

Review Article

## Disability Prevention Initiatives in Rural India: Assessing Adequacy

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### ABSTRACT

**Background:** Primary healthcare is a central feature of all national health care systems seeking to establish equity in access to healthcare by expanding the reach of quality care at an affordable cost. Although the National Rural Health Mission launched by the Government of India in 2005, aimed to expand access to healthcare to the rural poor, it had little to offer to persons with disabilities in terms of access to health facilities. The Primary Health Care system in India remains unresponsive to both establishing an uniform and effective policy for prevention of disabilities as well as meeting the specific health requirements of disabled people, whether it be general health needs or impairment specific issues.

**Objective:** This paper attempts to explore the ways in which the primary health system in rural areas addresses prevention of disability both during pregnancy and after the birth of a newborn and in early childhood in 2 states of India, West Bengal and Odisha.

**Method:** West Bengal is at 13th position at the border of low-middle level of the Human Development Index 2007-08 and Odisha is at 22nd position with very poor status of human development. Data analysis based on secondary data compiled from Census reports 2011, District Census Handbooks and National Rural Health Mission Data allowed for drawing up a picture of availability of services that can help reduce or mitigate the incidence of disability.

**Conclusion:** The study reveals that the overall condition of the primary healthcare system in the two states has shown little improvement in terms of general health interventions that prevent disability both in ante-natal phase or post-natal care with policies lacking adequate implementation.

**Keywords:** Primary Healthcare, Persons with Disabilities, Prevention of Disabilities, Access to Healthcare, Rural Healthcare, India.

**Editor:** Solomon Mekonnen

#### Article History:

Received: April 16, 2025

Accepted: February 09, 2026

Published: March 18, 2026

**Citation:** Ronojoy Banerjee, Nandini Ghosh, Disability Prevention initiatives in Rural India, revised RB NG. DCIDJ. 2026, 37:1. doi.org/10.20372/dcidj.871

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### INTRODUCTION

Primary healthcare is a central feature of all national health care systems delivering high quality care at affordable cost. Primary health care has been defined as the provision of first contact, person-focused, ongoing care over time that meets the health-related needs of people, referring [to hospital] only those problems too uncommon to maintain competence. The World Health Organization (WHO) emphasizes the importance of de-

livering care locally, without requiring people to travel long distances. WHO strongly endorses the primary care principles enshrined in the 1978 Alma-Ata declaration, recommending equity, inter-sectoral collaboration, access to essential drugs, appropriate health technology, and comprehensive care in all countries, especially in the developing world.

Even before India achieved its independence, the Bhore Committee Report (1946) highlighted the need to assert administrative focus on establishing an elaborate, efficient, and effective system of primary healthcare that would contribute to the creation of a healthy and productive nation-state vital for the future development of the country. After independence in 1947, the Constituent Assembly debates preceding the formal adoption of the Constitution of India in 1949 included lengthy discussions on the importance of prioritizing public health and developing rural health infrastructure in the newly independent nation-state. The constitutional directive enshrined under Article 47 of the Indian Constitution and the Supreme Court of India's subsequent interpretation of the Fundamental Right to Life under Article 21 both placed access to healthcare as an important responsibility of the state. However, it was only after the launch of the National Rural Health Mission in 2005 that a concerted effort was made by the Indian state to focus on the creation of a universally accessible healthcare system, which gave special attention to expanding outreach at the rural level. The goal was to not only cater to the health needs of the rural population where the majority of the population resided but also address the disadvantageous position that the rural population held about access to affordable healthcare. Moreover, expanding outreach was also envisaged as necessary to achieve better success in running programs of immunization, disease prevention, and general awareness. India's 11th 5-year Plan (2007-12) subsequently prioritized improving access to health care and the primary health care system as part of its objective of achieving 'inclusive growth'.

The National Sample Survey Report of (NSS 2018) found that 2.2 % of the total population in India fell under the disability category, out of which 2.3% of the total rural population and 2.0% of the total urban population were identified as persons with disabilities. The National Sample Survey report is in concurrence with the last Census report 2011, where it was calculated that persons with disabilities form 2.21% of the total population, which roughly estimates to around 2.68 crore people of which 1.49 crores are male, and 1.18 crores are female. The National Policy for Empowerment of Persons with Disabilities (NPEPD 2006) lists programmes to be taken up and intensified for a) prevention of diseases, which result in disability, and b) the creation of awareness regarding measures to be taken for the prevention of disabilities during the period of pregnancy. The National Rural Health Mission's goal in making healthcare accessible and affordable is aimed at improving quality and equity of care by ensuring healthcare delivery and synergy between health and determinants of good health. Yet the National Rural Health Mission, which has been revamped and modified several times over the last few years, has little to offer to persons with disabilities in terms of access to health facilities. The Primary Health Care system in India remains unresponsive to the requirements of disabled people, whether it is general health needs or impairment-specific issues.

