India’s Health Under Modi: Agenda for the Next Two Years

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India's Health Under Modi: Agenda for the next Two Years

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Overview

Prime Minister Narendra Modi came to power in May 2014 promising changes in a number of areas, including healthcare. The Modi administration pledged universal health care that would be accessible and affordable for all Indians. In its first two years in power, the Modi administration has taken some significant steps in the healthcare sector though India remains far from Modi’s ambitious goals.

The National Health Policy (NHP) is designed to provide modern health services to all Indians. The administration has undertaken some of the steps, outlined in the NHP and instituted a few reforms and legislation that attempt to significantly improve the quality and availability of healthcare.

Yet if every Indian has to be provided universal healthcare, the government will need the support of the private sector, both domestic and foreign, to bolster India’s key health indicators with significant improvements in infrastructure, financing, and research and development.

India’s major indicators in healthcare are trending in an encouraging direction. There has been a steady decline in deaths due to malaria, maternal and under five mortality, and child stunting. Diphtheria-Tetanus-Pertussis immunization has expanded and Indians have somewhat better access to clean water and to sanitation services.1 India still has a long way to go as, according to the Organization for Economic Co-Operation and Development (OECD), India’s life expectancy of 66, while improving significantly, still ranks 14 years lower than the OECD average of 80.2

According to the World Health Organization (WHO), between 1990-2013, the mortality rate for children under the age of five in India fell from 126 to 53 per 1000 live births, while maternal mortality fell from 560 to 190 per 100,000 live births in the same timeframe. The fertility rate stands at 2.5 births per woman. According to the OECD, India has 0.7 doctors and 1.1 nurses per 1,000 people.3 According to the Indian government’s Central Bureau of Health Intelligence, the population served by each doctor stands at 1305.95 people.4 Meanwhile, births attended to by healthcare professionals stand at 67%. The percentage of India’s population that utilizes clean

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drinking water has risen significantly since 1990, while the population that uses improved sanitation facilities is still only 39.6%.5

According to the World Health Organization, only 5.1% of governmental expenditure in India goes towards healthcare.6 While most of India’s key indicators have trended positively, they compare poorly against other BRICS (Brazil, Russia, China and South Africa) nations whom India strives to compete with at the global level and falls below even some of India’s South Asian neighbors. For instance, in a global healthcare study released at the UN General Assembly 2016, (tracking the performance of countries in the Sustainable Development Goals) India ranks 143 out of 188 countries, trailing behind other BRICS nations, as well as neighbors Bhutan, Maldives and Sri Lanka.7

To achieve the goals mentioned in the National Healthcare Policy, the Modi government needs to mobilize massive resources. However, it faces multiple challenges, starting with budgetary constraints and an ever rising population. India also faces a shortage of qualified doctors and modern hospitals, insufficient healthcare infrastructure and unsanitary public habits and customs. A transition from the current system to the one outlined in the National Health Policy will take several years. Its goals are attainable but only if proper foundations are laid by the current administration.

Instead of relying purely on governmental resources and the Indian private sector, India would reach its healthcare goals quicker and more easily with increased foreign investment. New Delhi needs to think about incentivizing investment in the pharmaceutical industry, for example. The Modi administration appears to understand this as the Central Drugs Standard Control Organization has diluted price controls on various drugs, and abandoned the previously strict licensing regime.

The resulting relative ease of doing business in India has not ended the hesitation of international companies to invest heavily in India. The changes in Indian regulations cannot just be incremental improvements on the country’s past but must compete successfully with other countries to attract investors. Companies that invest in research and development, for example, seek assurance that their intellectual property rights (IPR) will be protected –something India is still unable to do as well as other BRICs nations.

This report reviews the current state of healthcare in India, the initiatives of the Modi government, and the challenges and opportunities in the health sector over the next few years.

The authors would like to thank Hudson South Asia Program research interns Konark Sikka, Mohammad Ali Malik, and Shefali Dhar for assisting with the preparation of this report.
India’s Health Under Modi

India’s Healthcare Trends

India’s Statistical Healthcare Profile

Basic Demographics

India has a relatively young median age of 26, with 1/3rd of the population falling under the age of 15. The fertility rate is 2.5, which is slightly above the 2.1 replacement rate.\(^8\) 32% of the population lives in urban areas and India has birth registration coverage of 84%.\(^9\)

Life Expectancy Statistics

Life expectancy at birth has risen by five years in the past decade and now stands at 66, while an individual who has already reached the age of 60 is expected to live an additional 17 years.\(^10\) Healthy life expectancy meanwhile stands at 57. The probability of dying before the age of 15 is 22% across both genders.\(^11\) The probability of dying before the age of 70 is 69% for males and 60% for females.\(^12\) For women between the ages of 15-49, the probability of dying due to maternal causes is 5%, while the probability of dying due to other non-communicable diseases between ages 30-70 for both genders is 26%.\(^13\)

The leading causes for burden of disease include maternal, neonatal and nutritional, diabetes and cardiovascular diseases, non-communicable and noninfectious diseases as well as unintentional injuries.\(^14\)

Child Health Statistics

The under 5-mortality rate and maternal mortality rate, both of which fall under the UN’s Millennium Development Goals, have decreased in the timeframe of 1990-2013. The under-5 mortality rate per 1000 live birth rates in India has gone down from 126 in

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\(^10\) Ibid.

\(^11\) Ibid.

\(^12\) Ibid.

\(^13\) The other non-communicable diseases include non-malignant neoplasms; endocrine, blood and immune disorders; sense organ, digestive, genitourinary, and skin diseases; oral conditions; and congenital anomalies.

