed their baby for at least the first 6 months of life.[47] Growth in exclusive breastfeeding in India has stagnated over the last 20 years. Exclusive breastfeeding was 44% in 1992-93 (see Annex, exhibit 63).

c. **Hygiene practices and living conditions**: Poor hygiene practices and lack of sanitation contribute to high diarrhea morbidity (see Annex, exhibit 64). In India, 51% of the population practices open defecation and hand washing practices are not widespread. Only 53% of people wash their hands with soap after defecation, 38% before eating and 30% before preparing food.[48]

d. **Lack of access to common treatments:** Oral rehydration therapy is the recommended method of diarrhea treatment, but India has one of the lowest rates of oral rehydration salt (ORS) consumption among developing countries (see Annex, exhibit 65). Only 26% of children under 5 years with diarrhea receive ORS treatment, compared to 34% of children with diarrhea in developing countries globally.[49]

   Effective treatment of pneumonia requires early diagnosis and appropriate antibiotics. In India, only 67% of children under 5 years presenting symptoms of ARI were taken to a health facility[50] (see Annex, exhibit 66). Underserved regions often lack the facilities to conduct radiology, blood and spectrum tests

[44] DLHS- III (2007-2008)
[45] Rural Health Statistics 2011 (MOHFW)
[46] Pneumonia and Diarrhea – Tackling the deadliest diseases for the world's poorest children – UNICEF [2012]
[47] WHO World Health Statistics [2013]
[48] UNICEF/WHO Joint Monitoring Program
[49] WHO World Health Statistics [2013]
[50] Pneumonia and Diarrhea – Tackling the deadliest diseases for the world's poorest children – UNICEF [2012]

which are required to confirm pneumonia diagnosis and type of pathogen. Only 43% of caretakers globally are aware that fast or difficult breathing is a key symptom for pneumonia, a diagnostic guideline provided by WHO and UNICEF. Once diagnosed, children with pneumonia (as classified by a rapid respiratory count) should receive a full course of effective antibiotics. Only 13% of children in India with ARI symptoms received antibiotics (see Annex, exhibit 67).[51]

The GoI tackles infant and child mortality through a variety of programs. In addition to JSY, the government initiative that incentivizes antenatal care and institutional deliveries in order to improve maternal and child health indicators, the government operates the Universal Immunization Program (see Annex, exhibit 68). Government regulations require all vaccines provided under the program be manufactured in India. However, the program does not cover vaccines for diarrhea and pneumonia, the most common causes of infant and child mortality, yet.

Recent developments could potentially introduce diarrhea and pneumonia vaccinations into the government's immunization program. A new 1 USD rotavirus vaccine, called Rotavac, is currently being developed by a group of international and Indian researchers and will be manufactured and sold by Bharat Biotech in India. The vaccine has a 55-60% efficacy when tried in the worst-case scenario (lowest socio-economic strata) and success rates are comparable to licensed vaccines.[52] It will vaccinate against rotavirus, which is responsible for 40% of all hospital admissions due to diarrhea.[53] Supported by GAVI, the GoI has started the introduction plans to introduce a 5-in-1 vaccine, including the Hib pathogen, which accounts for a third of all pneumonia cases.[54] In 2007, the government recognized the need to introduce Hib vaccination nationally in response to a study funded by GAVI and USAID. The pentavalent vaccine will immunize infants against diphtheria, pertussis, tetanus (DPT) Hepatitis B and Hib. GAVI will provide the vaccine free of cost in the initial phase, after procuring the vaccines through UNICEF. The program will start with Tamil Nadu and Kerala (chosen because of their high immunization rates) and will administer 5 million doses in the first year.

Stakeholders showed concern on the condition of child services in India. The ICDS is an old scheme yet is not expansive and efficient enough to address the scale of child health problems. Though included in the scheme, children from 0-3 years are often missed out. As in the case with maternal health, there is severe shortage of quality human resources in the anganwadis. There is disparity between urban and rural access as well, 53 percent of the urban poor children are covered by an anganwadi and only 10.1 percent of women had regular contact with a health worker[55]. In addition, there are systemic issues like corruption,

[51] Pneumonia and Diarrhea – Tackling the deadliest diseases for the world's poorest children – UNICEF [2012]
[52] As quoted by Firstpost India – "Finally a made in India vaccine against childhood diarrhea"[May 2013]
[53] Pneumonia and Diarrhea – Tackling the deadliest diseases for the world's poorest children – UNICEF [2012]
[54] http://www.searo.who.int/entity/immunization/documents/regional_epi_managers_meeting_2012.pdf
[55] PwC report (National Level)

and lack of leadership which results in poor quality care given to children. There are many donors and civil society organizations (CSOs) that work in the field of child care but the need of the hour is process reform and not introduction of new products.

Child health problems in India are a result of a number of issues which include inefficient implementation of government schemes, outdated technologies, poor living conditions and lack of awareness. However, there is a growing awareness about the need to revamp child care programs in India, to address the complexities of the multi-faceted problem.

3. DISEASE CONTROL - TUBERCULOSIS

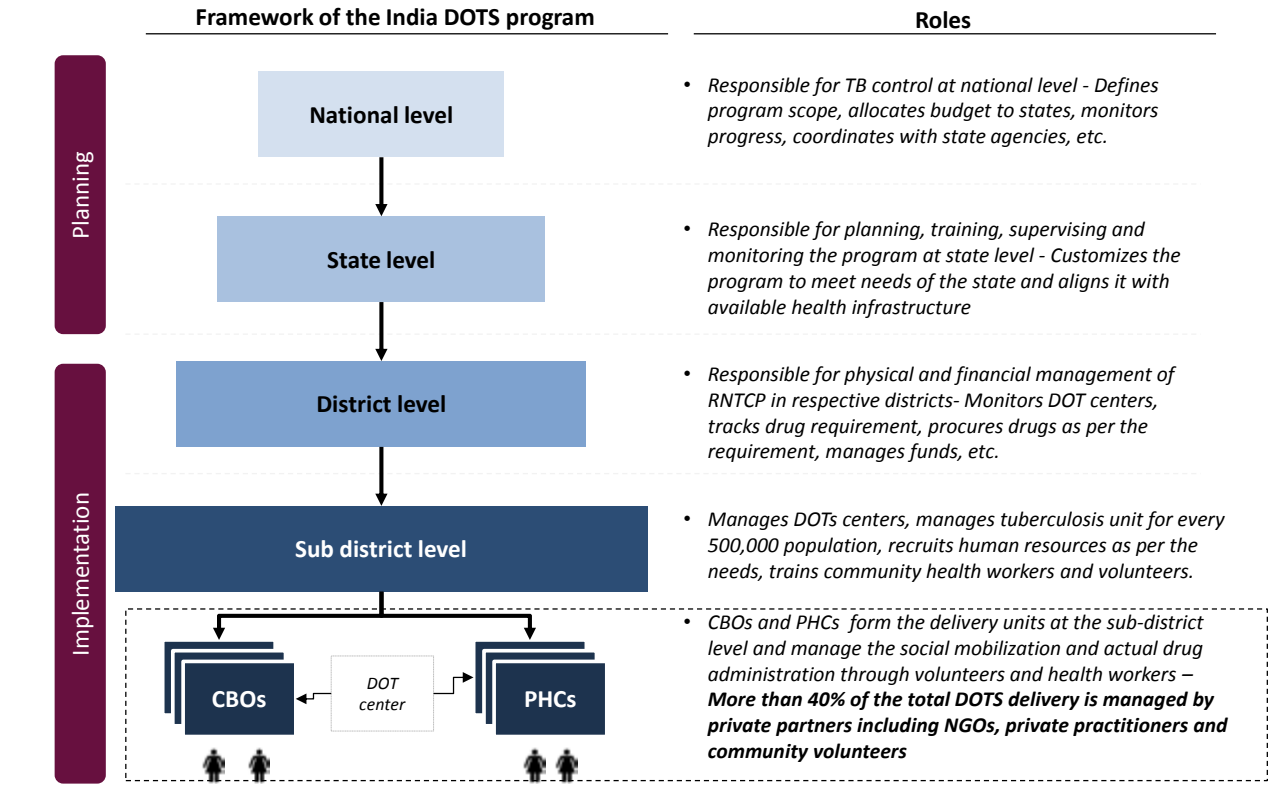
India is estimated to have 3.1 million Tb patients,[56] which makes it the largest individual contributor to the disease globally (20% of total TB cases).[57] While TB incidence continues to remain high (~2 million cases annually[58]), our analysis suggests that India is witnessing a decline in TB prevalence post the nationwide expansion of the DOTS strategy in 2006 (see Annex, exhibit 69). In the last 2 decades TB prevalence rates have declined by 26% from 338 (per 100,000) in 1990 to 249 (per 100,000) in 2011.[59] The TB mortality rates have also dropped by 44% (43 deaths/100,000 in 1990 to 24 deaths/100,000) making the MDG target of 22 deaths/100,000 within India's reach (see Figure 26).

Figure 26. Decline in TB prevalence and mortality rates (Since 1990; per 100,000)

The decline in prevalence and mortality coincided with the formulation and expansion of RNTCP. It started off as a pilot in 1993 and transitioned into a nationwide program in 2006 to implement the DOTS

[56] http://www.searo.who.int/india/topics/tuberculosis/en
[57] Page 8, TB burden in India section, RNTCP 2012 Report
[58] Page 8, TB burden in India section, RNTCP 2012 Report
[59] http://www.who.int/tb/country/data/profiles/en/index.html

strategy in India (See Annex, exhibit 69). DOTS is the name given to the WHO recommended tuberculosis control strategy that aims to provide services across the continuum of TB care, ranging from prevention to treatment of disease. Government reported data suggests that RNTCP has historically been successful in providing high quality diagnosis and treatment service through its DOTS program. RNTCP consistently achieved international targets of 70%[60] case detection and 85% treatment success rates amongst enrolled patients. In addition to the DOTS strategy, RNTCP has also recently introduced DOTS Plus framework (2005) aimed at managing drug resistant TB in India. This program follows a highly decentralized model for service provision; while the planning and designing takes place at the national and state level, actual implementation is carried out at the district and the sub-district level via the DOTS and DOTS Plus centers. Additionally, there is a high level of community participation in the actual service delivery with nearly 40% of all DOTS centers being managed by private partners, including 2325 NGOs and 13997 private practioners[61] (see Figure 27). The DOTS and DOTS Plus centers are responsible for knowledge dissemination, case detection and treatment of TB. The reach of these centers is extensive and government reported data claims that together these centers cover more than 92%[62] of India's population (see Annex, exhibit 70).



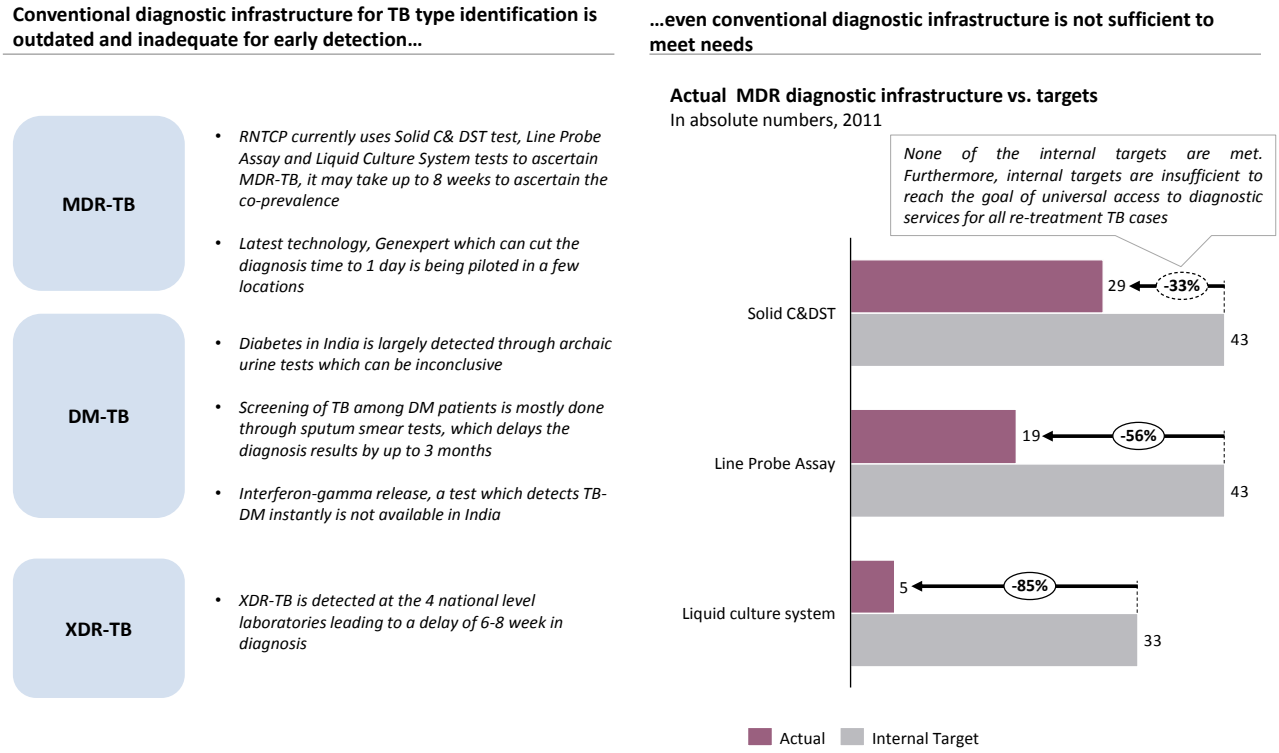
Source: WHO website; RNTCP report, 2012

[60] Page 2, Executive Summary section, TB India 2012 RNTCP report
[61] RNTCP 2012 report
[62] Page 2, Executive Summary section, TB India 2013 RNTCP report

Figure 27. RNTCP delivery model for DOTS strategy

However, despite these achievements, there exist gaps within the implementation structure of RNTCP, specifically for diagnosis and treatment of drug resistant TB. This, if not rectified soon, could well reverse the progress made in TB management. As mentioned earlier in the section, DOTS Plus strategy is aimed at combating the emerging drug resistant TB crisis in India. Drug resistant TB is a strain of TB bacteria, which is resistant to either two or four frontline drugs, depending on whether it is MDR-TB or XDR-TB. Drug resistance arises from improper use of antibiotics in chemotherapy of drug-sensitive TB patients. In India, the prevalence of MDR-TB is reported to be close to 3% in new cases and 12-17% in re-treatment cases.[63] With an estimated number of 66,000[64] MDR-TB cases in 2011, India tops the MDR-TB cases chart in South-East Asia.[65] Lack of adequate and up-to-date diagnosis technology to identify drug resistant TB within the DOTS Plus infrastructure is fueling the drug resistant-TB crisis in India. RNTCP currently uses Solid C&DST test, Line Probe Assay and Liquid Culture System tests to ascertain MDR-TB. There are only 46[66] labs in the country which are equipped to conduct these second line DST (Drug Susceptibility Test) to ascertain MDR-TB. Our analysis (see Figure 28) suggests not only the conventional diagnosis infrastructure is inadequate but also outdated, leading to up to an eight week delay in diagnosis. In order to reduce the diagnostic infrastructure deficit, some states such as Maharashtra have rolled out a point of care diagnostic tool, Genexpert, which brings down the drug resistance diagnosis time to less than a day. However, these initiatives are limited to a few states and there exists an immediate and large need to supplement the diagnostic infrastructure nationwide.

[63] http://www.tbcindia.nic.in/pdfs/RNTCP%20Response%20DR%20TB%20in%20India%20-%20Jan%202012%20update.pdf
[64] http://www.ncbi.nlm.nih.gov/books/NBK100386/
[65] IBID
[66] Page 38, Implementation status section, TB India 2013 RNTCP report



Source: RNTCP 2012 annual report, http://articles.timesofindia.indiatimes.com/2012-08-08/india/33100088_1_mdr-tb-tb-diagnosis-xpert, http://articles.timesofindia.indiatimes.com/2012-11-24/madurai/35333300_1_mdr-tb-tb-patients-line-probe-assay

Figure 28. Diagnostic infrastructure for drug resistant TB (in absolute numbers, 2011)

In addition to the lack of diagnostic infrastructure for drug resistant strains, India also suffers from a poor treatment infrastructure for drug resistant TB. The cost for treating drug resistant TB is close to INR 275,000[67] per person per year. This makes the treatment out of reach for a majority of the population unless they avail free treatment at DOTS Plus centers. Although the DOTS Plus centers claim to cover 92%[68] of India's population (see Annex, exhibit 70), they frequently run out of stock. Recent media reports[69] have pointed out a nationwide shortage of DR-TB drugs primarily driven by poor supply chain and inventory management, which if not corrected immediately could lead to a major crisis.

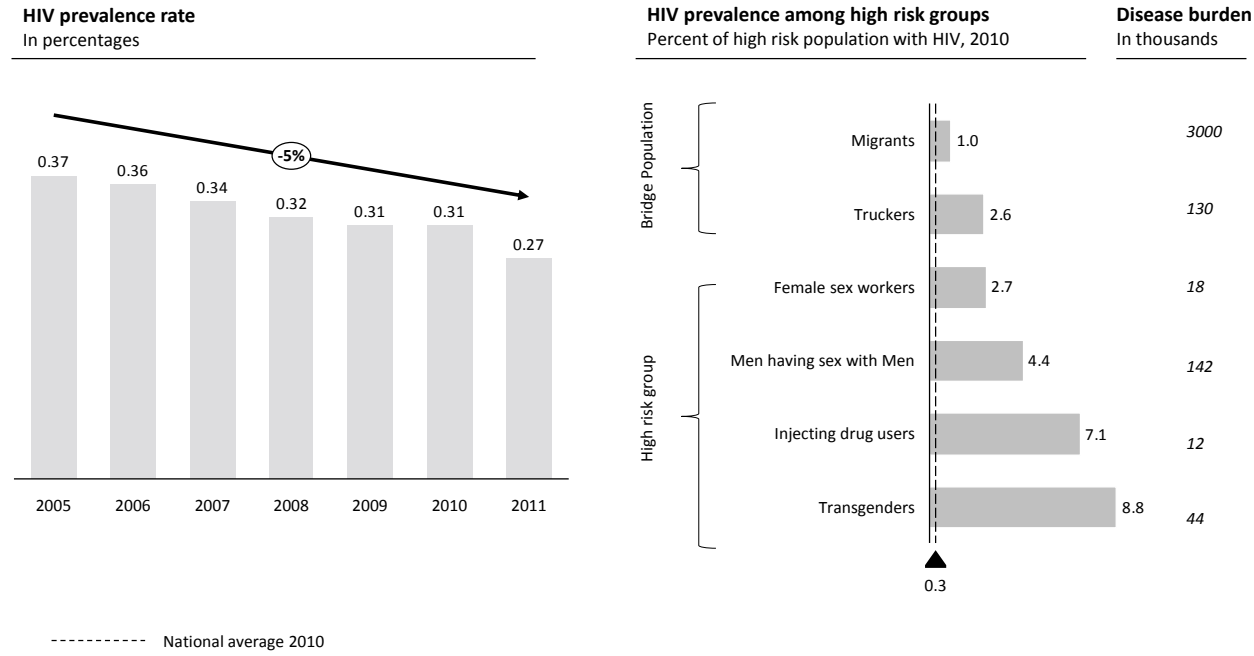
Stakeholders pointed to drug-resistant TB which requires new age, high quality diagnostics. The recommended 'Gen-expert' device has been procured but there is no clarity on how to use it. Similarly, there is the question of making point of care testing available at DOTS centers as opposed to the centralized testing model for DR-TB that we have made available at the state level. In addition to diagnostics, there is need to monitor drug adherence and compliance. Stakeholders spoke of a need for innovative models of monitoring drug adherence (electronic patient tracking, community volunteer

[67] http://www.who.int/mediacentre/news/releases/2010/drug_resistant_tb_20100318/en/
[68] Page 2, Executive Summary section, TB India 2013 RNTCP report
[69] http://www.thehindu.com/news/national/crisis-looms-as-country-faces-tb-drugs-tockout/article4824396.ece

incentives) to promote greater treatment success rates and control rise of incidence. Drug supply systems need to be transformed in India as most stock outs have at the village level.

4. DISEASE CONTROL - HIV/AIDS

The government estimates that close to 2.5 million[70] HIV patients are currently living in India. While overall HIV prevalence has declined by 27% in 6 years, from 0.37 % in 2005 to 0.27% in 2011,[71] India is still far away from achieving the MDG target of halting and reversing the spread of HIV/AIDS by 2015. The HIV epidemic in India is largely concentrated amongst high risk groups such as drug users, sex workers, men having sex with men, transgender, migrants and truckers. These groups show significantly higher (up to ~ 33x) HIV prevalence rates as compared to the overall HIV prevalence rate in India (see Figure 29).

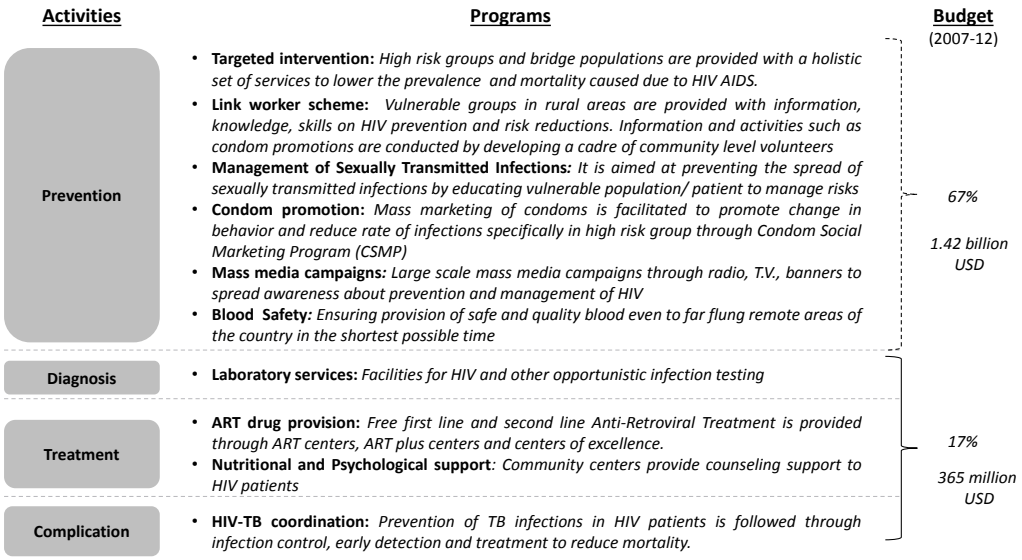


Source: HIV sentinel surveillance 2010-11, NACO 2012 annual report

Figure 29. Nationwide HIV prevalence rates (%, 2013)

In order to manage and control the spread of HIV/AIDS, MoHFW instituted the National AIDS Control Organization (NACO) in 1992 to provide a multitude of services across the continuum of care. See Figure 30 below illustrates the activities NACO undertakes to combat the epidemic in India.

[70] http://www.who.int/mediacentre/news/releases/2007/pr37/en/
[71] Page 7, Current Epidemiological Situation of HIV/AIDS, Annual NACO report 2012-13

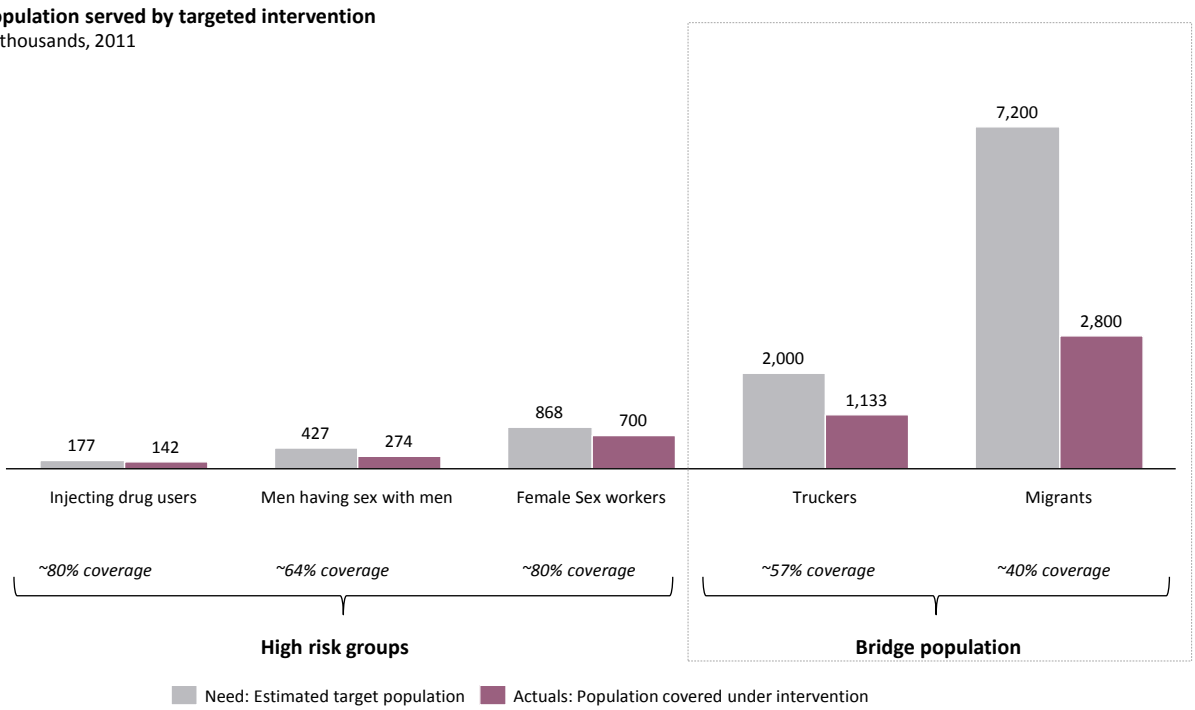


Source: NACO report 2012

Figure 30. Activities conducted by NACO in India

NACO follows a highly decentralized model of service delivery. Every state has a separate AIDS control society which adapts the national level policy to suit the state's context. Delivery of services is carried out through antiretroviral treatment (ART) centres and Inertial Components Temperature Controller (ICTC) centres at the district and the sub-district level. Over the past 5 years NACO has spent 67% of its allocated budget [72] for prevention activities. One of the largest prevention activities undertaken, in terms of expenditure and reach, is Targeted Intervention (TI). As mentioned earlier, primary drivers of HIV/AIDS in India are high risk groups. To combat the epidemic, it was imperative to design dedicated programs tailored to the needs of each of these groups. Consequently, NACO rolled out Targeted Interventions aimed at improving health seeking behavior of high risk groups and reducing their vulnerability to acquire HIV infections. Despite expansion efforts by NACO, the coverage of Targeted Intervention remains low, particularly amongst migrants and truckers, only 40%[73] of migrants and 57%[74] of truckers are currently covered under Targeted Interventions (see Figure 31). To lower the overall HIV prevalence in India, it is extremely important to increase the coverage of high risk groups under the Targeted Interventions.

[72] NACO
[73] Page 7, Overview section, NACO annual report 2012
[74] Page 7, Overview section, NACO annual report 2012

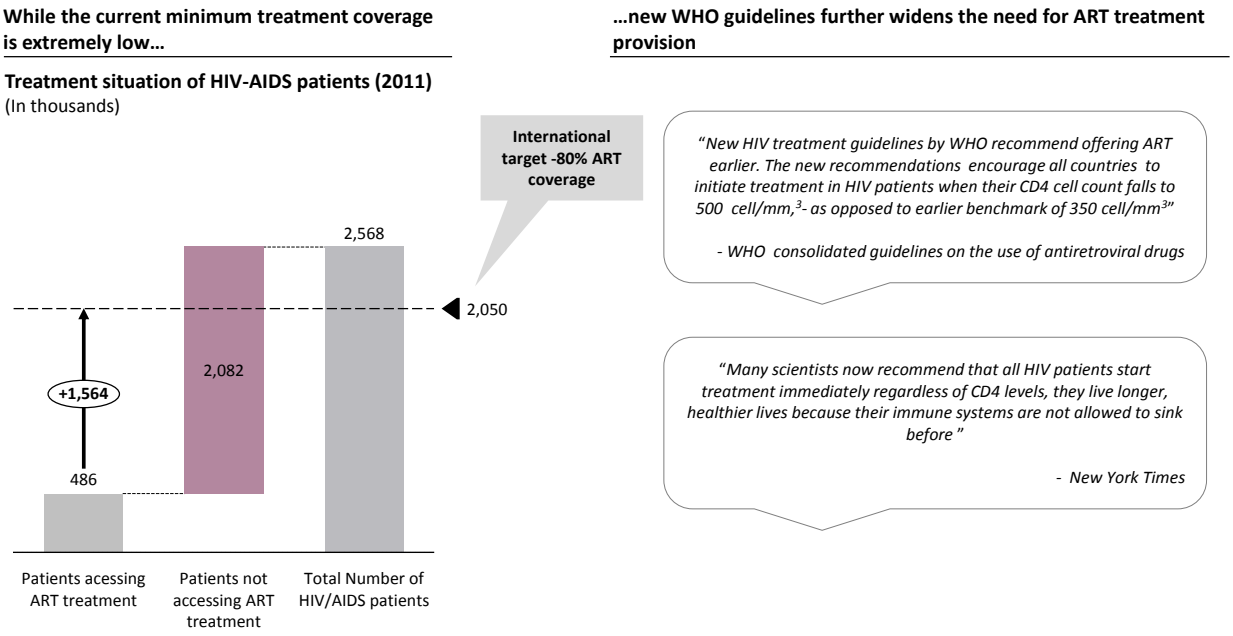


Note: Targeted intervention aims to provide primary prevention services to high risk groups
Source: NACO Annual report

Figure 31. Population served under Targeted Intervention (in thousands, 2011)

While Targeted Interventions focus on prevention of HIV incidence, ART treatment is required for management and containment of HIV. Although internal targets set by NACO are being met, there exists a huge gap in access of ART treatment by HIV/AIDS patients in India. Only 19%[75] of HIV/AIDS patients access treatment as opposed to 80% as recommended by WHO. New HIV treatment guidelines by WHO recommend offering ART treatment earlier. The new recommendation encourages all countries to initiate treatment in HIV patients when their CD4 cell count falls to 500 cell/ mm^3 - as opposed to earlier benchmark of 350 cell/ mm^3 (see Figure 32). This new guideline will further increase the gap between those accessing treatment and those needing it.

[75] Dalberg analysis based on minimum ART need in the country



Source: NACO report 2012, WHO guidelines

Figure 32. ART treatment coverage in India (in thousands, 2011)

Stakeholders believe that the AIDS program in India is fairly well-funded and has shown good results in the last few years. NACO focuses largely on prevention, especially through targeted interventions for high-risk groups and there is a need to move towards treatment, and follow-up treatment for the diagnosed. There is also need to work towards streamlining the drug supply chain.

While the focus on prevention has contributed to a decline in HIV prevalence rates, MDG targets are far from being met. To achieve the goals set for 2015, it is essential to expand the coverage for targeted intervention as well strengthen treatment infrastructure.

5. DISEASE CONTROL - MALARIA

India represents the largest portion of the global burden of malaria outside the African region. In 2011, about 5% of malaria cases globally occurred in India (see Annex, exhibits 71 and 72).

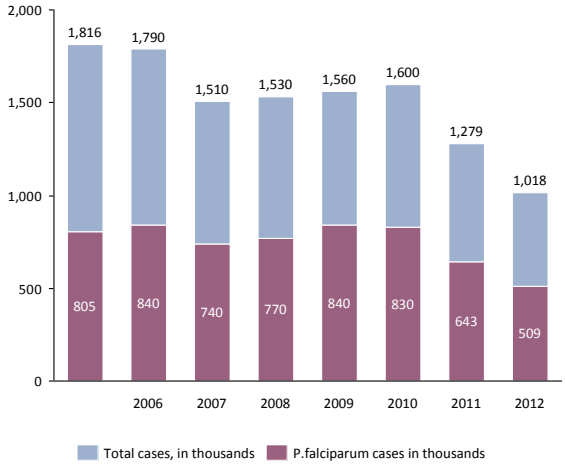


Figure 33.Historical incidence of malaria, as reported by the GOI, in 000'

The government reports that over 1 million people (80 people per 100,000) contracted malaria in 2012, and 506 malaria related deaths occurred (.04 deaths per 100,000 people).[76] As Figure 33 shows, the number of malaria cases has been declining over time; the WHO predicts that India is on track to achieve a 50-75% decrease in malaria incidence rates from 2000 to 2015.[77] The WHO 2015 target is no more than 60 cases per 100,000 people[78] and no more than 0.01 deaths per 100,000 people.[79]

Although India is on track for a 50-75% reduction in malaria, indicators suggest malaria still poses a significant threat.

- First, India has one of the largest populations vulnerable to malaria globally. According to the WHO, over 273 million Indians are living in areas considered "high risk", defined as more than one case per 1000 people annually in a defined geographic area (see Annex, exhibit 45). [80]

- Secondly, fluctuations in the incidence and mortality rates have been common. Despite a downward trend over the decade, malaria cases actually increased between 2007 and 2010 (see Figure 33). Malaria mortality spiked in 2006 following an outbreak in Assam caused by

[76] http://www.nvbdcp.gov.in/Doc/mal-situation-Mar13.pdf
[77] http://apps.who.int/gho/data/node.main.577?lang=en
[78] http://www.searo.who.int/entity/malaria/topics/SEA_MDG_Achiv10_totpop_incl_probmal_Incidence_2012.pdf
[79] http://www.searo.who.int/entity/malaria/topics/MDG_mal_mortality2012.pdf
[80] http://www.who.int/gho/publications/world_health_statistics/EN_WHS2013_Full.pdf

migration.[81] Given the infectious nature of malaria and the large population living in "high risk" areas, outbreaks pose a threat.

- Third, half of all malaria cases are caused by P.falciparum, the parasite responsible for the most acute and severe cases of malaria. P.falciparum cases are on the decline in absolute terms, but are growing as a portion of all malaria cases (see Figure 33).

- Finally, it is likely that government figures grossly underreport malaria deaths. An estimated 80% of malaria cases occur among the 20% of the population that resides in tribal, hilly and geographically inaccessible areas.[82] Figures from these areas are underreported and inaccurate. Additionally, private hospitals do not report malaria deaths to the government. The WHO estimates the true number of malaria related deaths was likely between 19,700 and 43,600 in 2010,[83] while the GoI reported 1,018.[84]

The National Vector Borne Disease Control Program (NVBDCP), under the MoHFW, operates India's program to eradicate six vector borne diseases – Malaria, Filarial, Dengue, Chikungunya, Japanese Encephalitis and Kala-azar. The NVBDCP's malaria programs fall into two main categories: prevention and treatment (see Annex, exhibit 73). The 2009-2010 NVBDCP budget allocated about 63% of its funding to prevention measures, primarily spraying, fogging and bed nets. About 8% was earmarked for treatment and 1% for detection of malaria through community health workers and public facilities.[85]

Including budget allocations through NVBDCP, malaria programs received nearly INR 753.7 crore in 2011 as reported by the GoI.[86] The World Bank has pledged INR 1045 crore to a multi-year malaria control program that aims to reach 185 million people in 93 districts of 8 states (Andhra Pradesh, Chhattisgarh, Gujarat, Jharkhand, Madhya Pradesh, Maharashtra, Orissa and Karnataka). To date, the bank has provided 6.1 million bed nets, 1.1 million malaria drug doses and 3.6 million rapid diagnostic tests.[87]

[81] http://www.nvbdcp.gov.in/malaria3.html
[82] http://www.nvbdcp.gov.in/malaria3.html
[83] WHO Global Health Observatory Data Repository
[84] http://www.nvbdcp.gov.in/malaria3.html
[85] http://www.mohfw.nic.in/NRHM/PIP_09_10/AP/NVBDCP_Budget.pdf
[86] http://www.who.int/malaria/publications/world_malaria_report_2012/wmr2012_annexes.pdf
[87] http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTHEALTHNUTRITIONANDPOPULATION/EXTPH/0,,contentMDK:23180693~noSURL:Y~pagePK:148956~piPK:216618~theSitePK:376663,00.html

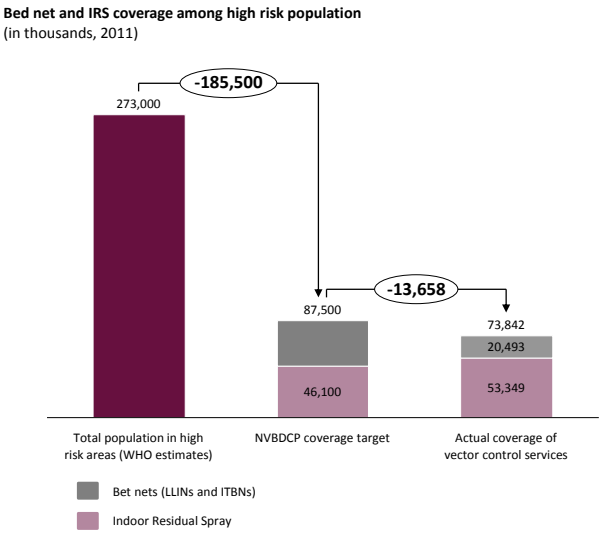


Figure 34: Bed net and IRS coverage among high risk population

Despite the budget allocation, which earmarks over 60% of the annual budget on services like distribution of bed nets and IRS, further analysis suggests large portions of the "high risk" population remain without prevention services. Coverage gaps exist for two reasons: i) The NVBDCP's coverage guidelines are less broad than the WHO recommendations, and ii) the NVBDCP has not met coverage targets (see Figure 34). First, the WHO recommends that all people living in areas with at least one malaria case per 1000 people annually be covered with bed nets or Indoor Residual Spray (IRS). In the case of India, 273 million people would require coverage. However, the NVBDCP aims to provide 80% of persons living in areas with two or more cases per 1,000 people (about 87.5 million people in 2011) with long lasting insecticide nets (LLINs). NVBDCP guidelines state IRS, in addition to bed nets, should be provided to persons living in areas with five or more cases per 1,000 (46.1 million people). In 2011, NVBDCP coverage guidelines fell short of WHO recommendations by 185.5 million people classified as being at "high risk".

In addition to setting targets lower than the WHO recommended guidelines, the NVBDCP fell short of targets by at least 13.6 million people**.** Taking the upper limit of combined coverage, which assumes there is no overlap in prevention services, only 27% of the high risk population were covered by bed nets or IRS in 2011, leaving 199 million vulnerable people without preventive vector control services.[88]

6. DISEASE CONTROL - NON-COMMUNICABLE DISEASES

NCDs are defined as diseases of long duration and are generally slow in progression. NCDs are responsible for a major proportion of mortality and morbidity in India. Demographic changes along with changes in lifestyle across income groups in both urban and rural populations are major reasons responsible for the tilt towards NCDs. The three leading NCDs in India are CVDs, diabetes and cancer; they cumulatively contribute to more than 40% of deaths annually (see Figure 35).

[88] http://www.who.int/malaria/publications/world_malaria_report_2012/wmr2012_annexes.pdf

Total annual mortality by cause of death
In thousands, 2011

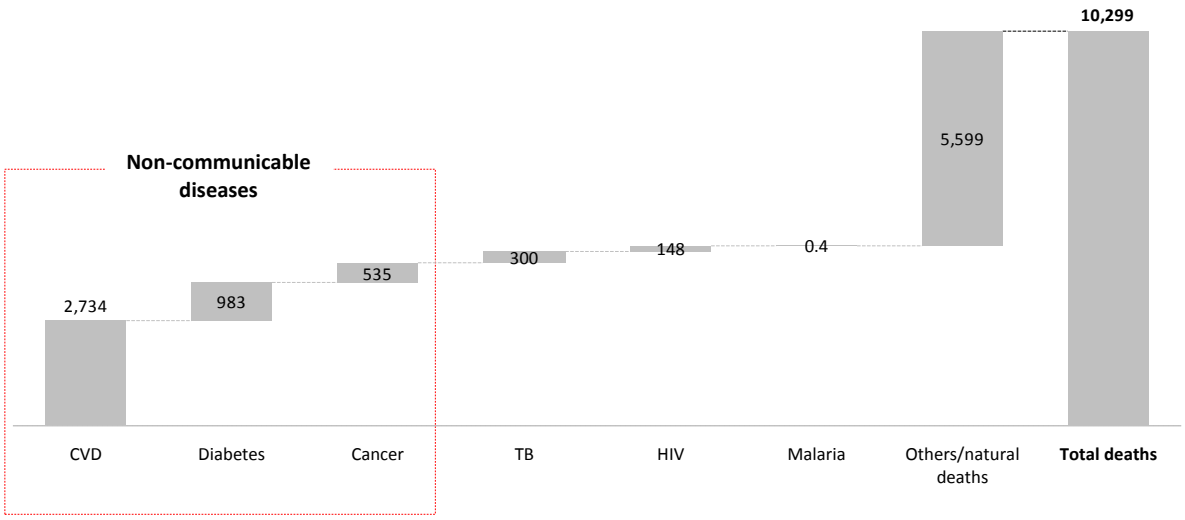


Figure 35. Mortality split by causes in India (in thousands, 2011)

There has been a fairly rapid increase (1.7x) in the number of patients suffering from heart disease in the last decade. In 2000, India had close to 27 million heart patients and the number of patients increased to 47 million in 2010 (see Figure 31).[89] Consequently, CVDs have taken the position of the biggest killer with close to 27% of deaths being attributed to the disease (See Figure 35).

Estimated number of Coronary Heart Diseases (CHD) in India
In millions

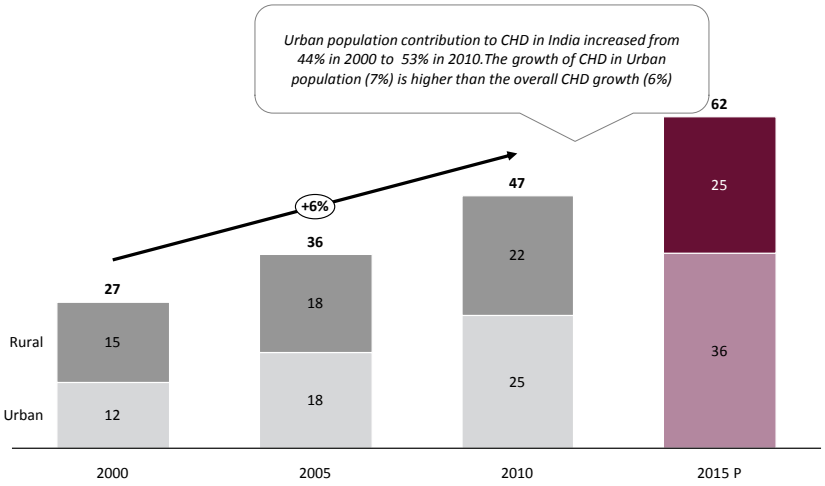


Figure 36. Estimated number of CHDs in India

[89] National Health Profile, 2011

In addition to the increasing burden of CVDs, India is also experiencing an epidemic of type 2 diabetes mellitus and has the largest number of diabetic patients (63 million in 2012).[90] Additionally, there is a large estimated pre-diabetic population of 77.2 million[91] (2011), which is expected to add to the future disease burden. Lack of awareness both in rural and urban areas (only 50% of population has any knowledge) is further exacerbating the challenge (see Figure 37).[92]

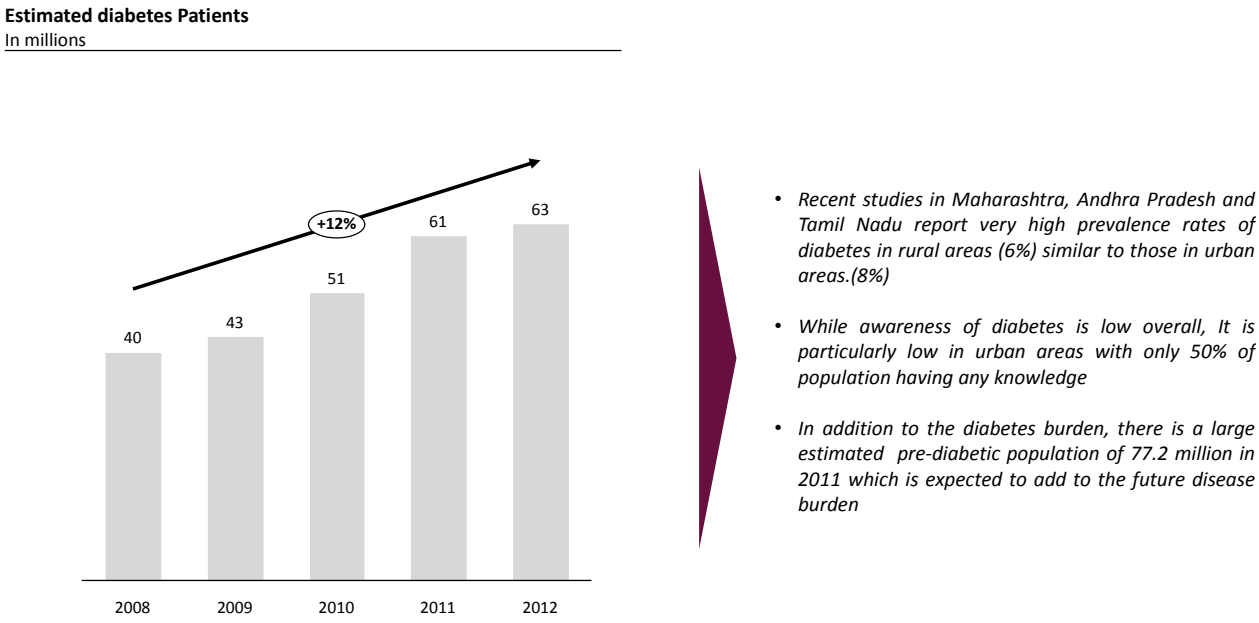


Figure 37. Estimated diabetes patients (in millions)

Lastly, the estimated burden of disease due to cancer is close to 1.2 million cases in India. Tobacco related cancer constituted 40%[93] of all cancers in males. Among females breast cancer, cervical cancer and ovarian cancer together accounted for 59% [94]of all cancers. India currently has the highest prevalence of oral cancer cases in the world due to the popularity of chewing tobacco, especially in rural regions.[95]

The government has recognized the health challenge posed due to the increasing burden of NCDs and initiated an integrated National Program for Prevention and Control of Cancer, Diabetes and Cardiovascular Diseases and Stroke (NPCDCS) in 2010. The program involves strengthening of infrastructure including human resource, early diagnosis and integration with the primary health care system through NCD cells at different levels, for optimal operational synergies. The program is in a fairly

[90] International Diabetes Federation, http://journals.tums.ac.ir/upload_files/pdf/_/20496.pdf, Variation in prevalence among geographic divisions within a region article, link
[91] International Diabetes Federation, http://journals.tums.ac.ir/upload_files/pdf/_/20496.pdf, Variation in prevalence among geographic divisions within a region article, link
[92] International Diabetes Federation, http://journals.tums.ac.ir/upload_files/pdf/_/20496.pdf, Variation in prevalence among geographic divisions within a region article, link
[93] http://journals.tums.ac.ir/upload_files/pdf/_/20496.pdf,
[94] http://journals.tums.ac.ir/upload_files/pdf/_/20496.pdf,
[95] http://journals.tums.ac.ir/upload_files/pdf/_/20496.pdf,

nascent stage and has been rolled out in only 100 districts. NPCDCS plans to provide services across the continuum of care with a focus on prevention and early diagnosis of NCDs. As part of the program, screening for diabetes and hypertension has begun in the identified 100 districts. High risk populations such as adult males above 30 years of age and pregnant women of all age groups are being screened.