Systematic research into the prevalence and determinants of disability has been scanty from India, although it is an important public health issue (Kumar et al. 2012). The draft National Policy for Persons with Disabilities 2021 highlights the specific measures and programmes the state undertakes for the 'prevention' of certain types of disabilities like leprosy, polio, mental disorders, or blindness through improvement of nutritional intake of the poor, as well as running immunization programmes for preventing the same or the need to make facilities 'disabled friendly'. Health for people with disabilities is either analyzed as a separate document to be addressed by a specialized committee

recommendation or mentioned as empty statements under 'rights' that people with disabilities are entitled to. The Commission on the Social Determinants of Health (CSDH) remarked that health inequities arise due to a toxic combination of inadequate social policies, unfair economic arrangements, and bad politics, which disable the majority of the poor in developing countries from being in 'good health' (CSDH 2008, Lang et al. 2011). What makes people with disabilities vulnerable is not their disability but the lack of access, information, and support, which makes them truly vulnerable. The commission report also acknowledges that the poor, socially excluded, and marginalized section of the population would face the most difficulties in accessing quality healthcare.

Global initiatives from the 1980s, including the World Programme of Action Concerning Disabled Persons (United Nations, 1982), have stressed three things that are necessary for the state to perform with regard to disabilities, to safeguard the rights of disabled persons and ensure their wellbeing. These fall under the broad headings of prevention, rehabilitation, and equalization of opportunities. This paper, therefore, uses the data generated by different departments of the Indian state to explore the extent to which the global mandates have been fulfilled in terms of the prevention of disability and accessibility of health and medical services, which enable the prevention of disabilities during pregnancy and at childbirth.

## METHOD

This paper attempts to explore the ways in which the primary health system in rural areas addresses the prevention of disability in 2 states of India, West Bengal, and Odisha. The analysis is based on a mixed approach to the question, utilizing both secondary data on healthcare and health infrastructure made available by the government of India and respective state governments, and validating the trends shown in data with primary fieldwork undertaken in two administrative blocks in West Bengal and Odisha, respectively. The secondary health data sources mostly include data published by the Ministry of Health and Family Welfare, Government of India, Census Data 2011, and the National Health Mission reports published until 2018-19 (NHM 2019). Data up to 2019-2020 were utilized because they provide important context for the primary survey undertaken in West Bengal and Odisha in 2020-21. More recent state-generated reports on the status of the healthcare system have not yet been made public (as of 2025-26). The primary objective behind such an analysis was to study the extent to which the health services provide for the prevention of disabilities, both during pregnancy and after the birth of a newborn, and in early childhood. Data analysis based on secondary data also allows the paper to draw a picture of the availability of services that can help reduce or mitigate the incidence of disability.

The focus on West Bengal and Odisha derives justification from them being two of the worst-performing states in accordance with the Human Development Index 2017-18. According to the Human Development Index of 2017-18, West Bengal is at 27th position amongst all states and Union Territories in India, and Odisha is at 30th position with a poor status of human development.

For the primary analysis, one district from each state was selected for the collection of micro-level data, 24 Parganas (S) in West Bengal and Mayurbhanj in Odisha, and in each district, 2 blocks were randomly selected, Bishnupur I and Bishnupur II in West Bengal and Baripada and Suliapada in Odisha, where primary health care services at sub-center, PHC, and CHC levels were examined to ascertain the actual availability of services and facilities to understand availability of services within the Primary Healthcare system.

### Status of Primary Health Care System in India

The Primary Health Care System forms the first level of contact between the rural population and the healthcare system and includes the Sub Centers (SCs) at the community of village level, Primary Health Care Centers (PHCs), and Community Health Centers (CHCs) as mentioned in Health and Family Welfare Statistics (2013). The SC is the first point of interaction between the people of a particular area and the healthcare system, with a focus on preventive and basic curative care, manned by one ANM (Auxiliary Nurse Midwife), a female health worker, and a male health worker. It forms the first nodal point through which immunization programmes are conducted, pregnant women are assisted in safe delivery, general awareness on health is made available to the local people, and primary medical care is provided to the patient.

Primary Health Centre (PHC) provides integrated curative and preventive healthcare to the rural people with promotional and family welfare services and schemes. All PHCs, manned by a medical officer supported by 14 paramedical and other staff, provide outpatient services, and the majority of PHCs have four to six beds for patients. Primary Health Center (PHC) is the first referral unit for six Sub-centers. Community health centers (CHCs) are the first referral unit for PHCs and are established and maintained by the state government. While states are responsible for the functioning of the health care delivery system, the central government also has a responsibility towards the state's health care system in the form of policy making, planning, assisting, and providing adequate funds to various provincial health authorities to implement national programmes. The National Rural Health Mission, launched in 2005, had the objective of modernizing and upgrading the rural healthcare system and providing 'equitable, affordable, and quality health care to the rural population.' However, the status of our rural health care system in terms of catering to the health care requirements of most rural people, especially the poor and marginalized people who cannot afford private healthcare, is far from satisfactory.