India’s Health Under Modi

1990 to 53 in 2012.\(^\text{15}\) Meanwhile, maternal mortality rate per 100,000 live births has fallen from 560 to 190 from 1990-2013.\(^\text{16}\)

Preterm births (27%), acute respiratory infections (13%), birth asphyxia (11%) and diarrhea (10%) were among the leading causes of death of children under the age of 5 in 2013. Meanwhile, Diphtheria-Tetanus-Pertussis immunization amongst 1 year olds has risen since 1990 and stunting amongst children aged under 5 has gone down in the same timeframe.\(^\text{17}\) India eradicated polio in 2011, and has been polio free for the past five years.\(^\text{18}\)

According to the OECD, infant mortality rate per 1000 live births has gone down from 88.2 to 43.8 deaths between 1990 and 2012. 27.6% of infants born were underweight in 2011, with the instances of underweight infants generally being higher in groups with lower incomes.\(^\text{19}\)

**Hunger Statistics**

According to the 2015 Global Hunger Index (GHI), which represents the statistical situation of hunger in 117 countries India is ranked 80th out of 117 countries in the GHI. Neighboring Sri Lanka and Bangladesh rank higher in the index compared to India.\(^\text{20}\) Furthermore, the proportion of undernourished was 15.2% and prevalence of stunting was 38.8%.\(^\text{21}\)

**Disease Statistics**

Combating HIV/AIDS, malaria and tuberculosis all fall under UN’s Millennium Development Goals. In the time period spanning 2000-2012/13, India has seen deaths due to malaria fall from 3.6 to 2.3 per 100,000 people, while deaths due to tuberculosis in HIV-people has fallen from 39 to 19 per 100,000 people.\(^\text{22}\) However, in the same timeframe, India has witnessed a slight increase in deaths due to HIV/AIDS, going from 10.5 to 10.9 per 100,000 people.\(^\text{23}\)

\(^{15}\) Ibid.  
\(^{16}\) Ibid.  
\(^{17}\) Ibid.  
Strokes, self-harm, falls and injuries have risen in WHO’s rankings of causes of death between 2000-2012. Ischemic heart disease, Chronic Obstructive Pulmonary Disease (COPD), pre-term birth complications and tuberculosis have remained stable in these rankings. Meanwhile, diarrheal diseases and lower respiratory infections have dropped in the rankings of the causes of death. Apart from strokes, the other causes that have risen in the rankings are not diseases themselves, such as self-harm, falls and road injuries. This suggests a trend of diseases being tackled over the years. Nevertheless, given the lack of health and safety standards at India’s labor sites and the lack of road safety enforcement of regulations altogether, those are not factors that should be overlooked either.

**Health Services Statistics**

The population using improved water has increased in the past 20 years and is now almost at 90%. However, the population using improved sanitation still lags at just below a whopping 40%. Contraceptive prevalence stands at 55% and only 67% of births are attended to by skilled health professionals.

**Healthcare Personnel Statistics**

As of 2012, there were 0.7 physicians per 1000 people in India according to the OECD. For the same year, there were 1.1 nurses per 1000 people in India.

In 2010, the erstwhile Planning Commission appointed a High Level Expert Group on Universal Health Coverage. This group presented a report in 2011, also known as the Reddy report. The Reddy Report suggested ways to achieve the goal of universal health coverage including increasing the number of doctors and nurses per 1,000 people. The report also estimated how many more medical colleges states in India would be required to meet those requirements projections. Tables on both suggestions are below. According to 2016’s National Health Profile published by the Central Bureau of Health Intelligence, an allopathic doctor in India serves 1305.95 people on average.

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24 Ibid.
25 Ibid.
26 Ibid.
27 Ibid.
28 Ibid.
29 Ibid.
30 Ibid.
31 They also added that the data is based on medical registers, which might not have the best validity or accuracy.
34 Ibid.
India’s Health Under Modi

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Figure 1.1: Projected numbers of allopathic doctors and nurses (Source: High Level Expert Group Report on Universal Health Coverage for India (2011))

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Figure 1.2: Estimated need of higher medical educational institutions to meet projections (Source: High Level Expert Group Report on Universal Health Coverage for India (2011))
Health Expenditure Statistics

According to the OECD, India’s health expenditure per capita is $157.35 According to WHO, the Indian government only spends 5.1% of overall general expenditure on health.36

Sustainable Development Goal Statistics

At the 2016 UN General Assembly, a new healthcare study was presented that analyzed the progress made by countries in achieving the UN’s Sustainable Development Goals (SDGs). Parts of the SDGs are healthcare goals, and India ranks at 143 of 188 countries analyzed. By contrast, other countries in South Asia were ranked as - Afghanistan (180), Bangladesh (151), Bhutan (114), Maldives (63), Nepal (158), Pakistan (149) and Sri Lanka (79).37

According to the data collected for the study, India lagged most on pollution (estimated 74.3 micrograms per cubic meter), disability-adjusted life years due to occupational risks (1195.3 per 100,000 people), prevalence of populations with unsafe hygiene (94.7%), prevalence of populations using unsafe water (77.8%), deaths attributable to unsafe water, sanitation and hygiene (69.3 per 100,000 people), deaths attributable to air pollution (223.1 per 100,000 people), rate of malaria (52.6 per 1,000 people), neonatal mortality rate (29.1 deaths per 1,000 live births) and maternal mortality ratio (248.8 per 100,000 live births).38

There were, however, SDGs where India had made progress. Those included reduction in smoking rates (8.5%), proportion of women satisfied with methods for their family planning needs (83.1%), prevalence of alcohol consumption (5.4%), age standardized prevalence rate of neglected tropical diseases (26867.1 per 100,000 people), proportions of births attended by skilled healthcare professionals (76.7%).39
India’s Health Compared with Other Nations

Demographics Statistics

While India has a relatively young median age of 26, it is still the second oldest median age amongst countries in South Asia, only behind Sri Lanka’s median age of 31. Compared to other South Asian countries, India has a relatively low percentage of population under 15. When it comes to birth registration coverage, India is behind Bhutan, Sri Lanka and Maldives. However, given the disparity in sizes of the population of those countries with India, India’s 84% birth registration coverage is commendable.\(^{40}\)

\(^{40}\) All data taken from WHO Country Statistical Profiles for India, Afghanistan, Bangladesh, Bhutan, Maldives, Nepal, Pakistan & Sri Lanka.
India’s relatively young median age comes into focus when compared to other BRICS nations. Both India and South Africa share the youngest median age in the group. India also has the second highest percentage of people under 15 amongst the BRICS countries. India’s birth registration coverage lags behind the rest of the BRICS countries.\(^4\) However, along with China, India has a significantly higher population than either of the other countries.\(^2\)

India’s fertility rates are on the higher side amongst South Asian countries and highest amongst BRICS countries.

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\(^4\) All data taken from WHO Country Statistical Profiles for India, Brazil, Russia, China and South Africa.