The integrated program is faced with the mammoth task of tackling challenges ranging from low awareness to provision for quality treatment. Lack of awareness about NCDs and their risk factors, both in rural and urban areas, delays the timeline for diagnosis making the diseases harder to manage and consequently leads to higher levels of mortality. Additionally, diagnostic infrastructure for NCDs is largely available only at the district or the tertiary hospital level. Similarly, treatment infrastructure is limited at the tertiary hospital level and is also very expensive. These hurdles related to NCDs have emerged due to the delayed acknowledgement of the magnitude of this burden. There is now an immediate need for a multi-pronged approach, which holistically tackles the gaps existing across the entire continuum of care in order to halt the spread of these diseases.

7. ENABLING ENVIRONMENT - WATER AND SANITATION

The MDG for water and sanitation calls for halving the proportion of population (baseline 1990) without sustainable access to safe drinking water and basic sanitation by 2015. By 2010, 92%[96] of India's population had access to an improved source of water, which brought down the proportion of the population without such an access from 30% in 1990 to 8% [97]in 2010. Thus, India is well on its way to surpass the MDG targets set for 2015.

Even though India has reported tremendous progress towards achieving the MDGs for access to water, this doesn't necessarily mean continuous access to safe water for all. While government reported data claims India has 92% [98] national access to improved water, only 12% [99] of the rural population have access to piped drinking water on premises and nationally the number is only 23%.[100] Even those households that have access to piped water on premises get water for a very limited duration (1-6 hours). The MDG goal also doesn't take into the account the quality of water accessed through the improved source. An improved source by definition is water that is protected from contamination by fecal matter. By the virtue of the definition being so broad, having access to improved water source doesn't necessarily translate into having access to safe water.

[96] http://www.wssinfo.org/data-estimates/table/
[97] http://www.wssinfo.org/data-estimates/table/
[98] Census of India 2011
[99] Census of India 2011
[100] Census of India 2011

It is a different story on the sanitation front however. The proportion of the population with access to an improved sanitation facility nearly doubled in the last 20 years. But, 65% 101 of India's population still lacks access to an improved sanitation facility. India is unlikely to meet the MDG target set for 2015). An improved sanitation facility is defined as one that separates / removes human excreta from human contact. Based on this definition only 23%[102] of rural India and 58%[103] of urban India has access to improved sanitation. Access to sanitation, even more so than water, is a robust indicator of human development. Low rates of access to sanitation underscore lack of action on several fronts especially basic infrastructrue. Even in urban areas only 50%[104] of households have sewarage connections. This trend is also replicated at the public institution level. ,For instance, only 37%[105] of rural schools had a functioning toilet in 2012.

Stakeholders believe there is an increased effort to promote covnergence with the health ministry and water and sanitation. In fact, Vilage Health and Sanitation Committees will be transformed into Vilage Health, Sanitation and Water Committees. ASHAs, Auxiliary Nurse Midwives (ANMs) and Anganwadi workers are being utilized to spread awareness on the importance of clean water and there is an increasing attempt to devolve the issue to the level of the panchayats or urban local bodies (ULBs) to give the community more stakes in the matter. However, the main problem is behavioral, in terms of making people understand the importance of clean water and sanitation.

8. ENABLING ENVIRONMENT - NUTRITION

Malnutrition is more common in India than in Sub-Saharan Africa. One in every three malnourished children in the world lives in India. Close to 46% [106]of all children below the age of three are underweight, many severely malnourished, and at least 16%[107] are wasted. In urban areas, 40% of children are stunted and 33% are underweight.[108] The prevalence of malnutrition varies across states, with Madhya Pradesh recording the highest rate (55%).[109] Malnourished children are less likely to perform well in school and more likely to grow into malnourished adults, at greater risk of disease and early death. In addition to malnourished children, close to one-third of all adult women are underweight.[110] Inadequate care of women during pregnancy results in low-birthweight babies. Vitamin deficiency is also a big concern in India. The most recent survey data obtained from state surveys in 2008 suggests that 62% of preschool children in

[101] http://www.wssinfo.org/data-estimates/table/
[102] http://www.wssinfo.org/data-estimates/table/
[103] http://www.wssinfo.org/data-estimates/table/
[104] Report of the Working Group on urban poverty, slums and service delivery system, 12th Planning, Planning Commission; 12th Five Year Plan, Planning Commission, Census 2011
[105] Report of the Working Group on urban poverty, slums and service delivery system, 12th Planning, Planning Commission; 12th Five Year Plan, Planning Commission, Census 2011

[106] http://www.unicef.org/india/children_2356.htm
[107] http://www.unicef.org/india/children_2356.htm
[108] NFHS 3
[109] http://www.unicef.org/india/children_2356.htm
[110] http://www.unicef.org/india/children_2356.htm

India are vitamin A deficient.[111] India also has one of the highest levels of iron deficiency; anaemia is rampant and present in 87% [112]of all pregnant women and 75%[113] of children under 5 years.

There exsist three parallely run programs with an objective to tackle the malnutrition problem in India. The biggest and the oldest nutrition program currently in place is Integrated Child Development Services (ICDS). ICDS falls under the ambit of Ministry of Women and Child Development. The program was formulated in 1975 to combat the problem of undernutrition amongst girls upto adolscence, all children below 6 years of age, and pregnant and lactating mothers. The largest nutrition program in India, it aims to provide services such as immunisation, supplementary nutrition, regular health checkups, and nutrition and health information. Delivery of services under ICDS is managed through 1.3 million[114] Anganwadi centers (creches) located across villages in India, covering around 90% [115] of all blocks in India. The Supplementary Nutrition Program (SNP) is the most important component of ICDS; 48%[116] of the total budget of ICDS is spent on implementing the SNP (see Annex, exhibit 76). The, ICDS is currently going thorugh a restructuring to further strengthen it's reach and impact.

Although coverage under ICDS is high, the rapid expansion of the program has left gaps in human and financial resources, which have not expanded proportionally. Additionally, programatic gaps exist, including inadequate focus on early childhood education leading to ICDS centers being perceived as feeding centers, and weak linkages with the public health system. Moreover, implementation of the program differs greatly across states. In addition to the ICDS, India also has the Mid-Day Meal Scheme (MDMS) seeking to address issues of food security and lack of nutrition in the country among school-going children. It is implemented by the Ministry of Human Resource Development. The MDMS is the world's largest school feeding program, providing free lunches on working days to 110[117] million children

[111] UNICEF-WHO-The World Bank: Joint child malnutrition estimates - Levels and trends, UNICEF 2007, Horton, Alderman, and Rivera. Copenhagen Consensus Challenge Paper- Hunger and Malnutrition, 2008, Study conducted by Panagariya: (http://www.epw.in/special-articles/does-india-really-suffer-worse-child-malnutrition-sub-saharan-africa.html)

[112] UNICEF-WHO-The World Bank: Joint child malnutrition estimates - Levels and trends, UNICEF 2007, Horton, Alderman, and Rivera. Copenhagen Consensus Challenge Paper- Hunger and Malnutrition, 2008, Study conducted by Panagariya: (http://www.epw.in/special-articles/does-india-really-suffer-worse-child-malnutrition-sub-saharan-africa.html)

[113] UNICEF-WHO-The World Bank: Joint child malnutrition estimates - Levels and trends, UNICEF 2007, Horton, Alderman, and Rivera. Copenhagen Consensus Challenge Paper- Hunger and Malnutrition, 2008, Study conducted by Panagariya: (http://www.epw.in/special-articles/does-india-really-suffer-worse-child-malnutrition-sub-saharan-africa.html)

[114] State level Consolidated report Sent to Union Government (31/12/2011), Integrated Child Development Services, Budgeting for Change Series, 2011

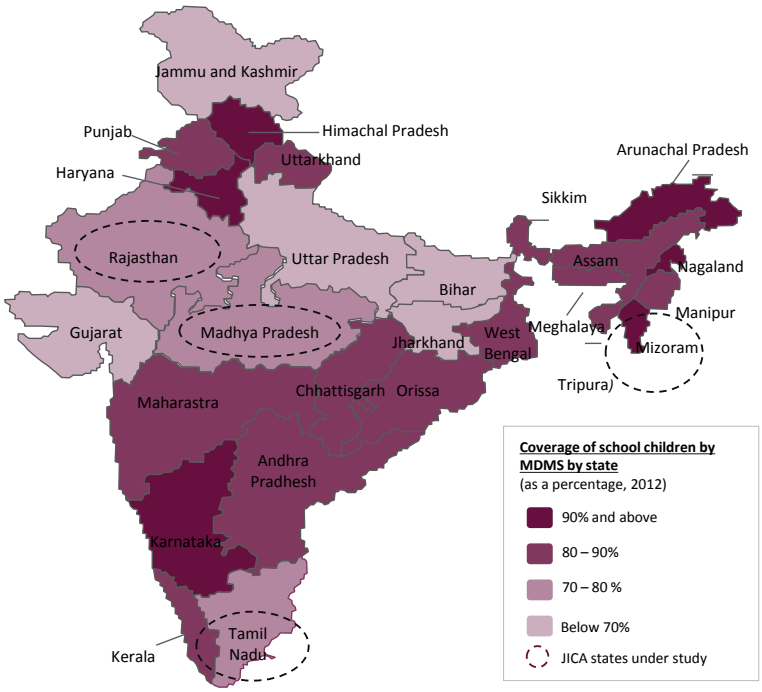
[115] State level Consolidated report Sent to Union Government (31/12/2011), Integrated Child Development Services, Budgeting for Change Series, 2011, UNICEF India and Centre for Budget and Governance Accountability (CBGA)

[116] Integrated Child Department Services Budget, wcd.nic.in/icds.htm

[117], 11th FYP Mid-Term Review, Planning Commission of India,)

in 1.2[118] million schools, translating into a 72%[119] coverage of enrolled school children across India. (See Figure 38).

Coverage of enrolled school children (primary and upper primary schools) by state
(percentage, 2012)



Source: Planning Commission, 12th Five Year Plan, Planning Commission, 11th Five Year Plan Mid-Term Review, Planning Commission of India, Malnutrition, GAIN Website, www.gainhealth.org/economic-costs, accessed November 15, 2007, Business Today (http://businesstoday.intoday.in/story/mid-day-meal-scheme-on-school-enrollment/1/190746.html) Jan 2013, Fourth National Sterring-cum-Monitiroring Committee (NSMC) meeting, August 2012, New Delhi. Final Powerpoint presentation, Government of India, Ministory of HRD, Mid Day Meal Scheme, pg. 6
[1] Minimal expansion and revision of norms for nutrition and compensation for Anganwadi workers and helpers (AWWs, and AWHs) were implemented in 2008 under the ICDS

Figure 38. Coverage of enrolled school children (primary and upper primary schools) by state (%, 2012)

Lastly, MoHFW through its Nutritional Rehabilitation Centers (NRCs) also focuses on solving the malnutrition problem in malnutrition problem in India. NRC is a physical unit in a health facility where children with severe acute malnutrition are malnutrition are admitted and managed. While the central government continues to increase interventions and funding for and funding for nutrition programs (expenditure grew 2x between 2007-2012, (See Annex, exhibit 83), the nutrition nutrition scenario in India remains unchanged. The primary driver for poor nutrition outcomes in India, despite adequate despite adequate funding and multiple programs, is lack of singular focus on nutrition. ICDS was formulated to focus on formulated to focus on child nutrition but the program currently is also involved in immunisation, health checkups, etc. checkups, etc. MDMS was originally designed to increase school enrollment and the nutrition mandate was just an just an afterthought. Furthermore, both ICDS and MDMS suffer from problems of quality control, monitoring, and sub-monitoring, and sub-standard food provision mainly due to shortage of personnel and testing laboratories. Angadwadi

[118] IBID

[119] IBID

Angadwadi workers, who are the key functionaries of ICDS at the grassroots level, are reported to be overburdened with overburdened with multiple duties and ellaborate reporting requirements. In addition to overburderning, there exsists a there exsists a large scale deficiency in absolute numbers of implementing staff (~40% vacancy) especially, at the at the supervisory levels. This leads to lack of accountability within the ICDS system (see Figure 39). Meals served under MDMS lack critical quality control, with just one laboratory in the country equiped to conduct testing. This leads to the quality of most meals not meeting the minimum nutritional requirements prescribed by the government. Analysis suggests that there are approximately 100 million poor quality meals served by the Indian MDMS in primary and upper primary schools per day (See Figure 39. Human resource shortage in ICDS (as average % across India of position sanctioned)

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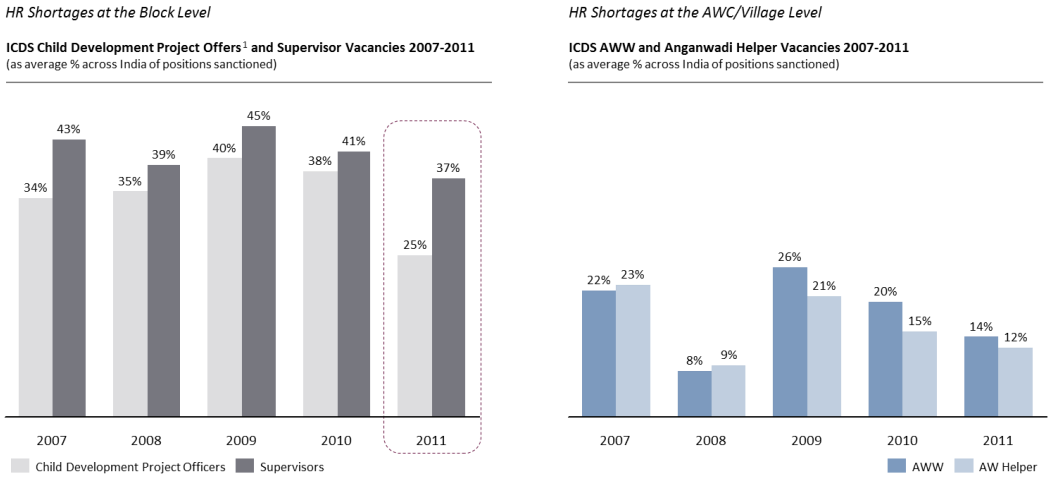
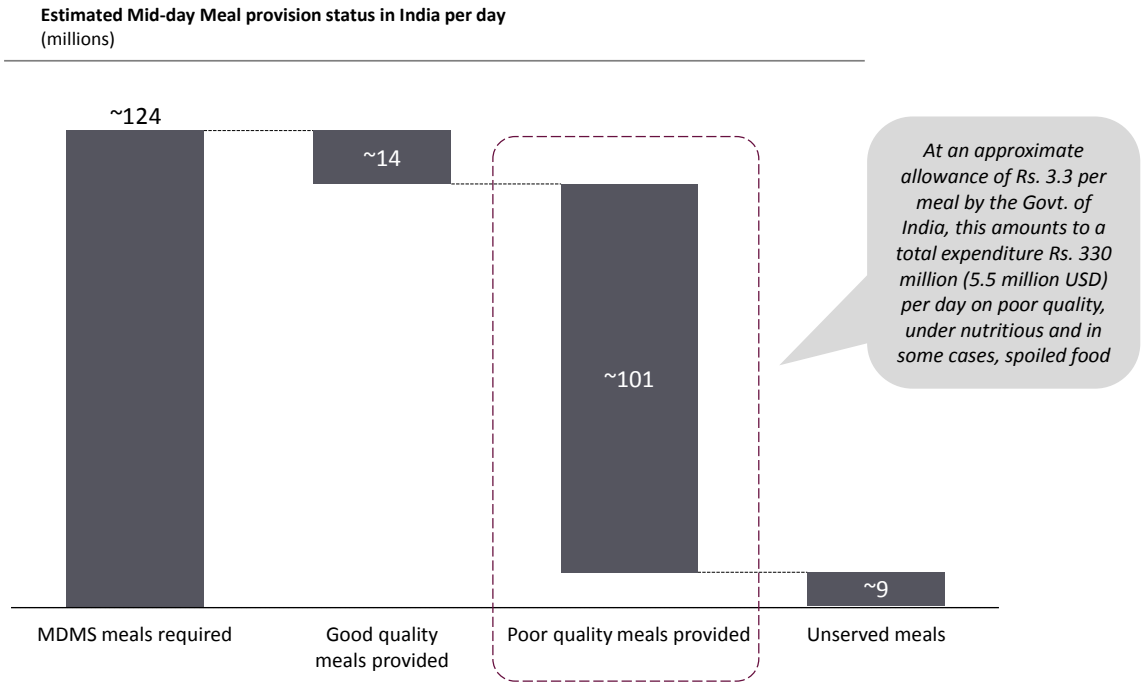


Source: Ministry of Women and Child Development, various years; Integrated Child Development Services, Budgeting for Change Series, 2011, UNICEF India and Centre for Budget and Governance Accountability (CBGA), CAG 2013 review on ICDS (http://www.indiaspend.com/sectors/rs-50000-crore-spent-on-child-development-but-have-we-achieved-enough)

[1] Child Development Project Officers (CPDO) is in charge of implementing ICDS at the block level (average of 100 AWCs). The Supervisor monitors between 20-25 AWC and reports to the CPDO

Figure 39. Human resource shortage in ICDS (as average % across India of position sanctioned)



Source: http://www.childinfo.org/education_enrolment.php
Assumptions: Meals required: 97% children enrolled in primary school in India (2012, childinfo.org) multiplied by 128million 7-12 yr olds (of primary and upper primary school age). Good quality meals provided: 124 million school children – 110 meals provided (MDMS source of meals provided). Poor quality meals: 92% (average poor quality of meals tested) x 110m meals; Unserved: 8% x 110 m meals.

Figure 40. Estimated Mid-day meal provision status in India

While nutrition has continued to remain a government priority, multiple programs with dispersed focus, along with shortage of personnel is exacerbating the nutrition challenge in India. There is a need to adopt an integrated approach and devise linkages between the existing programs to optimise synergies and create better outcomes.

Stakeholders suggested that nutrition cannot be viewed in a silo and there needs to be a more composite approach to problem. The government hires no specialists and most nutritionists work in the private sector. Anganwadi centers do not have personnel who understand nutrition. There is also a shortage of quality food and mechanisms for monitoring are weak. As a result of this, the condition of nutrition in the country is dismal.

9. HEALTH SYSTEMS

The focus of health systems policy in India has largely been on rural areas. In 2005, the National Rural Health Mission was formulated to better the condition of rural health infrastructure and human resources. The focus of the NRHM is on primary health care and strengthening public health systems while stressing on community participation and civil society engagement. The scheme focuses on 18 priority states, and a population of almost 490 million people. In these states, all villages with a population of 1000 are to have

an ASHA worker. In 2012, the allocation for NRHM was increased by 15% from the previous year to INR 2200 crore.[120] Urban population covered by the NRHM is negligible.

As most developing countries, India is rapidly urbanizing, with a large number of people moving from rural areas to cities in search of work and a better life. According to the 2011 Census, rural population fell to 68.8% from 72.1% in the 2001 census, implying a corresponding increase in urban population. Of approximately 370 million who live in cities, 100 million are estimated to be living in slums amidst extremely poor living conditions.[121] This shift of population has a deep impact on the health of the people in urban areas as existing public health infrastructure in cities has not been able to keep up with the spike in population. Factors like quality of education, living conditions, and environment also impact the health indicators, which are extremely poor in urban areas. Under five mortality is 72.7 among urban poor as compared to the urban average on 51.9%, about 50% of urban poor children are under nourished and 60% of the children from poor urban households miss completing their immunization cycle.[122] Additionally, poor living conditions compounded with problems like pollution and sanitation make diseases like asthma and TB very common.

Despite the high concentration of private health care in urban areas, institutional delivery is still very poor; just 44% for the urban poor opt for it as opposed to the 67% urban average.[123] There are problems of capacity in most government hospitals and costs at private clinics. There is also low awareness about government schemes and deep social exclusion which prevents people from seeking out health care services. In addition, most urban poor are 'immigrants' and more often than not do not have any documents and certificates to prove their eligibility for access to government sponsored entitlements. Finally, the out-of-pocket expenditure in urban areas is very high; the 61st round of NSSO survey shows an increase in poverty by as much as 2.9%, if out of pocket expenditure is counted.[124]

The government is realising the need of urban health and has recently announced the NUHM. This scheme is supposed to organise and invigorate the urban health infrastructure on the same lines as they NRHM in rural areas. The idea involves setting up of public health centers for underserved areas, health kiosks in areas with populations above 10,000 and Urban Social Health Activists, modeled on ASHAs, to cover upto 2500 beneficiaries per activist. This said, there are no operational guidelines or timelines for the NUHM yet. The central Government has already faced criticism for not assigning sufficient funding to the NUHM during the 12th FYP.

[120] http://www.finmin.nic.in/the_ministry/dept_eco_affairs/budget/budgetcircular2012-13.pdf
[121] http://www.uhrc.in/downloads/Reports/NUHM-Draft.pdf
[122] ibid
[123] ibid
[124] ibid

In light of the above, it can be concluded that public health programs in India have historically focused on rural areas therefore reports on performance, challenges and gaps are largely reflective of the scenario in rural India. Models of intervention in urban India may have to be different especially since they will compete with a large, established private sector. Our report analyses the performance of Indian public health systems and programs keeping this context in mind. Until channels of care are well established in urban India, public health delivery will continue to be focused on rural health care.

This section will be studying health systems in India, with a focus on rural systems. The WHO defines a health system as "the sum total of all the organisations, institutions and resources whose primary purpose is to improve health. A health system needs staff, funds, information, supplies, transport, communications and overall guidance and direction." For the purpose of this section, we will be discussing four major components that comprise the health system in India: health financing, health infrastructure, human resources for health, and health research.

a) HEALTH FINANCING

India has extremely low health financing coverage. In 2010, approximately 300 million, only 25% of the population, had some form of health insurance. Until the 11th Plan i.e. till 2007, health insurance was only available to government workers and through private health insurance for those who could afford to pay. The total population covered under these schemes was only 16%.[125] Despite the efforts of the government to increase health coverage with schemes like Rashtriya Swasthya Bima Yojana (RSBY), and the expansion of the private sector, it is expected that in 2015 almost 50% of the population will still be uninsured.[126]

To tackle low coverage, the RSBY was launched to provide financial protection and health insurance to BPL households (of up to five individuals) that involve only hospitalization costs (see Annex, exhibits 6 and 7). The RSBY is a cashless insurance that uses smart cards for individual beneficiaries. Outpatient care is not included in the scheme. The central government provides 75% of the financing, while states contribute the rest. However, there are some variations in contributions within the country; for remote North Eastern states like Mizoram the central government provides 90% of the financing.[127]

The RSBY, while not the only government insurance scheme, is the largest in India today. It is operational in 24 states and as of April 2013 had covered 5.2 million hospitalization cases.[128] The RSBY has used innovative methods to provide services to people. It uses smart cards, which contain

[125] La Forgia, G. & Nagpal, S. (2012). "Government-Sponsored Health Insurance in India: Are You Covered?" Directions in Development. Washington, DC: World Bank. Doi:10.1596/978-0-8213-9618-6. License: Creative Commons Attribution CC BY 3.0
[126] ibid
[127] rsby.gov.in
[128] ibid

photographs and fingerprints of the user. Efforts are being made to increase the in-built memory of the smart card to record the holder's medical history as well. Other systemic innovations include the involvement of the private sector, giving people the chance to choose a healthcare facility and creating competition between providers as an offshoot.

The RSBY has a generous budget of INR 1496 crore but it is insufficient for India's population. Shortage of funds and limited scope of the scheme leads to 64% of the poorest population in India towards debts because of paying for health services.[129] Over time, the Government hopes to use RSBY as a platform to launch universal health coverage (UHC) and reach the entire BPL population of 470 million people across all districts in all states by the end of 2017. However, other than the fact that no clear path has been laid out for achieving this, a major concern is the gap in funding. Figure 41 discusses RSBY's funding shortfall. Analyses suggest that in 2011 the scheme faced a shortfall of about INR 27500 crore.

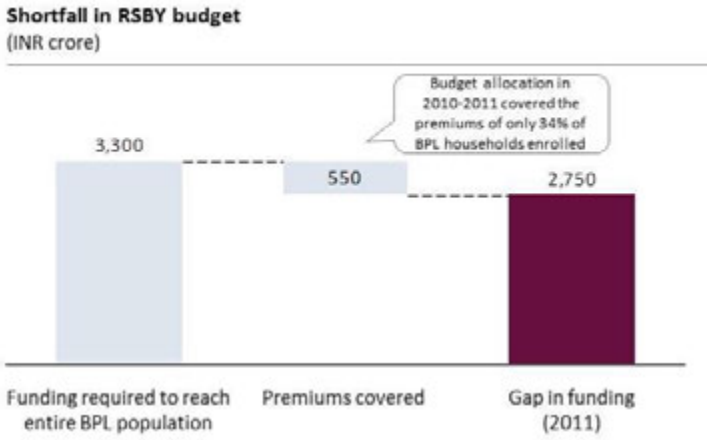


Figure 41. RSBY shortfall in allocation

The actual reach of the scheme is only one of the many challenges faced by the RSBY. Other observed challenges include:

a. **Burdens public health system**: It is looked at as free treatment and creates incentives for unnecessary procedures, consequently raising the burden on the public health system.
b. **Teething troubles:** The scheme is using new technology, and is facing troubles like duplication of cards, fraudulent users, and surgical/medical fraud. These issues are compounded by rampant corruption in the system.

[129] ibid

c. **Limited services:** The scheme does not cover for primary health and outpatient care, limiting healthcare services beneficiaries can access at little or no cost.

d. **One-size fits all**: RSBY does not take into account state specific variations in disease profiles and health needs and is unable to cater to the geographical peculiarities.

e. **Marginal Poor**: RSBY does not cover the marginally poor who while entitled to free public health facilities do not usually access them. These people, on the cusp of poverty, frequently get pushed below the margin due to healthcare expenses.

The government has shown continued commitment to the goal of increased health coverage in the 12th FYP. The idea of UHC has been enunciated in the plan, which entails providing access to health to all and health insurance to the BPL population.

It may be concluded that India has had some achievements with regard to insurance schemes given the success of the RSBY. However, to achieve universal coverage, efforts need to be made to expand the scope of the scheme and add more / launch new, low cost insurance schemes that are feasible for the marginally poor to subscribe too as well.

b) HEALTH INFRASTRUCTURE

Health infrastructure in India follows a decentralized model for delivery of care. A problem seen throughout the sector in India is the shortage of infrastructure. This shortage is seen across geographies and across levels of care from primary to tertiary. Each level acts as a referral unit for the one below it, allowing the district hospital to dedicate its resources to the most complicated medical services and for the provision of emergency services. The NRHM was initiated to reinvigorate rural primary health infrastructure. In over a decade since its inception, while there has been a 67% growth between 2005 and 2011 in public health infrastructure, there is much left to be done. As seen in Figure 42, at the highest level there are district hospitals, which constitute the main channel of delivery for tertiary care; there is a negligible shortage at this level. Sub-district hospitals responsible for secondary care suffer a shortfall of 27%; the greatest shortfall, of 38%, is seen in CHCs that are also responsible for secondary care. PHCs and sub-centers are the mainstay of the primary health system of the NRHM and have a shortfall of 24% and 20% respectively.

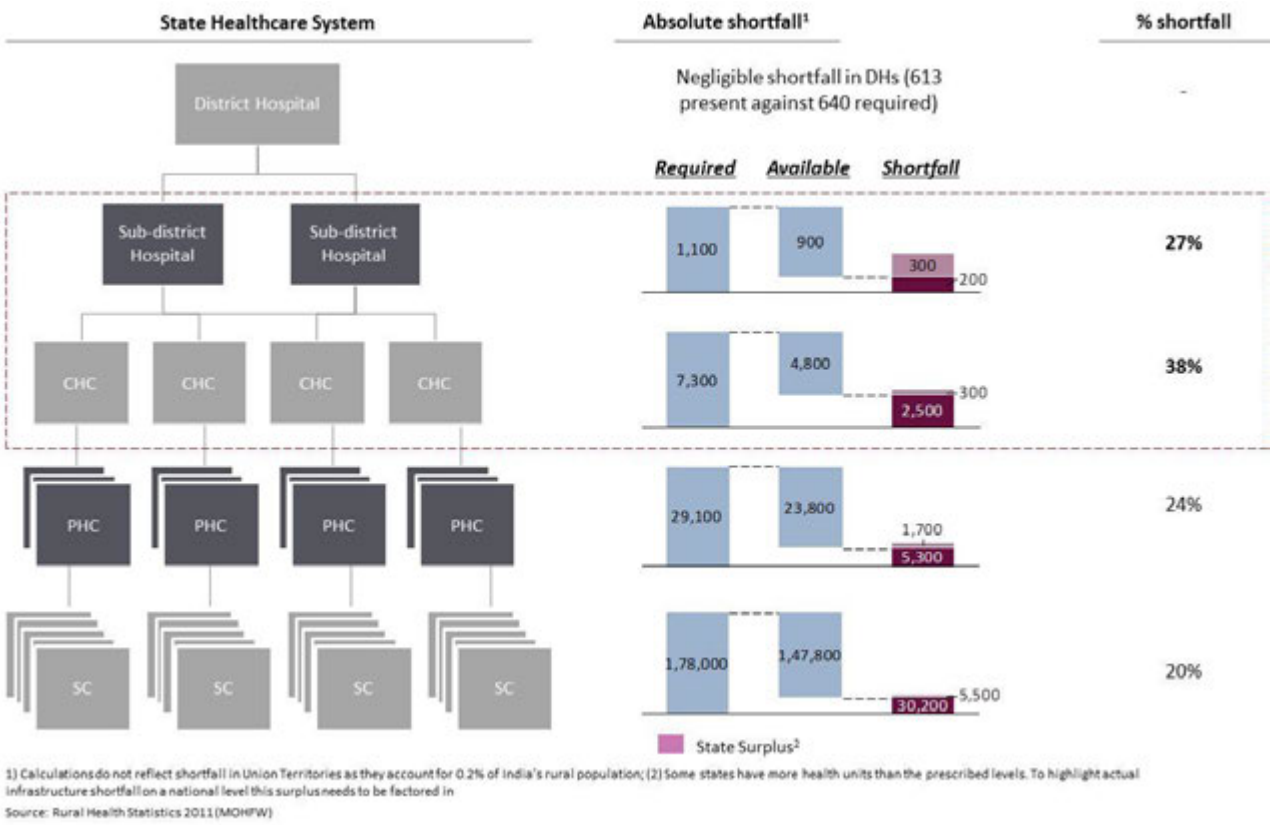
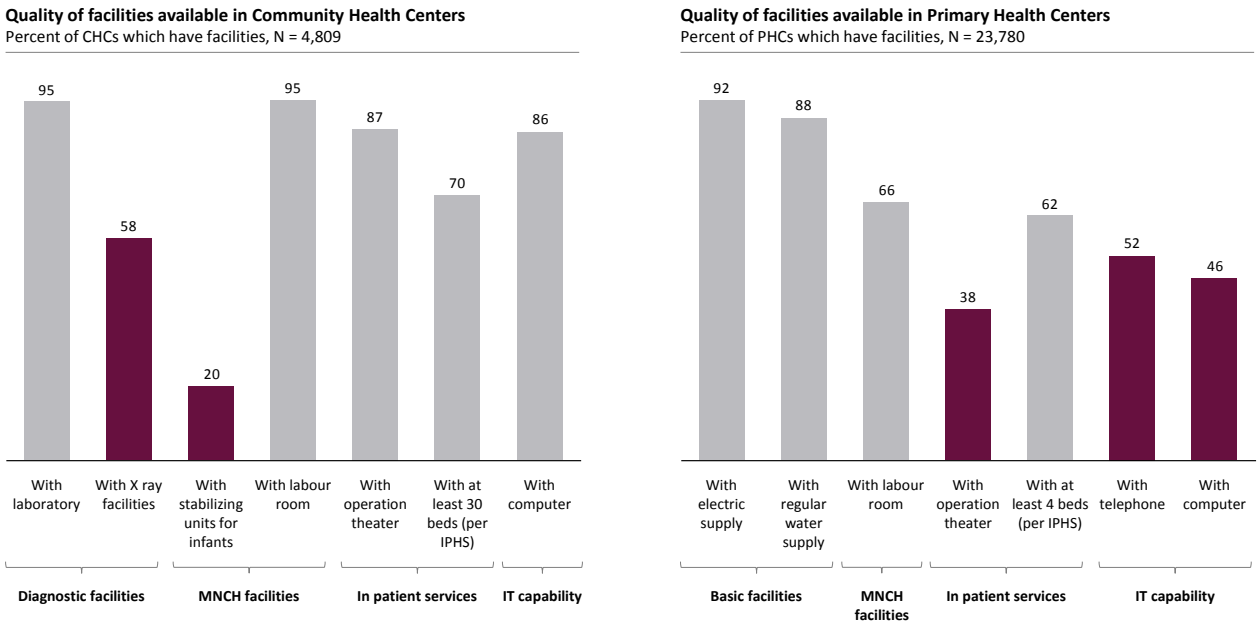


Figure 42. Shortfall in Health Infrastructure

Shortage of physical infrastructure is not the only problem. Existing infrastructure of CHCs lacks essential facilities like x-ray machines and stabilizing units. Figure 43 below shows that of the 4809 CHCs surveyed 95% had laboratories and labor rooms but only 20% had infant stabilizing units. Primary care infrastructural quality is similarly problematic. The MoHFW has mandated that all PHCs must have all basic facilities, emergency and IT services. However, the situation on ground is different. A sample survey of 23,780 PHCs (see Figure 43) suggests that while 92% of PHCs have electricity and 88% have regular water, only 38% have an operation theatre.

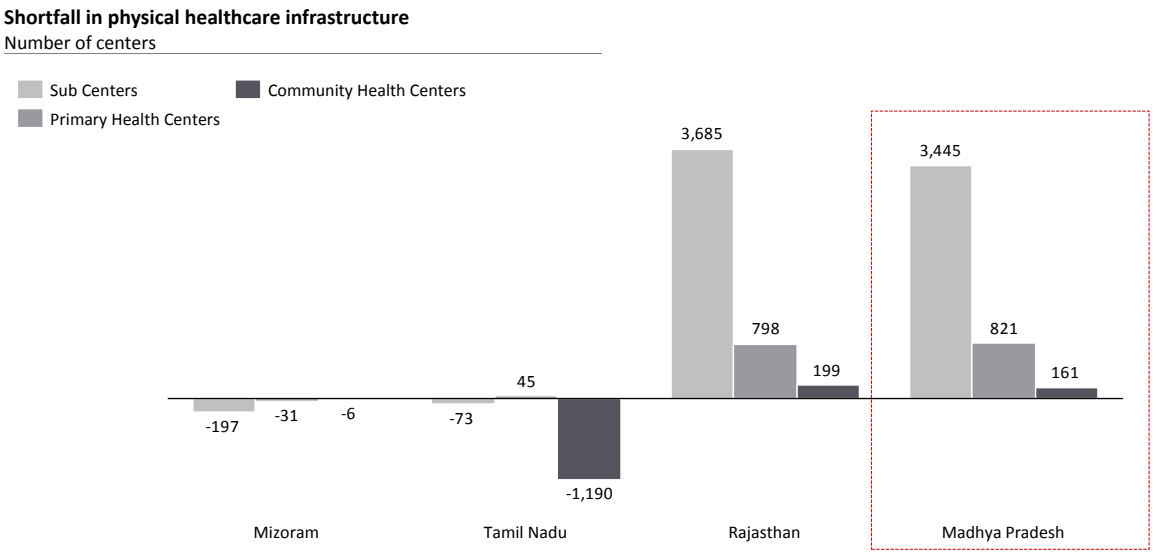


Source: Rural Health Statistics – MOHFW [2011]

Figure 43. Quality of Facilities at PHCs and CHCs

In addition to gaps in primary health infrastructure, there are serious gaps in diagnostic infrastructure too. Not only is there a major mismatch between MDR-TB infrastructure and targets but the conventional diagnostic infrastructure is outdated and inadequate for early detection of diseases. For instance RNTCP currently uses Solid C&DST test, Line Probe Assay and Liquid Culture System tests to ascertain MDR-TB; it may take up to 8 weeks to ascertain co-prevalence. Latest technology, Genexpert, which can cut the diagnosis time to 1 day is now being piloted in a few locations but is not widely available. Similarly, diabetes in India is largely detected through archaic urine tests, which can be inconclusive and screening of TB among DM patients is mostly done through sputum smear tests, delaying diagnosis by upto 3 months. Interferon-gamma release, a test which detects TB-DM instantly is not available in India.

The infrastructural varies from state to state. For instance Madhya Pradesh faces a significant shortage as compared to the other states under the study. Figure 44 shows that Mizoram and Tamil Nadu have surplus infrastructure exceeding the requirement of PHCs by 114% and 16% respectively. It must be noted that Mizoram's infrastructural requirements are significantly less because of its low population. On the other hand, Rajasthan and Madhya Pradesh do not meet their requirements. Though Rajasthan falls short of its requirements marginally, Madhya Pradesh has the greatest deficit with a 33% shortage in CHCs, 42% in PHCs and 28% in SCs.



% shortfall in				
CHCs	-100%	-23%	34%	33%
PHCs	-119%	4%	34%	42%
SCs	-114%	-16%	24.3%	28%
Performance against national average	↑	↑	↓	↓

Note: A negative shortfall indicates surplus
Source: Rural Health Statistics 2011 (MOHFW)

Figure 44. Shortfall in Primary Health Infrastructure in target states

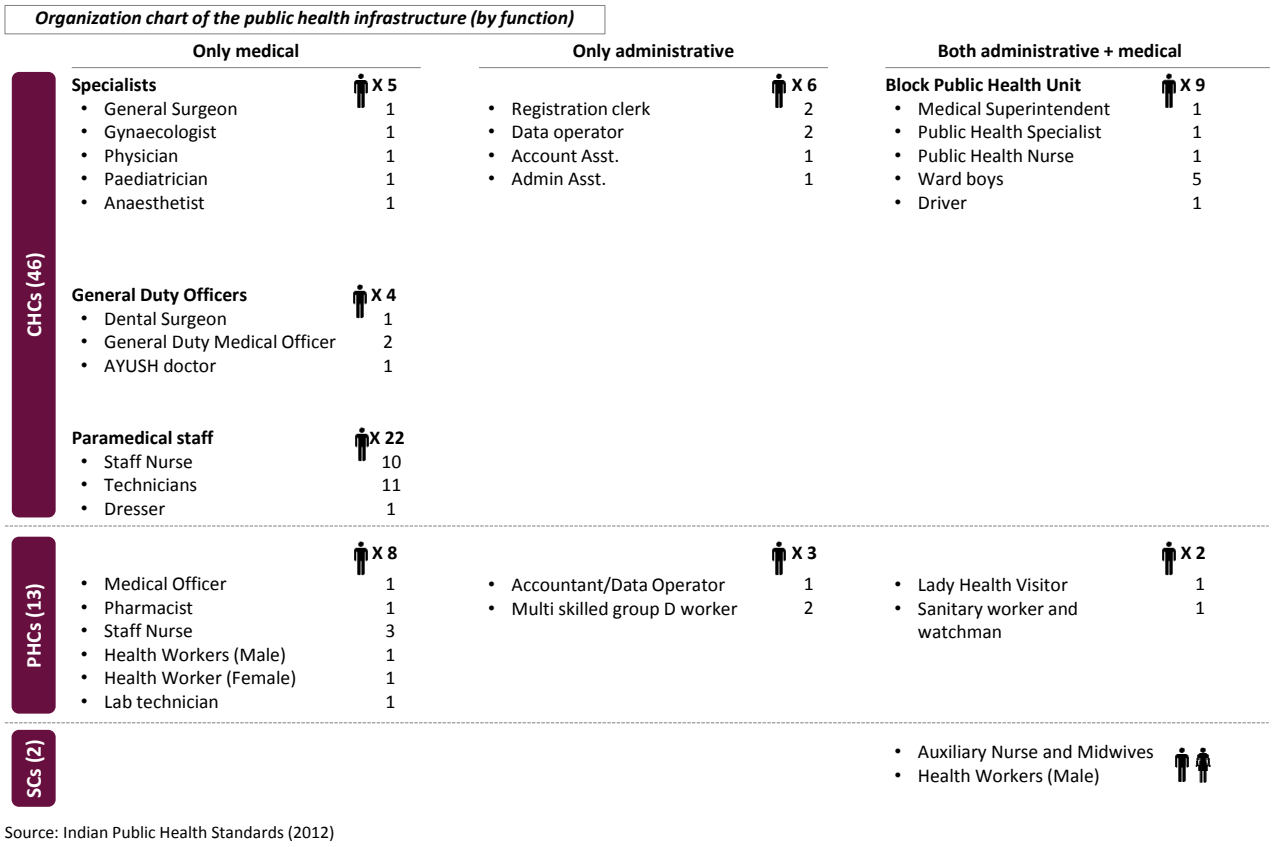
As seen, there are major gaps in the quality and quantity of physical infrastructure in India, which impacts the health outcomes of the country. While the government has made in-roads in creation of infrastructure, much needs to be done to fill the deficit. Additionally, there is variation within the country where some states have surplus infrastructure while others have huge deficits. This adds a layer of complexity to the infrastructural landscape of the country, especially when it comes to delivery of large central schemes like the NRHM.

c) HUMAN RESOURCES

Of India's health sector concerns, inadequate human resource for health is one of the most important. As India looks to expand public health services and healthcare coverage, the shortage of trained personnel grows as a problem.

India has a fairly lean health workforce structure to provide a wide range of medical services. It is a combination of medical and infrastructural personnel staffed across levels to make sure that care to patients is provided efficiently. The human resource structure mimics the decentralized nature of the physical infrastructure. As seen in `Figure 45, there are two primary functions, medical and administrative, which overlap within the workforce. At the tertiary care level, the CHCs have 46 positions, which include specialists, general duty officers and paramedics. At the primary care level,

there are 13 people required including pharmacists, nurses and lab technicians. Finally, at the sub-center level, the requirements are lower and consist of one ANM and one male health worker.



Source: Indian Public Health Standards (2012)

Figure 45. Organizational structure of public health personnel in India

To put the actual situation into perspective, analysis reveals that even states like Tamil Nadu that have overachieved on physical infrastructure have a 51% shortage of lab technicians in PHCs even though they have a 100% availability of doctors at the same level. Rajasthan has a 96% shortfall in pharmacists and Madhya Pradesh a 57% deficit. Similarly, Mizoram has 77% PHCs without doctors and 23% without pharmacists. See Figure 46.