The dismal condition of India's public health system itself has been well documented by different research studies. In India, individuals with the greatest need for health care have the greatest difficulty in accessing health services and are least likely to have their health needs met (Balaranjan et al 2011). India's healthcare system tends to be biased towards those who can afford it. Provisioning curative public healthcare is significantly biased towards urban areas than rural areas (Mahal et al. 2001). Baru et al. (2010) in their study on the inequities in access to healthcare services between states and rural-urban populations, identified social and economic status as one of the key determinants for access to quality healthcare. Especially in rural areas, the poor were worst affected in places where a functioning primary healthcare system was absent. Naveentham and Dharmalingam (2002), in an earlier study on the utilization of maternal healthcare services in the southern states of India, came to a similar inference linking poor access to healthcare with both socio-economic factors and unavailability of services and poor health infrastructure. According to Iyengar and Dholakia (2012), the absence of an accessible and functioning primary healthcare system has a significant impact on the poorest sections of society, especially those living in rural areas.

India's healthcare spending has been consistently lower than that of other developing countries, with public health expenditure forming only 1.28 % of GDP as of 2018. The Public Health Expenditure as a percentage of GDP in India from the period 2009-2010 to 2017-2018 (Table 1) reveals that average spending by the state on health has been consistently low at an average of 1.09 percent of GDP in the past decade.

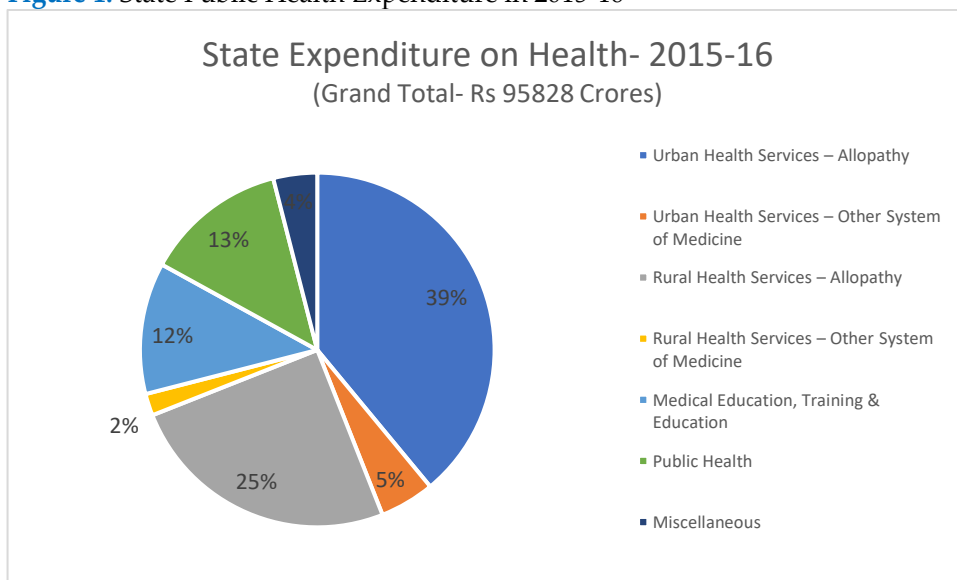
**Table 1:** Public Expenditure on Health as a Percentage of GDP

Year	Public Expenditure on Health	Population in Crores	GDP	Per Capita Exp. on Health	% Per Capita Exp. On Health
2009-10	72,536	117	6,477,827	621	1.12
2010-11	83,101	118	7,784,115	701	1.07
2011-12	96,221	120	8,736,039	802	1.1
2012-13	108,236	122	9,951,344	890	1.09
2013-14	112,270	123	11,272,764	913	1
2014-15	121,600.23	125	12,433,749	973	0.98
2015-16	140,054.55	126	13,764,037	1112	1.02
2016-17	178,875.63	128	15,253,714	1397	1.17
2017-18	213,719.58	129	16,751,688	1657	1.28

(\*Source: Ministry of Health and Family Welfare, illustrated in the National Health Profile report 2019).

Out of this, the division of spending on healthcare between urban and rural by state is dismally skewed. Fig 1 illustrates that the total public expenditure on health in urban areas by states is significantly higher despite most of India’s population living in rural areas. If we combine the urban health services, it is evident that state spending for urban healthcare is 44%, while the combined spending on rural health is only 27%.