\(^2\) There was no data available for China.
Life Expectancy Statistics

India’s life expectancy at birth and healthy life expectancy is only ahead of Afghanistan and Pakistan in South Asia. India’s life expectancy after reaching the age of 60 is ahead of only Afghanistan. The probability of women dying due to causes related to childbearing is 5%, which is better than Nepal, Pakistan and Afghanistan.\(^\text{43}\)

All data taken from WHO Country Statistical Profiles for India, Afghanistan, Bangladesh, Bhutan, Maldives, Nepal, Pakistan & Sri Lanka.
With the exception of South Africa, whom India is ahead of in all life expectancy indicators apart from probability of dying due to maternal causes, India trails behind in life expectancy indicators when compared with the other BRICS nations. Russia’s indicators are the closest to India’s amongst the BRICS countries, again, with the exception of maternal mortality.44

Child Health Statistics

Figure 1.9: South Asia child and maternal mortality (Data Source: WHO Country Statistical Profiles)

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44 All data taken from WHO Country Statistical Profiles for India, Brazil, Russia, China and South Africa.
After Afghanistan, India, along with Nepal, have the highest maternal mortality rates in South Asia. When it comes to mortality of children under the age of 5, India’s indicators are better than only Pakistan and Afghanistan. Amongst the BRICS countries, India has both the highest maternal as well as children under the age 5 mortality.45

Hunger Statistics

45 All data taken from WHO Country Statistical Profiles for India, Afghanistan, Bangladesh, Bhutan, Maldives, Nepal, Pakistan, Sri Lanka, Brazil, Russia, China and South Africa.
India has the highest prevalence of stunting in children after Afghanistan and Pakistan in South Asia. India fares better comparatively in total percent of the population that is undernourished, with India having the second lowest rates in South Asia. However, compared to other BRICS nations, India lags behind in both these indicators.\textsuperscript{46}

\textsuperscript{46} All data taken from the Global Hunger Index Scores. Maldives had no data available.
Disease Statistics

When it comes to South Asia the number of deaths due to HIV/AIDS in India are only outnumbered by Nepal. India also has the highest rates of deaths due to malaria in South Asia. But, it has fewer deaths due to tuberculosis in HIV-patients compared to Bangladesh, Afghanistan and Pakistan.47

Compared to the BRICS countries, India sees the most deaths due to malaria, whereas other BRICS do not suffer from the malaria issue. India’s tuberculosis in HIV-patients is high comparatively, although South Africa has a higher rate of deaths of HIV-patients

47 All data taken from WHO Country Statistical Profiles for India, Afghanistan, Bangladesh, Bhutan, Maldives, Nepal, Pakistan & Sri Lanka.
with tuberculosis. India has higher deaths due to HIV/AIDS compared to China and Brazil, but fewer deaths compared to Russia and South Africa.\textsuperscript{48}

\textit{Healthcare Service Statistics}

![SOUTH ASIA HEALTHCARE SERVICES STATISTICS](image)

Figure 1.15: South Asia healthcare service statistics (Data Source: WHO Country Statistical Profiles)

India ranks fourth when it comes to antenatal care in South Asia, which again, given the population disparity between India and the rest of the South Asian countries, is a strong showing. With 67\% of births being attended to by healthcare professionals India ranks behind Sri Lanka and Maldives. Contraceptive usage in India, however, is behind that in Bhutan, Sri Lanka and Bangladesh.\textsuperscript{49}

One major cause for concern is measles immunization at age 1, where India is only ahead of Pakistan in South Asia.\textsuperscript{50}

\textsuperscript{48} All data taken from WHO Country Statistical Profiles for India, Brazil, Russia, China and South Africa.

\textsuperscript{49} All data taken from WHO Country Statistical Profiles for India, Afghanistan, Bangladesh, Bhutan, Maldives, Nepal, Pakistan & Sri Lanka.

\textsuperscript{50} All data taken from WHO Country Statistical Profiles for India, Afghanistan, Bangladesh, Bhutan, Maldives, Nepal, Pakistan & Sri Lanka.
India’s measles immunization rate trails behind other BRICS countries, as does contraceptive usage. Births attended by health professionals are also an area where India is behind Brazil, China and Russia, but marginally ahead of South Africa.\textsuperscript{51}

These indicators show a lot of room for India to improve, especially in child and maternal mortality, HIV/AIDS and measles immunization.\textsuperscript{52} However, one must also bear in mind India’s large population, which can skew percentage data somewhat.

Nevertheless, there are some encouraging signs like the rate of birth registration coverage, falling rates of deaths due to malaria, declining rates of fertility as well as the number of births attended by health professionals.\textsuperscript{53}

\textsuperscript{51} All data taken from WHO Country Statistical Profiles for India, Brazil, Russia, China and South Africa.

\textsuperscript{52} All data taken from WHO Country Statistical Profiles for India, Brazil, Russia, China and South Africa.

\textsuperscript{53} “Fertility rate, total (births per woman)”, World Bank, accessed September 30, 2016, data.worldbank.org/indicator/SP.DYN.TFRT.IN?locations=IN.
Health Expenditure Statistics

India ranks after Pakistan, in lowest governmental expenditure on healthcare in South Asia. However, India’s government has its focus divided. India's GDP growth has been above 7% for six of the past ten years (2006-2015) and the service sector contributed to 52% of the GDP in 2014. This economic and service sector growth, coupled with the large population, leads to an increased demand for energy and better infrastructure,

which the Indian government focuses on to sustain this economic growth. This leaves an opening for the private sector to carve out a niche in India’s healthcare system.

When compared to other BRICS nations, India spends the least amount of total government expenditure on healthcare.\textsuperscript{57} South Africa, which has a somewhat similar statistical profile in healthcare to India, still spends 14.2\% of total government expenditure on healthcare.\textsuperscript{58}


\textsuperscript{58} Ibid.
India’s Health Under Modi
Modi Government’s Two Year Performance

India continues to face many challenges as it aims to modernize and develop its healthcare sector. Although India has accomplished a considerable amount from earlier initiatives to improve health care, much more needs to be done so that accessible and affordable healthcare may be available to all. The Bharatiya Janata Party (BJP), under the stewardship of Narendra Modi, pledged during the 2014 election season, “health assurance to all Indians and to reduce the out-of-pocket spending on health care.” In order to achieve this stated goal, the BJP 2014 election manifesto outlined twenty-three steps that would be taken to improve the healthcare sector.