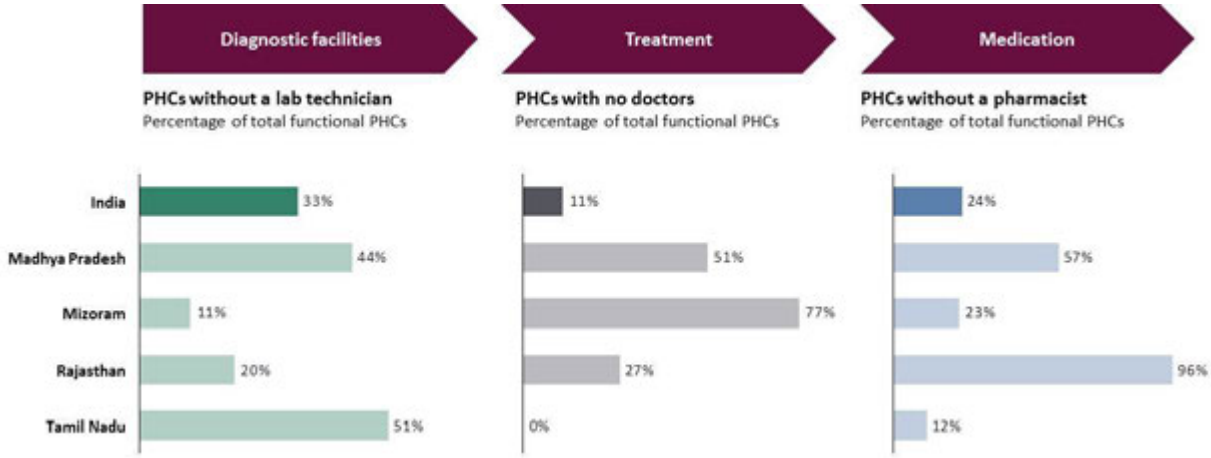
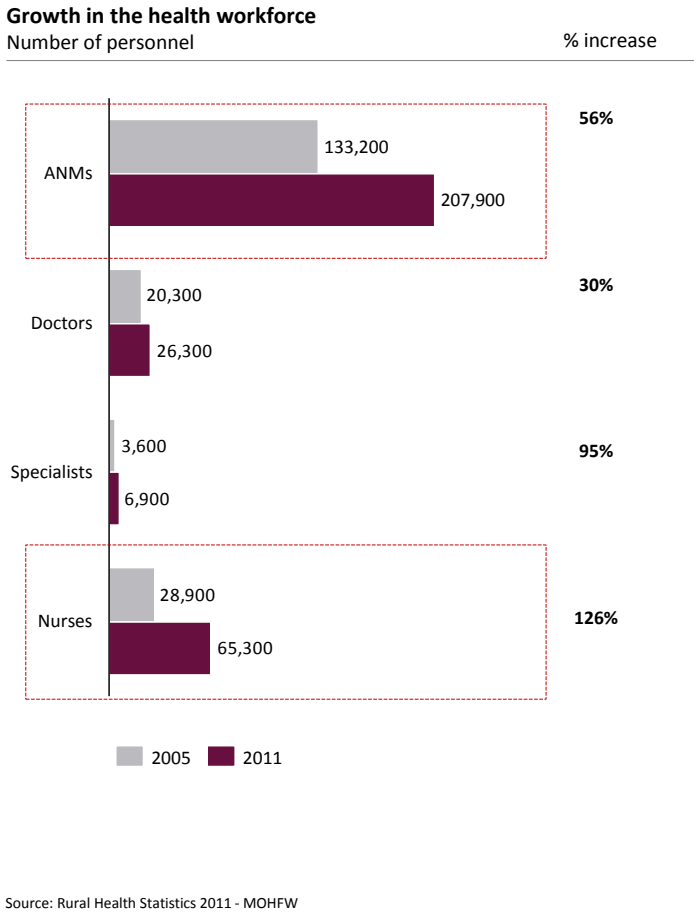


Figure 46 Status of key health personnel in JICA states

Within specific cadres of employees, there has been a significant increase in the workforce at the lower levels – the country recorded a 56% increase in community workers such as ANMs and a 126% increase in nurses since 2005. See Figure 47.



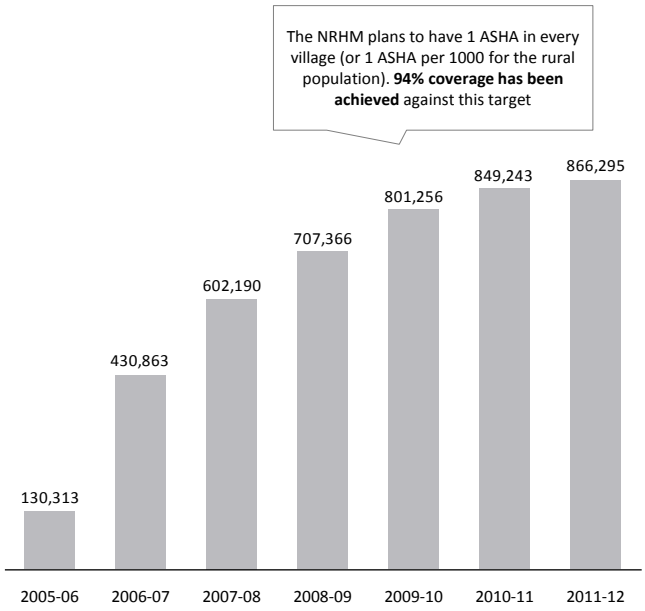
Source: Rural Health Statistics 2011 - MOHFW

Figure 47. Growth recorded in specific cadres of health employees

Despite this growth, there is an acknowledged problem of quality in human resources. Consider the case of ASHA workers - while there is a 94% coverage rate of ASHAs across the country, lack training and awareness for the provision of basic healthcare. Only 28% of ASHAs have completed the training modules required. In addition, ASHAs do not have a direct supervisor to assess their performance, and provide mentorship. ASHAs also do not undergo any formal review process, thus receiving no feedback on their work and performance.[130] See Figure 48 for more details.

While considerable progress has been made in the recruitment of ASHAs...

Cumulative number of ASHA workers



…ASHAs need more training and support on ground to create impact through awareness and provision of basic healthcare[1]

1. **Low completion and retention rates for training**
   - **28% of ASHAs have not completed the training modules** required (5 modules)
   - The reading material is 300 pages of dense text in addition to 23 days of training; the average number of days attended, in the study sample, was 12
   - Refresher training is rarely conducted and ASHAs score poorly on independent assessment tests
2. **Need for regular assessment and monitoring**
   - The ASHAs do not, currently, have a direct supervisor to assess performance and provide mentoring
   - While AMNs are the primary source of support there is no organized reporting structure in place
   - ASHAs do not undergo any formal review process and there is no record of their performance

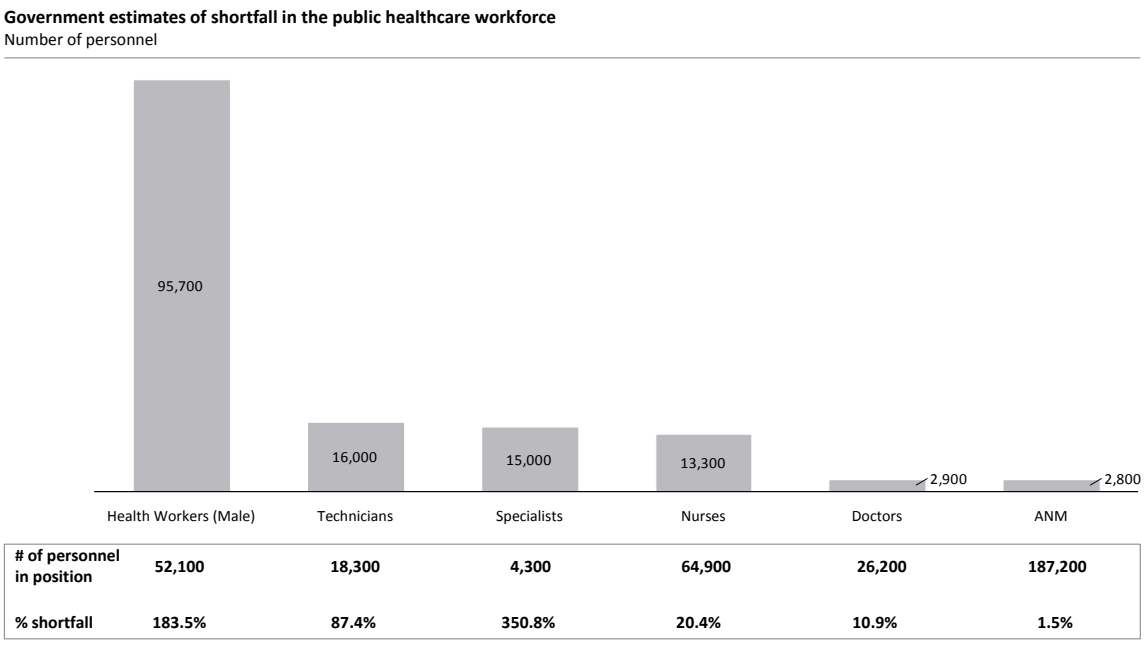
Source: Ministry of Health and Family Welfare www.mohfw.nic.in/NRHM/asha.htm#data

[1]Based on an independent evaluation conducted by Columbia University which covered ASHA programs in Bihar, Uttar Pradesh, Rajasthan and Chattisgarh

Figure 48. Poor quality training and support being provided to ASHA workers

Overall, government estimates that there will be a 150k shortage in medical staff; 40% of the total requirement with the requirement with the biggest gaps seen in health workers, technicians and specialists. See Figure 49. Taking into account the shortfall in public health centers, the shortfall in medical personnel is likely to be closer to 65%, or 230k individuals. See Figure 49. Government estimates of shortfalls in public health personnel

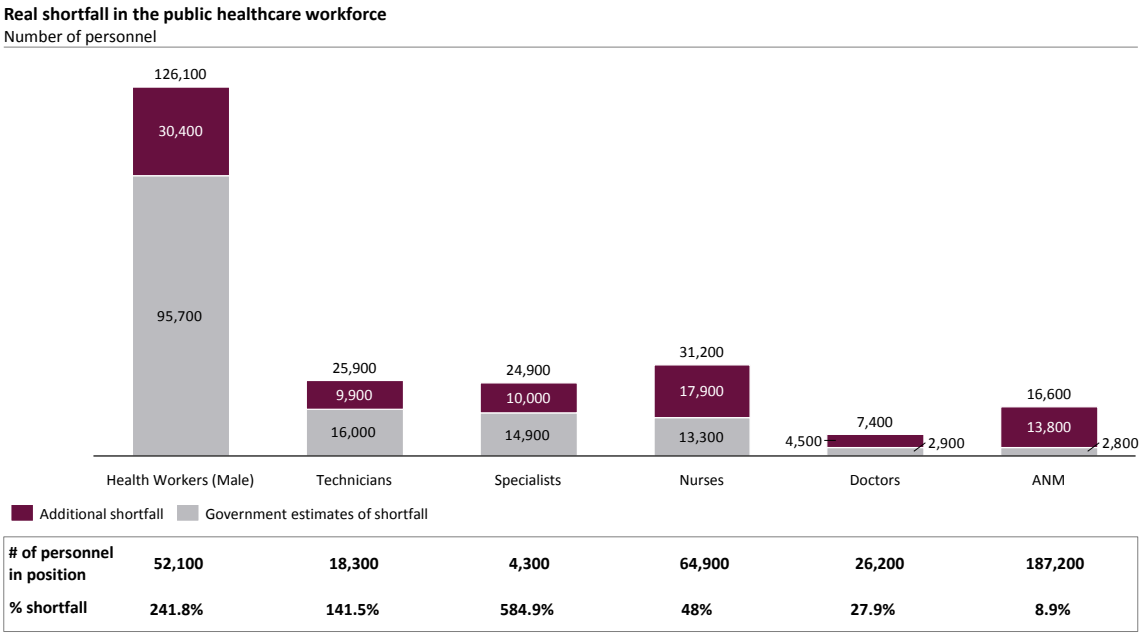
[130] Ministry of Health and Family Welfare www.mohfw.nic.in/NRHM/asha.htm#data



Source: Rural Health Statistics 2011 - MOHFW

Note: Specialists include surgeons,, gynaecologists, physicians and paediatricians. Technicians include radiographers and lab technicians

Figure 49. Government estimates of shortfalls in public health personnel



Source: Rural Health Statistics 2011 - MOHFW

Note: Specialists include surgeons,, gynaecologists, physicians and paediatricians. Technicians include radiographers and lab technicians

[1]Government estimation of shortfall is limited to existing healthcare infrastructure. Projected shortfall includes the future need for healthcare personnel in line with the proposed infrastructure expansion (as highlighted in the 12th FYP); [2] From NRHM estimates of the shortfall in healthcare infrastructure

Figure 50. Real shortfall in the public health workforce

Going forward, the Government has made a move to decentralize initiatives and include the community in management of health services. Rogi Kalyan Samitis (patient welfare committees) were established as a registered group of trustees from within a village to ensure that patients below the poverty line get

proper care. Similarly, village health, sanitation and nutrition committee (VSNHC) are set up under the NRHM to increase participation of the community in matters of health. In addition, the NRHM also mandates community-based monitoring of health services to make the community stakeholders in their own health services. In addition, there are discussions on the creation of a National Commission for Human Resources for Health as an overarching regulatory body to reform the framework for current health workers. The MoHFW has mandated the creation of nursing cells across states.

It can be concluded that while India has made progress in increasing the absolute number of health personnel in the public health sector, it still has a long way to go before reaching its targets. Adequate infrastructure and equipment alone will not automatically guarantee better outcomes. Moreover, quality of personnel employed remains a concern, across levels, throughout the country.

d) HEALTH RESEARCH

Health research in India is has gained importance in the last decade. It has evolved from focusing just on disease research to addressing more need-based issues like non-communicable diseases and cross-cutting issues like systems strengthening. The Department of Health and Research (DHR) was launched in 2007 to advance scientific and technological health research that responds to national health priorities. In the 11th FYP, the state objectives of the DHR was to focus on PPP impact in public health services; impact of health insurance; urban health care; innovation, diffusion, and use of latest medical technologies. The Department has so far piloted online clinical trials, and kits for improved diagnosis including development of indigenous H1N1 vaccine, kits for improved diagnosis of malaria, dengue, TB, cholera and chlamydia.

In the 12th FYP, the objectives of DHR are to align research with national needs of maternal and child health, CDs and NCDs, coordination between institutes and departments to build health financing solutions, and enhancing e-governance. The goals include applied research to explore stationing multi-disciplinary teams within Ministry of Health to promote operations research and service delivery. There is also a plan to establish 250 multidisciplinary research units in 150 government medical colleges. The Indian Council for Medical Research (ICMR) is the biggest component of the health research budget. As seen in Figure 51, it makes for 74% of the allocated budget for 2012-13.

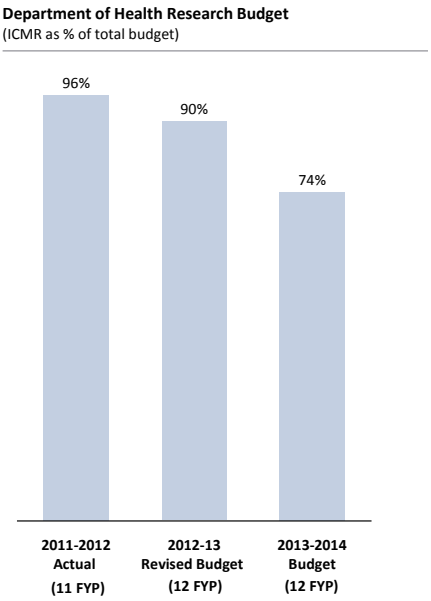
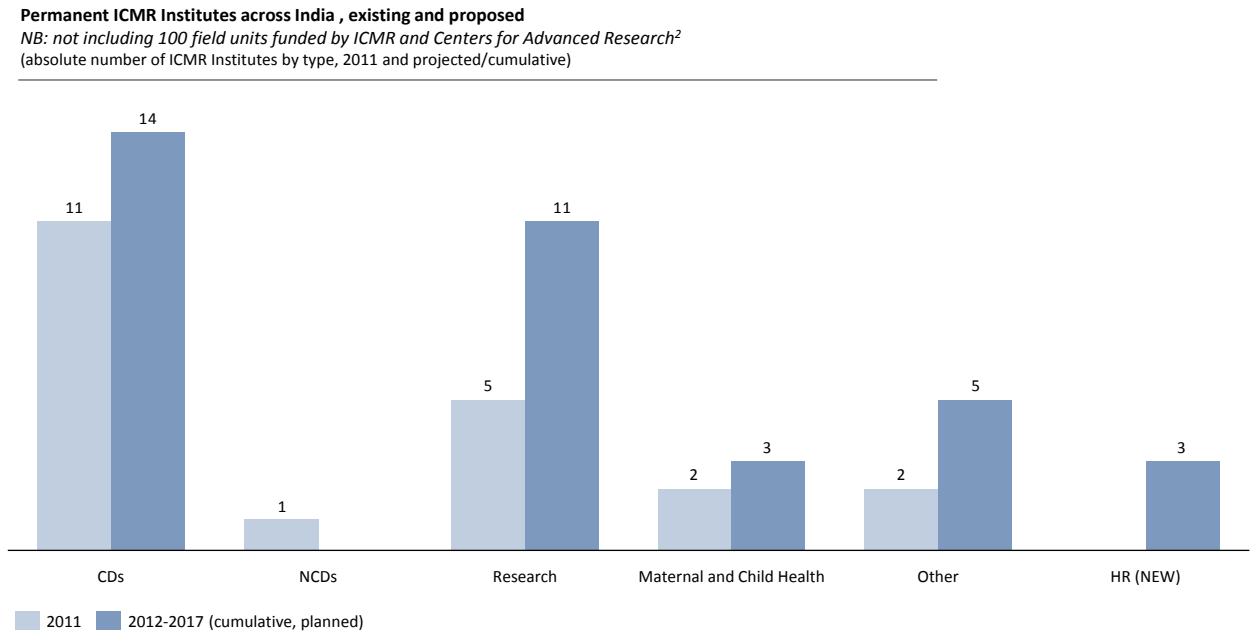


Figure 51. Department of Health Research Budget (ICMR as a % of total budget)

The ICMR also plans to increase permanent institutes in research, communicable diseases, and human resources. As Figure 52 suggests, there are plans to add 16 news institutes across all fields. To fill-in the shortage of skilled, quality personnel across levels ICMR school of public health is planned.



Source: ICMR website; BioSpectrum (April 2013) http://www.biospectrumindia.com/biospecindia/news/186446/health-research-major-push-12th-plan
Note: Critique has prompted Ministry to seek external audit of ICMR's research programs before Government releases $1.6 b USD (twice the amount released in previous five years),
[1]Communicable Disease research Institutes include: TB, Malaria, Cholera and Entric diseases, Vector control, Pathology, Epidemiology, and Immunoheamotology
[2] Centers for Advanced Research are co-located and established in medical colleges/universities across India

Figure 52. Proposed expansion of ICMR institutes across India

The government has shown that it recognizes the importance of dedicated research and training centres for meeting the challenges faced by the health sector in the long run. However, given the demand and supply gap and the paucity of funds it will be nothing less than a mammoth task to achieve quality healthcare for all citizens and universal health coverage, on ground.

C. STATE-LEVEL FINDINGS

1. MIZORAM

a) BACKGROUND

Mizoram is a hilly North Eastern state with a population just over one million people. The state shares a border with Myanmar and Bangladesh. Mizoram gets heavy rainfall during the monsoon, which combined with its mountainous terrain and thick forest cover makes for a unique environment. According to the 2011 census, the state has high literacy rate at 91%.

Mizoram has made significant progress in primary healthcare most notably in the areas of maternal and child health. In Figure 53, the priority areas for the state are identified based on our analysis. These were corroborated through conversations with state officials. It is seen that primary health indicators of the state are much better than the rest of the country; for instance 82% of women in Mizoram have institutional deliveries, as opposed to 47% of the national average. Sanitation too is much better than the rest of the country with only 24% households without access to improved sanitation. Despite these achievements, Mizoram lags behind in disease areas. The state's indicators for malaria, HIV prevalence, cancer incidence and tobacco usage are all significantly higher than the national averages. Additionally, when it comes to enabling factors, 37% of households do not have access to improved resources of water, as opposed 8% in the national average.

	Health Indicator	Mizoram	India	Performance
Primary health	Infant Mortality rate (Per 1000, 2011)	36	44	↑
	Maternal Mortality rate (Per 100,000, 2011)	55	212	↑
	Institutional delivery(%, 2011)	82	47	↑
	Immunization rate(%, 2012)	78	44	↑
Disease	Tuberculosis incidence rates (per 100,000, 2011)	181	185	↑
	Malaria incidence rate (per 100,000, 2012)	990	80	↓
	HIV prevalence rates (%, 2011)	.81	.33	↓
	Cancer incidence rates (per 100,000, 2008-2011)	459	99	↓
	Diabetes prevalence rates	N.A	8	
Enabling environment	Tobacco usage (% , 2011)	67	35	↓
	Child malnutrition rate (%,2010)	19	48	↑
	Households without access to improved source of water (%, 2011)	37	8	↓
	Households without access to improved sanitation (%, 2011	24	65	↑

↑ Performing above national average

↓ Performing below national average

Figure 53. Key health indicators for Mizoram

On the issue of health systems, which include physical infrastructure and health personnel, Mizoram shows mixed results. As suggested in Figure 54 physical infrastructure has exceeded requirements at all levels of primary healthcare with almost 200 surplus sub-centers. However, it is important to remember that many people in the state live in small villages in far-flung areas and are unable to access existing infrastructure. More localised points of care are required in Mizoram. Additionally, as the figure shows, there is a lack of healthcare personnel across levels with the greatest shortage being specialists at CHCs.

	Particulars of infrastructure in Mizoram (Centers, 2012)	Required*	Available	Performance
Physical infrastructure	Sub centers	173	370	↑
	Primary Health Centre	26	57	↑
	Community Health Centre	6	12	↑
Human resources	Total specialists at CHCs	36	2	↓
	Doctors at PHCs	57	37	↓
	Radiographers at CHCs	9	6	↓
	Laboratory technicians at PHCs & CHCs	66	71	↑

↑ Meeting targets set by the government

↓ Not meeting targets set by the government

*Note: Required infrastructure as per NRHM guidelines
Source: http://health.mizoram.gov.in/11th%205yr%20Plan/Health%20Indicator.htm

Figure 54. Status of supporting health infrastructure

We have prioritized few areas, based on our analysis and stakeholder feedback, which are significantly weak and are major concerns for the state. These are i) Cancer ii) Malaria iii) HIV/AIDS iv) Mental Health and v) Hepatitis C, and vi) Overall infrastructure.

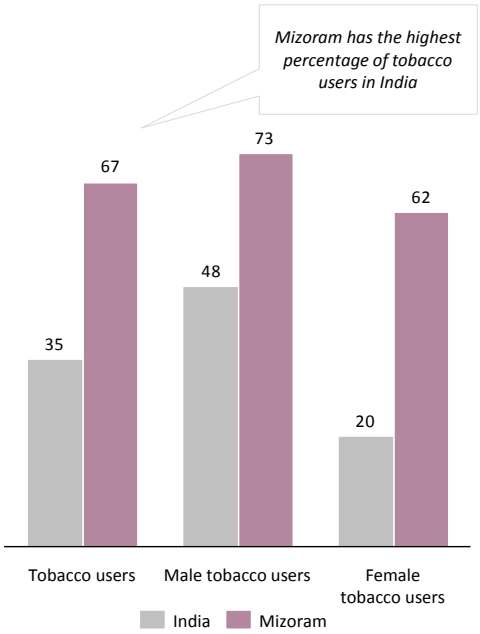
b) HEALTH PRIORITIES

(i) Cancer

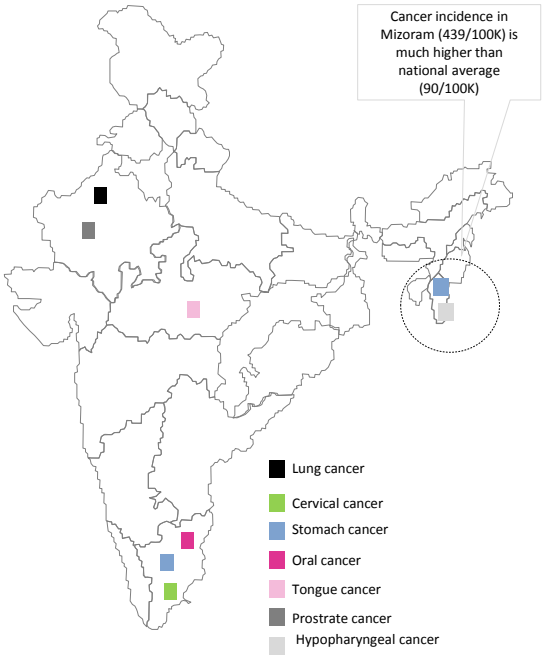
Cancer incidence in Mizoram is much higher than the national average. As seen in Figure 55, in addition to the high incidence rates, Mizoram also has the highest number of cancer related deaths in the country. Oral and stomach cancer are the most common type of cancer incident in the state and are primarily driven by extensive tobacco consumption. During field visits, officials identified tobacco use in Mizoram as a major issue. Mizoram has the dubious distinction of being the heaviest tobacco-consuming state with 67%[131] of the state's population consuming tobacco against the national average of 25%. About 73% of the men and 62 % of women in the state consume tobacco.

[131] Global Adult Tobacco Survey, MoHFW (2009-10)

Tobacco usage India vs. Mizoram
In percentages, 2011



State wise depiction of the most incident cancers



Source: http://www.theshillongtimes.com/2013/06/01/cancer-claims-over-600-lives-in-mizoram-annually/#H2zo00YQLBYgWTdV.99

Figure 55. Tobacco usage and cancer in Mizoram

An analysis of government programs suggests that tobacco control is the focus of the state government as it attempts to tackle cancer. The Mizoram State Tobacco Control Society (MSTCS) works towards discouraging people from using tobacco or tobacco-related products. Bloomberg Foundation assists the MSTCS with funds. Yet, given the scale of the problem, these prove to be inadequate. Tobacco control programs are not funded by NRHM, thus limiting access to government funds significantly. Also, the Government of India has begun the National Program for Prevention and Control of Cancer, Diabetes, Cardiovascular diseases and Stroke (NPCDCS) but this program lacks a presence in the state.

Cancer showed up as a major state concern not just in secondary research but also in stakeholder interviews. Stakeholders pointed to the above average incidence of cancer and acknowledged that it was most likely related to the rampant usage of tobacco and tobacco related products. However, some stakeholders believed that cancer was significant among non-tobacco users too and there could be other contributing factors that go beyond the use of tobacco. Though cancer burdens the state, Mizoram has only one cancer specialty hospital with just 40 beds. Patients have to go to Kolkata in West Bengal for treatment.

Based on secondary research and stakeholder feedback, it is clear that the problem of cancer needs to be addressed urgently by the state and central governments. Donor focus is currently on tobacco control.

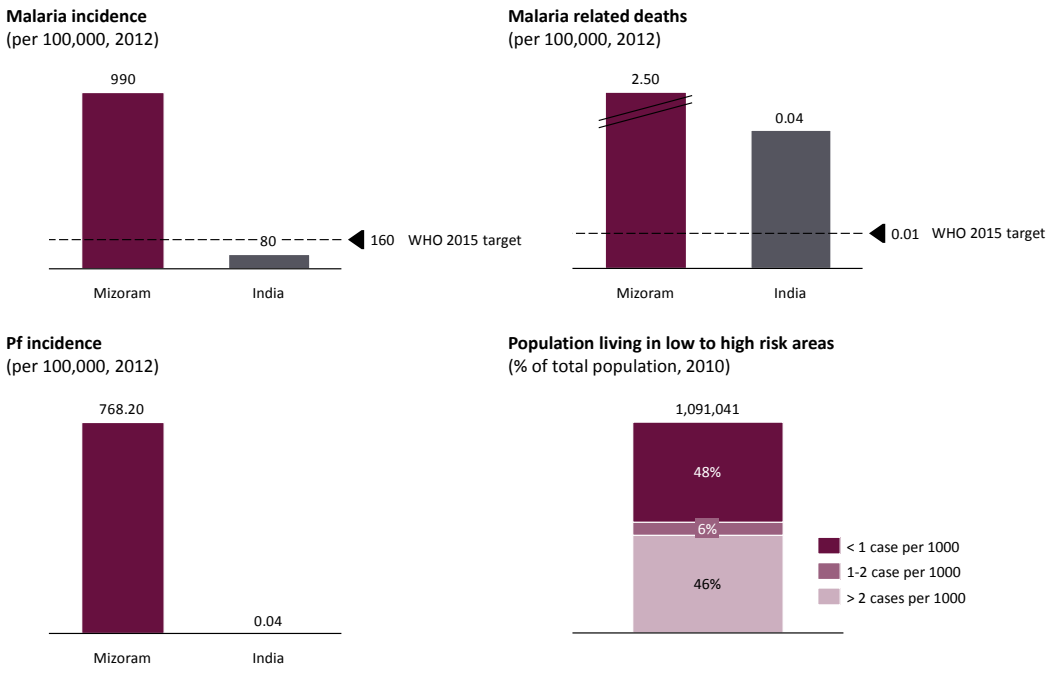
But there is a reported need for attention in the area of research, training and augmentation of diagnostics and curative facilities.

(ii) Malaria

Mizoram has the second highest malaria incidence rate and the highest malaria mortality rate in India. Figure 56 shows that in 2012, the malaria incidence rate was 990 per 100,000 people in the state,[132] as opposed to the national average of 80 per 100,000. The WHO 2015 target for India is no more than 60 cases of malaria per 100,000 people annually. Ninety five percent of total cases in the state are from the P.falciparum parasite, the deadliest strain of malaria.[133] Given the high number of P.f cases, it is not surprising that Mizoram has the highest malaria related mortality rate in the country. The difference between national and Mizoram's P.f incidence is abnormally high, which could be a result of under reporting of the milder forms of the disease. In 2012, the GoI reports, 25 people died of malaria in the state, a mortality rate of 2.5 per 100,000 people.[134]

The actual burden of malaria is likely to be significantly higher, as current figures do not include cases diagnosed and treated at private facilities. The hilly terrain of Mizoram makes a large portion of the state inaccessible, and cases from these areas are likely underreported. The WHO estimates actual malaria mortality figures for India are at least 39 times higher than national government figures due to underreporting.[135]

[132] Dalberg analysis based on Census 2011 data and NVBDCP data (http://www.nvbdcp.gov.in/Doc/mal-situation-June13.pdf)
[133] Dalberg analysis based on http://www.nvbdcp.gov.in/Doc/mal-situation-June13.pdf
[134] Dalberg analysis based on Census 2011 data and NVBDCP data (http://www.nvbdcp.gov.in/Doc/mal-situation-June13.pdf)
[135] WHO Global Health Observatory Data Repository

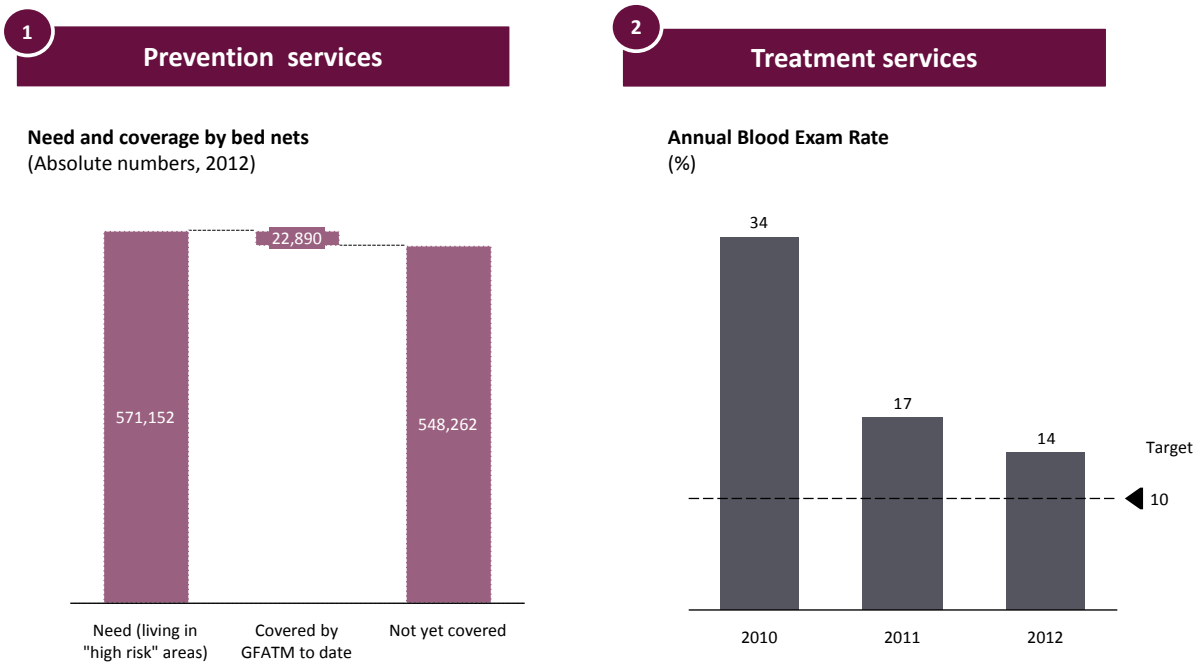


Note: The actual burden of malaria is likely significantly higher, as current figures do not include cases diagnosed and treated at private facilities
http://www.imcp2.org/newmizoram.aspx

Figure 56. Situation of Malaria in Mizoram

The WHO classified areas with one case of malaria per 1000[136] as "high risk". In Mizoram, about 52% of the state's population lives in such areas. The GFATM's Intensified Malaria Control Project – II, shown below in Figure 57, working with the National Vector Borne Disease Control Program (NVBDCP), aims to cover the entire at risk population of Mizoram by 2015 with bed nets. Currently, half a million more people need to be covered by bed nets. In addition to prevention, treatment services also lie much below the required levels though progress has been made in terms of improvement. The annual blood examination rate (ABER) is a measure of the level of diagnostic monitoring activity. As the figure suggests, the current level is 14% which is higher than the level of 10% recommended for active surveillance and is the target of the NVBDCP.

[136] Dalberg analysis based on Census 2011 and stakeholder interviews



http://www.imcp2.org/newmizoram.aspx; http://health.mizoram.gov.in/11th%205yr%20Plan/Health%20Indicator.htm

Figure 57. Status of prevention and treatment of Malaria in Mizoram

The Central government's NVBDCP focuses on three high prevalence districts in Mizoram: Mamit, Lunglie and Lawngtlai. There is a need for intensification of the ABER in many districts but government is unable to reach remote areas. Particular pockets of the state are unaware of the consequences of malaria and use preventive gear like mosquito nets for fishing.[137]

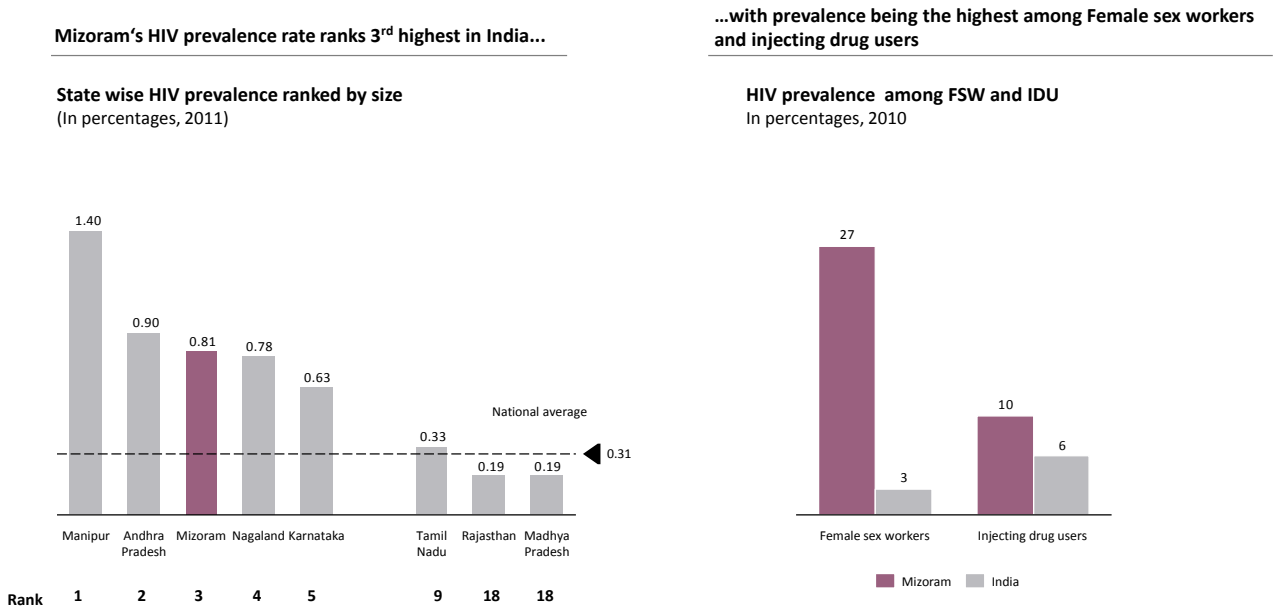
During the stakeholder outreach, malaria was not mentioned as one of the most immediate concerns for the state government. However, it was acknowledged as a big problem with high incidence and mortality rates. Stakeholders pointed that DDT is required to be sprayed as a preventive measure against malaria. However, people have realized the harms of DDT and are unwilling to spray it indoors. There are no alternatives to DDT available to the government yet. Additionally, the bed net supply is directly controlled by the Central government. Even though the state government distributes all the bed nets it receives, it falls short on its requirements. Also, given the large scale of the problem ACT drugs are needed, but they too are in short supply.

(iii) HIV/AIDS

There is high prevalence of HIV/AIDS in Mizoram. The state exhibits a HIV prevalence rate (.81%) much higher than the national average (.31%) driven largely by female sex workers (FSWs) and

[137] From PwC interim draft report – field analysis

injecting drug users (IDU). As seen in Figure 58 below, Mizoram ranks third amongst all Indian states in HIV prevalence. While HIV prevalence amongst IDUs in Mizoram is reported to be 10% (1.7x the national average of 6%), it is as high as 27% amongst FSW (9x the national average of 3%).



Source: NACO state factsheet, HSS 2010

Figure 58. HIV prevalence in Mizoram

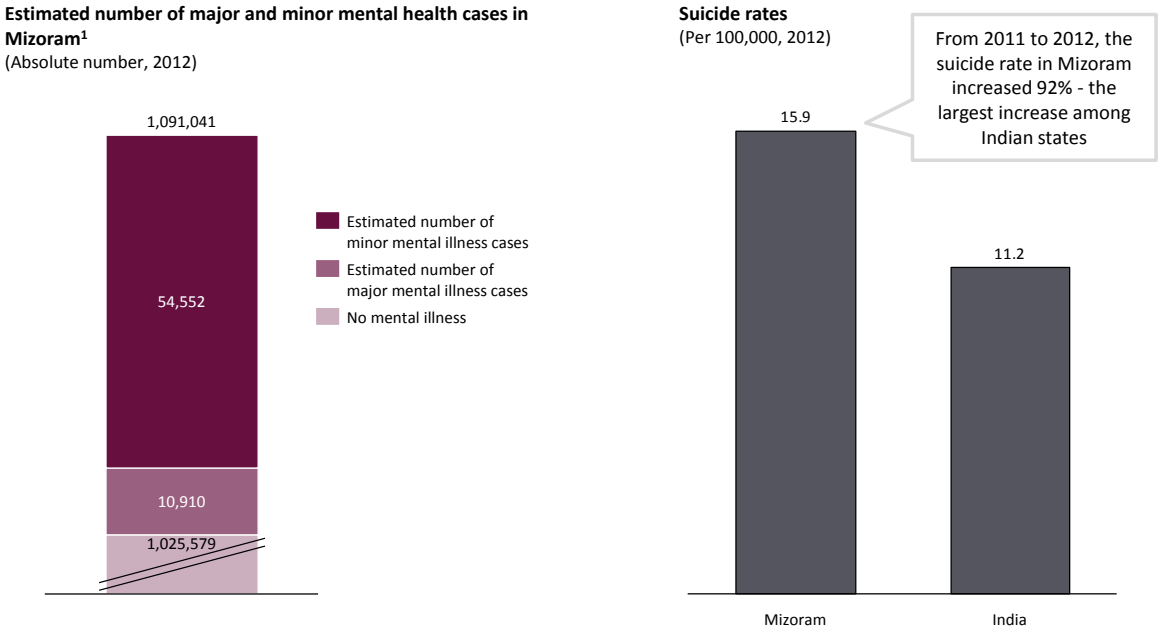
Spread and prevalence of HIV/AIDS is largely amongst the high-risk groups. The government has made efforts to address the problem through targeted interventions yet the number of people infected as an absolute number, and as a proportion of the population, remains high. The Mizoram State AIDS Control Society under the National AIDS Control Program has focused largely on awareness generation. To do this they organized social and community activities such as football matches and drama competitions.

Stakeholders identified HIV/AIDS as a serious problem in Mizoram. They said that though large scale interventions have been initiated the incidence of HIV/AIDS patients in the state is still excessive. A major reason behind these high numbers is the use of infected needles by IDUs. The state government has made targeted intervention efforts to spread awareness about the disease and methods of prevention but this has not resulted in behavior change and the problem remains critical in the high risk group of IDUs and FSWs. In addition, Mizoram has a small yet scattered population living in remote parts of the state which are hard to access. NACO interventions are based on population standards and therefore cannot be applied as it is to low density areas which see high incidence of the disease. The government

has tried to combat the problem by partnering with 27 NGOs implementing a total of 36 targeted interventions. Many church based organizations like EFICOR work towards capacity building of local NGOs to efficiently collaborate with the government. The government chooses to work collaboratively as it is impossible to reach some remote areas without local support.

(iv) Mental Health

An issue that has emerged as a big concern in the state is that of mental health. General estimates suggest that 6% of the state's population, or 65,462 individuals,[138] suffer from major and minor mental illnesses (See Figure 59) Suicide rates in Mizoram are higher than the national average. In 2012, the suicide rate was 15.9 per 100,000 people, compared to 11.2 nationally.[139]



(1) Estimates are based on government assumptions that approximately 1% and 5% of the state's population suffer from major and minor mental illness
Source: http://ncrb.nic.in/CD-ADSI-2012/Snapshots.pdf

Figure 59. Situation of mental health illnesses in Mizoram

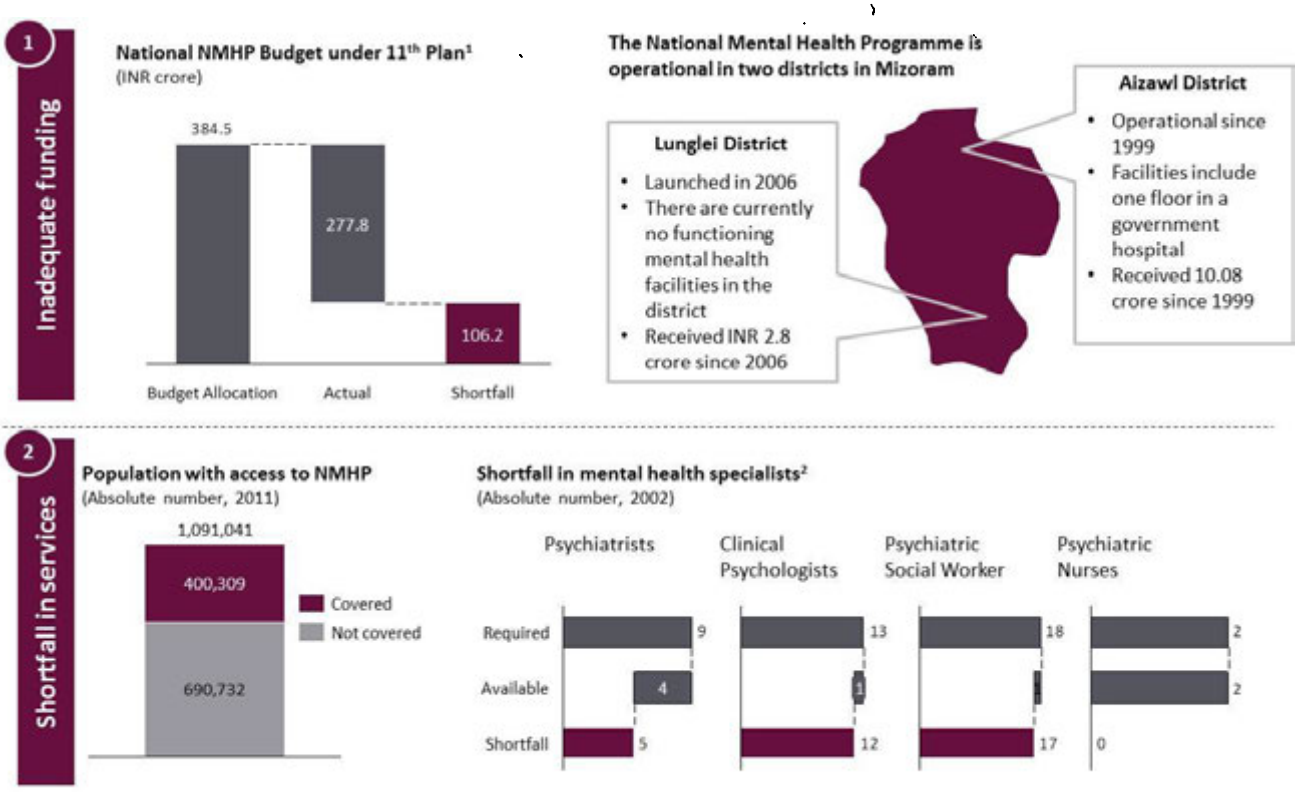
Such high numbers of mental health disorder cases in Mizoram can be attributed to two major factors, i) inadequate funding and ii) shortfall in diagnostic and care services. In addition, the socio-cultural environment in India does not regard mental disorders as an illness and therefore conditions are often ignored or treated with traditional methods. The National Mental Health Program (NMHP) is operational in two districts of Mizoram: Aizawl and Lunglei and has received INR 10.08 crore in

[138] Dalberg analysis based on government assumptions that approximately 1% and 5% of the state's population suffer from major and minor mental illness
[139] http://ncrb.nic.in/CD-ADSI-2012/Snapshots.pdf

funding since its launch. To date, mental health facilities in the district include one floor in a government hospital. The NMHP was launched in 2006 in Lunglei District. The program has since received INR 2,882,000 in funding but there are no mental health care facilities in the district.

The program suffers from funding shortfalls and therefore inadequate services. Figure 60 below highlights some challenges being faced by the NMHP in Mizoram. Under the 11th Five Year Plan, the GoI allocated INR 384.45 crore to the NMHP. Actual spending was INR 277.75 crore– a shortfall of INR 106.15. Mizoram also has a shortfall of mental health specialists. As of 2011, the Mizoram government identified a need for 5 Psychiatrists, 12 Clinical Psychologists and 17 Psychiatric Social Workers.[140] There are a sufficient number of Psychiatric nurses. However, the number of specialists required was calculated based on the number required to fill existing facilities. Since only 37% of the population lives near an existing facility, the shortfall in mental health specialists is likely greater.