**Figure 1:** State Public Health Expenditure in 2015-16



\*Source: Ministry of Health and Family Welfare, illustrated in the National Health Profile report 2019.

According to World Bank data of 2016, the average public expenditure of High-income countries on health is 5.61% of GDP, while the average public expenditure of Low-Income countries on health is 1.57% of GDP. India fares even lower in public expenditure on health than Lower Income Countries at only 1.17% of GDP as of 2016. Comparing with other Asian countries, despite being significantly larger in size and

more economically powerful, India is located in the bottom half of the list of Asian countries in terms of per capita public expenditure on health. India is only better off than Bangladesh, Nepal, and Myanmar in terms of per capita expenditure on health by the government. According to the Niti Aayog ranking of states and union territories in India based on their performance in 5 rounds of assessments starting from the year 2014-15 to 2019-20 in 23+ health indicators, West Bengal did not feature in the later rounds of assessment due to the non-submission of required data. Odisha remains one of the worst-performing states in the Health Index score. These indicators are divided into 3 broad domains, namely Health Outcomes (Key Outcomes and Intermediate outcomes in Health for individual states), Governance and Information (Governance of Health Institutions, Health Monitoring and Data Integrity), and Key Inputs and Processes (Health Systems and their Service Delivery).

The dismal state of India's Rural Health care system is evident from the fact that only 13 states maintain the stipulated balance set by the Ministry of Health and Family Welfare between rural government health service providers and people in the community they serve. A considerable number of states, especially larger states with more population density, have rural health care institutions that serve populations far beyond their capacity. Similarly, there has been a significant increase in the number of inactive health facilities over the last 5 years across India. Data also reveals that around 13-14 states in India have a shortfall in either of the three levels of rural health infrastructure, and may have a shortfall in more than one type of health infrastructure (NHM 2018)

#### Health Facilities at District and Block Level

An analysis of the state of health services in Mayurbhanj district in Odisha and 24 Parganas (S)district in West Bengal gives a general idea of the overall status of the health system in these two states. Bishnupur Block I and Bishnupur Block II are part of the South 24 Parganas District of West Bengal. Bishnupur Block I is overwhelmingly rural, with 93.46% of its total geographical area falling under the rural category, while only 6.54% falling under urban areas. It has 11 Gram Panchayats and 84 villages falling under the block administration. Bishnupur Block II, however, has almost 1/3rd of its total area falling under the urban category; the major portion of its total geographical area falls under rural. Bishnupur II has 11 Gram Panchayats and 52 villages under its jurisdiction. Suliapada and Baripada are two adjacent blocks in the Mayurbhanj District of Odisha. Both the blocks are overwhelmingly rural, with Suliapada having a 100% rural geographical area and Baripada having just 14.74% of its geographical area falling under the urban category. Suliapada has 15 Gram Panchayats and 193 villages under its jurisdiction, while Baripada has 11-gram panchayats and 104 villages under its jurisdiction.

Before we go into the data regarding disability in the 4 Blocks under study, it is important to have a general overview of the demographic composition of the blocks being studied. Both blocks in Odisha, i.e., Suliapada and Baripada, are significantly less populated than Bishnupur –I and Bishnupur –II in West Bengal. For Bishnupur I and II most of the population live in rural areas, though Bishnupur-II has a considerable number of people residing in the urban areas. While Bishnupur-I and Bishnupur-II have a greater population of Scheduled castles, Suliapada and Baripada have a significant Scheduled Tribe population, living in the rural areas. Most of the population of all blocks under study, both in West Bengal and Odisha are Hindu. The blocks under study in West Bengal, i.e., Bishnupur –I and Bishnupur-II, have a significant Muslim population, whereas the Muslim population in Suliapada and Baripada is negligible. The Christian population in all blocks is negligible, although Bishnupur –I has a 5.26% Christian population.

In terms of the disabled population in the study areas, Census data of 2011 (Table 2) shows that both Odisha and West Bengal, and the respective districts under study have a

sizeable population of persons with disabilities. Interestingly, it can be seen that South 24 Parganas in West Bengal has a significantly larger population of disabled people than Mayurbhanj in Odisha. In South 24 Parganas, there is a high number of people with visual impairment, followed by people with other impairments. In Mayurbhanj, there is almost an equal number of people with hearing impairment and locomotor disability, followed by visual impairment, other disability, and multiple disabilities.