The manifesto outlined steps that were aimed at modernizing government hospitals, upgrading current infrastructure, and investing in domestic medical technologies. Other proposed initiatives to tackle the issue of health care for the average Indian address a reorganization of the Ministry of Health and Family Welfare, an increase in medical institutions to address the shortfall of doctors that India faces, an E-Health initiative to provide easier access to medical facilities, and a “Swachh Bharat” (Clean India) campaign that will assist in cleaning up Indian cities, to name just a few.

The two-year old Modi government has made progress and is headed in the right direction, but drastic improvements to health care are still needed. This section of the report will analyze particular programs undertaken by the current administration, gauge the overall performance of the programs and their implementation by the Modi administration.

2015 National Health Policy Draft and Other Government Initiatives

The 2015 National Health Policy (NHP) draft is a highly ambitious plan that aims to provide a greater quality of healthcare and universal health coverage to every Indian citizen, within the next five years. The NHP states that for universal health care to become a reality, the current government would have to allocate four to five percent of India’s GDP towards public health expenditure but cites this as an improbable goal and instead “proposes a potentially achievable target of raising public health expenditure to 2.5 % of the GDP.” The NHP draft goes on to say that at “current prices, a target of 2.5% of GDP translates to Rs. 3800 per capita, representing an almost four fold increase

60 Ibid, P. 25.
in five years.” This strategy has been critiqued as it is seen as an ambitious figure without any specified strategy. A member of NITI Aayog (Federal Government Planning Commission), an institution set up by the Modi administration to function as an in-house think tank, Bibek Debroy, stated that, “there is not much point in saying that government expenditure on health should be increased to 2.5 per cent of GDP, unless you also explain where those extra resources will come from.”

The Modi administration sought to answer such criticism by introducing an additional excise tax on cigarettes and alcohol. Yet, these measures will also be insufficient in reaching the 2.5 percent GDP goal. The difficulty in achieving this goal stems from the current GDP allocation to public health care, which stands at 1.3%, and is expected to be doubled to 2.5% of GDP from taxation alone. This would amount to an increase of the public health care budget by a staggering $57 billion dollars. Gross tax collection figures in India, for the 2015/16 fiscal year, stood at Rs. 14.6 trillion ($220 billion). If India were to achieve the 2.5% GDP target, a quarter of all tax revenue would need to be allocated to the healthcare sector. Such a decision is unlikely to be made by the administration.

Furthermore, in the fiscal year 2014/15, the administration faced budgetary restraints that stemmed from a tax-revenue deficit that was expected to be in the amount of Rs. 1 trillion ($15.7 billion). Modi, a fiscal conservative, pledged during his election campaign that he would balance the federal government’s budget and avoid large deficits. This pledge forced the administration to cut the health ministry’s budget by Rs. 60 billion ($948 million). Additional cuts were also made to India’s HIV/AIDS programs “by about 30% to 13 billion rupees ($205.4 million).” This allowed the administration to meet its fiscal deficit target of 4.1%, which was a hallmark of Modi’s economic platform.

In the fiscal year of 2015/16, the administration addressed the previous years budget shortfall and increased the budget for The Ministry of Health by 2%, raising it to Rs.

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62 Ibid.
2,970 million ($4.81 billion) from the previous years Rs. 2,900 million ($4.71 billion). The overall allocation of the budget towards healthcare for the 2015/16 fiscal year was Rs. 349,566 million ($5.23 billion). It is expected that the healthcare budget for the fiscal year 2016/2017 will rise to Rs. 395,325.5 million ($5.92 billion), increasing by 13%.

This dramatic increase in the budget is a positive sign and illustrates the Modi administrations commitment to fulfilling its pledge of healthcare as a human right. Other positive developments which have come through this increased focus on healthcare and the National Health Policy are:

- A new health protection service program (similar to the American system of Medicaid) that would allocate Rs. 100,000 ($1,643) to those most in need. Senior citizens would qualify for an additional Rs. 30,000.
- A National Dialysis Services Program that would allow Indians to access dialysis services in all district hospitals and the removal of basic custom duties on such equipment, lifting a tremendous burden off of those who need treatment. Each year, India gains 220,000 new dialysis patients.
- The addition and recognition of mental health issues that Indians face. This aspect of the NHP was further strengthened by the passage of a mental health care bill that addressed the treatment of patients, access to health officials, and protective legislation.

The 2015 NHP, although ambitious, is a step in the right direction. The decision by PM Modi to declare healthcare as a fundamental human right, equating it to other rights such as education, is a remarkable change. This National Health Policy (draft), still subject to legislative approval, hopes to create a major shift in the domain of public opinion regarding healthcare so that the Modi government can achieve its goals.

There are also other initiatives that have been undertaken by the government. These include the Ministry of AYUSH (Ayurveda, Yoga and Naturopathy, Unani, Siddha and...
Homoeopathy) and Mission Indradhanush. The Ministry of AYUSH focuses on upgrading and strengthening the educational and research standards of Indian Systems of Medicines and Homoeopathy colleges and research institutions, as well as the fortifying the pharmaceutical standards of Indian Systems of Medicine and homoeopathy drugs. Mission Indradhanush meanwhile, aims at immunization of children and women in India. As of the completion of Phase 1 of Mission Indradhanush, just above 2 million children and 1 million pregnant women had been fully immunized.

**Swachh Bharat (Clean India)**

The Modi administration in October 2014 announced a campaign to clean public areas and spaces in India by creating a national movement that would end the practice of open defecation, eliminate the practice of manual scavenging (the removal of untreated human excreta), and eliminate garbage from the streets of Indian cities. The campaign set for itself a one-year target in urban centers the construction of 250,000 individual toilets, 100,000 public toilets, a 100% rate of collection, transportation, processing, and disposal of urban waste. However, a one year appraisal in 2015 showed that only 20-25% of the targeted number of toilets had been built. The rate of waste collection shared a similar margin of improvement. The campaign has frequently changed its targets and deadlines as a late realization of unrealistic planning. The initial targets were adjusted and the campaign announced that it aimed for the installation of 100,000 toilets by March 2016. As of September 2016, 36% of individual toilets, 30% of community toilets, and 9% of public toilets have been built. Likewise, 48% of door to door waste collection has also been achieved.