India spends less than 1% of its total health budget on mental health.[141] While the problem in mental health is significant in the state, the crux of the problem lies at the lack of recognition of mental health as a problem at the national level.



Note: (1) In addition to shortfalls, initial budget allocations were not large enough to meet the need; (2) "Required" figure calculated as number of staff required to fill current mental health facilities

Figure 60. Funding and servicing shortfalls for mental health in Mizoram

[140] http://health.mizoram.gov.in/
[141] http://infochangeindia.org/agenda/access-denied/less-than-1-of-our-health-budget-is-spent-on-mental-health.html

Stakeholders pointed that mental health is a growing problem in Mizoram. It is hard to diagnose mental health patients, and causes are often unknown. As in the rest of India, discussion and diagnosis of mental health issues is a taboo subject. Patients are often ignored or badly treated as opposed to receiving the treatment they need. In addition, there are no mental health hospitals for patients. The infrastructure required to support a growing problem does not exist.

(v) Hepatitis C

Hepatitis C, globally, is a larger epidemic than HIV-AIDS. Hepatitis C Virus (HCV) infected patients are 170 million, while HIV patients are only 34 million. Additionally, there are 5 million patients who have an HIV-HCV co-infection.[142]

Stakeholder outreach in Mizoram identified some key concerns around HCV in the state. There is a lack of acknowledgement about HCV as a major health issue in India at the policy level. There is no central scheme in place to address the disease. Also, the treatment is extremely expensive, and depending on the stage of the disease, it can cost up to INR 990,000per month. In Mizoram, the problem is intensified due to IDUs who share needles and pass on the disease. It is estimated that almost 71% of IDUs are HCV positive. Other than through IDUs, HCV passes through blood transfusion. Additionally, since HCV is a virulent virus, minimal exposure can lead a person to contract Hepatitis C. Also, given the nature of the virus, it is fatal almost 80% of the time.

The government finds it difficult to invest in HCV due to the high cost of treatment and high level of fatality. As a result, HCV patients are left to fend for themselves. Low quality screening compounds the problem.

(vi) Supporting Infrastructure

Mizoram, when compared to other states, has minimal shortage of physical infrastructure. There are sufficient District Hospitals, CHCs and PHCs in the state. However, at the sub-district level, Mizoram sees shortfall of 3 hospitals or about 50% of the need. There is a shortfall of Sub-Centres; the state needs an additional 84 Sub-centres to meet its needs. In addition, Mizoram faces a shortfall in health personnel specifically in diagnostics. The state requires an additional 12 lab technicians in CHCs and 71 lab technicians in PHCs. Currently, there are no radiographers available in Mizoram, despite a need for 24 under this category.[143]

c) INSTITUTIONAL ARRANGEMENT

[142] http://www.epidemic.org/thefacts/theepidemic/worldPrevalence/

[143] http://health.mizoram.gov.in/

The Department of Health & Family Welfare in Mizoram has a secretariat and two directorates namely, the Directorate of Health Services (DHS) and the Directorate of Hospital and Medical Education (DHME). The Directorate of Health Services (DHS) is responsible for rural health institutions that is, CHCs, PHCs, sub-centres (SCs) and rural hospitals. The district level structure of DHS is headed by Chief Medical Officer (CMO). The Directorate of Hospital and Medical Education (DHME) is responsible for all the hospitals which include civil hospital Aizawl, Kulikawn, hospital and all other district hospitals. The district level structure of DHME is headed by the medical superintendent.[144]

d) STATE SPECIFIC HEALTH POLICIES

While Mizoram doesn't have many independent state health policies it has adapted several national health polices to suit the state's context in order to improve health outcomes. Community based implementation of RCH and ICDS program has led to the state having one of the best MNCH indicators in the country. Considering, HIV prevalence amongst IDU is high in the state; the government has rolled out multiple behavior change education programs targeted at the IDU through the State AIDS Control Society. Some of the large programs implemented by the state government are listed below. More detailed descriptions of these programs are found in Annex 1.

1. *National Rural Health Mission (NRHM)*
2. *National Urban Health Mission (NUHM)*
3. *Mizoram State Health Care Scheme (insurance)*
4. *Adolescent Reproductive and Sexual Health (ARSH)*
5. *National Program for Control of Blindness*
6. *School Health Programme*
7. *Integrated Child Development Scheme*
8. *Nirmal Bharat Abhiyan (Total Sanitation Campaign, TSC)*
9. National Rural Drinking Water Programme (NRDWP)

e) BUDGET

Mizoram is a special category state which suffers from inadequate fund availability. Historically, health budget as a percentage of total budget has been close to 3%, which is much lower than other JICA states under study (13-16%). However, in 2010-11, additional funds were allocated for the establishment of a referral hospital and the implementation of the state health care scheme as a result, the state health budget rose to 13.9% of the total state budget[145]. Not only the budget allocation but also the budget utilization levels remain low in Mizoram. For instance, during the first 3 year of the 11th FYP the state utilized only

[144] PwC report
[145] State PIP budget, PwC report

65% of the allocated budget. Utilization rates have been particularly low (42%) for the budget allocated under the NRHM pool[146]. Despite inadequate budget allocation and low budget utilization rate, public expenditure on healthcare is one of the highest in India (77%). Per capita private expenditure on healthcare is the lowest driven primarily by lack of private healthcare infrastructure in the state.[147]

f) DONOR LANDSCAPE

Mizoram's geographical location, terrain and good health indicators have resulted in relatively low donor involvement in the health sector. Within health, there are five main donors in the state – UNICEF, UNODC DFID, GFATM and ADB. The lead donor for coordination of health activities in Mizoram is UNICEF.

UNICEF is providing technical assistance to the Mizoram State AIDS Control Society (MSACS) to increase the coverage of targeted interventions. The organization has placed a full consultant with the MSACS to complement the work-force. In addition to HIV/AIDS, UNICEF is also actively supporting the state government's efforts to expand the immunization coverage in the remote areas of the state. For instance, UNICEF conducted an immunization drive for the first time in the remote Chakma tribal belt along the Indo-Bangladesh border in 2006.

UNODC through multiple programs and interventions has been trying to tackle the problem of injected drug use specifically in females and youth in the state. Almost one third (31.8%) of HIV infections in Mizoram are among injecting drug users (IDU); hence, drug related harm, care and support to HIV-infected drug users and their immediate families have been the focus areas of UNODC intervention in Mizoram[148]. The organization in partnership with NACO and MSACS launched multimedia campaigns to mobilize communities especially those that are most affected by drug use, HIV and AIDS. Furthermore, UNODC as part of its female injecting drug users program provided essential prevention commodities such as male and female condoms, sterile needles, diagnosis and treatment of sexually transmitted infections and antiretroviral treatment for female drug users.

In addition to the large programs run by UNICEF and UNODC there exist smaller programs run by other donors. For instance, DFID extends support to Mizoram under its Reproductive and Child Health initiative, National AIDS Control Program and the TB program. GFATM is working to control the malaria epidemic in the state by distributing nets and medicines. Finally, Asian Development Bank is focusing on overall health system strengthening and expanding the coverage of state health insurance scheme.

[146] ibid
[147] ibid
[148] PwC report

2. MADHYA PRADESH

a) BACKGROUND

Madhya Pradesh located in central India is the largest state in the country. A large part of the state is hilly, forested, and inaccessible and has a tribal population of almost 12 million people. Additionally, the state also has one of the worst health indicators in India.

Madhya Pradesh fairs poorly across almost all primary health and disease indicators. As depicted in Figure 61, primary health indicators of the state are much worse than the rest of the country; for instance, MMR in Madhya Pradesh is 35% higher than the national average. The state also suffers from high IMR of 59 deaths/100,000 live births (1.3x the national average). Further, Madhya Pradesh lags behind in disease areas as well with the state's indicators for malaria, tuberculosis and cancer being significantly higher than the national average. With regard to enabling factors, 20% of households do not have access to improved resources of water, as opposed to the national average of 8%. Statistics for sanitation are even worse with only 28% of the state's total population having access to improved sanitation.

	Health Indicator	MP	India	Performance
Primary health	Infant Mortality rate (Per 1000, 2011)	59	44	↓
	Maternal Mortality rate (Per 100,000, 2011)	269	212	↓
	Institutional delivery(%, 2013)	81	47	↑
	Immunization rate(%, 2012)	22	44	↓
Disease	Tuberculosis incidence rates (per 100,000, 2011)	200	185	↓
	Malaria incidence rate (per 1000, 2012)	105	80	↓
	HIV prevalence rates (%, 2011)	.19	.33	↑
	Cancer incidence rates (100,000, 2011)	107	99	↓
	Diabetes prevalence rates (%, 2011)	2.9	8	↑
Enabling environment	Child malnutrition rate (%, 2010)	60	48	↓
	Households without access to improved source of water (%, 2011)	20	8	↓
	Households without access to improved sanitation (%, 2011)	72	65	↓

↑ Performing above national average

↓ Performing below national average

Source: http://health.mizoram.gov.in/11th%205yr%20Plan/Health%20Indicator.htm, http://www.unicef.org/india/health.html, NACO factsheets, RNTCP website, PWC interim report, Census 2011, http://www.theaahm.org/fileadmin/user_upload/aahm/docs/India-State-Hunger-Index.pdf, India Hunger Index 2010

Figure 61. Key healthcare indicators in Madhya Pradesh

Health infrastructure, comprising both physical infrastructure and health personnel, is extremely poor in the Madhya Pradesh. As depicted in the Figure 62 below, shortfall exists across all levels of physical infrastructure and human resource for healthcare. Shortages are significant, with the highest deficit seen in specialists at CHCs and laboratory technicians at PHCs and CHCs.

	Particulars of infrastructure in Madhya Pradesh (Centers, 2012)	Required	Available	Performance
Physical infrastructure	Sub centers	12314	8869	↓
	Primary Health Centre	1977	1156	↓
	Community Health Centre	494	333	↓
Human resources	Total specialists at CHCs	1332	267	↓
	Doctors at PHCs	57	37	↓
	Radiographers at CHCs	333	192	↓
	Laboratory technicians at PHCs & CHCs	1489	609	↓

↑ Meeting targets set by the government

↓ Not meeting targets set by the government

Source:http://www.nrhm.gov.in/nrhm-in-state/state-wise-information/madhya-pradesh.html#health_profile_mp

Figure 62. Status of supporting health infrastructure in Madhya Pradesh

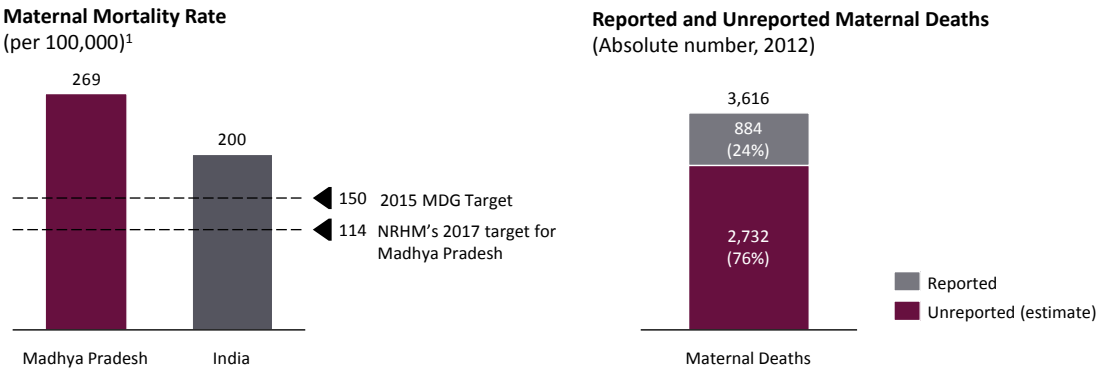
While most health indicators are performing poorly, we have prioritized few areas, based on our analysis and stakeholder feedback, which are significantly weak and are major concerns for the state. These are, i) Maternal and Child Health, ii) Malaria, iii) Malnutrition, and iv) Health infrastructure.

b) HEALTH PRIORITIES

(i) Maternal and Child Health

Madhya Pradesh has one of the worst MNCH indicators in India. The reported MMR of 269[149] per 100,000 live births is 35% higher than the national average (200 deaths per 100,000 live births) but actual numbers might still be higher due to widespread underreporting as shown in Figure 63. For instance, in 2012, according to NRHM data, 76% of 3,616 maternal deaths went unreported in Madhya Pradesh.

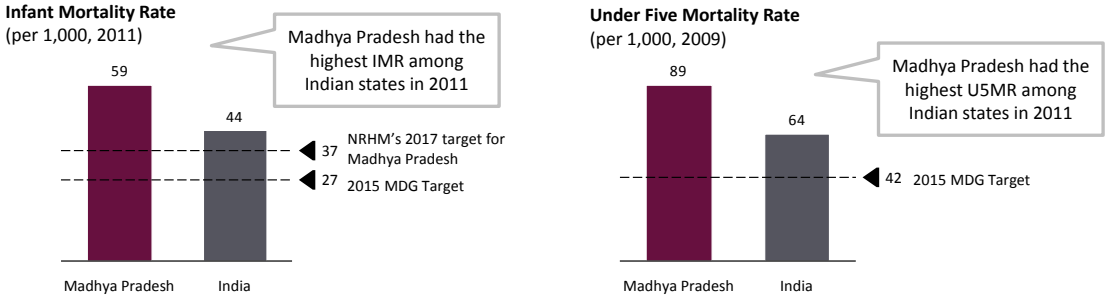
[149] http://nrhm.gov.in/nrhm-in-state/state-wise-information/madhya-pradesh.html



Note: (1) Madhya Pradesh figure from 2009, India figure from 2011 Source: http://articles.timesofindia.indiatimes.com/2013-07-10/bhopal/40491536_1_nrhm-national-rural-health-mission-madhya-pradesh; http://censusindia.gov.in/vital_statistics/SRS_Bulletins/MMR_release_070711.pdf

Figure 63. Maternal mortality in Madhya Pradesh

As seen in Figure 64 and Figure 65, the state also holds the dubious distinction of having the highest IMR (59 deaths/1000 live births) and U5MR (89 deaths/1000 live births) among India's 29 states and six union territories.[150]

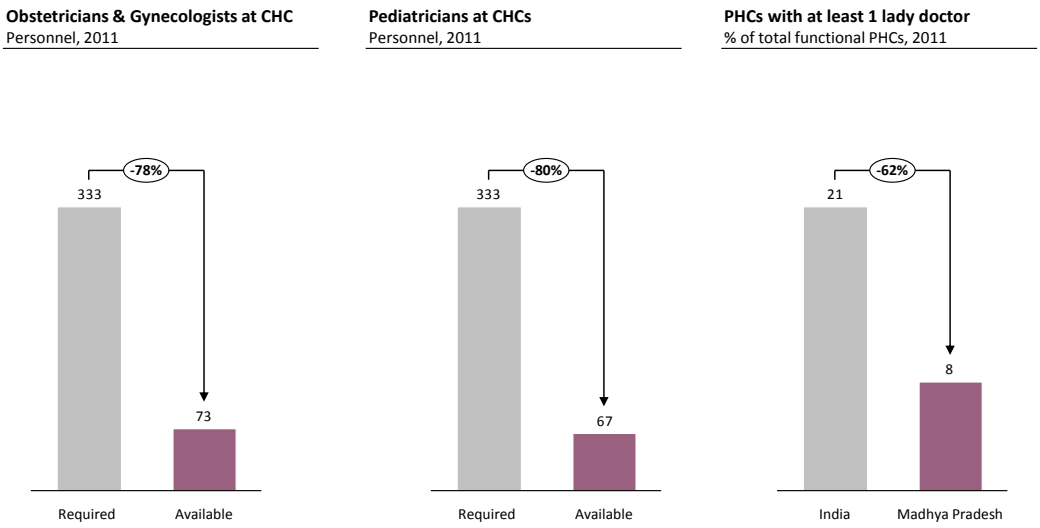


Note: (1) Madhya Pradesh figure from 2010, India figure from 2011 Source: http://censusindia.gov.in/vital_statistics/SRS_Bulletins/MMR_release_070711.pdf; http://mohfw.nic.in/WriteReadData/l892s/972971120FW%20Statistics%202011%20Revised%2031%2010%2011.pdf; http://health.india.com/news/madhya-pradesh-is-the-worst-place-for-infants-in-the-country/

Figure 64. Infant mortality in Madhya Pradesh

Additionally, there is an acute shortage of MNCH related health personnel in Madhya Pradesh. There is ~80% shortfall in the availability of obstetricians, gynecologist and pediatricians at the CHCs in the state (See Figure 66).

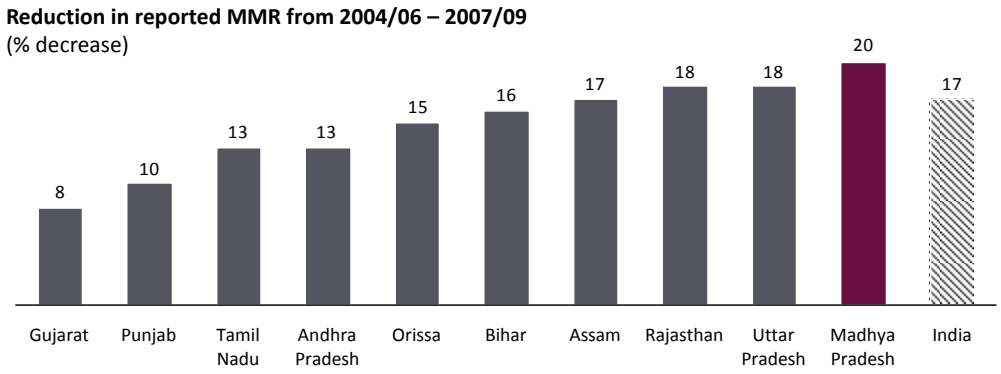
[150] Note: (1) Madhya Pradesh figure from 2010, India figure from 2011 Source: http://censusindia.gov.in/vital_statistics/SRS_Bulletins/MMR_release_070711.pdf; http://mohfw.nic.in/WriteReadData/l892s/972971120FW%20Statistics%202011%20Revised%2031%2010%2011.pdf; http://health.india.com/news/madhya-pradesh-is-the-worst-place-for-infants-in-the-country/



Source: http://nrhm.gov.in/nrhm-in-state/state-wise-information/madhya-pradesh.html#health_profile_mp

Figure 65. MNCH specialists in Madhya Pradesh

However, in recent years there have been reported declines in both MMR and IMR driven largely by government programs focusing on increasing institutional deliveries and antenatal care in Madhya Pradesh. Although many deaths go unreported, government data as depicted in Figure 66 suggests Madhya Pradesh has seen one of the largest declines (20%) in MMR among Indian states.



Note: (1) Madhya Pradesh figure from 2009, India figure from 2011 Source: http://articles.timesofindia.indiatimes.com/2013-07-10/bhopal/40491536_1_nrhm-national-rural-health-mission-madhya-pradesh; http://censusindia.gov.in/vital_statistics/SRS_Bulletins/MMR_release_070711.pdf

Figure 66. Decline in Maternal Mortality Rates in Madhya Pradesh

Through the implementation of JSY under the NRHM, the state has achieved an 81% institutional delivery rate, as per government reported data in 2012. The institutional delivery rate achieved in Madhya Pradesh is almost double the national average of 47%. In addition to high rates of institutional delivery, number of women receiving antenatal checkups is 1.3 times higher than the national average of 51%.

In the stakeholder interviews with government officials, findings from the secondary research were corroborated. The NRHM has flushed large amounts of funds in the public health system but shortage of staff still plagues the state. Officials believe there is a 50% shortage at the primary health level. The problem is not just of quantity. The quality of staff is very poor in Madhya Pradesh. There are not enough incentives built into the system to attract well-trained health staff at different levels; villages of Madhya Pradesh are remote with little amenities and qualified people do not want to live there. Health and medical education colleges are planned across the state and stakeholders are hopeful that these institutes would help fill the gap of qualified professionals in the long run.

(ii) Malaria

Madhya Pradesh is one of the worst malaria affected states in the country. The state accounts for 8% of the total population of India and contributes 30% of total malaria cases.[151] Vast tracks of forests with tribal settlements are driving the malaria epidemic in the state. below shows that in 2012, according to government data, malaria incidence rate was one per 1000 people in the state,152 compared to the national average of 0.8 per 1000.153 The WHO 2015 target for India is no more than .6 cases of malaria per 1000 people annually. Additionally, the state also suffers from high malaria related mortality (1.5 times the national average of .04 deaths/ 100,000154) and contributes 50% to the total number of malaria deaths in the country.155 The actual burden of malaria is likely to be significantly higher, as current figures do not include cases diagnosed and treated at private facilities.

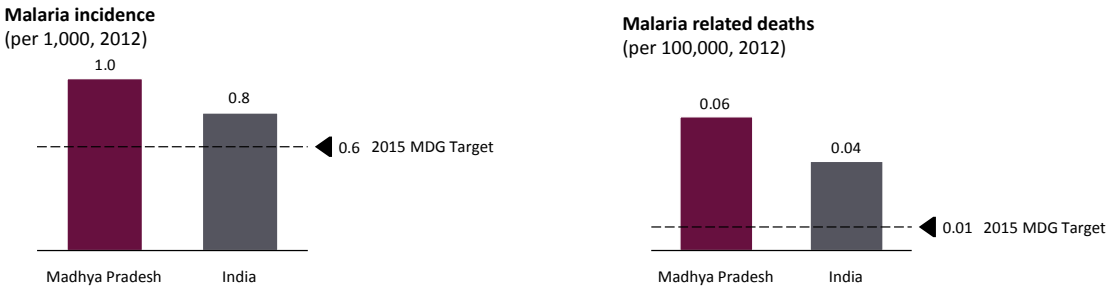


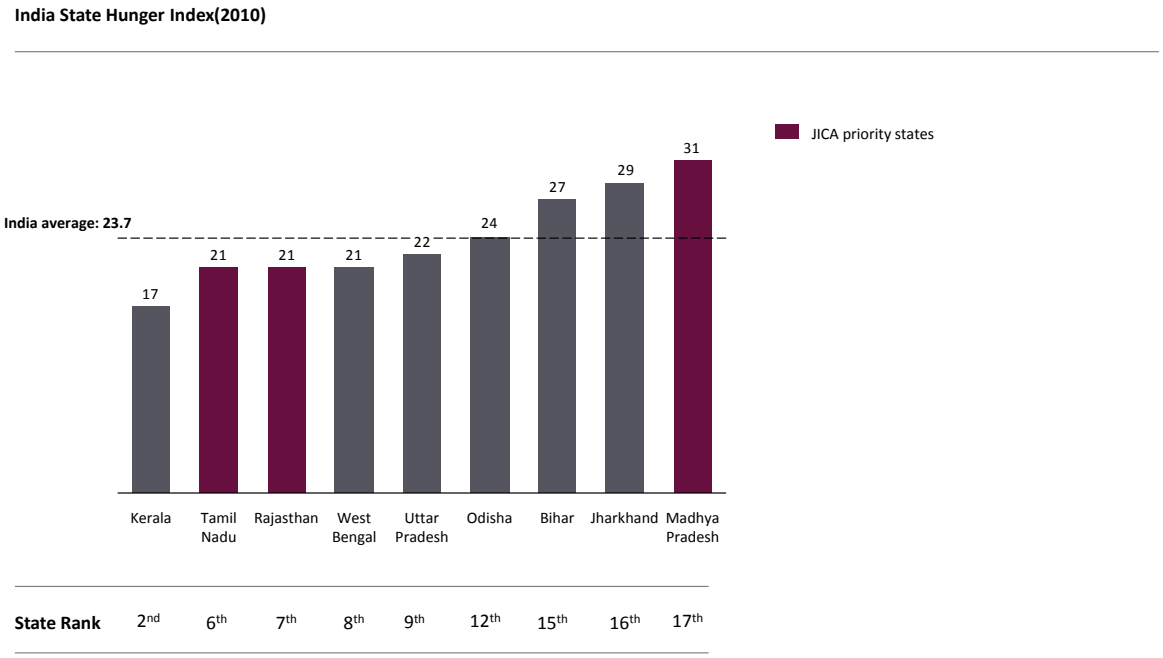
Figure 67. Situation of malaria in Madhya Pradesh

The stakeholders acknowledge the issue of malaria in the state. However, they reflected that the program addressing the issue is large and complex. The scale of the problem itself is huge, and existing funds are not enough. In addition, Madhya Pradesh's terrain and road infrastructure makes it hard for the government to distribute medicines to the interior regions of the state.

[151] http://www.malariajournal.com/content/8/1/93
[152] Dalberg analysis based on Census 2011 data and NVBDCP data (http://www.nvbdcp.gov.in/Doc/mal-situation-June13.pdf)
[153] Dalberg analysis based on http://www.nvbdcp.gov.in/Doc/mal-situation-June13.pdf
[154] http://www.nvbdcp.gov.in/Doc/mal-situation-June13.pdf)
[155] http://www.malariajournal.com/content/8/1/93

(iii) Malnutrition

Madhya Pradesh has high levels of malnutrition. It is estimated that over two thirds of the children in the state are malnourished. Madhya Pradesh has more malnourished children than most sub-Saharan African countries. Accordingly to the 2008 Global Health Index 2010 (See Figure 68). India ranks 66th among 88 countries studied. Within India, 17 states were scored and assigned categories of low, moderate, alarming and extremely alarming. Madhya Pradesh was the only state to fall under the last category.



Source: India Hunger Index 2010

Figure 68 State of malnutrition in Madhya Pradesh

In the stakeholder interviews, malnutrition came up as a big problem. However, the problem was linked directly to the shortage of human resources in the state. The State government is taking special interest in the issue of malnutrition and has started its own state-level scheme to deal with the problem. That said, stakeholders maintain that the space of malnutrition is populated by donors like UNICEF who have been working with the government for many years.

(iv) Health Infrastructure

Health challenges mentioned above are further exacerbated by the acute shortage of health infrastructure in Madhya Pradesh. Of all the JICA states under study, Madhya Pradesh faces the largest deficit in physical infrastructure. As depicted earlier in (Figure 65) there is a 38% shortfall at the CHC level, 42% shortfall at the PHC level and 28% shortfall at the SC level. In addition to the poor physical

infrastructure, Madhya Pradesh also faces large shortfalls in the availability of health personnel. While shortfalls exist across all levels of human resources for health, it is particularly large in the specialist and laboratory technician category with close to 80% [156] and 60%[157] of the positions lying vacant, respectively.

Madhya Pradesh is a difficult state and stakeholders agreed that structural issues like shortage of infrastructure further accentuated the problem of low human resources. Madhya Pradesh is vast, villages and hamlets are scattered, and road infrastructure does connect villages sufficiently. In addition, large parts of the state get cut-off in the monsoons. This environment makes the construction, staffing, maintenance and monitoring of healthcare infrastructure difficult, consequently resulting in low health indicators.

c) INSTITUTIONAL ARRANGEMENT

The department of health and family welfare in Madhya Pradesh is headed by the Minister of Health & Family Welfare, a cabinet minister. The minister is responsible for policies and administrative decisions at the highest level. Principal Secretary, Health & Family Welfare is the administrative head of the department and responsible for implementing the policies. He is assisted by a secretariat consisting of secretary, deputy secretary and under-secretaries. Under the principal secretary the Commissioner Health heading the directorate of health & family welfare in the state, Mission Director National Rural Health Mission (NRHM) and Project Director of State AIDS Control Society (SACS) are directly involved in implementation of various programmes and activities. The Secretariat provides administrative support to the directorate of health & family welfare, NRHM and SACS.[158]

d) STATE SPECIFIC HEALTH POLICIES

Madhya Pradesh has improvised on many centrally designed schemes to suit the programmes to the local context. For instance, to elongate the shelf life of vaccines under the RCH programme the state has put in efforts to improve the cold storage management system through effective vaccine management (EVM) exercise under the RCH programme. The state also provides transportation facilities to pregnant woman specifically belonging to schedule cast and schedule tribe under the Prasav Hetu Parivahan Evam Upchar Yojana. Additionally, the government has established Atal Bal Arogya Evam Poshan Mission to fill the gaps in the existing ICDS. Some of the large programs implemented by the state are listed below. More detailed descriptions of these programs are found in Annex 1.

1. *National Rural Health Mission (NRHM)*

[156] http://nrhm.gov.in/nrhm-in-state/state-wise-information/madhya-pradesh.html
[157] http://nrhm.gov.in/nrhm-in-state/state-wise-information/madhya-pradesh.html
[158] PwC report

2. *National Urban Health Mission (NUHM)*
3. *Adolescent Reproductive & Sexual Health*
4. *National Trachoma and Blindness Control Programme*
5. Deen Dayal Antyodaya Upchar Yojna (free treatment and medical consultations to BPL population hospitalized in government hospitals)
6. *Deen Dayal Mobile Hospital Yojana (Mobile hospital)*
7. *National Leprosy Eradication Programme (NLEP):*
8. *Integrated Child Development Scheme*
9. *Nirmal Bharat Abhiyan (Sanitation Program)*
10. *National Rural Drinking Water Program*

e) BUDGET

Madhya Pradesh government allocates more than 3%[159] of its total budget for expansion and strengthening of health sector activities. In the last one decade focus on health activities has increased. According to the PwC report, fund allocation to the health sector as a percentage of total state budget has increased from 2.42% in 2003 to 3.28% in 2011[160]. Conversely, allocations through NRHM have seen a decline since 2009. As depicted in the Figure 69 below, allocation under NRHM increased consistently till 2008 but dropped by more than 60% in 2009.[161]

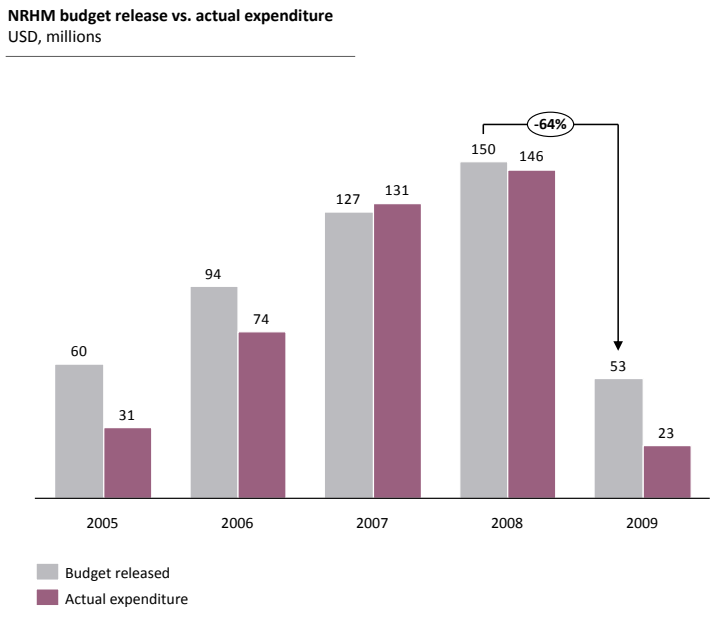


Figure 69. NRHM fund release vs. actual expenditure

[159] PwC report
[160] PwC report
[161] PwC report

f) DONOR LANDSCAPE

Madhya Pradesh is a large-donor focus state. Within health, there are five major donors who work in the state – these are DFID, UNICEF, GFATM, World Bank and UNFPA. The primary focus of donor attention is maternal and child health, nutrition, tuberculosis and malaria.

DFID is the lead donor for MP and is providing the government with financial and technical assistance through MP health sector support programme to help improve MNCH indicators in the state. The focus areas under this project are basic nutrition and reproductive health care. DFID with the focus on these areas and a budget support of INR 528 crore (over 2007-2012) aims to increase the provision of quality health services to the marginalized population[162]. The main activities under the programme include promotion of usage of zinc ORS for diarrheal diseases, family planning counseling, and setting up of state nutrition mission. This program is scheduled to run till 2015. Additionally, DFID has a strategic partnership with UNICEF in eight economically backward states across India. This means that DFID funds UNCIEF's work in these states which includes Madhya Pradesh. Through this partnership, DFID and UNICEF aim to enhance the capacity of the government for planning, monitoring, implementation, and community mobilization to better realize the rights of the child. This partnership will come to an end in 2013.

UNICEF is also working on MNCH issues in the state with a specific focus on addressing gaps in service delivery for JSY in the state. Additionally, the World Bank and GFATM have smaller projects on tuberculosis and malaria control. Both organizations support NVBDCP in the state to in terms of commodities and drugs for containment of malaria in the high-endemic areas of the state.

Finally, UNFPA is supporting the adolescent programme in the state focused on providing practical information on sexual and reproductive health. The project's goal at the national and state level is to help ensure a healthy and safe development process for adolescents of both sexes, in and out of school. Key strategies include building a supportive environment at the policy and community levels; informing adolescents on health/SRH; building their life skills and promoting service linkages on a pilot basis.[163]

3. RAJASTHAN

a) BACKGROUND

Rajasthan is located in India's west central interior and is home to about 63 million people[164]. Rajasthan is considered a conservative society that still abides by long-held values and traditions. A large part of the state is difficult to access due to vast stretches of desert and isolated tribal population. Traditionally,

[162] PwC report
[163] PwC report
[164] http://www.unicef.org/india/overview_4309.htm

Rajasthan has performed poorly on key health indicators. As depicted by Figure 70 the state specifically displays dismal results against MNCH indicators. Rajasthan has the dubious distinction of having one of the highest MMR in the country. IMR is also 18% higher than the national average. Additionally, there are wide urban-rural differences in health indicators. For instance, the IMR in urban areas according to latest estimates was 35 deaths/1000 live births, while it was 65 deaths/1000 live births in rural areas[165]. Tuberculosis incidence is also higher than the national average however; government has taken effective steps to combat the disease.

	Health Indicator	Rajasthan	India	Performance
Primary health	Infant Mortality rate (Per 1000, 2011)	52	44	↓
	Maternal Mortality rate (Per 100,000, 2011)	318	212	↓
	Institutional delivery(%, 2012)	32.2	47	↓
	Immunization rate(%, 2012)	21.1	44	↓
Disease	Tuberculosis incidence rates (per 100,000, 2011)	200	185	↓
	Malaria incidence rate (per 100000, 2012)	77	80	↑
	HIV prevalence rates (%, 2011)	.19	.33	↑
	Cancer incidence rates (100,000, 2011)	76	99	↑
	Diabetes prevalence rate (%, 2011)	N/A	8%	
Enabling environment	Malnutrition rates	40%	48%	↑
	Households without access to improved source of water (%, 2011)	9	8	↓
	Households without access to improved sanitation (%, 2011)	60	65	↑

↑ Performing above national average

↓ Performing below national average

Source:http://nrhm.gov.in/nrhm-in-state/state-wise-information/rajasthan.html#health_profile, Health indicators, NACO factsheets, RNTCP website, PWC interim report

Figure 70. Rajasthan Health Profile

Health infrastructure comprising of both physical infrastructure and health personnel are extremely poor in the Rajasthan. As depicted in the Figure 71below shortfall exists across almost all levels of physical infrastructure and human resource for health.

[165] PwC Report

	Particulars of infrastructure in Rajasthan (Centers, 2012)	Required	Available	Performance
Physical infrastructure	Sub centers	15172	11487	↓
	Primary Health Centre	2326	1528	↓
	Community Health Centre	581	382	↓
Human resources	Total specialists at CHCs	1528	148	↓
	Doctors at PHCs	1528	1755	↑
	Radiographers at CHCs	382	260	↓
	Laboratory technicians at PHCs & CHCs	1910	2639	↑

↑ Meeting targets set by the government

↓ Not meeting targets set by the government

Source:http://nrhm.gov.in/nrhm-in-state/state-wise-information/rajasthan.html#health_profile, Rural Health statistics 2011

Figure 71. Rajasthan health infrastructure

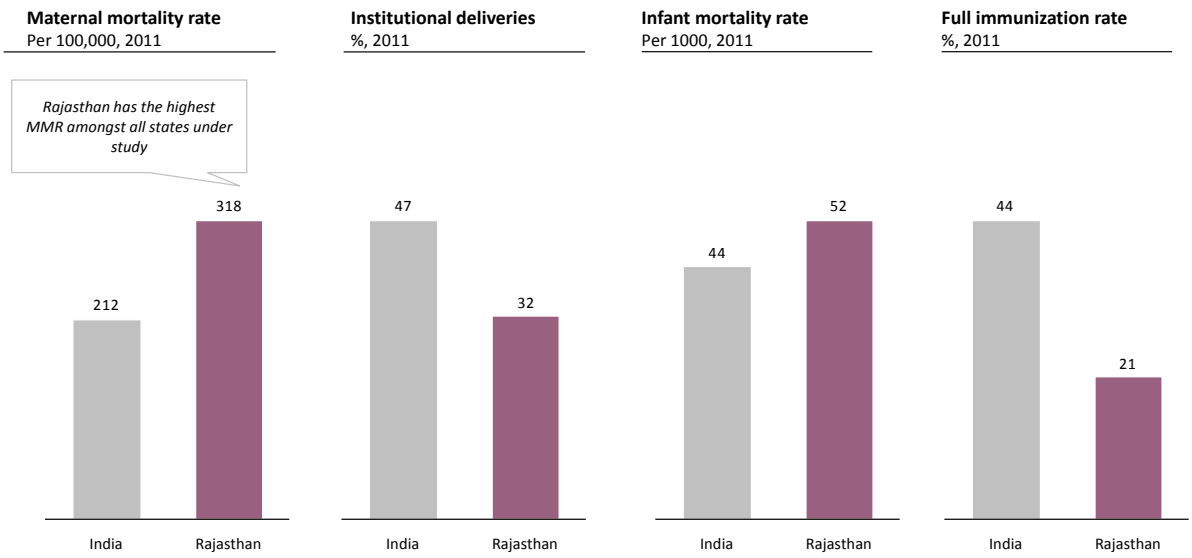
Thus, for the purpose of our analysis we have prioritized areas which need special attention. The identified areas are i) Maternal and Child Health ii) Tuberculosis iii) Health infrastructure. Additionally, we have also provided a brief overview of the state specific health policies, budget analysis and donor landscape.

b) HEALTH PRIORITIES

(i) Maternal and Child Health

Rajasthan's performance across all major MNCH indicators has traditionally remained poor. While the MMR in the state has decline by 70 points (during 2006-2009), it is still 1.5 times the national average of 212 deaths/100,000 live births. Not only is the MMR higher than the national average it is also the highest amongst all JICA states under study. High MMR could be compounded due to low rates of institutional delivery and antenatal check-ups. Only 32% of pregnant women had institutional delivery as compared to the national average of 47%. The statistics are even worse for ante natal check-ups, with only 28%[166] pregnant women going for the minimum number of ante natal check-ups as opposed to the country average of 50%[167]. Furthermore, child health indicators such as IMR and immunization rates are well below the national average. IMR is 8 points above the national average of 44 deaths/1000 live births and immunization rate is half the country average of 44% (See Figure 72)

[166] DLHS III
[167] DLHS III



Source: http://nrhm.gov.in/nrhm-in-state/state-wise-information/rajasthan.html#health_profile, http://www.nrhm.gov.in/images/pdf/mis-report/March-2013/2High_Focus_NonNE_States_as_on_31.03.2013.pdf

Figure 72. MNCH health indicators

Additionally, there is an acute shortage of MNCH related health personnel in Rajasthan. For example, there is ~96% shortfall in the availability of obstetricians, gynecologist and pediatricians at the CHCs in the state (See Figure 73).

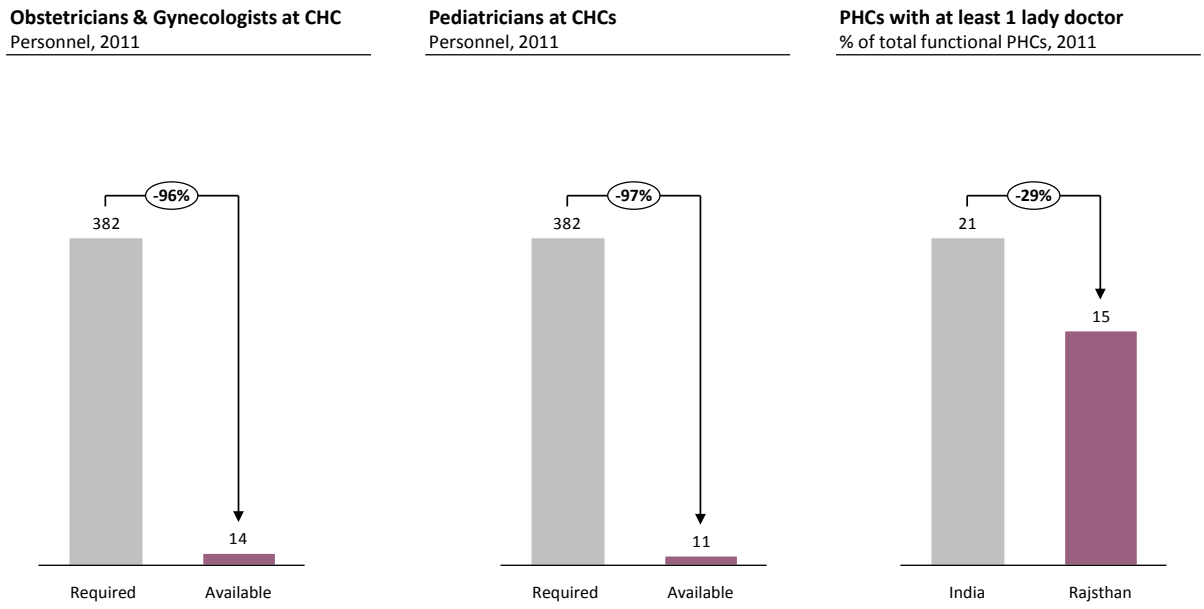


Figure 73. MNCH related health personnel

(ii) Tuberculosis

Rajasthan has traditionally witnessed high tuberculosis incidence with the current numbers (200/100,000) being 20% higher than the national average of 185 cases/100,000 [168] population. However, the government has taken cognizance of this fact and has ramped up the TB service delivery in the state. The state in recent years has achieved the target rate of 90% for the treatment success rate among new smear positive cases. The indicators listed by WHO have also been achieved in 2012[169]. According to the PwC report, political commitment and support from administration have been the critical success factors for these achievements. (See Figure 74)

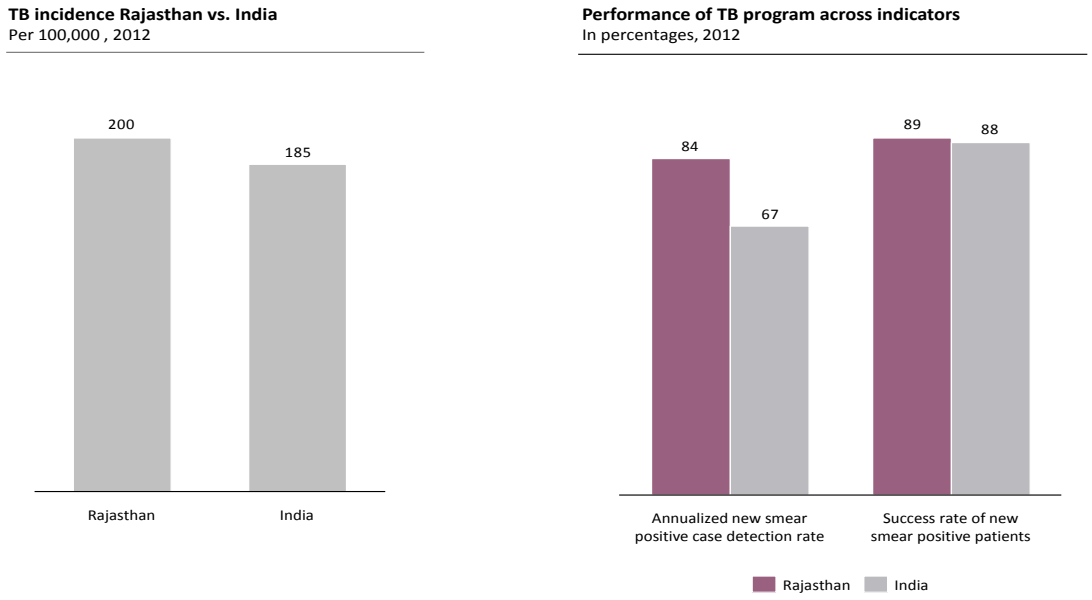


Figure 74. Tuberculosis status in Rajasthan

(iii) Infrastructure

Health service delivery in Rajasthan is faced with the challenge of inadequate infrastructure. There exists large shortfall across all levels of physical infrastructure with 34%[170] deficit at the PHC and CHC level and 24%[171] deficit at the sub-center level. While human resource for health is limited across all levels it is particularly stretched at the CHC level with more than 90%[172] shortfall in categories such as specialists, pediatrician, obstetrics and gynecologists (see Figure 75)

[168] RNTCP 2012 report, Dalberg analysis
[169] PwC report
[170] NRHM Rajasthan state database
[171] NRHM Rajasthan state database
[172] NRHM Rajasthan state database

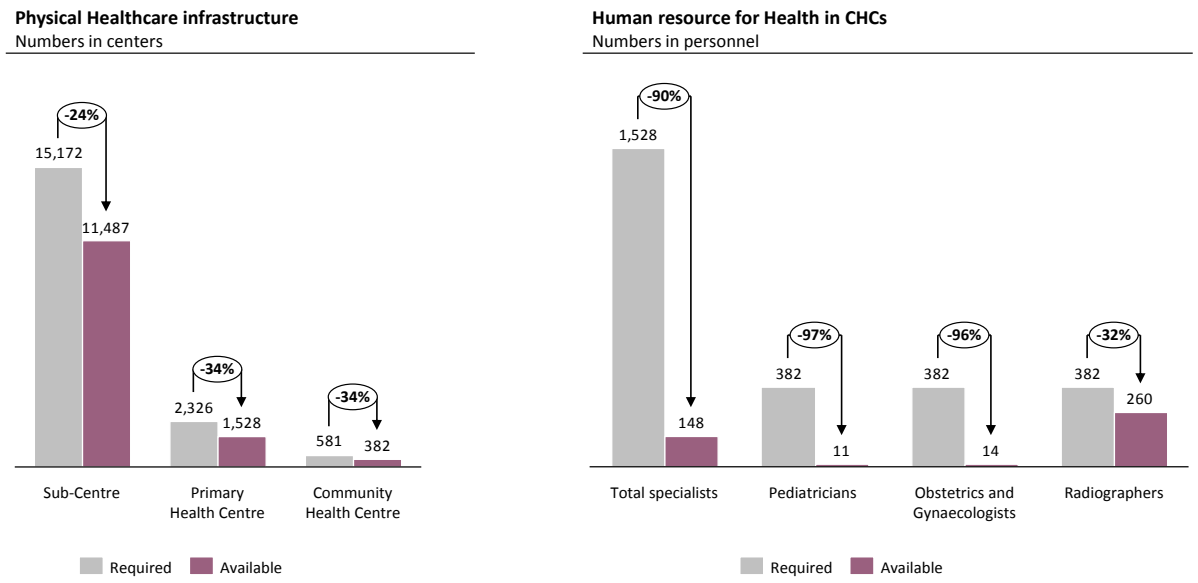


Figure 75. Shortfalls in healthcare infrastructure

Additionally, due to dispersed population and difficult terrain, Rajasthan also faces the problem of disproportionate case load, utilization rates and inconsistent service quality provision across the existing health delivery channels. According to the PwC report "Sparsely populated areas make it difficult to meet infrastructural requirements defined as per population norms. As a result of this the functionality of health facilities is disproportionate. Some health facilities are overburdened while other peripheral institutions remain underutilized, both situations adversely affecting service delivery. Utilization of health facilities also widely varied from almost 0% to more 150%. For instance, in Khandar Block of Sawaimadhopur district, while the CHC is overburdened, the nearby sub centers hardly receive patients as people prefer to visit the CHC even for common ailments which can be treated at Sub Centre level".

c) INSTITUTIONAL ARRANGEMENT

The Department of Medical & Health and Department of Family Welfare in Rajasthan is headed by Principal Secretary, Medical, Health and Family Welfare. The department is further organized under separate directorates for Family Welfare, and Medical and Health. The department has zonal/divisional offices in seven zones (namely, Ajmer, Jaipur, Bharatpur, Bikaner, Kota, Jodhpur and Udaipur). The zone offices are headed by Joint Directors and all the Chief Medical and Health Officers at the districts in the respective zones report to the Joint Director.[173]

d) STATE SPECIFIC HEALTH POLICIES

Rajasthan has improvised on many centrally sponsored schemes to adapt them to the local context. For instance, Rajasthan government formulated its own Rajasthan Janani Shishu Suraksha Yojana and Yasoda

[173] PwC report

Yojana under the RCH II program to increase the rates of institutional deliveries in the state. The government also formulated urban RCH policy which falls under the ambit of centrally designed NUHM. In addition to contextualizing centrally designed scheme to the state's needs, Rajasthan has also initiated two programs (Mukhya Mantri BPL Jeevan Raksha Kosh Yojana and Mukhyamantri Nishulk Dawa) focused on providing free treatment and medicines to marginalized populations. Major programs are listed below. More detailed descriptions of these programs are found in Annex 1.