**Table 2:** Distribution of disabled population in Mayurbhanj, Odisha, and South 24 Parganas, West Bengal

Name of the District	Total PWDs (count)	In Seeing	In Hearing	In Speech	In Movement	Mental Retardation	Mental Illness	Any Other	Multiple Disability
Mayurbhanj (Odisha)	68,387	18.8	21.1	4.5	21.9	5.6	4.1	13.2	10.8
Odisha	1,244,402	21.2	19.1	5.5	20.9	5.8	3.4	13.9	10.1
South 24 Parganas (West Bengal)	227,129	26.7	14.5	6	13.1	6.3	2.9	21.7	8.9
West Bengal	2,017,406	21.1	15.6	7.3	16	6.8	3.5	20	9.7

Source: Census of India 2011

According to Goerdt (1995), the occurrence of disability itself calls for prevention and rehabilitation. WHO (2010) has highlighted the need for primary, secondary, and tertiary measures for the prevention of disability. Primary prevention consists of the measures aimed at the prevention of diseases and injuries, that can cause disabilities, which include immunization, particularly against poliomyelitis, measles, rubella and tuberculosis; prenatal care to ensure the healthy development and delivery of babies; appropriate nutrition, especially iron, iodine and vitamin A, for mothers and children; and sanitary measures to prevent eye diseases, such as infections and trachoma. Secondary prevention includes interventions used to treat diseases or injuries to prevent impairments. Secondary prevention includes the multidrug treatment of leprosy; the medical treatment of infectious diseases affecting the eye, ear, spinal cord, and brain; provision of appropriate nutrients against malnutrition; and medical and other treatment for mental disorders. Tertiary prevention consists of a variety of measures aimed at eliminating or reducing impairments or disabilities, such as difficulty in seeing, hearing, or walking. When disabilities occur, measures aimed specifically at the limited function that a disabled person experiences can also be taken to reduce or to limit the progression of the disability. Addressing the functional limitations of disabled people may also reduce the handicaps confronting them in their interactions with society.

Thus, as per WHO's guidelines (WHO 2010), primary and secondary disability prevention should be addressed at community levels, through immunization programmes for pregnant mothers and children, and disability specific medication, physiotherapy, or regular checkups with doctors for children and persons with disabilities. Since an overwhelming majority of disabled people live in rural areas in India, it becomes important to have a well-staffed, well-equipped, and efficiently running rural health care system that not only caters to the healthcare needs of disabled people but can aid in both early detection and prevention of disabilities.

### Health Infrastructure and Access for Persons with Disabilities

The shortfall in health institutions, starting from the sub-center level to the level of the District Hospital, in the selected districts of Odisha and West Bengal shows that for the year 2015-16, West Bengal already had a significant shortfall across all levels of institutions compared to Odisha. South 24 Parganas also had a comparatively greater shortfall in the number of functional health institutions than Mayurbhanj. In 2019-20, the total shortfall of health institutions in Odisha rose more than three times from 11 in 2015-16 to 37 in 2019-20, while in West Bengal, the total shortfall rose from 106 to 148. In South 24 Parganas, the shortfall increased from 20 to 25, while Mayurbhanj remained constant with no shortfall. The major shortfall is at the PHC and CHC level for both states, although West Bengal exhibits a notable shortfall at the level of SCs, SDHs, and DHs as well.

However, our field data revealed that in Baripada and Suliapada blocks of Mayurbhanj, the majority of the respondents, which include both disabled people and their families as well as local people, reported that the sub-centers remained largely dysfunctional in their areas and ANM workers made rounds once a week to give medicines only to pregnant women and lactating mothers. No form of medical help was available at the sub-center level, even for people with general ailments.

The Rural Health Statistics report 2019-20, published as part of the National Health Mission, reveals much about the way in which the Rural Health system of the two states fares, both generally and with respect to each other. While both states have an adequate number of female Health workers, the shortage in male health workers at the sub-center level is concerning in both states. West Bengal has a 97.19% shortfall in male health workers, and Odisha has a shortfall of 50.22%. At the sub-center level, West Bengal has virtually no appointment of male health workers, while Odisha appoints only half of the total number of male health workers required. Looking at the percentage shortfall of female health workers in PHCs in West Bengal and Odisha in 2019-20, it is evident that in West Bengal, there are no female health workers at the PHC level, while in Odisha, the shortfall of female health workers at the PHC level lies in the tune of 34.32%. Similarly, the data for the same period in both states shows that for both West Bengal and Odisha, no appointment of Health Assistants (Male and Female) at the PHC Level was reported. This means that most women who depend on government primary health care services lack access to trained personnel who can guide them through pregnancy, delivery, and post-delivery complications.

Data published by the Ministry of Health and Family Welfare, Government of India, also shows that West Bengal has a surplus of doctors at the PHC level, while Odisha has a shortfall by 35.79%. This could be one of the factors explaining the high prevalence of Quacks and unqualified doctors in rural Odisha. For obstetricians and gynecologists, the shortfall in West Bengal (16%) is significantly less than in Odisha (68%). The presence of Obstetricians and Gynecologists is of vital importance for the healthy birth of a child, and a dearth of such doctors can lead to complications in pregnancy, which, if undetected, may result in increasing the probability of the birth of a disabled child. In the case of surgeons appointed at the CHC level for West Bengal and Odisha, we can see that both Odisha and West Bengal have a significant shortfall at 75.06% and 69.25 %, respectively. Thus, for disabled people who may require surgery to prevent secondary disability, this creates problems in terms of accessing interventions to mitigate their condition and requires additional costs for travel to urban centers and seeking private health care.