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79 Ibid.
However, the effectiveness of the campaign is questioned by some in the international community. A study released by Lancet Global Health at the start of the campaign analyzed the effectiveness of investing in toilets in rural areas questioning the basis of building toilets and examining if their use actually improved health. It found that the idea of increased toilet coverage, believed to improve the health of individuals, stated “that this outcome cannot be assumed.”81 The study went on to say that “no evidence showed that the intervention reduced fecal exposure.”

Thomas Clasen, who led the study, stated in an interview that he recommended two changes to the current campaign that would prioritize the usage of toilet over their coverage, and that sanitation campaigns be used in conjunction with environmental health campaigns that prioritize clean water supplies.82 A joint strategy, similar to the one recommended by Thomas Clasen above, has been adopted by the Modi administration in the form of the “National Framework for Malaria Elimination in India.” However, the program, launched in 2016, faces serious budgetary constraints and is unlikely to achieve its target of eliminating malaria by 2030, as stated in the programs framework.83 Studies like this question the prudence of the “Clean India” initiative and its priorities.

The campaign has also been criticized for severe shortfalls in its promised results. The administration’s explanation for the less than optimal results is that the campaign’s aim is to instill a change of behavior within the populace. This is, however, extremely difficult to achieve.

Furthermore, there remains a large portion of the population that neither desires a toilet nor has the fundamental understanding about the usage of a toilet and its positive effects on the health of a community. In June 2015, one year after the program was launched, the Washington Post interviewed a villager who received a toilet from the government. He stated that “we never asked for a toilet. Now we are stuck with it.”

This sentiment was also shared by his father who stated:

“Having a toilet so close to the house is not a good idea. The pit is too small; it will fill up quickly. I don’t want the bother of cleaning it up frequently. Going out to the open field is healthier. The open breeze outside is better than sitting inside this tiny room.”

A possible reason that explains the underutilization of toilets would be the stigma associated with cleaning human waste that pervades Indian society. This stigma is a legacy of the caste system. A RICE (Research Institute for Compassionate Economics) survey stated that the association in the minds of most Hindus between ‘untouchables’ and the act of waste removal instills a sense of fear and reluctance in using toilets that would eventually have to be cleaned. The same study goes on to state that of the 300 villages surveyed, 40% of households that had functional latrines continued to practice open defecation, disregarding government constructed latrines.

This is a major cause of concern as the Modi government has invested heavily in the construction of toilets. At the start of the Modi administration, $10 billion were promised to the new “Clean India” campaign. The majority of these funds were used to construct toilets that for the most part that are either unused or not functional. The budget for the 2016/2017 fiscal year is Rs. 95,000 million ($1.4 billion), larger than the previous years budget of Rs. 36,250 million ($542 million), which will be used to further
discourage public defecation.\textsuperscript{89,90} Interestingly enough, one of the major expenses that the government has incurred on this campaign is not related to the construction of toilets but rather an ad campaign, costing Rs. 900 million ($13.46 million), that is being used to raise awareness about the negative effects of public defecation. There are also additional non-governmental campaigns that emphasize the need to end the practice of open defecation such as UNICEF’s “Take The Poo To The Loo” advertisement campaign.\textsuperscript{91}

One can clearly understand and sympathize with the Modi administration’s imperative in attempting to educate and change public opinion regarding open defecation. The public relations campaign addresses a major shortfall of the campaign, the lack of toilet usage, in light of the construction of thousands of toilets. Nevertheless, such an expense poses serious questions regarding the efficient allocation of the federal government’s resources. These concerns regarding the adequate use of funds also carry additional weight as the administration has negotiated a $1.5 billion dollar loan from The World Bank to finance a portion of the Swachh Bharat campaign in rural areas.\textsuperscript{92}

In light of these budgetary restrictions, the administration has also taken a step to increase governmental revenue. Starting November 15, 2015, the Modi administration instituted a 0.05% tax on all items that fell underneath the umbrella of general services.\textsuperscript{93} The governmental revenue that will stem from the tax are expected to provide a much needed boost to the campaign.

Yet, the very foundational basis of the “Clean India” campaign, its emphasis on the construction of toilets, remains under question. India’s Ministry of Urban Development highlights the construction of public toilets (refer to Fig. 1) and waste collection but fails to address a crucial component of the campaigns aim. There continues to be a lack of emphasis on its usage. The administrations advertisement campaign does address the issue of usage but there remains a lack of any other method to increase usage within society. The administration should adopt multiple strategies that promote toilet usage rather than solely relying on one strategy.

The administration faces a monumental task in changing century old habits of a nation. Progress has been slow and questions about the foundations of the campaign remain unanswered, but the administration continues to work forward to accomplish its goals.


Infrastructure & Services

Significant improvements have either been made or are under works in India, but there remains a systemic deficiency between the supply of health care service and the demand for healthcare. Considering the indicators in the previous chapter, India has a massive deficit of healthcare professionals. India, in 2014, had a ratio of 0.7 doctors to 1000 Indians and a ratio of 1.5 nurses to every 1000 Indians.94

India not only possesses a urban-rural divide but also a regional divide, between states, in healthcare. The National Health Survey (NHS) 2014, released by the Central Bureau for Health Intelligence (CBHI), provided disconcerting figures. According to the report, each government hospital served an estimated 61,000 people and there was only one hospital bed for every 1833 people. The report highlighted the stark difference in resources between individual states in India. A news story on the report stated that “in undivided Andhra Pradesh, every government hospital serves over 300,000 patients, while in Bihar there is only one bed for every 8800 people.”95 These divisions are further exacerbated as successive Indian governments have adopted policies of decentralization that devolve matters of healthcare to individual states.96 Thus, states that are doing economically well and more urbanized spend more resources on healthcare than states that are more rural, as tax revenues will be higher in urban areas rather than rural ones.

