

Impact of Public Health Policies on Rural Healthcare Accessibility in Telangana

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Introduction

In India, public health policies have been instrumental in enhancing population health outcomes and increasing access to healthcare services, especially for marginalized and vulnerable populations. Maternal and newborn mortality rates have decreased, primary healthcare infrastructure has been strengthened, and vaccine coverage has grown thanks to initiatives like the National Health Mission, Ayushman Bharat, and several disease-specific programs. Financial protection programs have improved access to secondary and tertiary care for economically disadvantaged populations and reduced out-of-pocket medical costs. In order to better control communicable diseases and detect non-communicable diseases early, public health policies have also placed a strong emphasis on preventive and promotive care through nutrition programs, sanitation drives, and health awareness initiatives. But there are still issues, such as implementation gaps, inconsistent care quality, workforce shortages, and geographical discrepancies. India's public health policies have generally had a good effect, but in order to attain comprehensive and inclusive health results, consistent investment, efficient governance, and equitable implementation are crucial.

Access to rural healthcare is still a major problem in India's public health system, and Telangana, a relatively new state that was established in 2014, reflects many of these national issues. Significant differences in healthcare access, quality, and utilization still exist between urban and rural areas, despite substantial advancements in economic and infrastructure development. The majority of Telangana's population—between 60 and 65 percent—lives in rural and semi-rural areas, where access to basic healthcare services is frequently hampered by poor infrastructure, a lack of qualified medical professionals, budgetary constraints, and low health awareness. These difficulties emphasize how crucial it is to have efficient public health policies that are adapted to the unique requirements of rural communities.

Public health programs are fundamental to addressing health disparities and improving overall health outcomes in rural India, where nearly 68.8% of the country's population resides. Rural populations experience a disproportionate burden of both communicable and non-communicable diseases, compounded by socio-economic vulnerabilities and limited access to quality health services. The importance of public health initiatives in these areas cannot be overstated, as they form the backbone for disease prevention, health promotion, and equitable healthcare delivery. Government-led programs such as the National Rural Health Mission (NRHM), launched in 2005, and more recent initiatives like Ayushman Bharat, have been designed to strengthen rural healthcare infrastructure and ensure universal health coverage, targeting improvement in maternal and child health, immunization, sanitation, and communicable disease control.

Importance of Public Health Programs in Rural India

Through community-based preventive, promotional, and curative services, public health initiatives seek to proactively address these issues. As a bridge between communities and the

healthcare system, the ASHA (Accredited Social Health Activist) worker model, which was established by programs like NRHM, has been essential to rural health outreach. These workers provide culturally adapted and locally relevant vaccines, maternity care, nutrition counseling, and awareness campaigns. The Ayushman Bharat initiative aims to improve the spectrum of necessary care in rural areas by integrating primary, intermediate, and tertiary care through Health and Wellness Centers (HWCs). Many international organizations and non-governmental organizations collaborate on rural health projects that address infectious illnesses, nutrition, sanitation, and health education in addition to government activities. By focusing on early detection and management in rural communities, these programs help lessen the burden on urban tertiary care facilities. Therefore, the viability of the national health system as a whole as well as local health equity depend on the successful implementation of programs in rural areas. Telangana's public health policies have been developed to address these disparities by combining state-specific initiatives with national programs. At the national level, initiatives like Ayushman Bharat and the National Health Mission have worked to improve rural health infrastructure, increase preventive and promotional care, and improve referral networks in an effort to fortify primary healthcare systems. Rural communities now have better physical access to healthcare services thanks to the creation and modernization of Sub-Centers, Primary Health Centers, and Community Health Centers. Additionally, the range of services has expanded to include basic diagnostic services, mental health care, and screening for non-communicable diseases due to the conversion of some facilities into Health and Wellness Centers.