Similarly, the data also reveals that health care for children at the level of the Community Health Centers in Odisha has a significantly higher shortfall of pediatricians than in West Bengal. This means that a significant percentage of rural children are de-

prived of health care interventions that could prevent disability or lessen its impact with timely interventions.

Hence, it can be seen that the condition of the primary health care system in most of the indicators mentioned above is quite alarming in both Odisha and West Bengal. If these figures published by the national government are true, it will require serious efforts and investment by the states to lessen the wide gap in the medical personnel required and in the medical personnel in position across all the tables above.

Table 3 reveals that PHCs in both Odisha and West Bengal are below the national average in terms of operation. Only 9.8% of the PHCs in Odisha and 25.1% in West Bengal function round the clock, which makes it difficult for rural people to access healthcare in times of emergency. Also, only 49.8 % and 47.1% of the total PHCS in the two states function with an operating theatre. Furthermore, only 8% PHCs in Odisha and 28.7% PHCs in West Bengal function with at least 4 beds for inpatients.

**Table 3:** Total % of PHCs Functioning 24x7, with OT and At least 4 Beds

State/UT	% of PHCs Functioning 24x7	% of PHCs with OT	% of PHCs with at least 4 Beds
Odisha	9.8	49.8	8
West Bengal	25.1	47.1	28.7
India	34.2	72.4	66.9

Source: Ministry of Health and Family Welfare

Both states, however, fare pretty well in the functioning of CHCs. West Bengal has an average far above the national average (5.87%) in this indicator, even if the percentage is low (16.09%). In terms of % CHCs functioning with at least 30 beds, West Bengal fares better (77.59%) at par with the national average (77.68%), while Odisha has a gross deficiency with only 17.24% of the CHCs functioning with at least 30 beds.

However, in terms of physical infrastructure (Table 4), Odisha fares better than West Bengal in terms of access to regular electricity and supply, telephone connection and digital record keeping as well as physical access through motorable roads.

**Table 4:** Percentage of PHCs with Physical Infrastructure

State/UT	% PHCs without Regular Electric Supply	% PHCs without Water Supply	% PHCs Without Motorable Road	% PHCs with Telephone	% PHCs with Computer
Odisha	1.9	2.9	0.3	100	64.2
West Bengal	4.4	4.8	14.2	9.9	10.1
India (Average)	4.3	6.9	7.8	51.7	65

Source: Ministry of Health and Family Welfare

In both states, primary data collected at the block levels reveal that there are very few disability specific facilities available at the SC, PHC, or even at the CHC level, which would help persons with disabilities with their health and medical needs. No type of disability specific medication was available with the SC/PHC/CHCs in both states. Disability-specific doctors, such as neurologists, psychiatrists, ENT specialists, and physiotherapists, were not available in any of the PHCs or CHCs from which data were collected in South 24 Parganas or Mayurbhanj district. Although the CHCs in the Bishnupur blocks had appointed eye specialists, they visit only once a week to see patients. The nearest facilities where people with disabilities could access disability-specific public healthcare services, such as medication or checkups, were usually sub-district or district hospitals, which were often far away, thereby discouraging them from accessing these services.

#### *Prevention of Disabilities: Immunization and Healthcare*

The birth of a child with a disability can be the result of many factors. Deformities or complications may result from genetic predisposition, emotional and mental status of the pregnant woman, as well as nutritional and health support available to the pregnant woman. Both the central and the state governments, over the years, have made serious efforts to conduct immunization drives for children to reduce the risk of disability causing diseases, provide basic antenatal care to pregnant women, and spread awareness amongst the rural population to reduce the risk of disability. Hence, one of the key objectives of the National Health Mission is to try to ensure a healthy population of citizens who, by availing the benefits of the affordable health care system, can live a healthy and productive life. The data on immunization from 2015-16 over a five-year period till 2019-20 of both pregnant women and children in both the states and the districts under focus, reveals the extent of coverage and hence the risk of disability.

Table 5 reveals that in terms of ANC checkups during the time of pregnancy, both the states and the respective districts and blocks fared well. However, in comparison to 2015-16, there is a slight decline in the figures for Odisha and West Bengal, with a sharper decline in Mayurbhanj district, especially in Suliapada.