The Modi administration inherited these systemic problems within the healthcare sector and has made substantive attempts at addressing these shortcomings. The administration’s first budget of 2014/2015 allocated funding for four more medical institutions that would be given the status of All India Institute of Medical Science (AIIMS) as well as funding for 12 additional medical colleges in the public sector.97 These colleges and institutions will not only educate future doctors, addressing the shortage of qualified medical professionals, but will also act as facilities that will provide crucial treatment to patients in need of medical attention. Additionally, the federal budget also contained a provision for creating AIIMS within each Indian state as well as the creation of 15 rural health research centers that would be spread throughout India. This year, under the government’s Jan Aushadhi (public medicine) program, 3,000 pharmacies will provide access to low-cost generic drugs.98 The program will allow the federal government to purchase essential medicines in bulk and brand them as a “Jan

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Aushadhi” so that consumers will be able to purchase a reliable yet affordable alternative to the brands that are currently offered.

The administration has also levied new taxes to address budget shortfalls and will disburse the new found revenue to states to administer as they see fit. The government believes that increase in tax revenue will lead to an increase in the overall budget and will allow Indian states to have access to a larger pool of funds that would then result in improvements in the healthcare sector.99

However, in spite of these recent tax increases, public health experts believe that the administration has not done enough to address the underlying issues of the urban-rural divide. Abhijit Das, director of the Center for Health and Social Justice, criticized the new tax schemes stating:

“While giving a greater share of taxes to states may seem like strengthening state autonomy, we have seen that historically states with the poorest health indicators invest the least in health. This trend will not reverse without any explicit directions or guidance from the central government”100

The administration would benefit from drafting a joint strategy that would allow states to retain their autonomy, as regional governments understand the issues of the population better than the central government, yet institute overall standards and directives for the states so that all patients receive the same standard of healthcare.

Recent initiatives by the Modi administration are an important step forward but they fail to fully address the urban-rural divide that exists within the healthcare industry. Studies indicate that budgets and resources are overwhelmingly used in urban areas. Data suggests that 65-70% of all resources are directed towards urban centers leaving 30-35% of the remaining resources being allocated to rural areas, which house 70% of India’s population.101 A 2015 University of Toronto study found that out of a reported 72,000 deaths, 50,000 of them could have been prevented if patients had access to healthcare.102 Another factor that needs to be addressed by the Modi administration is the absence of proper medical sterilization standards and procedures throughout all of India, but particularly in the Indian countryside as there is a massive shortage of properly trained individuals.

The Modi administration possesses the groundwork for establishing a set of regulatory standards (The Clinical Establishments Registration Act) and should legislate further regulations to improve the level of care that Indians face, especially in the rural areas of the nation. The administration has increased the level of infrastructure funding that is

100 Ibid.
102 Aparna Pande & Husain Haqqani, “Modi: Two Years On", South Asia Program at Hudson Institute, September 2016, P. 38.
allocated to the healthcare sector within their first two years and continues to work on further improvements.

**The Private Sector**

Recent indicators state that India’s healthcare sector is expected to grow at a rate of 22.9% in the next four years. Today the healthcare industry is estimated to be worth $100 billion and expected to cross $280 million by 2020. Out of the current $100 billion dollar valuation of the healthcare industry, 75% of the value stems from the private sector. The Modi administration would find it easier to achieve its healthcare goals if it engaged with the private sector. However, this segment of the healthcare industry has been overlooked by the current administration, as will be discussed in the following chapter.

Patients overwhelmingly prefer private hospitals due to the lack of adequate services and long wait times patients experience in government hospitals. Almost two-thirds of Indian households choose to be serviced by private hospitals. However, this is an extremely expensive alternative for the average Indian. The World Health Organization states that 86% of private health care spending is out-of-pocket. A crucial component of the costs that patients incur as they receive treatment is associated with the cost of drugs. Both this administration and previous governments have sought to address this problem by adding life-saving drugs, at this time over 750, under the umbrella of the National List of Essential Medicines (NLEM) instead of finding long-term solutions.

The Modi administration has initiated several reforms that benefit the private sector in general and may benefit the healthcare industry as a whole. These reforms have reduced the number of rules and regulations faced by the private sector making it easier for businesses and companies to gain permits and licenses. Additionally, as mentioned in an earlier section of this chapter, import duties on some medical equipment, such as dialysis systems, have also been eliminated or reduced significantly. These positive steps

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106 Ibid.


109 Aparna Pande & Husain Haqqani, “Modi: Two Years On”, South Asia Program at Hudson Institute, September 2016, P. 50.
taken by the administration lower the costs for private companies to operate in the nation and may result in lower healthcare costs to patients.

However, the Modi administration needs to make a definitive decision regarding the future role it is going to play in the healthcare sector. The fundamental question that must be answered is ‘will the government provide healthcare or facilitate healthcare?’ Due to the government’s budgetary constraints, it cannot be the sole provider of healthcare for patients. It cannot employ and build the necessary amount of infrastructure that is needed to meet the health services deficit that the nation faces. If the administration pursues this avenue it will face massive deficits and will need to borrow heavily to provide adequate services.

The most prudent alternative for the administration would be to continue to invest in domestic healthcare to improve existing infrastructure, while encouraging the private sector to increase their level of investment within the nation’s healthcare sector. These efforts will help cover a relatively large portion of the current health services deficit the nation faces. The administration could further promote private investment by encouraging foreign direct investment that would provide additional advancements and alternatives within the health industry. However, in order to do this, drastic changes would be required in current policies.

Current policies regarding credit acquisition and taxation mean private sector companies are hesitant in either expanding their business or entering the Indian market. India’s current Intellectual Property Rights (IPR) policies are also a major hurdle for foreign companies. Current legislation also overwhelmingly benefits domestic companies.

One such example, in the pharmaceutical industry, is the Patents Act. The Indian pharmaceutical industry has for decades benefitted strongly from this piece of legislation. The current chairman of a leading Indian pharmaceutical company, CIPLA, Y.K. Hamied, stated in the annual report that:

“Now that our Indian pharma industry is at the forefront of healthcare, the government should be fully supportive. Any further dilution in the Patents Act will adversely affect not only India but several countries which depend on India for their medicines.”

Chairman Hamied and the Indian pharmaceutical industry may see this as a valid argument but the continued use of such policies discourage foreign direct investment. Corporations spend an overwhelming amount of money and time in research and development so that life-saving drugs can be found or further advanced. If these investments by foreign pharmaceutical companies are not given the level of protection that is required, other foreign companies whether in pharmaceuticals or other healthcare services may choose not to invest in India. This may lead to a reduction in possible future clinics and hospitals.