1. *National Rural Health Mission*
2. National Urban Health Mission: Government of Rajasthan has formulated its own policies to deliver health services through the Urban Health Centers. Some of the policies areas under the ambit of NUHM in Rajasthan are as follows:

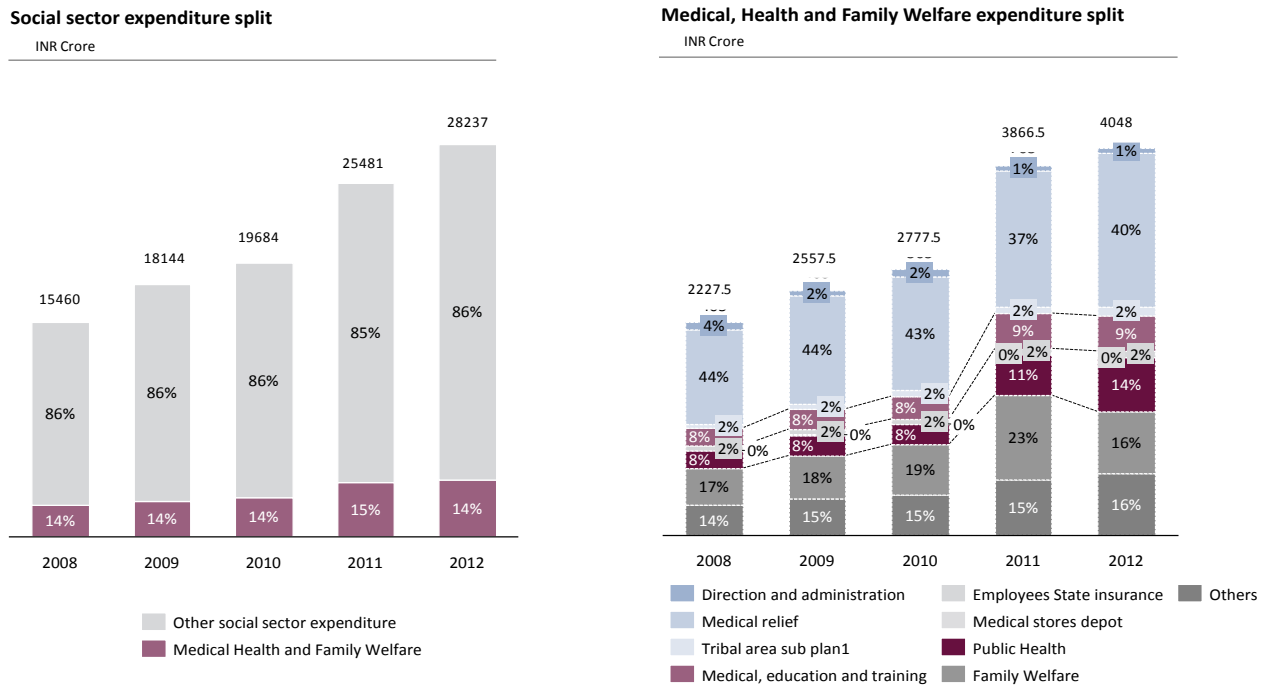
    - *Urban RCH program*
    - *Medicare Relief Card Scheme*
    - *Janani Suraksha Yojana (Cash transfer for live birth)*
    - *Urban Malaria Scheme*

3. *National Trachoma and Blindness Control Programme (NTBCP)*
4. *National Leprosy Eradication Programme (NLEP)*
5. Nirmal Bharat Abhiyan (NBA) (Sanitation program)
6. *National Rural Drinking Water Program*
7. *Mukhya Mantri BPL Jeevan Raksha Kosh Yojana (Free treatment to the marginalized population)*
8. *Mukhyamantri Nishulk Dawa Yojana* (MDNY) (Free essential medicine at government health delivery channels)

e) BUDGET

Rajasthan spends less than 1%[174] of its GDP on health activities. As depicted in the Figure 76 below while the percentage contribution of health to the total social sector expenditure has remained constant over years however, the absolute spend on health has increased at a year on year rate of 16%[175] since 2008. While historically, medical relief services have contributed to a large part of the expenditure, focus is shifting away to medical training and public health. Public health expenditure in particular has shown a consistent increase from 8% of total health expenditure in 2008 to 14% in 2012.

[174] PwC report
[175] http://www.finance.rajasthan.gov.in/speech/1213/budgetstudy201213.pdf, Dalberg analysis



Source: http://www.finance.rajasthan.gov.in/speech/1213/budgetstudy201213.pdf

Figure 76. Rajasthan state health budget status

Additionally, the budget allocations and utilization under the NRHM has shown significant increase since 2005. According to the PwC report, the budget allocation has increased at a year on year rate of 67% between 2005 and 2010. The utilization rate has also shown a large improvement from 16% in 2005 to 62% in 2010.

f) DONOR LANDSCAPE

Traditionally, Rajasthan has been a large donor focus state. Within health, there are three major donors who work in the state – these are UNFPA, UNICEF and NIPI.

UNFPA is the lead donor for Rajasthan and has been assisting the government with multiple programme implementation and quality assurances. For instance, it is involved in implementation of Jan Mangalam programme aimed at improving awareness and usability of contraceptives among young couples. UNFPA is also providing technical assistance to NACO to improve the implementation of targeted interventions. Additionally, UNFPA supported the government to assess the quality of both RCH programme and the three tier health care structure comprising of SC, PHC, CHC. According to the PwC report "Quality Assurance (QA) initiatives by UNFPA have been significant in their contribution. It has shown good results in terms of improvement in the quality of facilities and services at the primary health care level. The state government has is keen to take the effort forward with their own resources" .UNFPA has also been involved in capacity building of nursing colleges in the state. For instance, the organization is assisting the state government to

set up one nursing colleges per district in the state by providing infrastructure (books, laboratory equipment etc.);Human resources (training of the staff by hiring nursing tutors); training of the faculty.

UNICEF on the other hand is focused on improving maternal and child health indicators in the state by strengthening MNCH centres in high focus districts as well as providing technical support for increasing routine immunization[176]. Additionally, UNICEF is supporting quality assurance of trainings and post-training follow-up of skilled birth attendant training.

Finally, NIPI has been supporting Rajasthan to improve child health status in the state. NIPI's intervention is focused on the entire continuum of care of child health to impact neonatal mortality. According to the PwC report "Under NIPI, setting up of Sick Newborn Care Units and Sick Newborn Stabilizing Units has been seen as an accelerating as well as partly catalytic activity. It is accelerating because it is scaling up a very important fundamental infrastructure. It is catalytic because once this infrastructure is available in a district, the Child Health discourse in that district at all level will be much better. NIPI has already supported the training, procurement, consumables and civil work aspects"

4. TAMIL NADU

a) BACKGROUND

Tamil Nadu is a model state with respect to social initiatives and primary health indicators. For instance, both IMR and MMR are half the national average and way past the MDG goals for India. Additionally, the state has a near 100% institutional delivery rate and more than 80% immunization rate (one of the highest in the country). In the last few years the state has also made significant strides in combating the communicable disease challenge. Once considered a state with high HIV prevalence, Tamil Nadu now experiences prevalence rates (.31%) lower than the national average of .33%. However, the state is currently struggling to tackle the NCD challenge with cancer and diabetes prevalence being much above the national average. (See Figure 77)

[176] PwC report

	Health Indicator	Tamil Nadu	India	Performance
Primary health	Infant Mortality rate (Per 1000, 2011)	24	44	↑
	Maternal Mortality rate (Per 100,000, 2011)	97	212	↑
	Institutional delivery(%, 2011)	95	47	↑
	Immunization rate(%, 2012)	81	44	↑
Disease	Tuberculosis incidence rates (per 100,000, 2011)	194	185	↓
	Malaria incidence rate (per 100,000, 2012)	20	80	↑
	HIV prevalence rates (%, 2011)	.31	.33	↑
	Cancer incidence rates (per 100,000, 2011-12[1])	108	99	↓
	Diabetes prevalence rates (%, 2011)	11.7	8	↓
Enabling environment	Malnutrition rates (%, 2011)	30	48	↑
	Households without access to improved source of water (%, 2011)	6.2	8	↑
	Households without access to improved sanitation (%, 2011)	53.1	65	↑

↑ Performing above national average ↓ Performing below national average

1. 2012 Cancer incidence figures for Tamil Nadu are projections calculated based on trends

Source: PWC interim report, Dalberg analysis , 2011 Census of India, Indian Council of Medical Research – India Diabetes (ICMR-INDIAB) Study, Integrated Disease Surveillance Prevalence Survey 2007-2008; http://www.ncbi.nlm.nih.gov/pubmed/21668047

Figure 77. Tamil Nadu health profile

Tamil Nadu is one of the few states which not only meets the requirements for physical infrastructure but also exceeds it in categories such as CHCs and sub-centers. However, it experiences shortfalls in the quantity and quality of healthcare staff. For instance, it experiences 60% shortfall in the availability of radiographers at CHCs and a 33% shortfall in the availability of laboratory technicians at PHCs and CHCs (See Figure 78).

	Particulars of infrastructure in Tamil Nadu	Required	Available	Performance
Physical infrastructure	Sub centers	7555	8706	↑
	Primary Health Centre	1254	1227	↓
	Community Health Centre	313	385	↑
Human resources	Total specialists at CHCs	1540	0	↓
	Doctors at PHCs	1227	2271	↑
	Radiographers at CHCs	385	151	↓
	Laboratory technicians at PHCs & CHCs	1612	1073	↓

↑ Meeting targets set by the government

↓ Not meeting targets set by the government

Source:http://nrhm.gov.in/nrhm-in-state/state-wise-information/tamil-nadu.html

Figure 78. Tamil Nadu health infrastructure

Thus, for the purpose of our analysis we have prioritized challenge areas which need special attention. The identified areas are i) Diabetes ii) Cancer iii) Health infrastructure.

Additionally, we have provided a brief overview of the state specific health policies, budget analysis and donor landscape

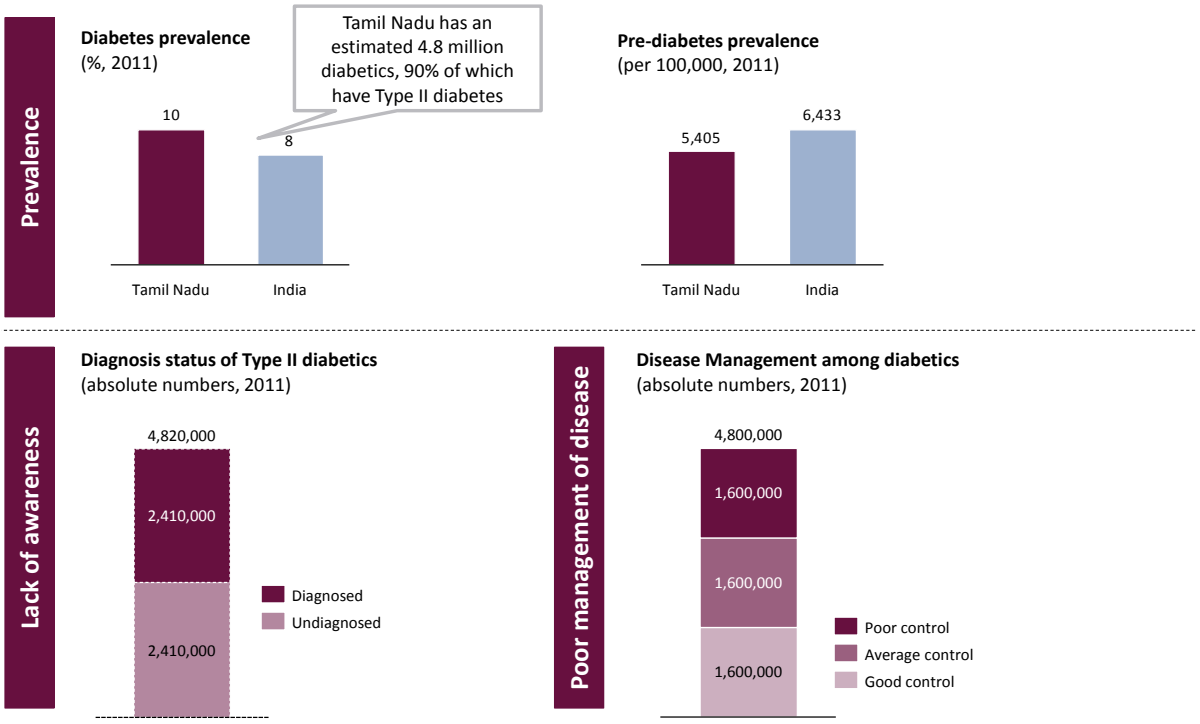
b) HEALTH SECTOR PRIORITIES

(i) Diabetes

Tamil Nadu has an estimated 4.8 [177]million diabetics, 90% of which have Type II diabetes. Diabetes prevalence (11.7%) in the state is not only higher than the national average (8%) but is highest amongst all states under study. There exists a wide disparity between the urban and rural prevalence with urban areas reporting a much higher prevalence rate of 13.6% as opposed to 7% in the rural areas[178]. In addition to the diabetics, the state also has a large number of pre-diabetics (3 million[179]), which could potentially add to the disease burden. The situation is further exacerbated by lack of awareness and poor disease management. As depicted in the Figure 79 below close to 50% of estimated diabetics are undiagnosed, while only 33% have good control over the disease including their blood sugar levels. The government has taken cognizance of this fact and has formulated the NCD prevention program which

[177] INDIAB-ICMR study
[178] INDIAB-ICMR study
[179] INDIAB-ICMR study

provides services across the continuum of diabetes care starting from screening of vulnerable population to treatment and follow-up.



http://www.ncbi.nlm.nih.gov/pubmed/21959957; http://www.ijem.in/temp/IndianJEndocrMetab17131-131792_033939.pdf; http://www.thehindu.com/sci-tech/health/42-lakh-individuals-with-diabetes-in-tn-says-indiab-study/article950650.ece

Figure 79. Diabetes status in the Tamil Nadu

(ii) Cancer

Tamil Nadu reports a cancer incidence of 108 cases per 100,000 which is higher than the national average of 99 cases per 100,000.[180] While stomach cancer is the most incident cancer among men, cervical cancer has a high incidence among women[181]. Furthermore, cancer related deaths too are higher than the national average and contribute to about 7% of cancer deaths nationally. Cancer related deaths in the state are pegged at 54.2 deaths per 100,000 as opposed to national average of 44.6 deaths per 100,000. State government has taken a keen interest in combating cancer and has taken specific steps to halt the progress of the disease. As part of the NCD intervention program the government piloted screening and treatment of cervical cancer in Theni and Thanjavur district.[182] In addition to the specific pilot the government is reaching out to vulnerable population in 16 identified districts for large scale screening and cancer treatment services. (See Figure 80).

[180] Trends in cancer incidence in Chennai city (1982-2006) and statewide predictions of future burden in Tamil Nadu (2007-16). SwaminathanR,ShantaV, Ferlay J, Balasubramanian S, Bray F, Sankaranarayanan R. (http://www.ncbi.nlm.nih.gov/pubmed/21668047)
[181] Cancer scenario in India with future perspectives report
[182] PwC report

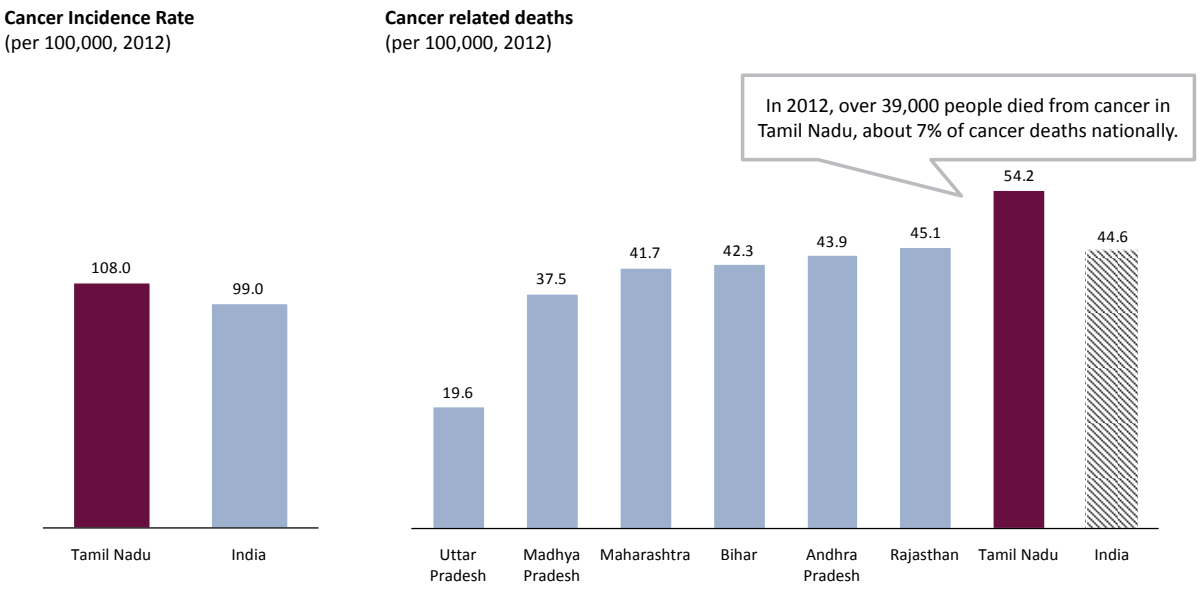
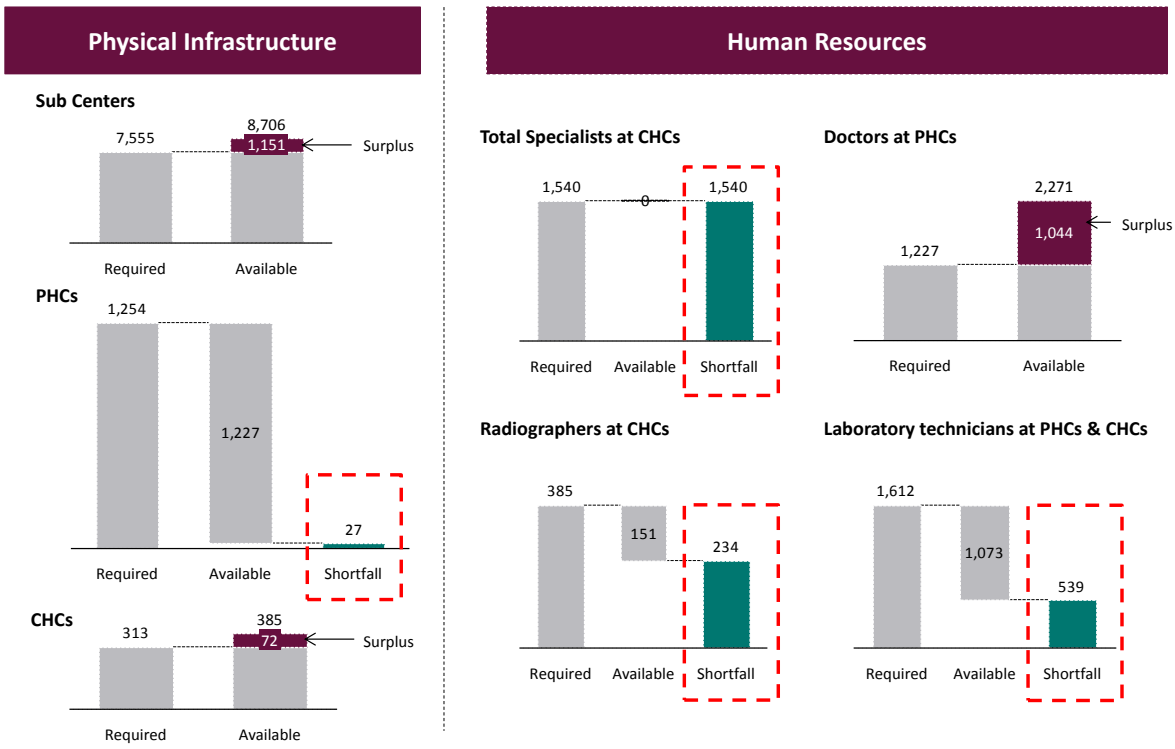


Figure 80. Cancer mortality in the Tamil Nadu

(iii) Health infrastructure

While Tamil Nadu has nearly sufficient physical infrastructure, there exists shortfalls in quantity and quality of health personnel. As depicted in the Figure 81 below shortfalls exists within the technical staff category. For instance there is 60% shortfall in the availability of radiographers at CHC and 33% shortfall in the availability of laboratory technicians at PHC and CHCs. Technically there is a 100% shortfall within the total specialist category, however, it is primarily due to a contractual employment model followed by the state government. Under this model the state government provides contracts to private specialist on a need basis to keep the public health system lean and efficient. While there is a surplus of doctors at PHC level, they suffer from a high attrition rate leading to a recurring need for capacity building. According to the PwC report "All the MBBS qualified Medical Officers and the staff nurses entering government services, start their career at primary health care institutions with a minimum service period of about three years in the rural areas. Since they have an assured post graduate seat, they opt for higher studies after three years and then generally opt for posting at secondary and tertiary care institution. Similarly, the staff nurses, after a contractual probation period of a minimum of two years, get regularized and posted at secondary / tertiary care institutions. This leads to frequent turnover at the PHC level every two – three years for staff nurses and doctors"



Source:http://nrhm.gov.in/nrhm-in-state/state-wise-information/tamil-nadu.html

Figure 81. Health infrastructure in Tamil Nadu

c) INSTITUTIONAL ARRANGEMENT

The state health department is an overarching body which provides preventive, curative and promotive care to all classes of society. The secretariat is the administrative arm of the department and directorates. This wing of the Department is responsible for all service matters of health professionals of different cadres. It has 31 sections with defined functions and delegation of powers. The functions and decision-making powers have been clearly defined in the DoHFW handbook, to promote transparency and accountability.[183]

d) STATE SPECIFIC HEALTH POLICIES

Tamil Nadu has formulated many schemes targeting the health sector in the state. Schemes such as Tamil Nadu State Illness Assistance Society are in collaboration with the central government to provide financial assistance for surgeries to the BPL population. Other schemes such as free supply of sanitary napkins are an addition to the centrally designed RCH and family welfare programs. The programs implemented by the state are listed below. More detailed descriptions of these programs are found in Annex 1.

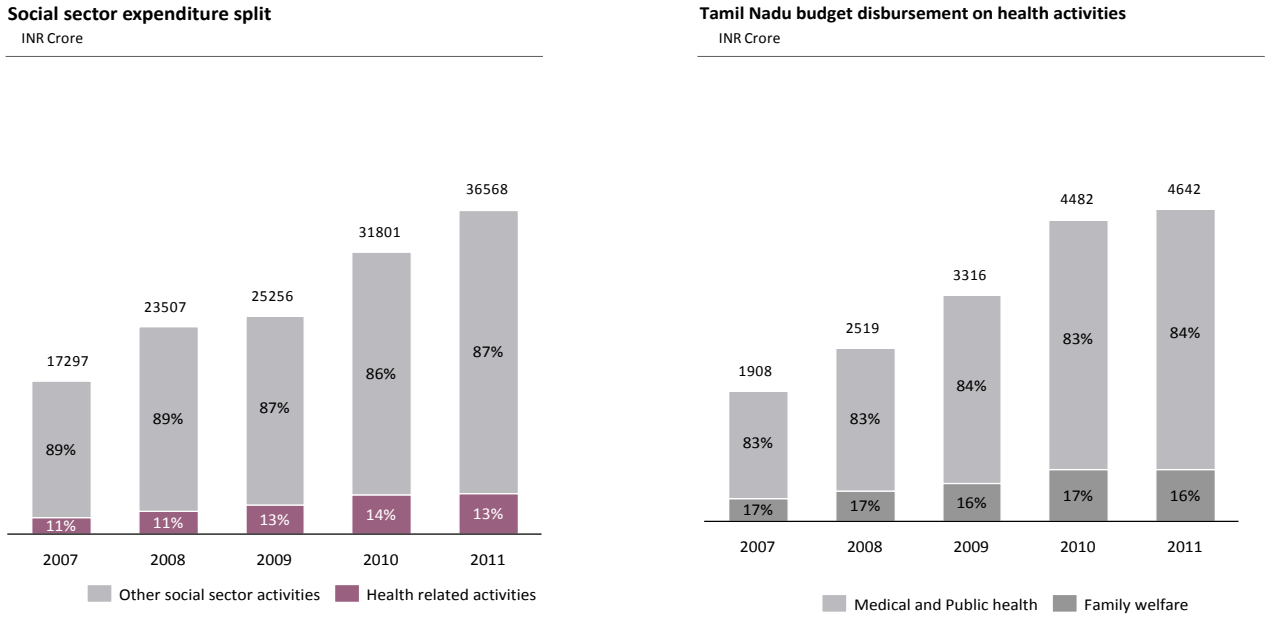
1. *National Rural Health Mission*
2. *National Urban Health Mission*
3. *Adolescent Reproductive Sexual Health*

[183] PwC report

4. *National Programme for Control of Blindness (NPCB)*
5. *National Mental Health Programme (NMHP)*
6. *National Tobacco Control Programme (NTCP)*
7. *National Leprosy Eradication Programme (NLEP)*
8. *NCD intervention program:*
9. *National plan for Iodine Deficiency Disorders Control*
10. *Nirmal Bharat Abhiyan (Sanitation Program)*
11. *National Rural Drinking Water Program:*
12. *Chief minister's Comprehensive Health Insurance Scheme*
13. *Dr. Muthulakshmi Reddy Maternity Benefit Scheme*

e) BUDGET

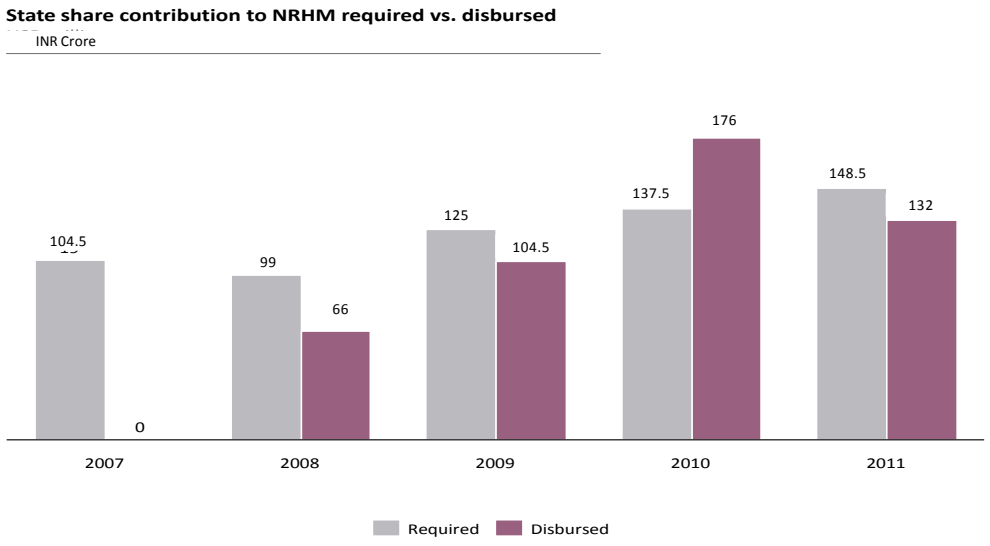
Tamil Nadu state expenditure on health has grown on a year on year rate of 25% per annum from INR 1908 crore in 2007 to INR 4642 crore in 2011. As depicted in the Figure 82 below the share of health expenditure as a percentage of social sector budget has marginally increased from 11% in 2007 to 13% in 2011.



Note: Doesn't include disbursement for nutrition
Source:http://www.tnbudget.tn.gov.in/document/Accounts%202011-2012_A4_20Years.pdf, Dalberg analysis

Figure 82. Tamil Nadu health budget

Under the provisions of NRHM, the states have to contribute 15%[184] towards the total NRHM state budget. As depicted in Figure 83 state's contribution towards NRHM state budget pool has registered an increasing trend till 2010. In 2010, the state disbursed 1.2 times the required budget however; there was a shortfall of 12% in the state contribution in the following year.



Source:http://www.nrhmtn.gov.in/ropPDF/NPCC-12-13.pdf

Figure 83. Tamil Nadu's historical contribution to the NRHM budget pool

f) DONOR LANDSCAPE

Donor activities in Tamil Nadu are primarily carried out through externally aided projects. Which essentially means that the Department of Economic Affairs (DEA) in the Ministry of Finance receives all aid foreign assistance from multilateral/bilateral agencies and is responsible for all policy issues pertaining to external aid received by the Central Government. While UNICEF is the lead donor for the state, the World Bank, DFID, GFATM also provide assistance in the field of MNCH, nutrition, NCDs and HIV/AIDS.

UNICEF is focused on improving child survival and nutrition in the state by supporting government programs to build capacity. As part of the assistance UNICEF trained health workers on infant and young child feeding practices through the ICDS. UNICEF is also facilitating the establishment of emergency obstetric and newborn centers and helping the state government conduct on-the job training programmes to develop capacity of doctors and nurses at these centers. Additionally, UNICEF is helping establish

[184] Post 2012 the contribution required is 25%

Integrated Management of Neo-natal and Childhood Illness Programme in 3 districts and supporting state's efforts to extend units in more than a dozen districts[185].

The World Bank in collaboration with the government of Tamil Nadu has been implementing Tamil Nadu Health System Project since 2005. The programme focuses on holistically improving the health systems by focusing on i) improving access and utilization of health services ii) preventing and controlling NCDs ii) building capacity of health system oversight and management iv) improving effectiveness and efficiency of public sector in delivery of essential services. According to the PwC report "The project period was for five years and most of the activities were completed in September 2010. However some of the activities such as web based HMIS, Non communicable diseases screening, prevention, treatment and follow up programme and certain other programmes which were being implemented successfully, required to have continued support or up scaled to other areas or districts. A proposal for additional financing was submitted to World Bank through the Government of India. The World Bank has provided additional financing and the project has been extended for three years up to September 2013. The total project cost for the original project was to the tune of INR597.15 crore(). The project cost for additional financing was to the tune of INR.627.72 crore ()."

Additionally, DFID has been supporting the state government to improve reproductive and child health by providing grants and technical assistance. It has also been supporting WHO to combat the TB challenge by providing assistance in drug procurement. Finally, GFATM has been providing training and capacity building to NACO staff to reduce parent to child HIV transmission. It has also partnered with RNTCP to improve TB diagnosis and treatment in the state.

[185] http://www.unicef.org/india/overview_4352.htm

III. JICA AND JAPAN'S HEALTH SECTOR PRIORITIES

A. JICA'S HEALTH SECTOR COOPERATION POLICY[186]

JICA extends development assistance across a variety of sectors – including education, health, governance, private sector development, transportation, poverty reduction, gender issues, agriculture, forestry, fisheries, etc. Of all these, the health sector is positioned to be one of the most important ones, relating strongly to all of JICA's four mandates ((i) Addressing the global agenda; (ii) Reducing poverty through equitable growth; (iii) Improving governance; and (iv) Achieving human security). In terms of scale, in the fiscal year 2011, 7.2% of technical cooperation and 7.5% of grant was spent on health related activities.[187] JICA has three main objectives of engagement within the sector: saving lives, protecting health; Building human resources for economic and social development; Responding to infectious diseases that have impacts beyond borders. Japan has considerable experience in establishing systems that improve overall health outcomes. It has successfully implemented universal health insurance coverage and executed integrated counter measures for tackling the spread of infectious diseases like tuberculosis through central institutions and field-level staff. Cooperation within this sector can be significantly meaningful for developing countries as Japan shares its experience as these countries cope with the same challenges. Reflecting the Japan's global health diplomacy described below, JICA's position paper released in September 2013 re-emphasized the importance of needs for the support for achieving UHC and strengthening health systems and mentioned the use of Japanese health industry as part of JICA strategy.

Within the health sector, JICA's focus has largely been on 1) maternal and child health, 2) infectious disease control, and 3) strengthening of health systems. This focus is also guided by Japan's 2011-2015 Global Health Policy that underscores the country's focus on achieving MDG 4, 5 and 6.[188] In South Asia, JICA has been successfully running maternal and child health programs like "Reproductive health in the state of Madhya Pradesh" in India, and "Safe Motherhood Promotion Project" in Bangladesh. These projects have witnessed very encouraging results. For infectious disease control, JICA has also provided nearly ¥15 billion in aid, including technical cooperation and loans and grants, between 1996 to 2013 for a long term polio eradication project in Pakistan, partly thanks to a government level commitment to combat polio in Pakistan.[189] In addition to sector specific interventions, JICA also operates cross-cutting programmes across a variety of health issues. These include 1) strengthening capacity of public administration for health 2) strengthening the capacity of referral systems and coordination to improve the quality of healthcare services, and 3) addressing the shortage of human

[186] JICA、「Cooperation of JICA in Health Section－Today and future」 September, 2010 http://www.jica.go.jp/activities/issues/health/pdf/positionpaper.pdf, JICA、「Cooperation of JICA in Health Section－Today and future」 September, 2010 http://gwweb.jica.go.jp/km/FSubject0201.nsf/ff4eb182720efa0f49256bc20018fd25/70ba7fbae7114272492579d4002ce3e6/$FILE/position_paper_en.pdf

[187] JICA、Annual Report/2012

[188] Foreign Ministry「Global Health Policy/2011－2015」 http://www.mofa.go.jp/mofaj/gaiko/oda/doukou/mdgs/pdfs/hea_pol_exe_jp.pdf

[189] EPI/Poliomyelitis Control Project（Technical cooperation/approx. 300 million yen）, Poliomyelitis Eradication Project (loan assistance/ approx. 5 billion yen), including approx. 9 billion yen in total of free financial assistance in cooperation with or via UNISEF, Refer to JICA Project Evaluation and ***

resources for health.[190]Examples of JICA projects that support cross-cutting areas include those that involve facility reinforcement, administrative support, and technical cooperation for improving quality of training for maternal healthcare personnel in Bangladesh.

JICA has recently defined its forward looking framework for provision of assistance, in line with the new approaches specified in Japan's Global Health Policy 2011-2015.[191] The main tenets of this framework include: 1) **Capacity development support for developing nations.** Health problems cannot be solved by sporadic or temporary responses. They require long term, continuous efforts by the recipient countries themselves. In addition, grant or loan alone would not do and requires human resources that can implement the programs. This component of the approach reflects these aspects of health sector development; 2) **Effective delivery of programs based on use of evidences.** Within health sector, there is a vast pool of empirical knowledge globally that can be tapped into. This component of the approach promotes the best use of these empirical evidence for effective program design and delivery, and the implementation of more precise measurement of real effect through impact evaluation; 3) **Alignment with international donor assistance framework and promotion of mid-to-long-term support in line with recipient country's national health strategy.** The health sector is flush with multiple actors including international organizations, institutions and financial groups, and it is important they collaborate, share crucial information. Recipient countries take lead on developing and adjusting their strategy, incorporating the donors' assistance framework. Such an approach to respect the recipient country's strategy is particularly important for countries like India where the government's administrative capacity has been strengthened.

B. STRATEGY ON GLOBAL HEALTH DIPLOMACY[192]

Japan has considerable experience in establishing systems that improve overall health outcomes. It has successfully implemented universal health insurance coverage and executed integrated counter measures for tackling the spread of infectious diseases like tuberculosis through central institutions and field-level staff. Cooperation within this sector can be significantly meaningful for developing countries as Japan shares its experience as these countries cope with the same challenges. Underlining its commitment at the highest level to help alleviate the most pressing global health concerns, the Japanese government drew up a new Strategy on Global Health Diplomacy in May 2013. Japan views health as a priority issue for global society and one it can contribute towards, given its extensive experience in the area.

This strategy has firmly placed health on its diplomatic agenda and recognizes the emerging importance of the universal health coverage (UHC) with the following three factors highlighting its needs: 1) **Global MDG targets**: Many countries, including those in Sub-Saharan Africa, have not achieved

[190] JICA's Operation in the Health Sector – past and present (201)
http://www.jica.go.jp/english/our_work/thematic_issues/health/pdf/position_paper.pdf
[191] Foreign Ministry Global Health Policy/2011－2015」 http://www.mofa.go.jp/mofaj/gaiko/oda/doukou/mdgs/pdfs/hea_pol_exe_jp.pdf
[192] Foreign Ministry "Strategy on Global Health Diplomacy" http://www.mofa.go.jp/mofaj/gaiko/oda/doukou/mdgs/ghd.html

maternal and child health related MDG targets and thus this area requires continuing support; 2) **Emerging health concerns:** It has now become necessary to cope with new problems such as non-infectious disease and aging. These have not been addressed by the current MDGs; 3) **Post 2015 development agenda**: With the deadline for achieving the current MDGs looming ahead, there is a need to start defining what comes next. Within this framework the strategy defines three strategic goals, including 1) resolving international health problems (both achieving the MDGs as well as addressing health issues not covered by the current MDGs); 2) expanding Japan's role in the global health sector; 3) leveraging Japanese healthcare industry expertise and its technical capabilities.

The strategy refers to specific measures such as mainstreaming UHC, using bilateral assistance effectively, and establishing strategic partnerships. JICA plays an important role in promoting Japan's diplomatic strategy. The new global health strategy will thus constitute a key factor to be accounted for in formulating JICA's future aid policy in the health sector. On the recipient side, India has recognized UHC as a critical issue and receives assistance from a number of donor agencies. The specific measures referred to in the Japan's new global health diplomacy are therefore highly relevant in formulating JICA's assistance for the country.

IV. JICA's ACTIVITIES AND EXPERIENCES IN THE HEALTH SECTOR IN SOUTH ASIA[193]

A. OVERVIEW OF JICA'S ACTIVITIES IN THE HEALTH SECTOR IN SOUTH ASIA

In line with the top priority areas mentioned above, JICA's healthcare portfolio in the South Asian countries includes projects on maternal and child health, infectious disease prevention, capacity building, and skills training for healthcare personnel. JICA has been implementing maternal health projects in multiple countries, including the "Reproductive Health project in the state of Madhya Pradesh" in India. For controlling infectious diseases, JICA has been providing large-scale, long-term support for polio eradication in Pakistan. In India, it has implemented a diarrhea control project. Additionally, JICA has also been supporting a wide range of projects across the region by providing aid to spruce infrastructure and equipment, and enhance skills and expertise of healthcare personnel.

The major forms of JICA's assistance include technical assistance that includes technical cooperation such as training, ODA loans, and grant aid, and JICA has been providing assistance in the forms that meet the specific needs and circumstances of the recipient countries in South Asia. The learning from the past projects brought an increasing recognition of the importance of a holistic approach. With this as a background, recent years have seen an increasing use of combination of technical cooperation, and grants or loans. A successful example of a project combining both financial assistance and technical cooperation has been JICA's maternal health project in Bangladesh. The phase 1 of this project took a holistic approach, aiming to improve maternal and child health outcomes by improving local healthcare administration and management, imparting more skills and training to local healthcare workers, improving on ground medical infrastructure and services, and helping to build a community-level support system for mothers and children through mobilization of community in the project area (Narsingdi District). The project has been highly successful and is now in the process of being rolled out across the country in the phase 2. The project is also aiming to generate synergy with another new program "Maternal, Neonatal and Child Health Improvement Project (Phase 1)"of which loan assistance focuses on improvement of hospital facilities and training of community group members.

The assistance approaches of JICA in these countries has reflected very well the health sector challenges and political structures of recipient countries on one hand, and Japan's global health policy and JICA's health sector strategy on the other. In particular, JICA has positioned the contribution to the capacity development of recipient countries as a high-priority matter since a long time and has conducted many projects on the subject. In recent years, JICA has conducted such projects whose

[193] Projects in Bangladesh, Pakistan and Sri Lanka in addition to those in India have been reviewed in this analysis.
We referred to evaluations of cases in the past in addition to project outlines posted on JICA's knowledge website.

design assumes the harmonization with health programs by recipient countries or other donor agencies. There have also been cases where JICA has provided support for a country to develop its health sector master plan and then conducted projects in line with the plan. JICA's support for maternal health program in Bangladesh, to which many donor agencies provide assistance, serves as an example of the former. Its contribution to the NCD management in Sri Lanka serves as an example of the latter. While the Bangladesh example mentioned above is an excellent example of practical support and aid in collaboration with recipient country and other donor agencies, JICA's NCD prevention project in Sri Lanka is a successful example of JICA being involved from planning to implementation.

JICA's health projects implemented in India, Bangladesh, Pakistan and Sri Lanka between 1996 and 2012 are summarized in Annex 2.

B. LESSONS FROM PAST PROJECTS IN SOUTH ASIA

JICA has implemented around 40 health projects through grant aid and loans in South Asia between 1996 and 2012 (a selection of these is presented in the Annex 2). Key lessons learnt that now guide JICA's future work in South Asia, and specifically in India, are illustrated below.

A holistic approach is essential to enhance project effectiveness and sustainability. Projects covered both improvement of infrastructure such as facilities and equipment and technical cooperation for improvement of quality care with physical support. However, it is not always necessary that JICA provides holistic support on its own. In some instances, JICA can complement projects run by recipient country or other donors and achieve similar results. This was well documented by JICA's experience with the maternal health project in Madhya Pradesh where it provided technical support for capacity development to match with infrastructure project run by the recipient. Assistance should be such that it complements the existing project or capacity so that recipient country or organization can establish a holistic system. Among many donors active in India, there is a strong trend towards more holistic approach that combines technical and financial assistances channeled to specific programs.

Continuing collaboration with existing programs and alignment with other donor agencies and organizations are key for enhancing the project effectiveness. Health is one of the sectors in which the government of recipient country and many donor agencies are very active. JICA has, in the past, seen very limited impact in one of its programs that was running parallel to a similar program by another aid organization. In a country like India where the government has instituted large-scale programs and several aid organisations are already running various health projects, it is imperative to coordinate with various actors throughout the process from the planning to implementation. In India,

the state governments and interested donors have formed the Donor Coordination Group, which holds regular meetings in each state to facilitate coordination between donors and government stakeholders.