**Table 5:** % Pregnant Women received All ANC checkups to Total ANC Registrations

Percentage Of Woman Who Received All ANC Checkups To Total ANC Registrations				
Year	State/District	Percentage	State/District	Percentage
2015-16	Odisha (S)	87	West Bengal (State)	87.6
	Mayurbhanj (D)	88.7	South 24 Parganas (D)	82.4
	Baripada (D)	85.7	Bishnupur I (D)	77.4
	Suliapada (D)	91.2	Bishnupur II (D)	88.2
2019-20	Odisha (S)	81.4	West Bengal (S)	84.5
	Mayurbhanj (D)	79.7	South 24 Parganas (D)	87
	Baripada (D)	79.5	Bishnupur I (D)	82.6
	Suliapada (D)	78.8	Bishnupur II (D)	81.4

Source: Ministry of Health and Family Welfare

From the years 2015-16 to 2019-20, there was an improvement in the number of women who received Tetanus Toxoid Vaccine during pregnancy, both at the state level and District and Block level, barring Suliapada, where there seems to be a 7.9% decline.

According to the WHO, a daily dose of iron and folic supplementation is recommended for pregnant women to prevent maternal anemia, puerperal sepsis, low birth weight, and preterm birth, to prevent birth complications, and reduce the risk of giving birth to a child with disability. The data also shows that West Bengal had a higher percentage of women receiving the full dose of IFA tablets in comparison to Odisha. However, the data for 2019-20 shows that the percentage of pregnant women receive full dose of IFA tablets improved for Odisha in 2019-20, while it declined for West Bengal. Yet, in the districts under study, there was a significant improvement in South 24 Parganas and a slight decline in Mayurbhanj.

Pregnant women having severe anemia are at a risk of getting birth complications, which include result in low weight babies, deformities in the fetus, or premature birth. Women having severe anemia should have higher doses of IFA supplements, a proper diet, and regular checkups and monitoring to reduce the risk of complications during pregnancy. From the year 2015-16 to 2019-20, the number of women with severe anemia treated at a healthcare center increased in both Odisha and West Bengal, although the rise in West Bengal is pretty steep. The rise in severe anemic patients in South 24 Parganas was also pretty steep, though there were no cases of severe anemia in the chosen districts of Mayurbhanj and South 24 Parganas.

The number of women with obstetric complications decreased overall in the five years (2015-16 to 2019-20) in Odisha and West Bengal. However, a more detailed study reveals that while in Mayurbhanj it decreased from 14.4 to 7%, the number of obstetric complications increased in South 24 Parganas from 8.5% to 13.9%. At the block level, only Suliapada in Odisha showed a significant increase in women with obstetric complications from 2.1 % to 12.9%.

Low-birth-weight babies run the highest risk of developing some form of disability. Low Birth weight babies can develop serious respiratory, neural, and heart complications, which may result in Cerebral Palsy, Blindness, Deafness, or stunted growth eventually. Data shows that 19.1% of newborns in Odisha and 16.6% of newborns in West Bengal in 2015-16 were born as Low-Birth-weight babies. This changed to 18.7% in Odisha and 22% in West Bengal in 2019-2020. Mayurbhanj had a significantly higher percentage of Low-birth-weight babies compared to South 24 Parganas, and both Baripada and Suliapada have a sufficiently high percentage of low-birth-weight babies compared to Bishnupur I and II, where the percentage of low-birth-weight babies oscillated between high and low over the 5-year period.

Both Odisha and West Bengal and the target districts and blocks, have a good percentage of newborns who received the OPV Birth dose and the BCG Vaccine. However, for the OPV0 dose, which should be administered to all newborns, both states show a 12–15% gap in the number of infants receiving the polio birth dose. Although this percentage increased in both states in 2019-20, in South 24 Parganas, the gap in the birth dose numbers was at 13%, and at the Baripada Block level, at 17%, thereby increasing the risk of these infants contracting Polio. The numbers given for the BCG (tuberculosis prevention) vaccine is however, satisfactory in both states. Regarding Hepatitis Birth Dose, Odisha reports a slight decline in its administering of the vaccine, while West Bengal has shown a slight improvement.