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110 Ibid.
Challenges and Opportunities: The Next Two Years

The challenges that the Indian healthcare sector faces revolve around accessibility, affordability, and innovation. The three goals can be viewed as the pillars of public health in India, each requiring the other two in order to be achieved. India has dealt with affordability from the perspective of out-of-pocket spenders by laying an emphasis on the actual cost of healthcare as opposed to the insurance sector.\textsuperscript{112} The Indian government has aimed to keep prices low which has made out-of-pocket expenditure more convenient, and dis-incentivized the use of health insurance. This has resulted in nearly 75 percent of the population not having health insurance coverage. It has also resulted in the Indian government taking certain steps to ensure that foreign companies do not enter the market and drive the price of healthcare resources up.\textsuperscript{113} This in turn has hurt innovation. If India seeks to stay on par with technological advancements that occur in healthcare around world India needs to invest more in research and development. Insufficient funding has also resulted in massive infrastructural inadequacies. Access to medical services and products is still sub-optimal, as is evidenced by the United Nations Human Development Program’s 2015 Human Development report ranking India’s health outcomes at 130 out of 188 countries.\textsuperscript{114}

Accessibility

The Indian health sector has prominent infrastructure shortcomings primarily due to poor planning, large population, and lack of funding. There is a shortage of resources such as hospital beds and medicines, as well as well-trained healthcare professionals. For instance, there are currently 0.7 beds, 0.7 doctors and 1.5 nurses per 1000 people\textsuperscript{115}. According to a KPMG report, around “60 percent hospitals, 75 percent dispensaries and 80 percent doctors are located in urban areas servicing 28 per cent of the country’s


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population”\textsuperscript{116}. There is also a lack of regular quality assessment in the healthcare sector. The report explains that patients in semi-urban and rural areas are more likely to have access to unqualified physicians.\textsuperscript{117} This skewed occurrence of resource availability is due in part to higher population in urban areas, and partly due to higher incomes.\textsuperscript{118}

Such infrastructure shortcomings have made it difficult to eradicate old infectious diseases and solve other public health issues. The Ministry of Health and Family Welfare, as part of its National Vector Borne Disease Control Program (NVBDCP), has specified six important vector borne diseases that it is focusing on eradicating:

1. Malaria
2. Dengue/Dengue Hemorrhagic Fever
3. Lymphatic Filariasis
4. Kala-Azar/Visceral Leishmaniasis
5. Japanese Encephalitis
6. Chikungunya

The NVBDCP has been combating vector borne diseases by tackling the vectors to curb their spread. For example, in the framework for fighting chikungunya, lymphatic filariasis, dengue and malaria, the NVBDCP has laid emphasis on reducing the number of mosquitoes.\textsuperscript{119,120} This has also been made a part of

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{DengueAffectedAreasIndia.png}
\caption{Dengue Affected Areas in India (Source: National Vector Borne Disease Control Program)}
\end{figure}

the expansive *Swachh Bharat* (Clean India) campaign, as promoting sanitary conditions would lead to a reduction in mosquitoes and other such vectors.

While tackling vectors is an effective strategy for prevention, it is an incomplete strategy for eradication without curative measures implemented alongside. This is evidenced by the lack of reduction in communicable diseases. The reasons for this rise in vector-based diseases are:

- An increase in population in urban areas, which has resulted in overcrowding which creates more waste – i.e. the perfect breeding ground for vectors.
- As prescribed by the Swachh Bharat Initiative, preventive measures have been limited to waste removal. However, there are other facets of urban planning that need to be employed in order to better manage rural-urban migration.

Communicable diseases such as dengue are at an all time high, particularly in urban areas.\(^{121}\)

Similarly, non-communicable diseases - such as diabetes and cardiovascular diseases – account for “more than 60 per cent of all deaths and pose a potential financial burden of USD 5 trillion by 2030”.\(^{122}\) Resolving these issues would require a two-pronged approach of widening the scope of preventive measures to include wide scale infrastructure changes and urban planning, as well as working to ensure an even distribution of treatment. Additionally, the fact that the “dual burden of communicable and non-communicable diseases” is rising means that the need for Universal Health Coverage has never been more necessary than it is today.\(^{123}\)

Universal Health Coverage and Swachh Bharat are examples of the Modi administration’s attempts at tackling healthcare issues. The problem with such policy frameworks is that while they seem thorough, they are expensive and inefficient. As outlined in the previous chapter, GDP allocation to healthcare is currently insufficient. While the Indian government’s public expenditure on healthcare has been increasing, it is not enough to bolster large scale, national policies. In a 2016 KPMG report, one of the


key challenges outlined was “the significant need to implement a robust plan for effective utilization of existing budgets so that public expenditure is fully utilized”.

To address, the low quantity of healthcare resources, and low standards in health care quality, the Indian government will need to develop partnerships between the Indian public sector, and the domestic and foreign private sectors. A multi-pronged approach is necessary due to the massive amount of financial investment, and policy implementation that renovating the healthcare sector would require. Currently, total healthcare expenditure is “less than 1 per cent of the world’s total health expenditure.” At 4.1% of India’s GDP, India’s total (public and private) healthcare expenditure has to improve in order to support the expensive schemes that the Modi administration wishes to implement.

**Affordability and Innovation**

Public sector expenditures are rising. However, the increase is not quick enough to bolster the costs of the Modi administration’s policies. Investments are needed from the private sector. “Investment opportunities in this sector are growing significantly” and healthcare is now “one of the most attractive investment targets for private equity and venture capital companies”.

One of the most popular areas of investment is the Indian pharmaceutical industry. It

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is the “third largest in terms of volume and thirteenth largest in terms of value”.\footnote{IBEF, “Indian Pharmaceutical Industry”, \textit{Sectoral Report}, September 2016, accessed October 06, 2016, http://www.ibef.org/industry/pharmaceutical-india.aspx.} It has an important presence globally in terms of number of scientists and engineers, number of consumers, natural resources, and production facilities (when compared to other major pharmaceutical markets).\footnote{IBEF, “Indian Pharmaceutical Industry”, \textit{Sectoral Report}, September 2016, accessed October 06, 2016, http://www.ibef.org/industry/pharmaceutical-india.aspx.} According to the Department of Industrial Policy and Promotion (DIPP), the drugs and pharmaceutical sector attracted a total of 13.5 billion USD between April 2000 and March 2016.\footnote{IBEF, “Indian Pharmaceutical Industry”, \textit{Sectoral Report}, September 2016, accessed October 06, 2016, http://www.ibef.org/industry/pharmaceutical-india.aspx.} However, that figure needs to increase, and the money will need to come from the private sector.