Clear definition and split of responsibility are crucial in projects with multiple stakeholders and beneficiaries. Often, the decision making process gets diluted between various agencies and ministries if ultimate responsibility is not clearly defined. For instance, the dental education project setup at the University of Peradeniya in Sri Lanka involved the Ministry of Education and Ministry of Health and suffered due to delayed decision-making. It was observed that even if an approval was obtained from one Ministry, it was held up in other areas. It is essential to clarify the locus of responsibility and flow of decision making for each stakeholder when multiple ministries, institutions, different levels of government (i.e., central and state), and/or donor agencies are involved in a project. In India, for example, while many programs are anchored by a single ministry at the Central government level, in some rare cases like nutrition, the Ministry of Health and Family Welfare, Ministry of Women and Child Development and the Ministry of Human Resource Development are involved in various capacities across programmes. In such a scenario, keen attention must be paid during the project design and planning stage about how to work with each stakeholder and how best to fix responsibility for best possible results.

It is key to work with a wide range of stakeholders and involve beneficiaries at the planning stage itself to ensure project sustainability and feasibility for scale-up. The South Asian health sector involves a wide range of stakeholders, from central government ministries to local institutions and communities. To ensure that a project is successful and can be scaled-up in the future, it is important to work closely and establish independent relationships with these stakeholders. For instance, during phase 1 of the Safe motherhood promotion project in Bangladesh, the sheer involvement of the local community led to the project's success. On the other hand, facing the central government, while JICA established a joint coordination committee with them, it did not set up a body to conduct project coordination on a day-to-day basis, which limited the level of engagement of the government. Based on such experiences, JICA has set up within the central government a project implementation committee that develops annual plan and monitors project with an aim to smoothen day-to-day project implementation. In India, even though health policies are drawn up at the national level, implementation of programs is taken over by state governments. Therefore, it becomes essential for JICA to engage both the central government and the state governments. For example, USAID first establishes a relationship with the central government to get a green light and then moves towards working with state governments. With the increasing importance of private sector's role in health sector, coordination with the private sector can be another effective way to bolster the impact of health projects.

The Gates Foundation, for example, has been developing effective program operations in maternal health in Bihar by involving both the government and a NGO (CARE).

Use of competent local staff and external resources like specialists from NGOs or other international institutions helps smoothing project implementation and eventually enhancing project effectiveness. The experiences in past projects proved that right team structure that meets the project objectives enhanced project effectiveness. For instance, a project for the Improvement of National Blood Transfusion Services in Sri Lanka dispatched WHO specialists with extensive experience provided technical assistance in a very specific field. Other projects ensured project implementation fits local context by employing capable local staff with deep knowledge of the region and its needs. In India, there is no dearth of educated and experienced local physicians, healthcare and public health professionals, and project managers, and locally recruited staff has played active roles in some JICA projects in the past. Recruiting local staff that could be acceptable to the target groups may be an effective strategy for optimum project implementation. Moreover in cases where a specific expertise may not be identified when required from within Japan, JICA should be flexible in its approach towards utilizing the knowledge and assistance of an external resource.

V. INDIA'S FORWARD LOOKING HEALTH CARE STRATEGY

A. 12TH FYP PRIORITIES

India's development trajectory between the years 2012-17 is governed by the 12th FYP. This plan has been the most participative plan reflecting voices of over 900 civil society organizations and business representatives from around the country. The 12th Plan's stated objective is faster, sustainable and more inclusive growth. The government of India regards health as a critical component in the achievement of this objective and stresses the need for increased attention on the issue. It acknowledges that currently the public health system is not penetrating a majority of the population, with less than half of the country's inpatient health care capacity in the public sector[194].

The 12th Plan has identified with three major challenges in the government's current health provision, these are:

Availability: There is an acute shortage of trained medical personnel. There is wide geographical variation and rural areas tend to be served poorly. For example, there are 45 doctors per 100,000 compared to the recommended 85 per 100,000.

Quality: There is significant variation in the quality of services provided by the private sector and the public sector, with the latter lagging behind. There are poorly defined and ineffectively enforced standards for health which add to the problem.

Affordability: There is lack of adequately funded public health services pushing people into the private sector. The private sector is expensive and people are forced to go into debt.

In addition to these overarching themes, the 12th Plan also enumerates specific monitorable targets for the health sector in India[195]. These are

1. Reduce Maternal Mortality from 212 to 100
2. Reduce IMR from 44 to 25
3. Reduce underweight children below 3 years from 40% to 23%
4. Increase Child Sex Ratio from 941 to 950
5. Reduce levels of anemia among women from 55% to 28%
6. Reduce Total Fertility Rate from 2.5 to 2.1
7. Reduce poor households' out of pocket expenditure on health

[194] 12th Plan, Vol. I
[195] 12th Plan, Vol. I

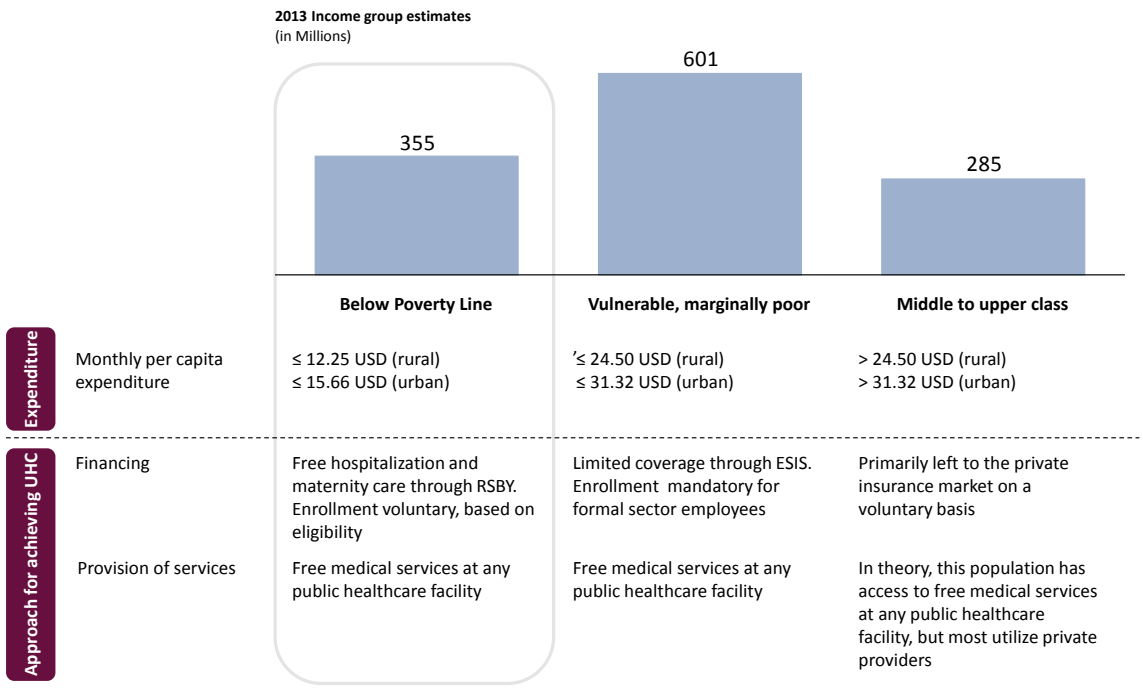
According to the plan, these challenges can be tackled and target can be met through improvements in the public health cadre so that a decentralized approach to delivery of health services can be adopted. Human resources and systems strengthening are central to what the government hopes to achieve by 2017. In addition, the 12th Plan has specified ambitious policy changes to make health services in India more inclusive. The most critical changes are:

1. Setting up a universal health financing mechanism
2. Expanding the rural health mission to urban areas, and setting up a consolidated National Health Mission (NHM)
3. Integrating national disease control programs to provide better primary care

1. **Setting up a universal health financing mechanism.** Current rates of health insurance in India are extremely low. In 2010, only 25% of the total population was insured under some form of health insurance. Out of this 20% were insured under government schemes (including the RSBY). In 2015, the total percentage of insured population is expected to grow to ~50%, largely driven by the proposed expansion of the RSBY scheme. Even if projections are true, 50% of the population is likely to be uninsured (see Figure 9).

   Under the 12th FYP, the GoI has set out on an ambitious mission to provide universal health financing access by 2020, but has no clearly defined plan yet. As shows Figure 84, the most 'visible' tool of UHC is the RSBY which is only expected to target ~355 million BPL individuals. Besides a few government schemes, there are no provisions of financing currently available for the marginally poor or the middle class. Additionally, the RSBY falls under the purview of the Ministry of Labor and Employment, making it problematic to integrate into a Universal Health Coverage plan mandated by the ministry of health.

Overview of current UHC approach across population groups in India



Note: 1 INR- 0.02 USD; MPCE calculations based on 2010 Poverty Line; BPL estimates based on 2010 calculations; Middle to upper class estimates based on 2009 calculations
http://planningcommission.gov.in
http://www.prsindia.org/uploads/media/Unorganised%20Sector/bill150_20071123150_Condition_of_workers_sep_2007.pdf
http://www.data.gov.in/dataset/catalogue-micro-data-national-sample-survey-nss

Figure 84. Overview of current UHC approach across population groups in India

2. **Expanding the rural health mission to urban areas and setting up a consolidated NHM.**

As part of the UHC, the GoI has announced a National Urban Health Mission based on the model of the rural health mission. The goal is to provide equitable access to healthcare and improve the health status of urban poor, particularly slum dwellers, through an improved public health system (terms elaborated in Annex, exhibit 56). It aims to reach the seven largest metropolitan areas in India - Mumbai, New Delhi, Kolkata, Chennai, Bengaluru, Hyderabad and Ahmadabad - along with 772 cities with populations greater than 50,000.

The rationale for the urban mission is linked to the dismal health status of urban poor. Increased poverty, social exclusion and more pressure on the already overstretched, existing healthcare infrastructure due to large scale migration from rural to urban areas are some of the challenges that call for this step. Moreover, there also needs to be a provision that recognizes poor migrants with little or no documentation as legitimate receivers of care under the mission. Augmented infrastructure is being established to allow easier and better access to health services for the poor who currently have to resort to private doctors who not only are available on call but even provider door-to-door service in times of emergencies. The core strategy of NUHM aims to focus its efforts on the following issues:

- Improving the efficiency of public health system in the cities by strengthening, revamping and rationalizing existing government primary urban health structure and designated referral facilities
- Promotion of access to improved health care at household level through community based groups : Mahila Arogya Samitis
- Strengthening public health through innovative preventive and promotive action
- Increased access to health care through creation of revolving fund IT enabled services (ITES) and e- governance for improving access improved surveillance and monitoring
- Capacity building of stakeholders

In its implementation structure, the program is looking to replicate the NRHM model by creating new infrastructure and providing health workers at different levels. The core components proposed under the NUHM for service delivery are as given below:

- Urban Primary Health Centre (UPHC): At the Primary Care level, one Urban Primary Health Centre (UPHC) will be established for every 50-60 thousand population. These UPHCs will provide services to the entire urban population in their catchment's areas.
- Urban Social Health Activist (USHA): At the community level, outreach services will be provided to the urban poor in slums and other vulnerable population. An Urban Social Health Activist (USHA) will be posted for every 200-500 households and a Mahila Arogya Samiti (MAS) will be established for every 50- 100 households. The MAS will be provided an annual united grant of Rs 5000 per year.
- Female Health Workers (FHWs)/ANMs: Outreach services will be provided through Female Health Workers (FHWs)/ANMs headquartered at the UPHCs, utilizing community halls, AWC, etc., as fixed points for these services. Communitization through Mahila Arogya Samiti (MAS), Rogi Kalyan Samiti (RKS) and Urban Social Health Activist (USHA) has been envisaged.
- Urban Community Health Centre (UCHC) may be set up for every 4/5 UPHC, they should cater to 2,50,000 population and should be 30-50 bedded facilities.
- Secondary and Tertiary level care and referral services will be provided through public or empanelled private providers.
- Health financing and budgets for urban health [196]

[196] http://www.uhrc.in/downloads/Reports/NUHM-Draft.pdf

However, the commitment of funds to the mission is dissatisfactory and there is no clear direction on how and when it will be operationalized. It is estimated that the proposed NUHM would need a total of INR 27500 crore during the 12th FYP, of which INR 16500 crore is envisaged to be the central government share[197]. Stakeholder outreach with donors suggests that there are disagreements over the current design, and efforts are being made to rework it. Further, the NUMH and NRHM are to be combined into a larger NHM that will cover all villages, towns and cities in the country and this also impacts the kickoff of the urban mission.

3. **Integrating national disease control programs into the NHM framework.** The GoI is increasingly looking to move towards a more integrative approach to dealing with the provision of services through the public health infrastructure. There is an effort on the part of the government to integrate longstanding vertical disease programs like NACO, RNTCP, NVBDS and NPCDCS with the NRHM to create a single window healthcare access system at the PHC and CHC level. A certain degree of convergence has already started at the field level where ASHAs are required to record HIV related information along with their NRHM duties. In addition, some big programs, like the one on leprosy, have been merged into the Directorate of General Health Services as opposed to having separate vertical program of their own. However, the issue of complete and efficient integration remains a matter of debate and the government is yet to propose a tangible path forward. Questions remain on whether integration will occur at the implementation level, administration level, funding and budgetary allocation level, policy level, across all levels, or a combination of any two or three of the levels mentioned.

To carry forth these plans, the 12th Plan says that the government will increase the expenditure on health from 1.2% of GDP to 2.5% of GDP by the end of the plan period in 2017. The government has allocated INR 1,210,000 crore to core health for the period 2012-2017. This means that both central and state government will have to more than double expenditure to meet targets.

[197] PwC report

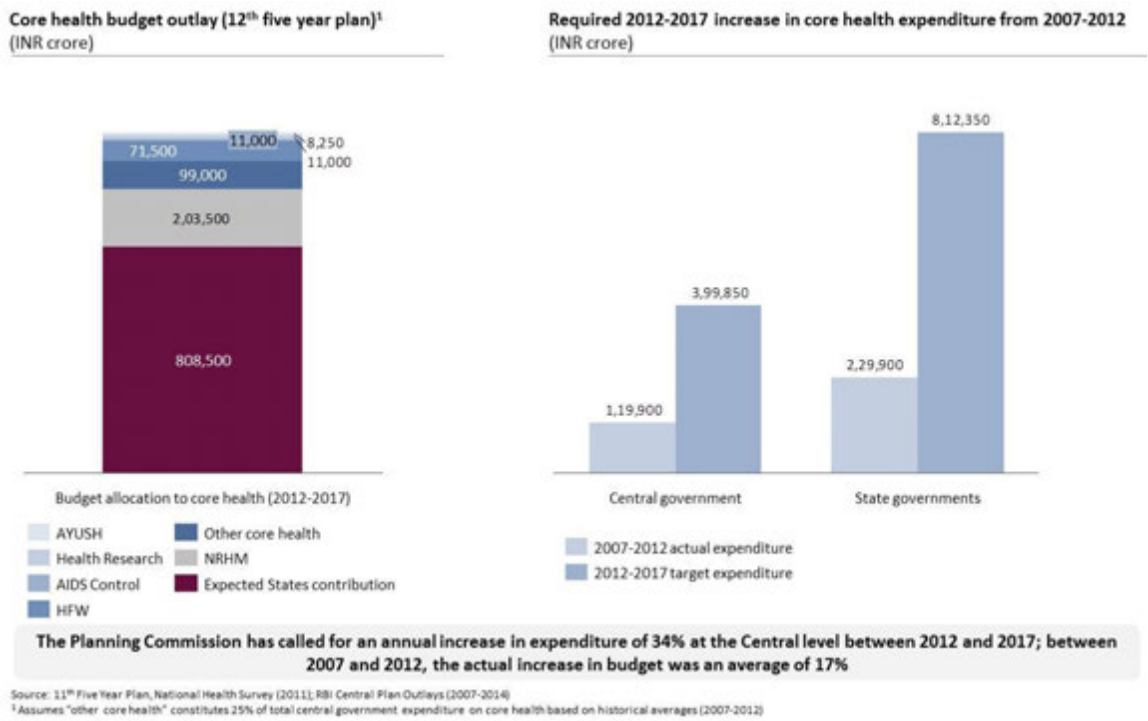


Figure 85. Core health budget outlay for the 12th FYP

The Planning Commission has called for an annual increase in expenditure of 34% at the Central level between in the 12th Plan period. However, the government is behind schedule and there have been only a 14% growth for 2012-13 and 7% growth for 2013-14. Current levels of funding indicate that targets are unlikely to be met. While the government has ambitious targets across healthcare, its plans are most ambitious for NRHM. For example the NRHM has increased from INR 20350 crore in 2012-2013 to INR 22000 crore in 2013-2014. Funding across AYUSH, NACO and health research has not increased between last and current year.[198]

[198] Source: 11th Five Year Plan, National Health Survey (2011); RBI Central Plan Outlays (2007-2014)

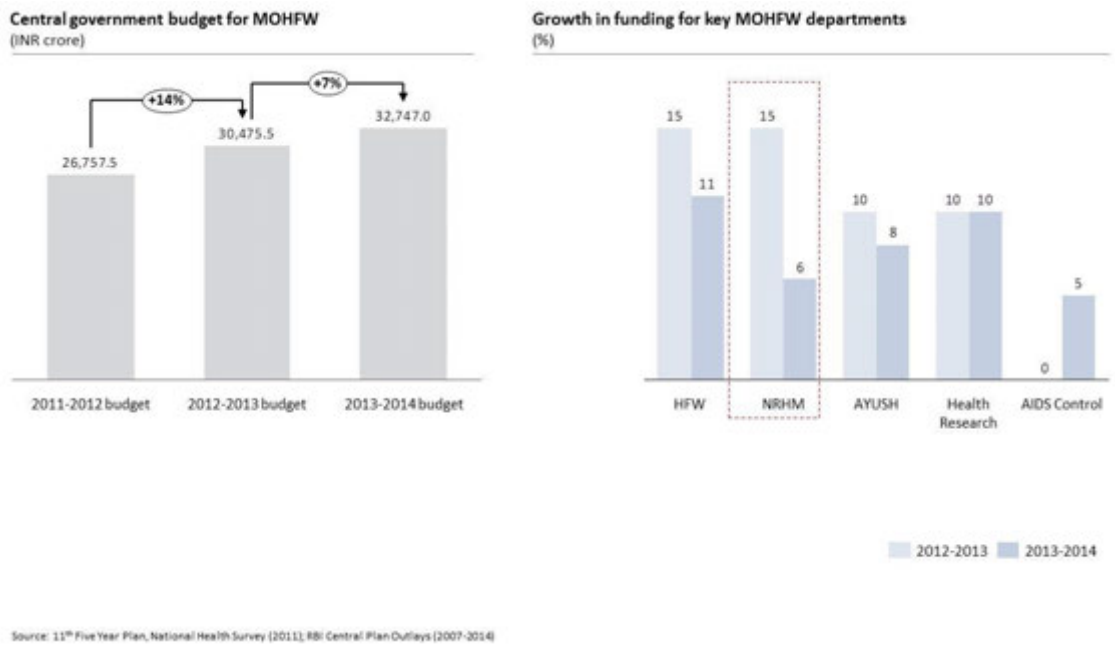


Figure 86. Central Govt. progress against 12th FYP budget allocation

Based on our analysis between FY 2012 and FY 2017, overall expenditure on core health is likely to be INR 550,000 crore short of targets representing ~45% of government allocation in the 12th year plan. Our assumptions use a historical 10% annual growth in budget and a GDP growth rate of 5.5%. The projected gap in state funding is expected to be significant at INR 357,500 crore.

B. STAKEHOLDER PRIORITIES

The spirit and inclination of the 12th FYP, as established in the previous section was also echoed in stakeholder interviews. Key areas of opportunity for JICA were identified based on 12th Plan objectives and needs on the ground. Stakeholders also spoke of availability of healthcare, problems of affordability and questions of quality but also pointed areas that were better primed for interventions as opposed to others.

a. **Areas of Intervention:** Stakeholders across government and non-government sectors pointed that maternal and child health as an area was saturated by a big presence of the government and many donors. This meant that if a new donor was to enter this sector, the intervention is likely to be one of many and much effort would be required to make a mark. Similar feedback was given on HIV/AIDS, a well-funded and well –performing disease area. NACO has programs with BMGF, USAID and DFID which leaves little space for other donors. Instead, stakeholders pointed to niche areas like NCDs, water and sanitation, which are increasingly being recognized as underserved and important.

b. **Systems Strengthening:** Across government and non-government stakeholders, it was stated that donor agencies should adopt a process based strategies as opposed to a product based ones. It was uniformly believed that a systems strengthening approach was the need of the hour. Stakeholders stressed on the importance of streamlining HR policies, personnel training, and monitoring and reporting systems. Another aspect of systems strengthening that was seen as priority was quality check protocols. This approach was said to be useful especially since the government is looking to adopt a convergent approach and working towards systemic organization will be more useful than a silo approach.

c. **Long- term partnerships:** As elaborated above, the government's focus is now on larger systemic changes. Additionally, given India's rapid growth in the last decade, the country no longer wants to be a mere recipient of funds any more. India has over time tried to evolve its engagement with bilateral agencies in particular, given the diplomatic nature of these relationships. The Indian government is interested in longer-term partnerships that are hinged on mutual respect and exchange as opposed to simply donor-driver ones. The government is most likely to engage on long-term partnerships, which would exhibit a commitment of time and resources by a bi-lateral agency.

d. **Research:** As mentioned above, the most ideal way to engage with India in the field of health currently is through longer-term partnerships and one of the key areas for such an engagement is research. Partnership in this field, between Japan and India in niche disease areas like MDR TB was spelled out as a potential area of work for JICA. Stakeholders believed that given the changing face of donor relations in India a knowledge-based engagement and exchange could be an interesting avenue for a bilateral body like JICA.

VI. RECOMMENDATIONS

A. STRATEGIC DIRECTION

Based on the desk research and stakeholder feedback, strategic direction for JICA's future engagement in India's health sector has been designed. It is important to understand that, India is in a highly dynamic phase of growth in its health sector today. While areas for improvement in the public health system remain widely acknowledged, there have been some recent successes that have instilled a greater level of confidence in the public health system; India has not seen a new polio case in two years, there has been a significant increase in rates of control for diseases like HIV infection and TB, and installation of a far-reaching health infrastructure platform for rural populations through the NRHM. With the basic frameworks for a robust and efficient healthcare system now in place, the government's appetite for external support too has seen a shift.

The value and expertise foreign assistance brings remains intact. However, models of engagement are now being redesigned to suit the government's new outlook and ambitions. There is an increased and explicitly stated need to explore long term partnership opportunities with the government, both at the central and state levels, as opposed to the more traditional project-specific funding approach. Donors too are moving away from purely central government led engagements to long term partnerships at the state-level. This enables donors to drive both design and results.

As JICA sets out to strengthen its health sector engagement with India, some of these trends will be crucial to ensure that its engagement remains relevant and effective in the long run. We believe the following are the most critical themes that can guide and shape JICA's long term health sector support strategy for India.

1. JICA should adopt a cross-cutting approach to accommodate long term structural consolidation within India's health sector

The 12th FYP (2012-2017) has set out on an ambitious mission to consolidate all public health efforts under the NHM, within which the key strategy is Universal Health Care (UHC) plan that allows will ensure health financing for all. While priorities of this plan are well established, NHM is far from a tangible roll-out strategy. As such, the plan is looking at:

- **Expanding the rural health mission to urban areas** including the setup of 'urban pilots' to test out the newly planned Urban Health Mission. Also, a long term plan to integrate the two missions under a consolidated national health mission (NHM).

- **Integrating national disease control programs into the UHC framework** including defining and implementing operational pathways to integration.

As a result stand-alone vertical programs are becoming less important. There is an increased emphasis on convergence and integration. This fact has been pointed to during the stakeholder interactions as well. Engaging with cross-cutting areas of support such as health systems strengthening, research, training and capacity building can ensure that JICA's activities stay relevant over time.

For instance, to improve diagnostic infrastructure for underserved areas such as TB and NCDs, JICA can consider helping the government set-up technology development and roll-out fund through technical assistance as well as grant or loan to supported organizations. This can ensure that JICA support to improving diagnostic infrastructure can i) stay relevant to changing public health concerns over time, ii) the frameworks for implementation are relevant even under the possible horizontal integration of disease control programs in the future, and iii) retain quality and standard of execution, results delivered, and impact.

2. JICA should have a targeted regional focus and invest in building deep relationships with state governments, non-government actors / organizations and lead donor organizations

The government has recognized that for specific programs and aid to be truly effective regional variations must be accounted for. For example, even within the JICA states, this variation is seen between states like Madhya Pradesh and Tamil Nadu in the case of nutrition. The former has child malnutrition rates of close to 60% whereas the latter has malnutrition rates of less than 30%.[199] This implies that a one size fit all strategy cannot be implemented for all states of India and it is important to understand the peculiar conditions – social, political, economic and environmental. Therefore, the Indian government has now begun to methodically channel external donor support. To promote a more targeted and state/region-centric development of the health sector, the government has appointed lead donors for each state and its poorest performing districts. These lead donors are required to coordinate efforts with other donors and local bodies to promote a cohesive aid environment. This 'bottom-up' approach has been highly acclaimed by government stakeholders. Donors have responded well and are now setting up state-level partnerships to engage with all stakeholders, sometimes directly at the district level. This decentralized model enables greater flexibility for donors to test innovative models of delivery. Simultaneously, it installs a greater level of accountability for health systems at the state and district level, to deliver results.

[199] http://www.unicef.org/india/nutrition_1556.htm

Given this context and the longstanding presence and experience of some donors and selected community based organizations in states, JICA will have to consider a partnership driven approach to define its engagement with Indian states. This will include beginning to build direct relationships with state government officials, lead donors and key local partners. JICA's strategy should, therefore, clearly establish key geographic areas and social-economic criteria that form the focus for its engagement with the country. The World Bank, for instance, has explicitly stated its focus on poor performing and low income states in its latest country partnership strategy (2013-2017).[200] Within geographic areas of focus, JICA can experiment with innovative models of health delivery. JICA could, for example, consider setting up 'models of excellence' that promote and test the applicability of best practice Japanese models of healthcare at the district level. In the long term, such models can help establish Japanese credibility and expertise in the region. This in turn will help strengthen relationships with local government and non-government bodies and eventually with state governments.

3. JICA can plan a long term, phased engagement with a focus on India's new and highly ambitious healthcare programs that provide the opportunity to design and influence long impact change in relatively nascent, yet core public health areas

Over the duration of the 11th and 12th five year plans, the government launched programmatic expansions for a large number of emerging public health issues including, i) a dedicated national disease control unit for NCDs (NPCDCS), ii) an urban health mission to build up urban health infrastructure (UHM) in line with the rural health platform (NRHM), iii) extension of scope of the health insurance scheme for BPL families (RSBY) and integration with newer 'above-poverty line schemes' through the UHC, and iv) a dedicated Department of Health Research (DHR) for increasing research capacity in the country. While these programs have been theoretically established, implementation has been poor due to funding constraints and limited clarity on program design and governance structures. Room for external financing and technical cooperation is large and acknowledged by stakeholders within the government. Even within established programs like TB control, capacity to deal with newer and more complicated forms of the disease is very limited. Programmatic measures to support these emerging problems areas are almost non-existent.

These new and evolving programs and schemes are well intentioned and designed to address truly challenging issues facing the health sector in India today. Interviews with stakeholders and donors have consistently highlighted that in spite of good intentions, internal capacity to deliver is constrained by the lack of political will in some cases, and financing gaps and organizational capacity in others. In the case of the former, there is limited scope for external involvement. The National Urban Health Mission

[200] http://www.worldbank.org/en/news/press-release/2013/04/11/World-Bank-Strategy-for-India-Boosts-Support-for-Low-Income-States

(NUHM), for example, is highly debated topic and has been in the design phase since 2007. Interviews with donors revealed that this is a contentious area for many internal stakeholders and common consensus on its role, targets and implementation design are yet to be established within the government. However, some donors including USAID and ADB have explored the opportunity to support effective models for urban health. On the other hand, areas like NCD control and health research suffer from basic organizational capacity constraints including fund scarcity and staff capacity and training. Further, interviews with donors and government stakeholders help establish that prominent areas like MNCH and HIV/AIDS receive a lot of donor attention, and do not need external assistance currently.

Going forward, JICA can use these critical capacity gaps as an opportunity to shape what could be highly influential public health programs in the country. Channels of entry to support these programs will be fairly open and easy, especially in some key areas that have consistently received lesser donor attention. NCDs and health research are both cases in point. In other, more popular areas such as urban health and financing, JICA will need to adopt a long term partnership led approach where it finds neutral channels of entry in the immediate term with a hope to expand participation in the future. An in-road to participating in the universal health financing debate could be through a research product on Japanese universal health financing models in partnership with a trusted independent health think tank.

These ground realities are also being reflected in the way other donors are approaching their future strategies of engagement with the health sector. Interviews with donor representatives have revealed several interesting ways in which external aid agencies are restructuring their engagement. Below, we present an overview of key takeaways from their forward-looking strategies.

- **USAID:** Heavy focus on encouraging private sector participation both at the policy level (through PPPs) as well as in implementation (private sector partnerships for health service dissemination). They are also working with the government through technical assistance to empower and build capacity of government programs to better engage the private sector in healthcare delivery. Identified focus areas include private sector development for health, urban health, capacity building and research.

- **World Bank**: The bank's Country Program (2013-17) refers to a broad framework that includes growth, inclusive and agglomeration. The new approach will be more horizontal than it has been in the past, in an effort to look at issues in the public health universe holistically. In terms of geography, the idea is to concentrate on lower income states i.e. increase ground-level engagement. Identified areas of focus include urban health, systems strengthening and nutrition.

- **DFID**: Going forward (especially post 2015), project designs will govern DFIDs strategy for health and nutrition in India. Across the organization the mandate is to move from core operations to strategic program design. Forward looking strategic priorities for DFID will include health financing and human resource development.

- **GIZ**: The organization's agenda in India is defined by the German mandate that has moved away from directly supporting the health sector to installing social security across sectors (including health). As a part of this renewed focus, GIZ began transitioning its support from the Ministry of Health in India to the Ministry of Labor which was at the time, implementing a new social security scheme called the RSBY. GIZ's long term plan is to support the Government of India in developing and executing a coherent strategy on universal financing that goes beyond the RSBY with a focus on quality assurance and incentive designs.

- **WHO**: The strategy for WHO focuses on continuing support to traditional areas of engagement like quality control and public-private sector regulation as well as expanding activities to cater to the needs of emerging public health challenges and nascent government programs. Specific areas of focus will include design and roll-out support to the NUHM and UHC pilots, proposal and working papers on the integration of vertical disease programs with the rural and urban missions, epidemiological research on non-communicable diseases, systems strengthening, and operational efficiency.

In the next section, building upon these macro themes and donor trends, specific opportunities that JICA can pursue were identified at the national and state levels.

B. POTENTIAL OPPORTUNITIES

1. OVERVIEW

Based on an analysis of India's performance of the 11th Plan, the objectives of the 12th Plan, and stakeholder outreach, we have identified five potential opportunities that are best suited to leverage JICA's capabilities, fit with the needs of India and the changing face of its health sector. As depicted in Figure 87, areas of opportunity for JICA have been developed on the basis of a holistic assessment of a few main key criteria:

1. What are priority health sector challenges being faced by India today?
2. What areas do doors focus on?
3. What are important yet underserved areas?
4. What areas fit best with JICA's past experience and expertise?

To design the approach of the intervention and understand how it will be finally rolled out, we have relied upon interviews with stakeholders, analysis of JICA's previous engagement and our own understanding of the methods and approaches that will work in India currently.

The aforementioned questions are answered through thorough desk research, interviews with stakeholder inside and outside the government and finally, through a reading of JICA's past experience in health in India and abroad. This filter evaluated opportunities based on what the most feasible interventions for JICA would be given that it is an organization that represents the Japanese government in India. We felt that recommended interventions should be high on impact and visibility while providing JICA an opportunity to engage with the health sector in India with ease. Based on this two-tiered analysis, five final potential opportunities were identified (see Figure 88).

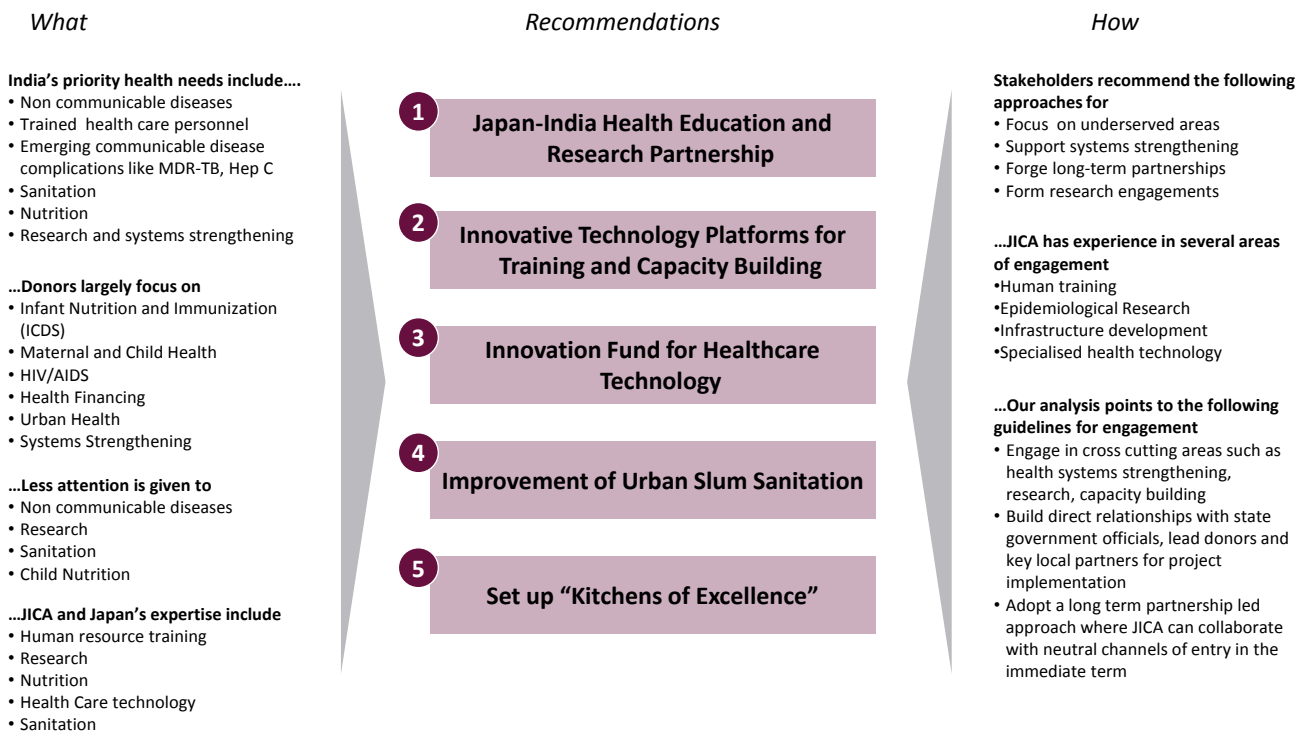


Figure 87. Methodology for health sector opportunity prioritization

A number of opportunities were identified after the first stage of this filtering process, however only five (enumerated below) passed the final filter of strategic direction in India. The Figure 88 below shows the evolution of recommendations and how the final recommendations relate to the current ones.

	Priority areas for JICA	Human resource	Infrastructure	Technical assistance	Research
Primary Health	Maternal health	1 *Training and capacity building of community health workers – explore innovative platforms such as mobile and electronic platforms*	*Explore partnerships with private sector partners for 'emergency obstetric infrastructure' or 'mobile clinics'*	*Assisting with the setup of integrated delivery models of mother and child care – including education, nutrition, delivery and immunization*	
	Child health		*Support the govt../partner with other donors in the roll out of new rotavirus and Hib (pneumonia) vaccines*	*Install cold chains for drug and vaccine storage in rural areas*	
Infectious disease	Tuberculosis	1 *Training and capacity building of DOTS and DOTS plus workers to effectively diagnose, refer and treat drug resistant TB*	3 *Introduce new diagnostic infrastructure to effectively detect gene specific TB strains (e.g., genexpert for DR-TB)*	*Technical assistance for developing diagnostic and treatment protocols for DR-TB*	2 *Disease surveillance and epidemiological studies on emerging co-infections such as TB-Diabetes*
	HIV		*Expand access to ART treatment among HIV-AIDS patients*		
Non-communicable diseases	Diabetes and CVD	1 *Training and awareness modules on lifestyle diseases in partnership with the NPCDCS program*	*Upgrade diagnostic infrastructure for diabetes/CVD available at community level centers - sponsor mass screening programs in partnership with the NPCDCS program*	*Install medical information management systems at PHCs to track and follow-up with high risk population.*	2 *Fund large scale epidemiological studies/disease surveillance to study local prevalence and risk factors for lifestyle diseases*
Nutrition	Child health	1 *Increase the quality and quantity of ICDS officials to improve monitoring and quality of delivery*	5 *Partner with government's mid-day meal program to provide good quality nutritious meal to school children*	*Provide technical assistance and technology to build a monitoring and quality control system*	
Water and Sanitation	Urban Sanitation		4 *Partner with urban local bodies and municipalities to invest in new construction of toilets (and supporting sewerage systems)*		
Cross cutting issues	Health Systems	*Develop health management modules for health professionals*		*Set up MIS in collaboration with government* *Explore community models for healthcare financing*	*Conduct surveys to understand the impact of current incentive structure on quality of health delivery*

Figure 88. Final stage recommendations mapped to first stage recommendations

Based on the above, the prioritized opportunities for JICA include:

1. **Japan-India health education and research partnership**: Build and expand capacity of research institutes in India through partnership with Japanese universities and research organizations. Potential activities can include funding of exchange programs, design of short term certified courses and research grants for data deficient sectors.

2. **Innovative technology platforms for human resource training and capacity building:** Design training modules for public health professionals that can be disseminated through innovative platforms like e-learning, distance learning and m-learning in partnership with national and state level training institutes. Focus on cross-cutting areas that can result in overall systems strengthening like hospital/facility management, operational and organizational efficiency, cadre management and public health planning.

3. **Innovation fund for healthcare technology**: Establish a collaborative fund for identification, development and roll-out of low cost diagnostics and treatment equipment. Initial focus on scaling up best practice technologies for underserved areas such as cancer, diabetes, DR-TB and HCV.

4. **Improvement of urban slum sanitation**: Provide infrastructure and technical assistance to improve sanitation at state level by engaging Japanese private sector with an initial focus on the urban poor. Engage Japanese companies specializing in smart low-cost toilet designs to install sanitation technologies and provide supporting business models in selected urban slums. This can be done through grant/loan and/or technical cooperation for states and communities to engage these companies and purchase their technologies.

5. **Exchange of Japanese school feeding best practice models:** Create model kitchens to improve the quality of mid-day meals served in schools through use of Japanese technology and relevant experience from its highly lauded 'school-feeding model'. Simultaneously, set up a quality improvement fund to provide results based incentives to top performing schools in the region.

The need, rationale and delivery model for these opportunities are laid out below. Opportunities are identified at the national level and within selected states of study (Madhya Pradesh and Mizoram). National level opportunities have been designed, and in some cases state-level opportunities are extensions of a national-level one. Finally, we have prescribed selected 'points of entry' for JICA to ensure that our proposed recommendations are not only theoretically feasible, but also well suited to the practical operating environment.

2. DETAILS ON THE PRIORITIZED OPPORTUNITIES FOR JICA

(i) Japan-India health education and research partnership and India health sector R&D partnership

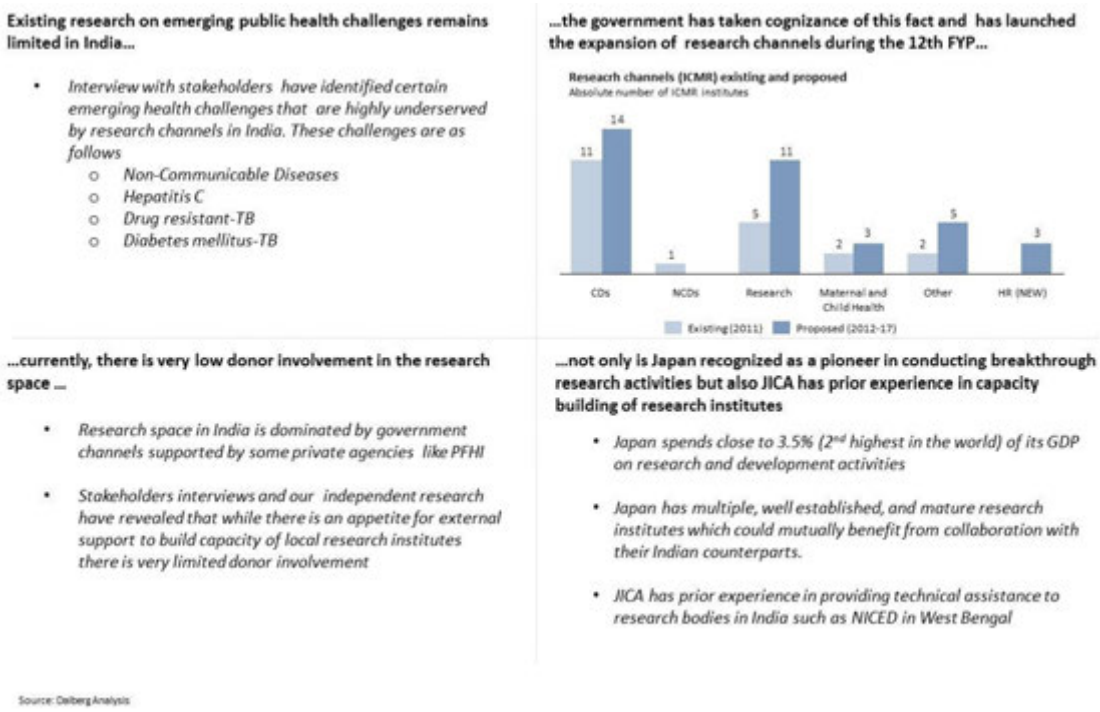


Figure 89. Overview of Opportunity 1

Need: As seen in Figure 89, existing research on emerging public health challenges remains limited in India. For instance there is no large scale epidemiological study conducted for niche disease areas such as Hepatitis-C, NCDs, TB-diabetes co-prevalence, etc. The government has taken cognizance of this and launched the Department of Health and Research (DHR) during the 12th FYP to expand the research capacity of existing institutions through grants and provide funding for the setup of new medical education and research institutions.[201] To do this, institutions are exploring partnerships with foreign research bodies and universities. Currently, there is very low donor involvement in the research space with only WHO engaging in large scale research and dataset collaborations.

Japanese expertise: Japan has the reputation of being the research and innovation hub of the world and is recognized as a pioneer in developing breakthrough healthcare technologies. Japan spends close to 3.5%[202] (2nd highest in the world) of its GDP on research and development activities. It has multiple, well established, and mature research institutes which could mutually benefit from collaboration with their Indian counterparts. Additionally, JICA has prior experience

[201] 12th Five Year Plan
[202] http://ijltet.org/wp-content/uploads/2013/09/14.pdf

in providing technical cooperation to research bodies in India. For instance, JICA at the request of the Indian government dispatched a prominent infectious disease specialist to India to provide technical guidance to identify the causes of diarrhea at NICED (West Bengal).

Delivery model: JICA can build research and development capacity in India by partnering with local universities as well as government research departments. This can enhance the abilities of both individual researchers and research institutes to undertake and disseminate high quality research especially in underserved areas.

a) **Exchange programs and trainings:** Provide training to researchers for effectively designing and undertaking research by facilitating exchange programs with Japanese research institutes to share best practices.

b) **Grants and funding for locally led research projects:** Provide grants for conducting research in neglected disease areas such as NCDs, Hepatitis C, etc. Dispatch prominent Japanese specialists to India for providing technical guidance and facilitating knowledge sharing.

c) **Technical assistance for research design**: Provide technical volunteers to local research institutions to support specialized clinical research design and implementation.

Type of JICA support: Grant or loan and/or technical cooperation

Initial points of entry (Example only): Partner with ICMR to identify researchers for exchange programs and to collaborate on support and fund research initiatives.

Priority geographies: Specific state level opportunities identified during field visits are listed below.

Opportunity 1: In consonance with the national level recommendation of expanding India's research capacity, carry out epidemiological research in Mizoram to understand specific reasons behind abnormal incidence of cancer in the state. Cancer related deaths in Mizoram are the highest in the country. A large proportion of them relate to tobacco directly, and oral and stomach cancers are most common. However, there are a significant number caused by other unknown factors. It is important to investigate and identify these localized factors to address them appropriately. Additionally, research in Mizoram could be adapted and applied to other North-Eastern states as well.

Opportunity 2: In Mizoram JICA can help install disease surveillance protocols within remote communities for malaria. Efficient identification and registration of malaria patients can be done through GPS enabled tools. Malaria is a big concern for the state and its incidence is intensified by densely forested terrain and heavy rainfall. The remoteness of many hamlets and dwellings makes it impossible for the government to reach care and treatment to all people. The WHO estimates that only one tenth of all malaria cases are currently reported, especially in states with high disease burden.[203] Community based disease surveillance protocols would enable the government to track the number of cases and provide identified patients with treatment. This surveillance would also help the state government in identifying high intensity areas within districts and target them suitably with preventive measures.

Similar Government/ Donor programs: WHO is working to build capacity of research channels in India through its **International Centers for Excellence in Research Programs (ICER).**[204] The program identifies research groups and provides high quality fellowships and on-the-job training to foster research. The ICER site in India, located at the Tuberculosis Research Centre in Chennai, conducts collaborative studies on filariasis and, more recently, on tuberculosis-filarial and HIV-filarial co-infections. WHO is also running similar programs in other developing countries such as Mali and Uganda.