Most of the vaccination records under the National Health Mission Programme indicate a significant gap between the number of vaccines that should be administered and the number that reach children. Some of these vaccines administered in Odisha and West Bengal in the last 5 years are:

- a. In the case of BCG Vaccines, there is a gap of almost 40% in Odisha and 30% in West Bengal in terms of administering BCG Vaccines.
- b. For the DPT3 vaccine, the gaps are similar, though there has been a significant rise in the number of Vaccines administered in West Bengal from 8.8 to 71% over the 5 years. For DPT5, there was a noticeable shortfall in the number of vaccines successfully administered over the five years in Odisha, while in West Bengal, there was a marginal rise.
- c. The number of Polio Vaccines successfully administered marginally declined in Odisha from 63.7% to 61.9% and marginally increased from 70% to 71% in West Bengal.
- d. In the case of Tetanus Toxoid administered to children below 10 years of age and children under 16 years of age, West Bengal shows very dismal figures compared to Odisha. While 90% of the children below 10 years and 76.5% of the children below 16 years obtained the tetanus toxoid vaccine in Odisha in 2019-20, the figure for West Bengal was a mere 35% and 21.9%, respectively, for West Bengal for the same year. This shows a lack of awareness amongst the older children and their parents in Bengal regarding the importance of the tetanus vaccine.
- e. The total number of women who received antenatal care and opted for institutional deliveries is also low in both states.

## CONCLUSION

From the national level health data, it is evident that the rural population is underserved by the existing health care system, with larger states with more population density having rural health care institutions that serve populations far beyond their capacity. The data clearly indicates that health infrastructure in both West Bengal and Odisha has improved, along with an increase in the number of users of these services. The data has also revealed that over the last 5 years across India, there has been a significant increase in the number of inactive facilities across all states, more significantly in rural areas. In the states under study, i.e., West Bengal and Odisha, and in the specific districts, South 24 Parganas had a comparatively more shortfall in the number of functional health institutions than Mayurbhanj. From the data of 2019-20, the total shortfall of health institutions in Odisha rose more than three times from 11 in 2015-16 to 37 in 2019-20, while in West Bengal, the total shortfall increased from 106 to 148. Thus, the condition of the primary health care system in most of the indicators mentioned above is quite alarming in both Odisha and West Bengal.

General health interventions that can prevent disability, both at the level of the pregnant mother and the newborn child, have been made robust but are lacking in terms of implementation and access. In terms of the prevention of disability, an examination of the data on vaccination also revealed the decreasing reach to pregnant women in terms of initiatives that can help reduce the risk of disability in the unborn child. For children, too, the immunization programmes have performed poorly in both the states under consideration. Thus, both states are seriously lagging in their efforts to increase the percentage of children successfully received the vaccines vital for the good health of children. The gap in immunization suggests that there is a risk of other disabilities coming up. Both states need to acknowledge the risks that unimmunized children face of contracting deadly diseases and step up their efforts to spread awareness and immunize all children, especially in rural areas. The shortfall in the services required and their consequent accomplishment brings to light the necessity to strengthen the rural healthcare system, both for the use of the general rural public and, more importantly, for people with disabilities.

A study of 2 CHCs and 2 PHCs in Odisha and 2 CHCs in West Bengal revealed that there was a lack of uniformity in the data maintained in the two states and even within two CHCs within the same district. Neither of the states maintains any separate record on the number of disabled people who seek treatment at their facility, the number of people who were referred to higher institutions with suspected disability, or the procedures the institution follows for early detection of disabilities. Access to healthcare institutions for disability-specific services is influenced by several factors, including awareness of available services, availability of resources and facilities, and the family's circumstances. Lack of early screening and appropriate interventions means that children born prematurely or with anemia find little support at the community-level health centers. In-depth interviews with disabled people and their families in both states revealed the dearth of services for disability screening and interventions within communities. Poor access to government hospitals meant that no one sought proper medical support, and it all ended up with some form of disability. Only those with connections in urban centers make it to the government hospitals at the district level or to private hospitals. While the local government health institutions are the first line of approach, the government health facilities are inadequate in terms of provision for early identification and immediate interventions required by disabled people, both in Bengal and Odisha. The lack of adequate health care facilities at the community level has led to a wide prevalence of Quack Doctors and traditional healers who fill this void in health care facilities within the villages by offering diagnosis at the doorstep or in the vicinity of the patients. The majority of the persons with disabilities preferred to seek treatment from such doctors and healers, as they were close, cheap, and provided medicines at the doorstep.

There is a need for the states to acknowledge the risks that unimmunized children face of contracting deadly, disability causing diseases and step up their efforts to spread awareness and immunize all children, especially in rural areas. There must also be concerted efforts to enhance the reach of immunization programmes at health institutions as well by raising awareness amongst rural people to reduce the risk of disabilities. Overall, the need for a primary health care system that has both disability friendly infrastructure and disability specific medicine and treatment is of paramount importance and should be adequately addressed by all states and the union. Only then can people with disabilities live a better, healthier, and more dignified life.

#### Data Availability

Most of the secondary data used in this paper is available online at: <https://www.data.gov.in/keywords/NRHM>, which is a government-maintained website publishing Health Data. Apart from this, the Ministry of Health and Family Welfare Data in its raw form, is available on [Indiastat.com](http://indiastat.com), which is a legitimate data source compiling government data. Census reports can be accessed directly from the census website maintained by the Government of India.

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