In order to attract investments, the Indian government will need to upgrade its intellectual property rights (IPR) policy to lower entry barriers for foreign pharmaceutical companies. Employing policies such as the Modi administration’s new drug policy, are positive steps in that direction. In October 2016, the Central Drugs Standard Control Organization announced a new drug policy in which number of drugs under price control will be reduced.\footnote{Yogima Seth Sharma, “Modi government planning major overhaul of country’s drug policy”, \textit{The Economic Times}, October 04, 2016, accessed October 12, 2016, http://economictimes.indiatimes.com/pharma/modi-government-planning-a-major-overhaul-of-countrys-drug-policy/articleshow/54664468.cms.} It is a move that comes after the Niti Aayog came to the conclusion that the price-control mechanisms were discouraging investments in the sector.\footnote{Yogima Seth Sharma, “Modi government planning major overhaul of country’s drug policy”, \textit{The Economic Times}, October 04, 2016, accessed October 12, 2016, http://economictimes.indiatimes.com/pharma/modi-government-planning-a-major-overhaul-of-countrys-drug-policy/articleshow/54664468.cms.} The new drug policy will also attempt to lower entry barriers for pharmaceutical manufacturers by ending the “practice of periodic renewal of manufacturing licenses”.\footnote{Yogima Seth Sharma, “Modi government planning major overhaul of country’s drug policy”, \textit{The Economic Times}, October 04, 2016, accessed October 12, 2016, http://economictimes.indiatimes.com/pharma/modi-government-planning-a-major-overhaul-of-countrys-drug-policy/articleshow/54664468.cms.}

The Indian domestic pharmaceutical industry, however, has not taken kindly to these changes in policy. In September 2016, CIPLA Chairman, Dr. Y. K. Hamied while addressing the company’s eightieth annual general meeting, outlined the history of the pharmaceutical industry’s relationship with Indian patent laws. More specifically, he lamented the changes in India’s Patents Act in 2005 which “re-introduced Product Patents and backdated these to 1995” resulting in an increase in the prices of vital
The Indian government introduced this system of patents to abide by the World Trade Organization (WTO) agreement on Trade-Related Aspects of Intellectual Property rights (TRIPS). According to Dr. Hameid, a product patent based IP regime hurt domestic pharmaceutical giants such as CIPLA. Dr. Hamied thus called for a “pragmatic in-licensing system for patented and monopoly drugs developed abroad”. The speech by the CIPLA chief displays the demands of diverse stakeholders and the balancing act that the Modi government has to achieve if it seeks to encourage innovation, seek more foreign investment and yet also protect its domestic industry.

Thus far, the Indian government has attempted to stimulate the Pharmaceutical Sector using the following initiatives:

- In 2013, the ‘Pharma Vision 2020’ initiative was unveiled, which attempted to make India a global leader in end-to-end drug manufacture.
- Currently, there are plans to set up eight laboratories for drug testing at ports across the country in order to improve the drug regulatory system and infrastructure facilities. These labs would monitor drug imports and exports, to assess their standards in a more time efficient manner.
- The Government has announced a public-private partnership model, which would allow 50 percent public funding in the pharmaceuticals sector. The goal is to ensure that India “rank[s] amongst the top five global pharmaceutical innovation hubs by 2020”.

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136 There are product patents and process patents. A process patent places IP protection on the manufacturing process, thus, leaving the product open to be manufactured through other processes. This prevents the inventor from having a monopoly on the product in question. A product patent, on the other hand, places the IP protection on the product itself, thus protecting the rights of the inventor. (Source: http://www.indianeconomy.net/splclassroom/98/what-is-the-difference-between-product-patent-and-process)
• The Department of Pharmaceuticals is launching a venture capital of 149.11 million USD to support research and development in the biotech industry.\textsuperscript{142}

These initiatives, however, only target the innovation dimension of healthcare. The Modi administration has attempted to bring in the theme of innovation into its rhetoric around most policy changes. In most major policy initiatives, what remains elusive is a concrete framework on patents and intellectual property rights. Vague intellectual property rights laws act as a roadblock for foreign direct investment by dis-incentivizing foreign companies from entering Indian markets. While the domestic private sector can help ease the public sector’s financial shortcomings, what will still be required is the level of capital that only major foreign pharmaceutical (and other healthcare) companies can provide.

**Challenges and Opportunities**

The Indian government has spent a significant portion of its public health policies attempting to make drugs and pharmaceuticals, and healthcare services cheaper. The motivation has been to protect the average Indian consumer from exorbitantly high prices, and also to protect the domestic private sector (pharmaceutical companies, biotech companies, etc.).

However, in doing so India has had to make major sacrifices in quality of healthcare. So far, the aforementioned new drugs policy has been a step in the right direction.\textsuperscript{143} There also needs to be more focus on infrastructure. There has to be an overall increase in healthcare resources, as well as the proportionate distribution of said resources across the country.

The financing for these upgrades will have to come from the private sector – both domestic and foreign. In order to attract foreign investment, the Indian IPR laws need to offer stronger protection to assure foreign companies that their products will be protected in Indian markets. Additionally, work in India’s healthcare sector has remained somewhat splintered.


Telemedicine and the use of new technological interventions is also another avenue that remains unexplored by the government as of now. Telemedicine, especially, can be used to increase accessibility. For instance, the Medicall Home Program of Mexico, a telemedicine service, has seen 90,000 calls per month utilizing this service with 2/3rd of these calls seeing their issues being resolved. Not only does this make telemedicine extremely accessible, but as 2/3rd of the callers did not have to make an actual trip to the doctor’s, it saves on money as well. Telemedicine and other technological interventions hence have potential for the government to work with the private sector, in order to meet the sometimes separate goals that emerge in separate parts of the country.

Going forward, the Indian public sector, Indian private sector, and foreign private sector will have to form sustainable partnerships if they wish to see significant growth in the Indian healthcare industry.

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