[203] http://www.who.int/malaria/en/
[204] http://www.who.int/bulletin/volumes/82/10/764.pdf

(ii) Innovative technology platforms for human resource training, education and capacity building

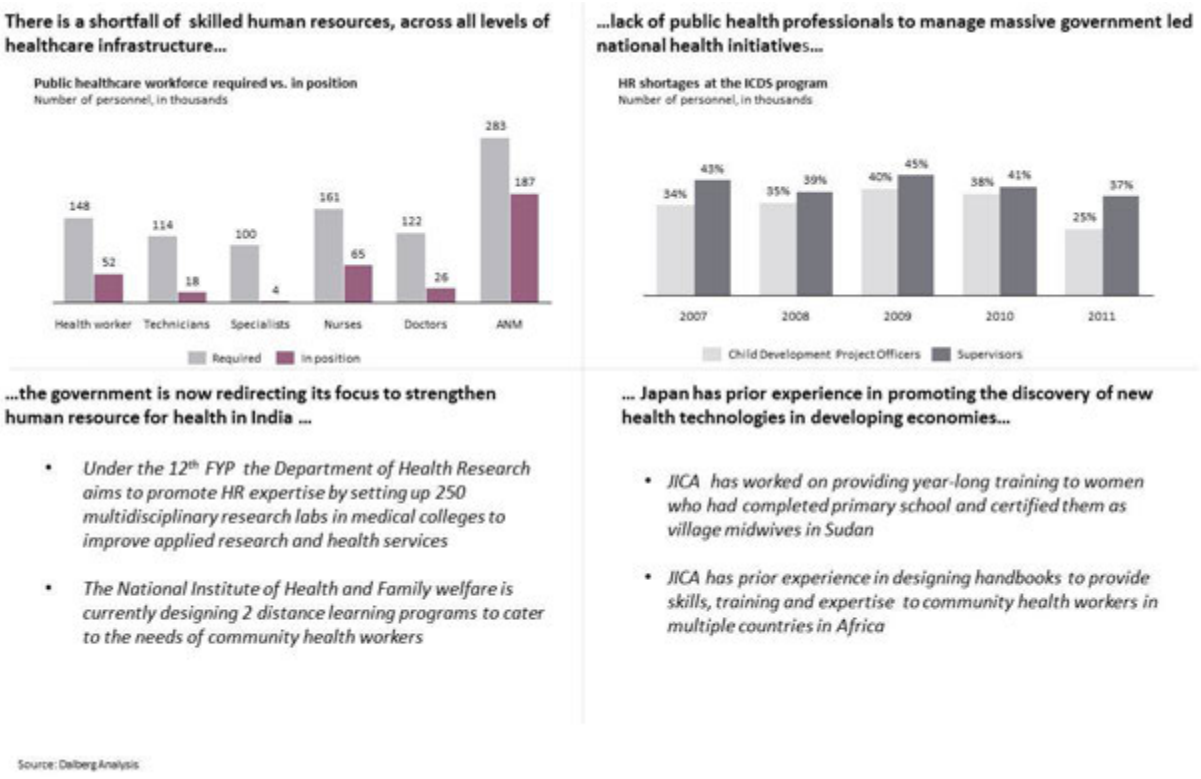


Figure 90. Overview of Opportunity 2

Need: India faces a big problem of skilled human resources, with shortages seen across all levels of healthcare infrastructure. As seen in Figure 90, there are huge gaps between the required and available resources, especially amongst technicians and specialists. In addition, India does not have enough public health professionals to manage massive government led national health initiatives. The government is now redirecting its focus to overall systems strengthening, and public health certification would assist this effort.

Japanese expertise: JICA has extensive experience working in South Asia and Africa across areas of support for maternal and child health, including training and capacity building; JICA worked on providing year-long training to women who had completed primary school and certified them as village midwives in Sudan.

Delivery model: JICA could work with the Central government to design courses and methods of certification. In addition, JICA can test new methods of training delivery like m-learning, and e-learning.

i. **Build knowledge and development module partnerships with research institutes.** JICA can identify and build partnerships with government institutes working on public

health education, both at the national and state levels, to design need based courses and methods of certification.

ii. **Innovative technology platforms for delivery.** In addition to the tested format of distance learning, platforms of delivery like m-learning and e-learning can be tested and refined to reach more people with these courses.

Type of JICA support: Technical cooperation

Initial points of entry (Example only): Partner with National Institute of Health and Family Welfare (NIHFW), the apex institute for training and public health education within the government. In the past, many donors have contributed to the institute but currently all previous programs have ended. The institute is currently designing two distance-learning courses, and is in the process of establishing e-learning courses and has plans of expansion of both these avenues.

Priority geographies: Specific state level opportunities identified during field visits.

Opportunity 1: To address the need of Madhya Pradesh's shortfalls in human resources, JICA should partner with local health education institutes to design effective curriculums, bring in Japanese expertise to train teaching staff and build long partnerships with state and district administrations. The Central government and the state government have planned several district level institutes in Madhya Pradesh to generate more resources for the public health system. JICA can collaborate with district level institutes (like in Sehore district), to design and implement curriculums for the students.

Opportunity 2: To address the shortfall of human resources, assist the state government in Madhya Pradesh in organizing systems of efficient reporting from the directorate of health services to the community, with a focus on facilitation, provision, monitoring and regulation. Madhya Pradesh is a large state with different levels of governance from the directorate in the state capital to local bodies at the community level, and there are no proper methods of staffing, reporting and monitoring. In its previous engagement with the Government of Madhya Pradesh, JICA had posted a consultant in the Directorate of General Health Services in Bhopal. The consultant oversaw JICA's interventions which were meant to supplement the efforts of the government. This model of engagement was appreciated by government officials, who felt that the presence of an external consultant was useful in their day to day activities. JICA's model of posting a consultant at the health Directorate in Madhya Pradesh was appreciated by the government. JICA enjoys a good relationship with the state's Health Department, which can serve as a starting point.

Opportunity 3: In Mizoram, given the growing problem of mental health, community-based trainings on sensitizing people towards identification and counseling of mental health patients is required. The biggest problem in mental health is the lack of information about the problem, and inability to identify patients. There are superstitions that surround mental health, especially in rural areas. Through community-based training, it would be possible to sensitize people to the problem, help identify cases and report it. Overtime, counselors can be selected from within villages to strengthen the mental health workforce. JICA alumni[205] have been involved in issues of mental health in conflict areas. This, combined with its expertise in community-based training programs, puts JICA in a good position to intervene in Mizoram.

Similar Government/ Donor programs: Gates foundation in partnership with the state government of Bihar, BBC foundation and the World Health partners launched the **Ananya program** in 2010 aimed at reducing child mortality, improving maternal health and reducing infectious diseases in Bihar. As part of the program Gates foundation instituted a virtual academy called "Mobile Kunji" which delivers training and on-demand health service via mobile handsets to over 200,000 community health workers in Bihar. The course content of Mobile Kunji is tailored specifically to meet MNCH training requirements in Bihar.

[205] http://www.jicaalumni.ps/en/index.php?page=view&id=88

(iii) Innovation fund for healthcare technology

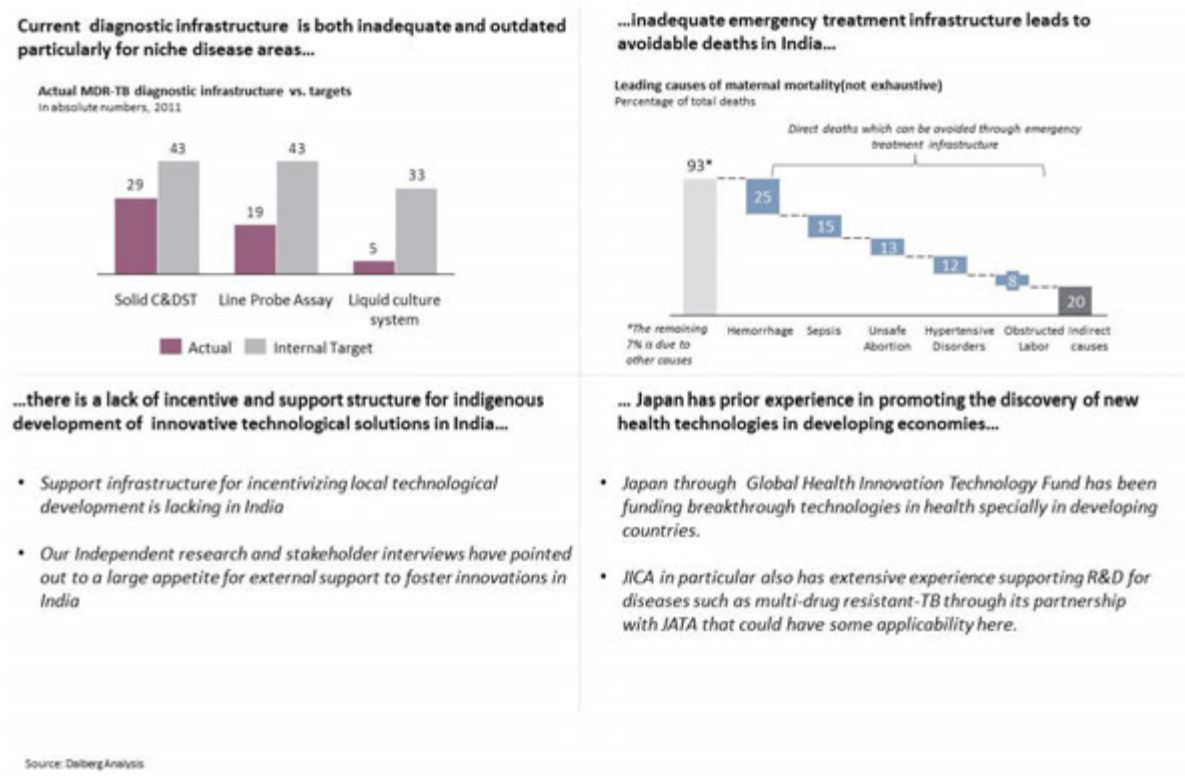


Figure 91. Overview of Opportunity 3

Need: Emergency treatment and diagnostic infrastructure is an identified gap in the Indian public health system as the focus of the government is to address physical infrastructure needs in the form of more buildings for hospitals, clinics etc. Multi-drug resistant-TB grapples with the dual challenge of inadequate and outdated diagnostic infrastructure, which leads to 8-15 day delay in diagnosis. As seen in Figure 91, MDR-TB infrastructure there is solid C&DST, line probe assay and liquid culture systems. While the issue is prevalent across the board, there are certain areas where the gap is particularly severe. Cancer, diabetes, drug resistant-TB are examples of areas that are underserved by both government and donors in this regard.

Japanese expertise: Japan has prior experience in promoting the discovery of new health technologies in developing economies. For example the recent Global Health Innovation Technology Fund established by the government of Japan in 2013 in partnership with Japanese pharmaceutical companies and BMGF focuses on funding innovative developments in drugs, vaccines and diagnostics for infectious diseases. Furthermore, JICA in particular also has extensive experience supporting R&D for diseases such as multi-drug resistant-TB through its partnership with JATA that could have some applicability here.

Delivery model: JICA could sponsor identification, R&D, development and roll-out of low cost health technologies in partnership with research institutes and vertical government programs.

i. **Identification of innovative health technologies:** Partner with research and education institutes to sponsor innovations. For example, JICA could create an innovation challenge to identify low cost healthcare technology.

ii. **Development of innovative health technologies.** Fund R&D to tailor model healthcare technologies in order to combat challenges peculiar to Indian healthcare.

iii. **Roll-out of innovative health technologies.** Partner with appropriate channels for a large scale and high impact roll-out of breakthrough technology. For example, JICA can partner with government programs, other donors and CSO's depending on the context and scale of impact desired.

Type of JICA support: Grant or loan and/or offer technical cooperation.

Initial points of Entry (Example only): Begin conversations with ICMR to identify and fund low cost technologies. Collaborate with RNTCP and NPCDCS to enable large scale uptake of the identified technology.

Priority geographies: Nationwide focus.

Similar Government/ Donor programs: Government of India has partnered with Gates foundation's **Grand Challenge** program to channelize innovation and solve key health and development problems. Through this partnership the government and the foundation will co-fund projects that aim to harness Indian innovation, research and direct scientific discovery to develop affordable and sustainable solutions that improve health outcomes.[206] The first joint program, which will become active in November 2013, seeks to target the relationship between agriculture, nutrition, and health to reduce the high incidence of low birth weight and early stunting and wasting among Indian infants.[207]

[206] http://www.gatesfoundation.org/Media-Center/Press-Releases/2013/04/Grand-Challenges-India-a-new-Partnership
[207] http://www.grandchallenges.org/grantopportunities/pages/GCIndia_healthygrowth.aspx

(iv) Improvement of sanitation facilities

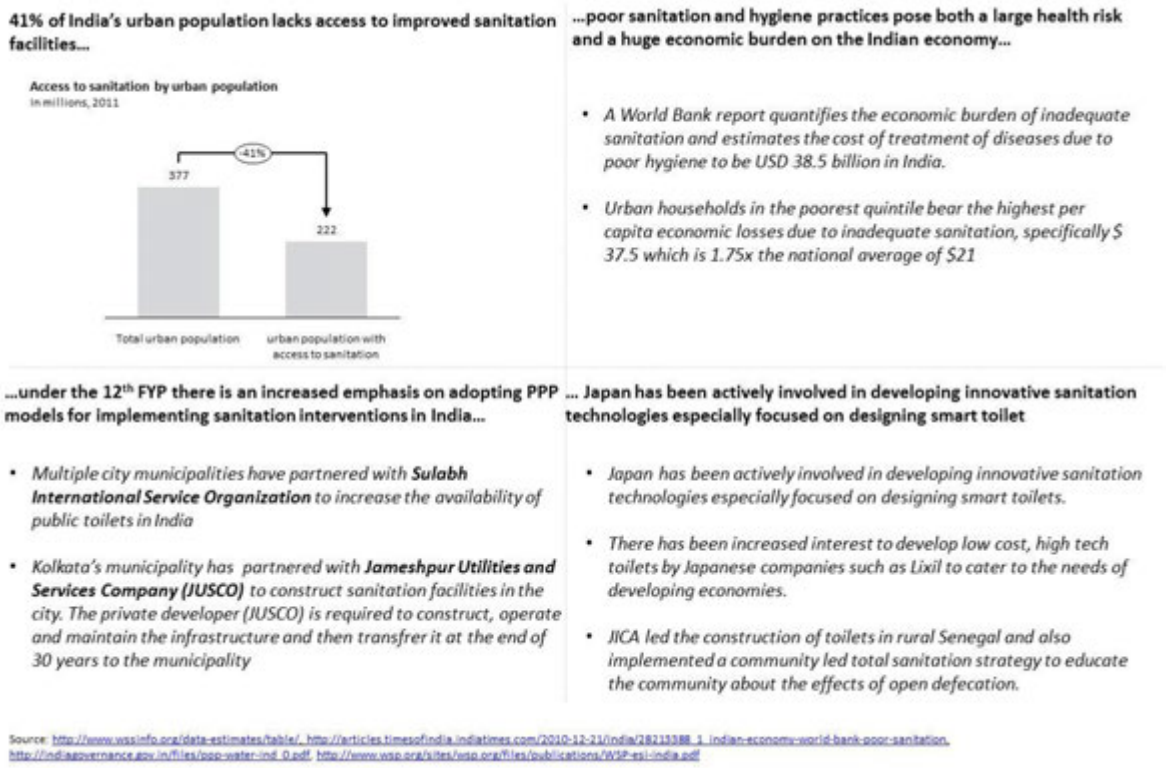


Figure 92. Overview for Opportunity 4

Need: Currently, 40%[208] of India's urban population lacks access to improved sanitation facilities (as seen in Figure 92). Poor sanitation and hygiene practices pose both a large health risk and a huge economic burden on the Indian economy. A World Bank report quantifies the economic burden of inadequate sanitation and estimates the cost of treatment of diseases due to poor hygiene to be INR 211,750 crore[209] in India. Donors are likely to focus on health infrastructure under the NUHM; this would mean there will remain a gap in sanitation facilities. Notably, the state governments are in the process of completely devolving sanitation to ULBs, which need support from both the government and corporations. Additionally, the government of India, in the 12th Plan specifically seeks and encourages PPP models in various fields including sanitation therefore there is likely to be major support for such a model of engagement.

Japanese expertise: Japan has been actively involved in developing innovative sanitation technologies especially focused on designing smart toilets. Recently, there has been increased interest to develop low cost, high tech toilets by Japanese companies to cater to the needs of developing economies. Additionally, JICA has engaged in multiple projects aimed at improving sanitation in

[208] http://www.wssinfo.org/data-estimates/table/
[209] https://www.wsp.org/sites/wsp.org/files/publications/wsp-esi-india.pdf

developing economies. For Instance, JICA led the construction of toilets in rural Senegal and also implemented a community led total sanitation strategy to educate the community about the effects of open defecation. Lastly, JICA has in the past made efforts to encourage PPP especially for better delivery of public services in other developing countries bringing together governments and the private sector especially in the light of a growing awareness of corporate social responsibility.

Delivery model: JICA could target both collective as well as individual sanitation solutions by installing toilets, and initiating behavioral change in the community to increase uptake of hygienic sanitation practices.

i. **Set up of sustainable models of sanitation:** Partner with city municipalities (and provide direct funding to implementing organization and/or technical cooperation) to identify urban slums for initial installation of toilets and local partnerships for financing, operations and maintenance in public areas.

ii. **Installation of low cost Japanese toilets combined with an open defecation challenge fund:** Fund Japanese companies specializing in low cost toilet designs to install toilets in identified slums; install results based financing mechanisms to reward rates of reduction in open defecation

iii. **Pioneer the promotion of new sanitation technologies:** Partner with urban local bodies (and provide technical cooperation) to introduce new and innovative Japanese sanitation technologies that provide community level benefits to low-income urban slums e.g., waste to energy and feacal sludge to energy.

Type of JICA support: Grant or loan and/or offer technical cooperation.

Initial points of Entry (Example only): Begin conversations with the state governments, local research organizations urban local municipalities to identify relevant urban slums for the programme. Urban local bodies within city municipalities have been identified as the nodal focus areas for urban health pilots which can allow JICA to participate in a much broader intervention in the long run.

Priority geographies: Close to 72% of Madhya Pradesh's population lacks access to sanitation as opposed to the national average of 65%. Additionally, Madhya Pradesh also has the poorest sanitation indicators amongst all JICA states under study. Thus the initial phase to improve sanitation should focus on Madhya Pradesh.

Similar Government/ Donor Programs: Sulabh International Service Organization has partnered with various government departments to install and maintain close to 8000[210] pay-per-use public toilets in India. The model involves a one-time investment by the local government towards construction. Post construction, Sulabh takes maintenance guarantee of the system. The maintenance of the toilets is paid for from the user's contribution.[211] This PPP model reduces burden on local bodies and expands usage through behavioral change campaigns.

(v) Exchange of Japanese best practice models – incentivize best practices in nutrition through a challenge fund

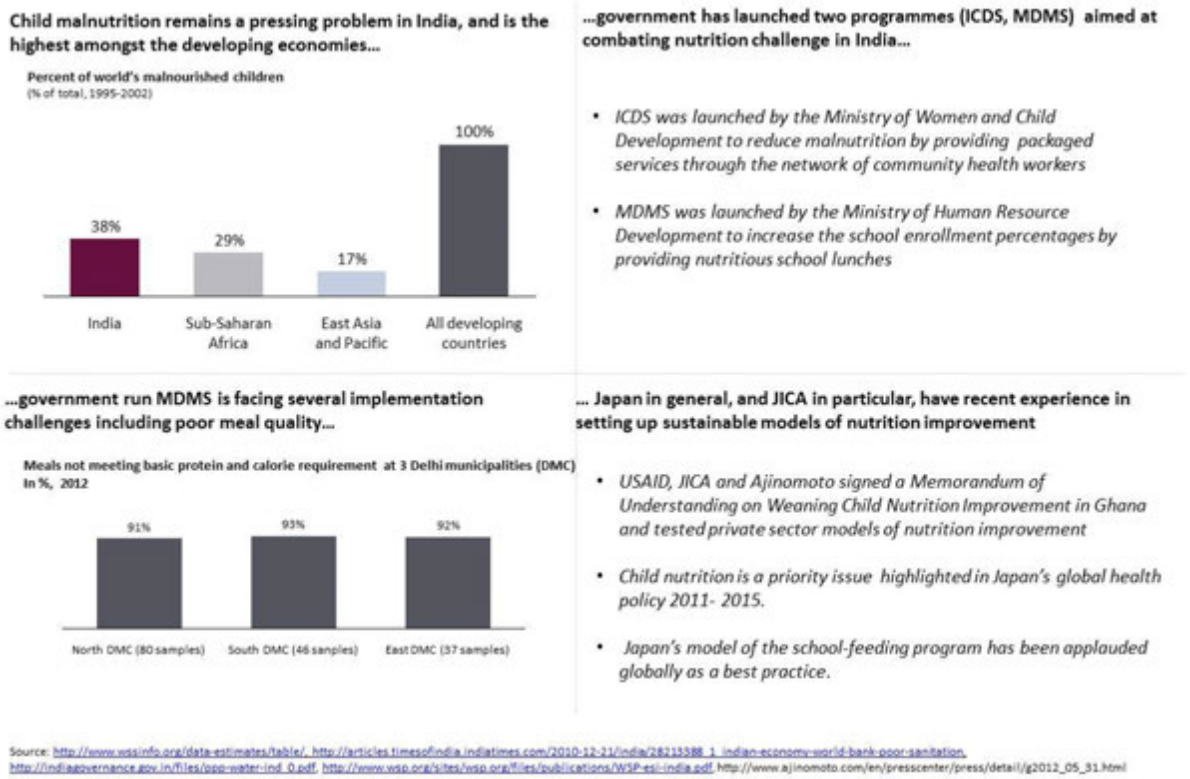


Figure 93. Overview of Opportunity 5

Need: India has a serious malnutrition problem. As seen in Figure 93, India has 38% of the world's malnourished children.The prevalence of malnutrition varies across states, with Madhya Pradesh recording the highest rate (55%).[212] The government has large schemes like the ICDS and Mid-day Meal Scheme (MDMS) which attempt to address the problem. The MDMS was started to increase school enrollement, and improve learning outcomes by providing nutritious food to children. Over the year, the MDMS has become the largest school feeding program in the world, feeding 110 million children everyday across the country. Yet, per our analysis discussed earlier, almost 90% of meals

[210] http://www.sulabhinternational.org/content/sulabh-story-brief
[211] http://www.sulabhinternational.org/content/public-private-partnership
[212] http://www.unicef.org/india/children_2356.htm

served are reported to be of poor quality and fail to meet prescribed nutritional standards. The kitchens preparing the meals are under-equipped and do not maintain standards of hygiene needed to prepare a safe and nutritious meal for children.

Recent reports of food poisoning and deaths related to poorly prepared school meals have shifted attention to a set of glaring issues that have been known, but did not receive sustained attention in the past. The biggest of these is quality; more specifically weak implementation models and quality oversight.[213] Scope for improvement exists in areas of auditing and monitoring, cold storage and infrastructure at the kitchen level. Also, incentive models for quality improvement and most importantly the development of a 'proof of concept' that establishes the link between school-feeding and improved nutrition outcomes. For instance, anemia affects 3/4th of the school children due to lower intake of iron and folic acid. The MDMS provides students with vegetables and iron fortified iodised salt which improve the Hb levels in children[214]. Therefore, there is scope to establish this scheme as not just a feeding program but a holistic nutrition program.

Japanese expertise: Japan in general, and JICA in particular, have recent experience in setting up sustainable models of nutrition improvement through partnerships with Japanese private sector companies. For example, **USAID, JICA and Ajinomoto signed a Memorandum of Understanding on Weaning Child Nutrition Improvement in Ghana and tested private sector models of nutrition improvement.**[215] The issue of child nutrition is also high on Japan's radar as a part of its global health policy 2011- 2015.[216] Finally, Japan's model of the school-feeding program has been applauded globally as best practice.[217]

Delivery model: Partner with established local community organizations that have proven experience working in the field to set up 'models of excellence' in a targeted village or district. Set up an independent quality improvement fund that provides results-based incentives to applicants (government and non-government institutions) across the country.

i. **Models of excellence**: Leverage Japanese technology (cold storage, drying and preservatives etc.) and learnings from the school-feeding program (Shikoiku Act) to set up high quality kitchens. Potentially experiment with community food growing and provision models as well.

[213] http://www.livemint.com/Politics/tmcRiReqZaLAfMENuiJZ8O/Bihar-midday-meal-deaths-Lessons-from-a-tragedy.html
[214] http://nutritionfoundationofindia.res.in/PPT-2011/Seven17-18teen/Mid-Day-Meal-Scheme.pdf
[215] http://www.ajinomoto.com/en/presscenter/press/detail/g2012_05_31.html
[216] http://www.jica.go.jp/nepal/english/office/others/pdf/newsletter_50.pdf
[217] http://www.wfp.org/stories/japan%E2%80%99s-school-feeding-program-model-world

ii. **Incentive fund:** Performance-based conditional cash/benefit transfer for organizations involved in the delivery of midday meals

iii. **Quality improvement:** Conduct randomized audits and quality control checks for partners enrolled in the 'kitchens of excellence' program. Provide results-based incentives in the form of increased allowances for food provision or improvement of basic water and cooking infrastructure/technologies.

iv. **Proof of concept:** Install monitoring mechanisms within the program to track nutrition and health outcomes of children at regular intervals.

Type of JICA support: Grant or loan and/or offer technical cooperation.

Initial points of entry (Example only): At the Central government level, begin conversations with the Ministry of Human Resource Development (MHRD). At the state and district level, channel relationships through reputed and well established partner organizations like Akshaya Patra, an Indian Foundation that distributes freshly cooked, healthy meals daily to 1.3 million underprivileged children. This organisation's work spans 9,000 government schools through 20 locations in 9 states across India.

Priority geographies: Based on 2010 data,[218] while the problem of malnourishment is most prevalent in the states of Rajasthan (40%) and Madhya Pradesh (60%), JICA selection could be opportunistic since the intervention will be highly dependent on the selection of the right partners for implementation. Specific components of the program, such as the quality improvement fund, could be made available to partners across the country.

Similar Government/ Donor Programs: **Akshay Patra Foundation,** in partnership with the Indian government, runs school lunch program across 9 states in India.[219] Akshay Patra constructs and maintains state-of-the-art centralized and decentralized kitchens to ensure timely mass production of school lunches in the most hygienic conditions.

C. KEY CONSIDERATIONS FOR IMPLEMENTATION

JICA has a considerably long history of working in the South Asian region, including a strong health sector portfolio. Learnings from past experience can play an important role in developing an effective health strategy for India. An understanding of 'what works' and 'what does not' is very contextual to local influences such as extent of political will, culture of working, willingness to collaborate and perception and attitude towards external support. As we conclude, we provide

[218] India Hunger Index, 2010
[219] http://www.akshayapatra.org/role-ngos

JICA with a few key considerations that can guide its team in effective implementation of health sector activities in India.

1. **Local partnerships with donors and non-government organizations and a participatory planning process will be critical to drive results.** The Government of India is actively encouraging donor-donor partnerships in the field of socio-economic development, especially within the health sector. The government believes that these partnerships would ensure minimal cluttering of the space and lead to greater ownership of projects. These partnerships would provide JICA with easy entry opportunities and avoid any kind of replication of effort within interventions. For instance, if JICA considers working in health financing in India, it would be imperative to have a relationship with GIZ, which has been working on this issue for more than five years. GIZ is trusted and relied upon by the government. In addition to relationships with donors, JICA should forge relations with well-known and well-respected NGOs and / or CSOs that help formulate government policies on key issues like universal health coverage. In this context, it is interesting to note some examples from past JICA projects such as the Safe Motherhood Project in Bangladesh and the diarrhea project in India where a participatory approach was highly successful in achieving results.[220]

2. **A well planned exit strategy along with effective knowledge transfer to local counterparts will be important to deliver sustainable impact.** Stakeholder interviews have uniformly suggested that one of the biggest issues in donor-led projects in India is the lack of a well-defined exit strategy. Donors make large investments in the health space through procurement of technology, expansion of staff and infrastructure creation among other activities. However, once projects are concluded and donors exit, it is often observed that efforts made by them cannot be sustained. This is because the system has not been empowered to function without support. Therefore, it becomes essential to evolve an exit strategy that installs systems to ensure that efforts made by donors can be most effective overtime. There are examples of good exit strategies in India; the BMGF Avahan project, housed in NACO had a two year hand-over period to make sure that the transition was as smooth as possible. Avahan began Phase II in 2009, with the agreement that till 2013, the program would work to ensure that target populations could independently understand and combat structural barriers to their own health and continue advocacy for condom use during sexual encounters. Evaluations of selected JICA projects in India point out that in some cases (Sir JJ Hospital in India), facilities and equipment

[220] JICA project evaluation documents for projects in Bangladesh, India, Pakistan and Sri Lanka

were provided through Grant Aid. One of the key areas of focus for JICA as part of this research is to document the best practices for further project formulation.

3. **JICA should consider investing in strengthening the JICA India team through recruitment of senior specialized local staff.** Expanding health portfolio in JICA India, it might be useful and advisable to have local health expertise to guide the project and forming appropriate approaches. This would assist in not only establishing a deeper presence in the health sector in India but also help showcase JICA as a serious and deeply embedded stakeholder in the Indian health sector. Past project experience in Madhya Pradesh validates this; some amount of project success can be attributed to the collaboration mechanism between the local partners and the project team that possessed a significant understanding of the local context and built relationships in the region especially with key government officials. In the long term, JICA should evaluate if it would like to set up an independent delivery unit or simply install management processes and systems that can supervise work being implemented by contracted partners.

4. **JICA should carefully assess the areas of cooperation where the synergy of funding and technical cooperation could maximize the impact.** Although the study found that external assistance to India is currently in a period of transition towards more specialized technical cooperation and partnerships; some areas still appreciate external funding (i.e., grant or loans). Thus it is important for JICA to assess the areas of cooperation where the synergy of external funding and technical cooperation could maximize Indian's effort to improve health sector. For example, some JICA projects, such as the Project for Prevention of Diarrheal Diseases, were evaluated with Highly Satisfactory as the Project provided the latest research facility through Grant alongside with latest research technology through technical cooperation. As JICA is financing the improvement of the top referral child hospital in Tamil Nadu, further expansion of the project should also assess the possibility of technical cooperation, ODA loan and other possible partnerships, which could complement the funding into maximum effects.

ANNEX 1: DESCRIPTIONS OF PROGRAMS IN STATES

(i) Mizoram

Some of the large programs implemented by the state government in Mizoram are mentioned below.

1. *National Rural Health Mission:* NRHM was formulated in April, 2005*, t*he main aim of NRHM was to provide accessible, affordable, accountable, effective and reliable primary health care by bridging the gap in rural healthcare through creation of ASHAs and integrating it with existing health programmes of Health and Family Welfare. After five years of implementation of the mission which is backed up by capacity building in all aspect, the framing and preparation of action plans from the village level, the inputs from the professionals from the programme management units there is a tremendous increase in the absorptive capacity at each level.

   Before implementation of NRHM i.e. 2005, the funds for health care services were sourced mainly from state and central governments based on specific health programmes. These were largely vertical programmes for curative health care other than the key national programmes. After launch of NRHM, plans have been formulated to meet the actual requirements and needs to improve the health status of community. Some key focus areas including PPP, ASHA, VHSC, MNGO, Referral Transport etc. are for promoting community ownership.

   The key focus areas for Mizoram under the NRHM programme are:

   - Reduction of IMR
   - Reduction of MMR
   - Reduction of TFR from 2.9 (NFHS 3) to 2.8 during 2013-14
   - Reduction in deaths due to malaria by increasing Annual blood Examination rate
   - Improving TB DOTS Services (to achieve more than 85% cure rate)
   - Increased utilization of First Referral Units
   - Assured Quality of Health care services through upgradation of Sub Centres, Primary Health Centres (PHCs), CHC (Community Health Centres)

2. *National Urban Health Mission (NUHM):* The National Urban Health Mission (NUHM) focuses on the implementation of the healthy city framework in Indian cities and towns with the cooperation of local municipal bodies. It seeks to improve the health of the urban poor by

facilitating equal access to available health facilities and strengthening the existing capacity of health delivery. The NUHM has designated 430 cities and towns across India for program implementation. However, policy makers still face the daunting task of establishing core issues and main priorities for the 100 priority cities under NUHM and ensuring that reliable data is available for monitoring and evaluation. These initiatives are necessary in order to discern city-specific problems and allocate resources and efforts appropriately. However, NUHM is a new concept with no framework or structure in place for Mizoram. Municipal corporations are newly formed in Mizoram and no health related work has been undertaken by them so far. Hence, several enabling infrastructure will have to put in place before NUHM becomes functional in the state[221]

3. *Mizoram State Health Care Scheme:* The Government of Mizoram formulated MSHCS, a health insurance scheme, with the support of Asian Development Bank in 2008. The Scheme covers hospitalization expenses worth INR 330,000 and selected day care procedures for almost the entire population (excluding government servants) of the state. In order to keep the scheme lean and cost effective, public private partnership was encouraged between the insurance Company, the private sector hospitals and the state agencies. The State Government assisted in standardizing the treatment protocol, treatment costs and claims scrutiny. The government also tied-up with hospitals in Guwahati and Kolkata to provide critical care to the beneficiaries enrolled into the scheme.[222]

4. *Adolescent Reproductive and Sexual Health (ARSH):* Adolescents comprise of approximately 22% of the total population. Intervention activities among adolescent group have been one of the major challenges in the overall health response. The youth population reportedly engages in high risk activities and ventures, alcoholism and drug addiction among adolescents. To tackle this issue, adolescent friendly health clinic were created to provide comprehensive services in terms of life skills, nutrition, HIV, substance abuse to increase service uptake and quality coverage of target group through training and enhanced capacity building. ARSH also conducts outreach activities-youth festivals & mela to increase awareness and conduct education drives.[223]

5. *National Program for Control of Blindness:* Cataract is the dominant cause of blindness in Mizoram; it contributes to nearly two-third of blind population in the state. To tackle the problem of blindness in the state, the National Programme for Control of Blindness focuses on providing

[221] PwC report
[222] PwC report
[223] PwC report

services in inaccessible rural and tribal areas. Cataract Operations are performed at the State and District Hospitals, Sub-District Hospitals/CHCs, PHCs and at the Presbyterian Hospital, Durtlang, and Aizawl run by the Presbyterian Church. It may be mentioned that the Presbyterian Hospital is identified as one of the base hospital for Cataract Operation. Surgical (Cataract) Eye Camps were organized by District Blindness Control programme in which Eye Surgeons working under Mizoram Government provided free eye-checkups. Additionally the programme also organizes screening camps at schools, as it's estimated that nearly 50% of blind children could be suffering from preventable or curable blindness due to cataract, corneal opacity and retinal disorders. Moreover, for –providing basic services to rural population, vision centers are being set up in 10 PHC/CHC in addition to the existing 5 vision centers already existing in the state.

The programme has performed well against the internal targets. The target has been achieved or intraocular lens implementation and for the surgery of bilateral blind category. Targets have been surpassed for screening school kids and providing them with free spectacles. Additionally, out of a yearly target of 3000 cataract operations 67% of operations have been conducted. Finally, for eye donation 93% of the targets have been reportedly achieved.[224]

6. *School Health Programme:* The School Health programme is the only public sector programme specifically focused on school age children. Its main focus is to address the health needs of children, both physical and mental, and in addition, it provides for nutrition interventions, yoga facilities and counseling. It responds to an increased need, increases the efficacy of other investments in child development, ensures good current and future health, better educational outcomes and improves social equity and all the services are provided in a cost effective manner. In Mizoram, framework for continuing the programme has been chalked out wherein the ANM is to be spared once a week for school health program as there will be MPW (male) or second ANM to support her at the health sub centre. [225]

7. *Integrated Child Development Scheme*: The ICDS has been operational in Mizoram since 1978-79. Services have been delivered from the Anganwadi Centres (AWC). There are 27 ICDS projects with 1980 AWCs in the state. Mizoram has a good track record of service delivery through the AWC. Most of the AWCs are built in collaboration with village communities. Considerable progress has been achieved in the field of women and child development through the ICDS programme and health and nutrition has received adequate attention. More importantly, a general awareness of the need to give a good foundation to children up to the age of six, and care for

[224] PwC report
[225] PwC report

pregnant and lactating mothers has been generated. Initially, the scheme covered 15% of the total population and the eligible beneficiaries covered were only 20%. With the opening of more ICDS projects, the scheme covers about 95% of eligible beneficiaries.[226]

8. *Nirmal Bharat Abhiyan:* In Mizoram, the Public Health Engineering department started implementing the Total Sanitation Campaign (TSC) in the year 2002. Various trainings and seminars were organized to create awareness among the masses about the importance of hygiene and sanitation. The department also used different methods for awareness campaigns such as hoarding boards and wall paintings. The programme had a highly positive impact, especially in the rural areas. Since the last two years, the programme has been doing well with regards to habitation coverage. In 2010-11, the coverage against the set target was 98%; while in 2011-12, 98% of the set target was covered. Individual Household Latrines (IHHLs) coverage for all households (BPL+APL) was 91% against the set target. With regards to the construction of anganwadi toilets, a target of 84% was achieved which has shown a significant improvement since 2011-12 (74%).[227]

9. *National Rural Drinking Water Programme (NRDWP):* In Mizoram, NRDWP the programme is currently spread over eight districts and 22 blocks. In 2013, a total of 777 habitations were covered with 30% coverage for SC/ ST and minority beneficiaries. 80% of the population is managing the water supply scheme. However, the programme has not been able to meet internal targets. Only 1247 water quality tests have been done in labs against a set target of 75,000. The programme has only been able to construct 56% of the targeted number of school toilets.[228]

(ii) Madhya Pradesh

Some of the large programs implemented by the state government in Madhya Pradesh are described below.

1. *National Rural Health Mission:* NRHM was launched in 2005 throughout the country with special focus on 18 states including Madhya Pradesh. The goal of National Rural Health Mission is to improve the availability of and access to quality healthcare by the people especially for those residing in rural areas, poor, women and children. The state rural health mission provides healthcare to rural population throughout the state with special focus on worst performing districts,

[226] PwC report
[227] PwC report
[228] PwC report

which have weak public health indicators and/or weak infrastructure. Districts such as Dindori, Damoh, Sidhi, Badwan, Anuppur, Chhindwara, Rewa, Betul, Raisen, Seoni, Chhatarpur, Morena and Sheopur receive special focus due to poor health performance. The key strategies adopted by the state to improve health outcomes through NRHM includes:

- Capacity building of Panchayati Raj Institutions (PRIs) to recognize their stakes in the public health system
- Promoting access to improved healthcare at household level through the Accredited Social
- Health Activist (ASHA).
- Promoting formulation of village health plans for each village through Village Health & Sanitation Committees of the Village Panchayat
- Strengthening sub-centre through better human resource development, clear quality standards, better community support and an untied fund to enable local planning and action and more ANMs
- Strengthening existing (PHCs) through better staffing and human resource development policy, clear quality standards, better community support and an untied fund to enable the local management committee to achieve these standards
- Provision of 30-50 bedded CHC per lakh population for improved curative care to a normative standard (IPHS defining personnel, equipment and management standards, its decentralized administration by a hospital management committee and the provision of adequate funds and powers to enable provision of desired services)
- Preparation and implementation of an inter-sector District Health Plan prepared by the District Health Mission, including drinking water, sanitation, hygiene and nutrition
- Integrating the management of vertical Health and Family Welfare programs at district level
- Provisioning of technical support to State and District Health Missions for improved public health management
- Strengthening capacities for data collection, assessment and review for evidence- based planning, monitoring and supervision
- Formulation of transparent policies for deployment and career development of human resource for health
- Developing capacities for preventive health care at all levels for promoting healthy life style, reduction in consumption of tobacco and alcohol, etc.

- Promoting involvement of private and corporate non-profit sector particularly in underserved areas[229]

2. *National Urban Health Mission (NUHM):* NUHM was rolled out in Madhya Pradesh in 2012, it is based on the key characteristics of the existing urban health delivery system and proposes a broad framework for strengthening the existing primary public health systems, rationalizing the available manpower and resources, filling the gaps in service delivery through private partnerships and by making special provision for inclusion of the most vulnerable amongst the poor. However, the program is in its nascent stage and requires significant support to pilot the different interventions through the urban local bodies.[230]

3. *Adolescent Reproductive & Sexual Health:* Service provided under ARSH program can be segmented into promotive services and preventive services. Promotive service includes condom promotion, focus care during ANC period, counseling and provision for emergency contraceptive pills, counseling and provision for reversible contraceptive pills etc. whereas the preventive service includes services for Tetanus Toxoid Immunization, services for prophylaxis against nutritional anemia, safe abortion, management of post abortion complication etc. Curative treatment of RTI/STI, menstrual disorder is also provided. Referral Services include voluntary counseling and testing center, prevention of parent to child transmission, antiretroviral therapy etc. Periodic health check-up & community camp and awareness generation through health education are followed as measures of community awareness generation. Jigyasa Adolescent Centers were started in 4 district of Madhya Pradesh to spread awareness and provide package of services to the youth by the youth[231]

4. *National Trachoma and Blindness Control Programme:* Prevalence rate of blindness in Madhya Pradesh is 2% of the total state population. To bring down the prevalence rate, state blindness control cell has been constituted with the target of conducting 426,070 cataract operations in the year 2013-14. The targets for the year also include distribution of 59890 free spectacles to school children and collection of 3200 donated eyes. To fulfill the internal targets, state blindness control cell plans to conduct extensive screening of school children, establish vision centers at district level and strengthen infrastructure of IEC activities.[232]

[229] PwC report
[230] PwC report
[231] PwC report
[232] PwC report

5. *Deen Dayal Antyodaya Upchar Yojna*: Deen Dayal Antyodaya Upchar Yojna was launched in 2004 by the state government to provide free treatment and medical consultations to BPL population hospitalized in government hospitals. The scheme seeks to provide social security coverage to the population belonging to the lower socio economic strata of the soceity233. Under this scheme free medical treatment and consultation worth INR 22000 is provided per family per annum in all government health facilities. This benefit is available only to hospitalized patients. In case of serious illness the insurance cover is extended up to INR 33000 per family per annum. All BPL families irrespective of number of members in the family are eligible for this scheme. Each eligible family is issued a family health card which serves as a record of cost incurred on medicines, consultation and hospitalizations. The card once issued doesn't require renewal and additional names can be added on providing sufficient proof.234

6. *Deen Dayal Mobile Hospital Yojana*: Deendayal Mobile Hospital Yojana was launched in 2006 as PPP with the objective of expanding the health service coverage to remote, inaccessible and tribal areas. Eleven tribal blocks have been selected for the first phase of the scheme. Services are provided through mobile vans which are equipped with all essential medicines and medical tools and are tracked by global positioning system. Each MMU is accompanied by a doctor, nurse, a lab attendant and a pharmacist. The mobile unit serves close to 100 patients and 300 pregnant women across the state each day and provides services such as medical consultation, pathological examinations, primary health checkup, vaccinations and emergency services during epidemics and disasters[235].

7. *National Leprosy Eradication Programme (NLEP):* Madhya Pradesh registers close to 6000 new leprosy cases every year, in order to tackle the burden of leprosy NLEP is being implemented in the state. There has been a reduction in trend for the number of new cases of leprosy detected in the state (from 8.8 ANCDR /100,000 in 2007-08 to 7.8 in 2010-11). Treatment completion rate has also gone up from 90% in 2007-08 to 95% in 2010-11. However, the program faces large human resource shortfalls. The state has got only 15 sanctioned posts of district leprosy officer out of which eight are lying vacant. Moreover, about 30% of the experienced vertical NLEP staff (NMS/NMA) will be retired in coming two years which will affect the programme adversely. The state has got only 11 physiotherapists against the sanction of 20 which is also essential component of temporary hospitalization ward.[236]

[233] PwC report
[234] http://www.health.mp.gov.in/deendayal/deendayal-scheme.pdf
[235] http://ppphealth.org/index.php?option=com_content&view=article&id=117&Itemid=506
[236] PwC report

8. *Integrated Child Development Scheme:* ICDS in MP is implemented by the Department of Women and Child Development (DoWCD). There are 367 projects (313 rural and 54 urban) and 69,238 AWCs. In 2010, the ICDS has increased the number of AWCs from 69,238 to 78,929. The administrative unit for the location of an ICDS project is the community development (CD) block in rural areas, tribal blocks in tribal areas and ward(s) or slums in urban areas. A total 76.31 lakh beneficiaries are reaping benefits from the project. On an experimental basis, two ICDS projects have been assigned to Janpad Panchayat and two to NGOs.[237]

9. *Nirmal Bharat Abhiyan*: Nirmal Bharat Abhiyan is performing well against the set targets, Individual Household Latrines (IHHLs) coverage for all households (BPL+APL) was 84% against the set target in 2012-13, With regards to the construction of anganwadi toilets, a target of 90% was achieved. The program surpassed the targets for construction of school toilet and constructed close to 30 toilets against a set target of 29. Although the coverage for IHHLs against the set target is good; present growth rate for construction of IHHLs is lower than the national average. Given that the desired growth rate for 100% coverage of IHHLs is as high as 8.6%; there is a need to channelize the huge quantum of unutilized funds.[238]

10. *National Rural Drinking Water Program*: In Madhya Pradesh, the programme is currently spread across 50 districts and 313 blocks. In 2013 a total of 1, 27, 197 habitations were covered with 69% coverage for Scheduled Caste, Scheduled Tribe and minority beneficiaries. Almost 14% of the population is managing water supply scheme. Target for the number of persons to be trained for water quality testing was achieved to the tune of 176% of the desired target. About 70% of the amount released for 'Jalmani Scheme' in 2012-13 was utilized. As of 2012-13, out of total number of habitations under the programme, 77% have been fully covered and the remaining 23% have been partially covered.[239]

(iii) Rajasthan

Some of the large programs implemented by the state government in Rajasthan are described below.

[237] PwC report
[238] PwC report
[239] PwC report

1. *National Rural Health Mission:*[240] Rajasthan is among the high focus states under NRHM given the poor status of health indicators in the state. The state has been progressive on various indicators for maternal and child health, but regional variations across these indicators persist. Strategies for tackling health challenges through NRHM in the state are mentioned below:
    - Increasing community ownership by vesting responsibility with local government system
    - Decentralized village and district level health planning and management
    - Appointment of Accredited Social Health Activist (ASHA) to facilitate access to health services
    - Strengthening the public health service delivery infrastructure, particularly at village, primary and secondary levels
    - Mainstreaming AYUSH
    - Improved management capacity to organize health systems and services in public health
    - Emphasizing evidence based planning and implementation through improved capacity and infrastructure
    - Promoting the non-profit sector to increase social participation and community empowerment, promoting healthy behaviors, and improving intersectional convergence
    - Regulation of the private sector to improve equity and reduce out of pocket expenses
    - Foster public–private partnerships to meet national public health goals,
    - Re-orienting medical education
    - Introduction of risk pooling mechanisms and social insurance to raise the health security of the poor

2. National Urban Health Mission: Government of Rajasthan has formulated its own policies to deliver health services through the Urban Health Centers. Some of the policies areas under the ambit of NUHM in Rajasthan are as follows:

    - *Urban RCH program*: The state population policy specifically affirms components of urban programme management strategy. In year 2008-2009, Urban RCH activities were initiated and scaled to 8 cities of Rajasthan viz. Jaipur, Jodhpur, Bikaner, Ajmer,

[240] PwC report

Kota, Udaipur, Bharatpur and Alwar with 30 sanctioned Urban Health Centres in the identified slums. In year 2012-13, it is planned to strengthen the existing centers. For effective functioning of each Urban RCH Centre, Government of Rajasthan (GoR) has adopted Public Private Partnership (PPP) strategy with the engagement of NGOs as partners in implementation of Urban RCH services through MOU between the District Health Societies and respective NGOs. One Urban RCH Centre covers 50,000 of slum population.

- *Medicare Relief Card Scheme:* The scheme was initiated by the state government to provide free medical and health facilities in all government hospitals, to families below poverty line suffering from serious illnesses both in rural and urban areas. A total of 23,01,058 selected families were distributed the Medicare Relief Cards. Funds for the scheme are availed from the Mukhya Mantri Jeevan Rakshya Kosh. Persons who have an annual income of not more that Rs.24,000 and who are not in the BPL list can seek assistance from the Chief Minister's Relief Fund for treatment of life.
- *Janani Suraksha Yojana:* Pregnant women in urban areas are given an amount of Rs 600 per live birth on registration for ANC with the ASHA/ANM/PHC and the cash benefit is to be disbursed at the time of delivery, irrespective of the place (institutional or home) of delivery. Women who deliver in health institutions get an additional amount of Rs 100 if they belong to urban areas of low performing states including Rajasthan.
- *Urban Malaria Scheme:* Passive surveillance and anti-larval measures are the main components of the scheme to tackle urban malaria incidence. All towns having more than 40,000 po pulation are to be covered. This centrally sponsored scheme is being implemented in 132 towns in the country. Under the scheme, the centre provides assistance in kind which includes larvicide and 2 per cent Pyrethrum Extract. The operational cost and the cost of MLO and equipment are borne by the states.

3. *National Trachoma and Blindness Control Programme (NTBCP):* NTBCP is being implemented in Rajasthan to reduce the prevalence rate of blindness to 0.34% from the current prevalence rate of 1% in the state. The programme focuses on providing high quality of eye care services and expanding the coverage of these services. The performance of the program against set targets for cataract operations has improved over the years. 85 NGOs have been appointed to provide free of cost cataract operation services in the state with a grant of INR 750 per operation. For other eye related ailments (cornial transplantation, glaucoma, child blindness), a grant of INR 1000 per case is being provided since 2009. There has been an improved focus of service delivery; rather than

just meeting quantitative targets. To ensure good service quality, latest technology is being provided to eye care units across the state. A pilot project for running a tele-Retinopathy of Prematurity (ROP) model is being planned in two divisional headquarters with medical college hospitals. This will offer the facility to perform retinal procedures on infants requiring treatment after being screened, using the tele-ROP facility. [241]

4. *National Leprosy Eradication Programme (NLEP):* NLEP in Rajasthan has been successful in detecting and curing leprosy cases in the state and the prevalence has remained low at 0.17 per 1000 population (lower than the national average of .69 per 1000 population). A total of 62961 cases has been detected out of that 61863 patients have been cured and released from treatment after completion of treatment in the state and at present 1098 patients are under treatment since the initiation of the program. However, over the years there has been a rising trend of grade II disability among the new cases identified (from 2.85% in 2006-07 to 4.93% in 2010-11) which needs to be arrested. The attainment of these objectives is dependent on performance based incentive to ASHA and sensitization to new ASHA and special activities in high endemic districts where annual new case detection rate (ANCDR) is more than 10 per 100,000 population. This can be done by skill development and regular training to the human resource person to ensure easy detection.[242]

5. Nirmal Bharat Abhiyan (NBA): NBA in Rajasthan is spread over 9177 gram panchayats, and is making significant progress in increasing the sanitation coverage in the state. A total of 10646 toilets have been constructed in schools against a target of 12152 but construction of toilets in Angadwadis and Rajeev Gandhi Sewa Kendras have been slow. In addition to infrastructure building, the program has also taken up behavior change initiatives such as engaging motivators for each district to create awareness and ensure a movement towards creation of Open Defecation Free (ODF) society. The state is focusing on promoting a community driven program to improve the coverage. World Bank funded Water and Sanitation Program (WSP) is one such example under which BCC is focused upon to create triggers among people towards the use of toilets and avoiding open defecation. The campaign was initiated in Bikaner and Chiru. 45 and 80 panchayats respectively; have been declared as Open Defecation Free (ODF). This focus on creating ODF panchayats is expected to create a demonstrative effect; and is expected to increase the sanitation coverage in the state.[243]

[241] PwC report
[242] PwC report
[243] PwC report

6. *National Rural Drinking Water Program:* In Rajasthan, the NRDWP is currently spread across 32 districts and 237 blocks. In 2013, a total of 1,21,133 habitations were covered with 22% coverage for SC, ST, and minority beneficiaries. Twenty six percent of the population is managing the water supply scheme. The targets finalized under the 20 point programme for coverage of habitations were 2569 for 2012-13. This target includes 500 scheduled caste dominated habitations, 300 schedule tribe dominated habitations and 120 minority dominated habitations. For the year 2013-14, the habitation coverage target has been finalized at 3090; including 600 schedule caste dominated habitations, 400 ST dominated habitations and 150 minorities dominated habitation. In 2010-11, the habitation coverage against the set target was 94%; while in 2011-12, 129% of the set target was covered. For the current year (2012-13), 94% of the target has already been achieved till the month of March; showing a progressive trend. [244]

7. *Mukhya Mantri BPL Jeevan Raksha Kosh Yojana:* Rajasthan has made significant progress in providing free treatment to the marginalized population through the Mukhya Mantri BPL Jeevan Raksha Kosh Yojana (MMBJRKY). The scheme was launched in 2009 and was targeted at providing free inpatient and outpatient care to people below the poverty line. Government reports[245] claim that since the program's inception free treatment has been provided to more than 12.4 million beneficiaries. While the program has an extensive coverage and is well funded (20 million spent in 3 years), it is faced with limited human resource availability. PwC report states that "Although the Mukhyamantri Jeevan Raksha Kosh is functioning across all 33 districts, the program is facing huge human resource constraint as there is only 1 state project director and 1 consultant to take care of the entire programme with no district coordinators"

8. *Mukhyamantri Nishulk Dawa Yojana* (MDNY): MDNY was launched in 2011, aimed at providing essential medicines free of cost to patients attending government health delivery channels. As part of the new program close to 15000[246] drug distribution centers have been established in the state. Additionally, a centralized drug procurement system has been put in place to minimize pilferage and manage stocks. According to the PwC report "As understood from district and sub-district level interviews, the mechanism of free supply of drugs is running smoothly across the state". In addition to the central procurement system, quality of drug supplied is being ensured by frequent testing by empanelled drug testing laboratories. In spite of several steps being taken to ensure

[244] PwC report
[245] http://dipr.rajasthan.gov.in/photo/HO41148B-27-8-2_web.htm
[246] http://www.pucl.org/Topics/Industries-envirn-resettlement/2012/dawa_yojana.pdf

quality, efficient service delivery is being affected by lack of human resources available on ground[247].

(iv) Tamil Nadu

Details of the programs implemented by the state of Tamil Nadu are mentioned below:

1. *National Rural Health Mission:* NRHM is an umbrella organization under which all disease areas and maternal health fall. NRHM in Tamil Nadu has set internal targets to improve health outcomes in the state

    - Reduction of IMR from 24 to 12 (2016-17)
    - Reduction of MMR by half (2016-17)
    - Reduction of TFR from 1.7 to 1.6 (2016-17)
    - Reduction in deaths due to malaria by increasing Annual blood Examination rate
    - Improving TB DOTS Services (to achieve more than 85% cure rate)

    NRHM will channel funds through various targeted programs such as RCH, ARSH, RNTCP to fulfill the set internal targets.[248]

2. *National Urban Health Mission:* Urban health has been a priority for the state government since 2008. While the program in its nascent stages, steps have been taken to combat health challenges in urban areas through Urban Primary Health centers. In Tamil Nadu, urban health programme was approved by National Programme Co-ordination Committee (NPCC) of NRHM. This is currently being implemented through the community medicine department of 14 Medical Colleges in the state, by adopting one urban health post, to reduce the primary case load in the hospitals. The aim of the urban health programme is to improve the health status of the urban poor community by provision of quality primary health care services, with special focus on RCH services.

    A comprehensive project proposal for providing health infrastructure in 117 out of 135 such municipalities (with less than 1 lakh population) was approved by NPCC in the year 2009-10. Provision of uniform basic infrastructure and staff for strengthening the existing Urban Health Centres (UHCs) are currently underway. The administration of 117 Urban Health Centres has been entrusted with the Director of Public Health and Preventive Medicine.

[247] http://www.pucl.org/Topics/Industries-envirn-resettlement/2012/dawa_yojana.pdf
[248] PwC report

As a policy decision, Government of Tamil Nadu has extended the urban health programme to Municipalities / town panchayat. The proposed urban health program envisages the establishment of 75 urban health centers in municipality/ town panchayat with uniform basic infrastructure and staff pattern similar to that of a rural PHC. [249]

3. *Adolescent Reproductive Sexual Health:* Tamil Nadu has started a unit for adolescent health at state level has been created, with a nodal officer, supported by four consultants, one each for Adolescent Reproductive Sexual Health (ARSH), School Health Programme (SHP) and menstrual hygiene and weekly iron and folic acid supplementation programme (WIFS). One nodal officer of has been designated for all the components of Adolescent Health at the district level. [250]

4. *National Programme for Control of Blindness (NPCB):* The Tamil Nadu State Blindness Control Society has now merged with the state health society after the implementation of NRHM. The Project Director in charge of the programme is a senior ophthalmologist of the rank of additional director of medical education, who is responsible for the smooth implementation of the scheme. He works under the administrative control of the secretary to government, health department and under the financial control of the Mission Director, State Health Society. The District Blindness Control Societies which were formed to govern the activities of the National Blindness Control Programme, with the collector is the chairman of the society, has also been merged with the District Health Societies formed under NRHM. [251]

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[249] PwC report
[250] PwC report
[251] PwC report
[252] PwC report

6. *National Mental Health Programme (NMHP)*[253]*:* The NMHP was initiated in Tamil Nadu in 1986. Since then, several training programmes and workshops have been conducted. Following the successful performance of the state unit of the NMHP, the state of Tamil Nadu was selected to implement the DMHP under the NMHP with financial assistance from the government of India. The DMHP has been implemented in 16 districts in Tamil Nadu. The key achievements are:
    - IEC activities have been a great success in creating awareness about mental health, especially the mental health festivals.
    - The mental health delivery system has been streamlined and more and more patients are attending the satellite clinics. Psychiatric medicines are issued to patients for 14 days, which eliminates frequent visits to the clinic and reduces travel expenditure.
    - A grant of Rs. 2.69 crore has been provided for the hospitals in the state.
    - A one-time grant of Rs. 78,000 has been released for up gradation of 14 medical colleges.

7. *National Tobacco Control Programme (NTCP)*[254]*:* The Tobacco Control Programme is very nascent and is presently running on a pilot basis in Villupuram, Kancheepuram and it is proposed to be extended to the districts of Tuticorin, Nagerkoil and Erode in the next 5 years. Activities undertaken by the pilot programs are as follows:
    - District specific awareness generation activities have been conducted among school children so that they can carry the message to the elders
    - Training workshops have been conducted in each district with a target audience of school teachers, health workers, law enforcers, women self-help groups and other civil society organizations
    - Dedicated tobacco cessation centers under the supervision of the medical officer have become an integral part of the district programme.
    - Local NGOs have also been involved in implementation of various components

8. *National Leprosy Eradication Programme (NLEP):* Tamil Nadu was the first state to integrate leprosy into general healthcare system in 1997. The programme has been successful in eliminating leprosy from the state (2010-11). While the programme implementation has been relatively smooth, the main challenge lies in the inadequacy of technical leadership at the state as well as the grass root level.[255]

[253] PwC report
[254] PwC report
[255] PwC report

9. *NCD intervention program:* Tamil Nadu is one of the few states in India which has a dedicated state policy to tackle the NCD challenge. The government in partnership with the World Bank conducted pilots in 4 districts to test out the NCD prevention and control policy. The challenges observed during the pilot were carefully studied and the challenges were addressed during the scale up[256]. The program currently, targets four major NCDs (Cardiovascular Diseases or Hypertension, Diabetes Mellitus, Cervical and Breast Cancer) and focuses on prevention, screening, treatment and recording & reporting aspects of the diseases. In the initial phase I, sixteen districts were identified for program implementation. Post 2013 all districts have rolled out the program.[257]

10. *National plan for Iodine Deficiency Disorders Control*: The program has not been completely functional in the state as all the posts sanctioned as per the guidelines are lying vacant except for the post of technical officers which was filled up in November 2011. [258]

11. *Nirmal Bharat Abhiyan:* The objective of Nirmal Bharat Abhiyan is to accelerate the sanitation coverage in the rural areas so as to comprehensively cover the rural community through renewed strategies and saturation approach. The program implementation has been smooth and has made significant progress against set targets for instance 84% of the target was achieved in case of Individual household latrines (IHHL) coverage for all households (BPL+APL) in the year 2012-13, 82% of the target were achieved in case of construction of school toilets and 95% were achieved in case of anganwadi toilets. Although the present growth rate of construction of IHHLs is higher than the national average, given the desired growth rate of 100% coverage, there is a need to channelize the huge quantum of unutilized fund to achieve this target.[259]

12. *National Rural Drinking Water Program:* In Tamil Nadu, the programme is currently spread across 31 districts and 385 blocks. In 2013 a total of 94,614 habitations were covered, with 30% coverage for SC, ST, minority beneficiaries. Ninety eight percent of the water supply schemes were managed by the community. The program has made significant progress against the set internal targets for instance in the year 2010-11, the habitation coverage against the set target was 94%; while in 2011-12, 129% of the set target was covered. For the current year (2012-13), 101% of the target has already been achieved till the month of March. However, training and testing

[256] PwC report
[257] PwC report
[258] PwC report
[259] PwC report

needs to be focused upon, as the state hasn't been able to achieve its target on these fronts. Additionally, coordination between various entities is a major challenge identified by the officers of Tamil Nadu Water Supply and Drainage (TWAD) Board. The entities involved in water and sanitation in the state are local bodies (urban & rural), municipal corporation, town panchayats, rural panchayats, schools, social welfare and health departments. It is quite difficult to achieve convergence in the implementation of various programmes and schemes. [260]

13. *Chief minister's Comprehensive Health Insurance Scheme:* Government of Tamil Nadu launched the Chief Minister's Comprehensive Health Insurance Scheme in 2012 with the objective of providing Universal Health Coverage for the people of Tamil Nadu. Under the scheme, households having income less than INR 80,000 per annum are eligible to avail the benefits. The sum assured is INR 110,000 per year per family along with a provision to pay up to INR 165,000 for emergency procedures. The scheme covers 1016 procedures which include 23 important diagnostic procedures and 113 follow up procedures. It provides coverage of bed charges in the general ward, nursing and boarding charges, and medical practitioner and consultant fees. Expenses incurred for diagnostic test and medicines up to one day before the admission of the patient and up to five days after the discharge from the hospital for the same surgery, also form part of the package cost.[261]

14. *Dr. Muthulakshmi Reddy Maternity Benefit Scheme:* Dr. Muthulakshmi Reddy Maternity Benefit Scheme is implemented by the state government to provide financial assistance of INR 13,200 to pregnant women from marginalized households in order to compensate for wage loss during pregnancy and to provide nutritious food for both the mother and the child post pregnancy. The cash assistance is provided in three installments on conditional basis and restricted to two deliveries only. The first installment of INR 4400 is given to every pregnant woman, who avails all ante natal health services during the seventh month of pregnancy. The second installment is given to the mother who delivers in the Government institution. The third installment is given to the mother on completion of third dose of polio / penta-valent vaccine for the child.

[260] PwC report
[261] PwC report

ANNEX 2: JICA'S PAST EXPERIENCE IN SOUTH ASIA

1. List of JICA' past health care experience in South Asia

インド、パキスタン、スリランカ、バングラデシュにおけるJICA保健医療過去案件（1996年以降）

Past JICA Health Sector Project in India, Pakistan, Sri Lanka and Bangladesh (1996 and after)

	スキーム	Scheme	年/Year	プロジェクト名	Project name
インド (India)	技術協力	Technical Corporation	1998-2003	新興下痢症対策プロジェクト	The Project for Prevention of Emerging Diarrheal Diseases in India
	技術協力	Technical Corporation	2003-2008	下痢症対策プロジェクトフェーズ２	Project for Prevention of Diarrheal Diseases(Phase2)
	技術協力	Technical Corporation	2003-2003	オスマニア総合病院医療機材整備計画フォローアップ協力（修理班派遣）	Follow-up Cooperation for the Project for Improvement of Medical Equipment at Osmania General Hospital (Equipment Repair Team)
	技術協力	Technical Corporation	2005-2006	女性のリプロダクティブヘルスの向上およびエンパワーメントプロジェクト	Reproductive Health and Women's Empowerment
	技術協力	Technical Corporation	2007-2011	マディヤ・プラデシュ州リプロダクティブヘルスプロジェクトフェーズ２	Reproductive Health Project in the State of Madhya Pradesh (phase 2)
	無償資金協力	Grant	2009-2012	ポリオ撲滅計画（ユニセフ連携）	the Project for Eradication of Poliomyelitis
パキスタン (Pakistan)	技術協力	Technical Corporation	2009-2013	根拠に基づく意思決定及び管理のための県保健情報システムプロジェクト	The District Health Information System Project for Evidence-Based Decision Making and Management
	無償資金協力	Grant	2012-2015	カラチ小児病院改善計画	the Project for the Improvement of Child Health Institute in Karachi
	技術協力	Technical Corporation	2006-2009	結核対策プロジェクト	The Tuberculosis Control Project in the Islamic
	技術協力	Technical Corporation	2006-2011	EPI/ポリオ対策プロジェクト	EPI/Polio Control Project
	無償資金協力	Grant	2009-2011	ポリオ撲滅計画（ユニセフ連携）	the Project for Eradication of Poliomyelitis
	無償資金協力	Grant	2009-2009	ポリオ撲滅計画（ユニセフ経由）	the Project for Eradication of Poliomyelitis
	無償資金協力	Grant	2011-2012	ポリオ感染拡大防止・撲滅計画（ユニセフ連携）	the Project for the Control and Eradication of Poliomyelitis
	無償資金協力	Grant	2013-2013	ポリオ感染拡大防止・撲滅計画	the Project for the Control and Eradication of Poliomyelitis
スリランカ (Sri Lanka)	技術協力	Technical Corporation	2009-2012	5S/TQMによる保健医療サービス向上プロジェクト	Improvement of Quality and Safety in Healthcare Institutions in Sri Lanka
	技術協力	Technical Corporation	2008-2013	健康増進・予防医療サービス向上プロジェクト	Project on health promotion & preventive care measures of Chronic NCDs
	技術協力	Technical Corporation	2003-2008	口腔保健教育プロジェクト	Third Country Group Training Programme for the Improvement of the Oral Health Education and Services
	無償資金協力	Grant	2009-2011	第2次アヌラダプラ教育病院整備計画	The Project for Improvement of Anuradhapura Teaching Hospital (Phase II)
	技術協力	Technical Corporation	1998-2003	ペラデニア大学歯学教育プロジェクト	Dental Education Project at University of Peradeniya in Sri Lanka
	技術協力	Technical Corporation	1996-2001	スリランカ看護教育プロジェクト	Nursing Education Project in Sri Lanka
	開発計画	Development Research	2002-2003	保健医療制度改善計画	Master Plan Study for Strengthening Health System
	円借款	Loan	2000-2008	輸血供給システム改善プロジェクト	Project for the Improvement of National Blood Transfusion Services
バングラデシュ (Bangladesh)	技術協力	Technical Corporation	2011-2016	顧みられない熱帯病対策－特にカラ・アザールの診断体制の確立とベクター対策研究プロジェクト	Project for Research and Development of Prevention and Diagnosis for Neglected Tropical Diseases, especially Kala-Azar
	技術協力	Technical Corporation	2006-2011	母性保護サービス強化プロジェクト	Safe Motherhood Promotion Project
	技術協力	Technical Corporation	2011-2016	母性保護サービス強化プロジェクトフェーズ2	Safe Motherhood Promotion Project(Phase 2)
	技術協力	Technical Corporation	1999-2004	バングラデシュ国リプロダクティブヘルス人材開発	Reproducttive Health Capacity Development Project(unofficial translation)
	有償資金協力	Loan	2013-2016	母子保健改善事業（保健・人口・栄養セクター開発プログラム）（フェーズ１）」	Maternal Health Improvement (Program for health, demographics and nutrition) Phase 1 (unofficial translation)

出所：JICAナレッジサイト / Source: JICA Knowledge Site、 http://www.jica.go.jp/press/archives/jbic/japanese/base/release/oec/2000/A05/B0513/nr43d.html

注：草の根協力プロジェクト及び国別研修プロジェクト、フォローアップ協力を除く、またスリランカ輸血供給システム改善プロジェクトは旧JBICプロジェクト

Note: Excludes grassroots assistance projects, training project, and follow-up projects. Blood transfusion project in Sri Lanka was conducted by former JBIC

Learnings from past JICA experience can guide the development of an effective model of health intervention for JICA in India (1/4)

Key Learning	Example of JICA Project	Implications / questions

1. Projects were more successful when JICA took a holistic approach. Combining hard support (i.e., facilities and equipment) with soft support (i.e., capacity building) through loans/grants and technical assistance generated greater returns because local counterparts were trained to take advantage of new facilities/equipment and in some cases to maintain them, generating higher and more sustainable impact.	• **Reproductive Health in Bangladesh**
	  • JICA provided TA + grant
	• **MCH in Madhya Pradesh, India**
	  • JICA's TA coordinated with Indian government's resources to improve hard infrastructure
	• **Diarrheal Diseases in India**
	  • JICA provided TA + Grant
	• **Blood Transfusion Service in Sri Lanka**
	  • JICA provided TA + Loan
		• Holistic approach is necessary whether JICA providing integrated support or collaborating with government or other donors that provides complementing support

2. Appropriate team composition includes competent local staff and long-term staff. Local talent, if competent, can help incorporate local knowledge in project implementation and promote community engagement. Consultants with in-depth local knowledge can enhance project effectiveness. Long term coordination staff can ensure the project is sustainable after JICA's exit.	• **Safe Motherhood Programme in Bangladesh**
	  • Local NGO staff taking part in JICA program team
	• **MCH in Madhya Pradesh, India**
	  • JICA chief advisor possessed in-depth understanding of local context
	  • Indian staff with in-depth understanding of local context participated in the team
		• Can JICA place sufficient coordinating staff?
		• Would recommended intervention areas likely find local staff who can engage local community if it's required?

Dalberg 1

Source: JICA Project Evaluation Documents for projects in Bangladesh, India, Pakistan and Sri Lanka.

Learnings from past JICA experience can guide the development of an effective model of health intervention for JICA in India (2/4)

Key Learning	Example of JICA Project	Implications / questions
3. The planning process should be participatory. When local counterparts were involved in the planning process, there was more buy-in and ownership.	• **Veradenia University training in Sri Lanka** • JICA engaged local counterparts in planning stage	• Are relevant counterparts interested in participating in project planning?

4. When more than one key stakeholder is involved, responsibilities and ownership should be clear. From the onset of the project, it is important for all stakeholders to have clarity regarding roles, responsibilities and project ownership to avoid complications and delays.	• **Veradenia University training in Sri Lanka**
	  • Involvement of M of Education and M of Health without coordination complicated project implementation
	• **Safe Motherhood Programme in Bangladesh Phase 1**
	  • Coordination across multiple ministries was not sufficient, limiting project impact from being scaled-up
		• What ministries and agencies (and which level – national, state, etc.) are involved in recommended intervention areas? How difficult/easy to engage and coordinate them?

5. Project planning needs to consider existing programs by government or other donors for JICA project to be effective and add value	• **Capacity Development for TB in Pakistan** • JICA-proposed model was not incorporating USAID-backed existing program	• Are there on-going projects in recommended intervention areas? If yes what, who and how? Can JICA provide incremental value?

Source: JICA Project Evaluation Documents for projects in Bangladesh, India, Pakistan and Sri Lanka.

Learnings from past JICA experience can guide the development of an effective model of health intervention for JICA in India (3/4)

Key Learning	Example of JICA Project	Implications / questions

6. Engaging appropriate stakeholders, including local community groups and high-level government officials, is critical. By engaging the government, key learnings from JICA interventions are fed to policy makers and can influence policy and strategy and potentially secure budget for sustaining project impact. By engaging local community groups and unions, JICA can generate community activity .	• **Safe Motherhood Program in Bangladesh**
	  • Ph 1 learning fed into Ph 2, placing a staff in Ministry and engaged central government more effectively both at policy and practical levels
	  • Successful in engaging local community.
	• **Diarrheal Diseases in India**
	  • *Successful in engaging both practical level partner and higher officials, leading to strong buy-in and sufficient budget for partner institution*
		• Which are relevant ministries/agencies at national level? Are they interested in JICA's support? What's the best way to engage them?
		• Is there a channel to engage local community?

7. Mobilizing external resources can improve implementation. When JICA does not possess the technical expertise required for implementation, external resources can add value. Experts can add technical knowledge to improve the effectiveness of implementation. Local NGOs can provide local expertise and leverage their relationship with the community.	• **Blood Transfusion Services in Sri Lanka**
	  • WHO expert included in the project
	• **Safe Motherhood Program in Bangladesh**
	  • Local NGO involved
		• Does JICA has sufficient technical expertise for intervening in recommended area? If not, can it mobilize external resources?

8. When multiple donors are involved in a project, constant coordination is required	• **MCH Improvement in Bangladesh** • JICA is working with many other donors and plans to join various policy discussion forums, such as annual review meeting, donor meeting, thematic task groups	• Who are other donors active in the area? Can JICA spare time for coordination?

Source: JICA Project Evaluation Documents for projects in Bangladesh, India, Pakistan and Sri Lanka.

ANNEX 3: KEY TAKE AWAYS FROM ALL STAKEHOLDER OUTREACH

1. Government of India

Name of Interviewee	Designation	Date of Interview	Attendees
Dr. Jagdish Prasad	Director, Directorate of General Health Services	27th July 2013	Nupur Kapoor, Astha Kapoor (Dalberg)

Key Take Aways from the Interview

- Cancer, especially super specialty care within public health is a highly underserved area. There is a need for hospitals and super-specialist human resources. The primary health is being taken care of by the NRHM but non-communicable diseases need more focus.
- JICA could work on a district adoption model which could be an effective way of engaging in India. These districts could build best practices and then over time consider scaling up.

Name of Interviewee	Designation	Date of Interview	Attendees
Dr. Aman Kumar Singh	Technical Expert, STI, NACO	30th July 2013	Nupur Kapoor, Astha Kapoor (Dalberg)

Key Take Aways from the Interview

- NACO is a well-funded program with many achievements over the last decade. AIDS in India has done well, and may not need external support.
- There is a difference between the WHO standards and what the government of India does and can do, and that needs to be borne in mind while thinking about India's achievements.
- Convergence is being seen at the level of the PHC and CHC, but much work in terms of training is required.

Name of Interviewee	Designation	Date of Interview	Attendees
Dr. Jayant Das + 1 faculty member	Director, Institute of National Health and Family	30th July 2013	Nupur Kapoor, Astha Kapoor (Dalberg)

Key Take Aways from the Interview

- Trainings in India are routed largely through NIHFW. The Government needs trainings, from the top to the bottom levels of healthcare providers which currently are designed well but the implementation and monitoring is lacking.
- Trainings in niche areas like Non-Communicable Diseases (NCDs) are extremely important. This is true, especially in line of the convergence through National Health Mission (NHM). These trainings will be useful all the way through the PHC level.

- The Institute is keen on building its e-learning and distance learning modules for which resources are needed. Earlier this program was supported by the EU but the project has now finished.

2. Donors

Name of Interviewee	Designation	Date of Interview	Attendees
Rashmi Kukreja	Health Advisor	9th July 2013	Nupur Kapoor, Naoko Koyama (Dalberg) Kaustabh Basu, Veeresh Narayan (PwC)

Key takeaways from interviews

- During 2005-2012, the core focus of DFID's strategy was largely on MDG targets related to reproductive and child health. In 2007, they introduced into their portfolio of activities on reproductive and child health. DFID adopted a largely state sector approach and completed large projects in Orissa, Bihar and Madhya Pradesh
- Going forward (especially post 2015), project designs will govern DFIDs forward looking strategy for health and nutrition in India. Overall there is a mandate across the organization to move from core operations to strategic program design

Name of Interviewee	Designation	Date of Interview	Attendees
Ekta Saroha, DrPH	Project Management Specialist-Strategic Information and Policy	9th July 2013	Nupur Kapoor, Naoko Koyama (Dalberg) Kaustabh Basu, Veeresh Narayan (PwC)
Neeta Rao,	Project Management Specialist - Research and Evaluation, Health Systems Development		

Key takeaways from interviews

- USAID started operating in the health sector in the areas of HIV, family planning and child health. Their sectoral focus has remained largely on the more traditional disease areas such as HIV, TB as well as primary healthcare (mostly maternal and child health) but we are beginning to participate in high level country discussions about emerging areas of public health such as NCDs
- The Govt. is now taking a very integrated approach to health sector development (primarily through the NRHM, NUHM and UHC) and this is beginning to reflect in the way USAID thinks about their portfolio of activities as well
- Geographically, USAID's health sector activities are operational in 17 Indian states.
- Going forward, USAID is encouraging private sector participation both at the policy level (through PPPs) as well as in implementation (private setor partnerships for health service dissemination). They are also working with the Govt. through TA to empower/build capacity of Govt. programmes to better engage the private sector in healthcare delivery

Name of Interviewee	Designation	Date of Interview	Attendees
Dr. Ramesh Govindraj	Lead Health Specialist World Bank	2nd July 2013	Nupur Kapoor, Astha Kapoor (Dalberg), Kaustabh Basu, Veeresh Narayan (PwC)

Key takeaways from interviews

- World Bank Country Program – 2013-17 refers to a broad framework that includes growth, inclusive and agglomeration especially in the urban areas. While there are different agendas in the different sectors within the Bank, these remain the overarching themes. World Bank has an urban mission, which is increasing in prominence and focuses on multi-sectoral engagement through provision of technical assistance and design support.
- In terms of geography, the idea is to focus on lower income states i.e. increase engagement. While, the World Bank will continue to work with other states, their major energies will be assigned to lower income states.
- Historically, the Bank's support would lie either at the input level in the attempt to change outcomes. However, over the years there is a movement away from working at the input level through procurement, infrastructure etc. and make more sustainable changes in the systems, institutions and incentives. There is a growing realization that there is a need to work in the "missing middle", an area that will help sustain interventions for a long time to come.

Name of Interviewee	Designation	Date of Interview	Attendees
Dr. Nishant Jain	Deputy Program Director, GIZ	31st July 2013	Nupur Kapoor, Astha Kapoor (Dalberg) Veeresh Narayan (PwC)

Key takeaways from interviews

- GIZ's agenda in India is defined by the German mandate that has moved away from directing supporting the health sector to installing social security across sectors (including health). As a part of this renewed focus, GIZ began transitioning its support to the Ministry of Health in India to the Ministry of Labor which was at the time, implementing a new social security scheme called the RSBY.
- GIZ's forward looking agenda is to support the Government of India in developing and executing a coherent strategy on universal financing that goes beyond the RSBY - especially since the Universal Health Coverage agenda has put a lot of pressure on the RSBY with is only a complementary initiative and not the core of the strategy.
- GIZ is also looking at getting into quality assurance and ratings of Govt, and private institutions to encourage better quality supply side provision of care via the RSBY. GIZ has found that incentive schemes provided to the Govt. hospitals have seen major jumps in the utilization of services via the RSBY – e,g, in Chattisgarh, post implementation of incentive schemes for Govt. hospitals, utilization of public services versus private went up from 5% to 45% in one year!

Name of Interviewee	Designation	Date of Interview	Attendees
Dr. A Gunasekar	NPO (Universal health coverage, sustainable development, healthy environment and malaria)	31st July 2013	Nupur Kapoor, Naoko Koyama (Dalberg) Kaustabh Basu, Veeresh Narayan (PwC)

Key takeaways from interviews

WHO has a three pronged agenda for its country cooperation strategy with India

1. **Supporting an improved role of the Govt. of India in global health** – this has been the traditional focus of WHO and an area that they will continue to pursue further – major focus areas will include regulation of both public and private (pharmaceutical) sector, quality assurance guidelines and finally overseeing the implementation of international health guidelines
2. **Promoting access to affordable and sustainable quality services for the entire population** – the second priority of WHO aligns very closely with India's 12th five year plan focus on installing

'Universal Health Care' in the country. Within this area, WHO is engaging with the following initiatives:

a. Design and roll-out support to the Urban health mission including the reworking of the current design of the program, encouraging it to use existing infrastructure as opposed to creating new ones
b. Proposals and working papers on the integration of vertical disease programs with the NRHM and upcoming National Health Mission (NHM)
c. Hospital governance and the potential set up of an independent regulatory body for both private and public sector units
d. Assessment of ongoing government schemes and advocacy papers for the Govt.
e. Recommendations on design and roll-out of the Universal Health Coverage pilots
f. Training modules and courses on public health for senior level management in the Govt (Secretary/Jt. Secreatary level and Director levels)
g. Setting the ground (facilitating coordination) to integrate financing between existing initiatives run by the Ministry of Health and the Ministry of Labor (Central Govt. schemes and the RSBY)

3. Models of engagement

- WHO is considered as a neutral and trusted advisor to the Govt. of India. They have adopted an advisory role and engage in partnerships with other donors for actual project delivery.
- WHO has an established relationship with the Govt. of India and is often consulted in the initial setup and design of new programs/schemes – Universal Health Care, Urban Health, RSBY etc.

4. CSO/Academics

Name of Interviewee	Designation	Date of Interview	Attendees
Dr. Vandana Prasad	Member, National Commission for Rights of Child; Former National Convener, Public Health Resource Network	30th July 2013	Nupur Kapoor, Astha Kapoor (Dalberg)

Key Take Aways from the Interview

- While most interventions are crowding the maternal and child health space, other niche areas where help is needed are ignored. These are – urban health, diagnostics, crèche facilities in tribal areas and data collection and management.
- The approach of a new organization entering the health space in India needs to be on process and not products. They need to work in strengthening health systems, from the top to the bottom. Another possible approach is of district adoption, creating model districts to replicate and scale up best practices over time.
- JICA's major problem in its Kalawati Children's Hospital intervention was that the exit strategy was not well-conceived. The handover back to the government/hospital staff should have been better managed.

Name of Interviewee	Designation	Date of Interview	Attendees
Dr. Jay K. Satia	Public Health Foundation of India	5th July 2013	Naoko Koyama, Astha Kapoor (Dalberg),

Key Take Away from the Interview

- JICA should try and work in partnership with Indian government institutes in the Norway partnership model. In the current environment, this sort of engagement will have a greater impact and make more geopolitical sense. Countries like Japan and S. Korea want to get into such partnerships with India.
- Each donor organization it has its strengths derived from its own environment and learnings and it is essential to design programs that play to these strengths, and build on them. In the case of JICA, it has done various projects in South Asia and should understand which ones have been most successful and replicate that effort.

Name of Interviewee	Designation	Date of Interview	Attendees
Dr. David Dror	Chief Managing Director Micro-Insurance Academy	2nd July 2013	Nupur Kapoor, Astha Kapoor (Dalberg),

Key Take Aways from Interview

- Large parts of the India population are uninsured thus resulting in large rural indebtedness due to health expenditure therefore, micro-insurance; a method owned by the community to insure itself becomes extremely important and useful.
- The problem with most donor work in India is that they don't have a good exit strategy, and that's why programs are less effective than they are designed to be. JICA must integrate an exit strategy in its program so that the handover of the program is smooth and therefore the impact meaningful.
- JICA's interventions will depend will change in kind and scale depending on the amount of money the organization is willing to invest.

5. Government of Madhya Pradesh

Name of Interviewee	Designation	Date of Interview	Attendees

Dr. Rakesh Munshi	Adviser, Planning Commission	2nd September 2013	Dr. Subhash Hira, Astha Kapoor (Dalberg)

Key Take Aways from interview

- Cadre management is an area of need for the Government of Madhya Pradesh. New posts are created but not managed, old post collapse but people are still employed on them, and succession paths are unclear for officers. These factors cause chaos in the government system and there are not enough incentives for the officers.

Name of Interviewee	Designation	Date of Interview	Attendees
Dr. Akshay Singh	Joint Director, ICDS	2nd September 2013	Dr. Subhash Hira, Astha Kapoor (Dalberg)

Key Take Aways from interview

- The government of Madhya Pradesh has good managers but there is need for technical assistance to better understand nutrition. Currently, there is no idea of what is nutrition, how does it manifest itself, what are the basic things that can be done to combat it. This is the first level of need in the state – understanding the problem.
- Outreach of all children is a problem. The state government is 10,000 anganwadis short of universalization. The problem lies in reaching remote villages due to lack of road infrastructure.
- There is a need to construct child-friendly anganwadis that serve an incentive for parents to send their children to them.

Name of Interviewee	Designation	Date of Interview	Attendees
Dr Tiwari	Director, Health Education	2nd September 2013	Dr. Subhash Hira, Astha Kapoor (Dalberg)

Key Take Aways from interview

- Health education focuses on care from the primary to the secondary levels. Whereas, medical education focuses on tertiary, preventive, and promotive health care and health research.
- Composite programs which incorporate elements of research, training and education are being designed to be implemented at district level institutes.
- Research and training is weak in the state.
- The district levels institutes are open to drug trials and are looking for collaborations.

- There is also a need for multidisciplinary research institutes. But there are no systematized methods of research, and no supervisors for post graduate theses. Networks with other schools do not exist, and there is need for collaboration with other institutes

Name of Interviewee	Designation	Date of Interview	Attendees
Dr Thassu and Dr. Chauhan	Director, Department of General Health Services	2nd September 2013	Dr. Subhash Hira, Astha Kapoor (Dalberg)

Key Take Aways from interview

- The major health sector challenge is the shortage of human resources in the state. There is lack of human resources across levels, from the state levels to the community. There is need not just for new resources but also for handholding, support and technical assistance of existing staff and "supportive supervision".
- There is also proliferation of programs that needs correction. There is a need for third party evaluations/assessments across the board on programs that work and those that don't. This exercise can help focus the government's efforts and attention.
- JICA had posted a consultant in the department whose work was appreciated. There is need for external consultants who can bring in new ideas and methods and help rejuvenate the existing system by complimenting their work.
- NCDs have not come up as a state priority. There is a survey that is being done for the breast cancer and cervical cancer across the state currently. The state is committed to giving more attention to NCDs in the coming days.
- Malaria is a highly complex but well-established program in the state. There is no need for the support in it currently. The problem with malaria, as in other disease areas, is that of reach. Road infrastructure is poor and large parts of the state get cut off during monsoon season.
- TB is a big problem in the state. The incidence is high and patients often use private practitioners. High cost of treatment pushes people to debt. There needs to be a PPP model of care which can bring in the private and public sector together and help regulate it.
- Leprosy does not show up in the state right now but it is a difficult disease. No cases have shown up in the state recently, and there is an air of complacence. The disease has a long incubation period and could re-emerge again. Leprosy is no longer a program which means that officers monitoring the disease at the field no longer exist. This is a matter of concern, being currently overlooked by the government.

Name of Interviewee	Designation	Date of Interview	Attendees
Mr. Ashok Das	Ex-Principal Secretary, Department of Health, GoMP	2nd September 2013	Dr. Subhash Hira, Astha Kapoor (Dalberg)

- Malnutrition is a big problem in Madhya Pradesh. A lot of money is being pumped into it but there is too much experimentation.
- Government schemes are one-size fits all and this needs to change. There needs to be a composite look at health with health education, early marriages also being targeted within the community.
- The said has no hardware shortage, but there is software deficit. There needs to better design of syllabus, better monitoring systems, medical applications for ASHAs. These are the things than an international donor should help design.

6. **Government of Mizoram**

Name of Interviewee	Designation	Date of Interview	Attendees
Esther Lalruatkimi	Secretary, Health Government of Mizoram	18th July 2013	Nupur Kapoor, Astha Kapoor (Dalberg), Kaustubh Basu and Swati Poddar (PwC)

Key Take Aways from interview

- The major health sector challenges for the state of Mizoram are disease related and include – Cancer and related tobacco control, Hepatitis C and HIV and Mental Health
- Health infrastructure installed is of fairly good quality when compared to other states. The challenge lies access to healthcare services especially in highly remote and mountainous areas. E.g., PHCs and hospitals are installed on the basis of population specific guidelines laid down by the central govt. However these do not address the very peculiar terrain of the state that requires more local and community (village) level interventions.
- Health resources in specialized areas – cancer and mental health are limited in number. E.g., that state has only 5 mental health specialists who are split up across other programs; the state has a limited number of cancer specialists and refers all complicated patients to hospitals in Kolkata, West Bengal which is almost 800 kms away.
- The state Govt. of Mizoram is welcoming of external aid support but wants dedicated attention to its specific state level challenges (it has previously been associated with donors that have clubbed them with other North Eastern states as a part of broader regional development programs.

Name of Interviewee	Designation	Date of Interview	Attendees
Dr. C. Lalzarliana	Jt Secretary Malaria Government of Mizoram	18th July 2013	Nupur Kapoor, Astha Kapoor (Dalberg),
Lily L. Pachau	IEC Consultant, Malaria, Government of Mizoram		

Key Take Aways

- DDT uptake is low as people realize its harms. Alternatives are needed, discussions are in progress but nothing has really come up.
- Bed net supply is controlled directly by the central government. All the bed nets received by the state are distributed but the supply still remains short. More bed nets are needed but the state will not procure them and prefers that they are handed in kind.
- ACT supply is low.
- Access is a major problem, so greater density of points of care is required even if they are servicing small numbers.

Name of Interviewee	Designation	Date of Interview	Attendees
Zuiliani Hrahsel	Deputy Director (IEC)	18th July 2013	Nupur Kapoor, Astha Kapoor (Dalberg),
Betty Lalthantluangi	Joint Director (T.I)		

Key takeaways from interview

- Reach of targeted interventions is low in rural areas. Changing behaviors and adoption rates of clean needles and condoms is a big priority for the state AIDS control society
- There are only 3 ART centres in the state in the larger districts of Lunglei and Aizawl. Rural areas therefore remain cut off from treatment in the monsoon and winter seasons when it is difficult to travel.
- The state has 27 NGO partners implementing a total of 36 targeted interventions. 21 of all targeted interventions are focused on injecting drug users and there is only dedicated targeted intervention for female sex workers
- Hep C (HCV) is emerging as a concern amongst HIV and non HIV patients (especially high incidence noted in the case of IDUs). In the case of HIV patients, HCV becomes life threatening since there are no national guidelines/drugs available to treat the disease in the public health system.
- The priority areas for support as identified by the State AIDS Control Society include – 1) technical assistance for data management (including baselining, tracking and reporting 2) long term loans/funding for expansion of HIV treatment infrastructure and referral transportation

Name of Interviewee	Designation	Date of Interview	Attendees
Dr. Ropari	Jt. Secretary, Directorate of General Health Services	18th July 2013	Nupur Kapoor, Astha Kapoor (Dalberg)

Key Take Aways from the Interview

- When dealing with health interventions, the focus is usually on curative care. However, there is need to understand causality of disease based on thorough research that is specific to each state because there are many contributing factors which are peculiar.
- Research to understand the reasons for the high prevalence of cancer needs special attention. This research must move beyond tobacco use and extend to other environmental reasons that might be causing the disease.
- Research is Hepatitis C is needed to understand how such high levels of the disease are found in the state, even in non-high risk groups.