Telangana has implemented specific policies at the state level with the goal of lowering financial obstacles and enhancing service provision. By offering cashless treatment for serious illnesses, programs like Aarogyasri have significantly improved access to secondary and tertiary healthcare for rural communities that are economically challenged. By emphasizing early intervention and preventative treatment, nutritional and maternal health initiatives have also addressed important public health issues. Furthermore, by allowing rural residents to visit professionals without having to travel great distances, the state's growing reliance on digital health solutions, such as telemedicine platforms, has helped overcome geographical constraints. However, different geographical areas and demographic groups have different levels of success with these programs. The availability and quality of services are restricted by ongoing labor shortages, particularly among physicians and specialists in rural health facilities. Healthcare-seeking behavior is still influenced by socioeconomic variables like poverty, transportation costs, and limited health literacy, which frequently result in inadequate or delayed treatment. The total effect of public health measures is also impacted by difficulties with monitoring, coordinating, and implementing policies.

Public Health Policies Affecting Accessibility: National-Level Implementation in Telangana

At the national level, prominent programs like Ayushman Bharat-Health and Wellness Centers (HWCs) and the National Health Mission (NHM) greatly influence public health accessible in Telangana. By improving infrastructure, service delivery, and preventative care mechanisms, these initiatives aim to improve rural primary healthcare systems and lessen gaps in access to necessary medical care.

By concentrating on enhancing rural medical facilities and human resources, the National Health Mission (NHM) plays a key role in increasing healthcare accessible. NHM supports the implementation of important public health initiatives, the hiring and training of healthcare

professionals, and the modernization of medical facilities through targeted budgetary allocations. Maternal and child health services, immunization campaigns, nutrition programs, and disease surveillance systems are some of its activities. When taken as a whole, these initiatives seek to enhance health outcomes and service accessibility in underprivileged rural communities.

In the background of NHM, Ayushman Bharat's Health and Wellness Centers (HWCs) aim to convert current Primary Health Centers (PHCs) and Sub-Centers (SCs) into all-inclusive primary care hubs. HWCs provide preventive, promotional, and rehabilitative services in addition to curative care. Non-communicable disease (NCD) screening and management, basic dental and eye care, mental health services, telemedicine assistance, and improved referral connections with higher-level facilities are essential elements.

A expanding network of HWCs has emerged in Telangana as a result of the implementation of these national frameworks, bringing primary healthcare services and vital diagnostics closer to rural populations. This expansion has decreased the need for long-distance travel for basic treatment and enhanced early disease identification. However, ongoing issues such as a lack of qualified staff, erratic drug and diagnostic supplies, and little community outreach restrict the efficacy of these programs. To effectively achieve the accessibility objectives of national public health policy, these gaps must be filled.

State-Level Schemes and Initiatives

Aarogyasri Health Insurance Scheme: A state program that offers financially vulnerable groups, especially rural households, cashless secondary and tertiary healthcare coverage. With an increased coverage cap of ₹10 lakh per family, coverage has grown dramatically in recent years to include nearly 3 crore individuals. By lowering the cost of critical medical procedures that rural patients would not otherwise be able to afford, this program improves accessibility.

Aarogya Lakshmi Scheme: At Anganwadi centers, a nutritional assistance program offers daily meals and specialized nutrition to young children and pregnant and lactating women. By supporting mother and child health, which is a key factor influencing rural healthcare outcomes, this tackles the socioeconomic determinants of health.

Preventive & NCD Focused Policies: The Telangana government has established cancer daycare centers and rural NCD clinics to address the growing prevalence of lifestyle-related illnesses, with a focus on early detection and prevention in rural areas.

Telemedicine and Digital Health Initiatives (Sanjeevani Portal): Rural patients can now virtually consult doctors thanks to the quick growth of telemedicine services, which eliminates the need to go to urban referral centers. Monthly consumption is still increasing, and over 2.23 crore people have benefited.

Assessment of Policy Impact

Increased Facility Reach and Service Availability

Primary Health Centers (PHCs), Sub-Centers (SCs), and Community Health Centers (CHCs) have been established and strengthened throughout rural Telangana, greatly improving physical access to essential healthcare services. Rural residents may now access primary and secondary care in a timely manner because of decreased travel times and wait periods brought about by increased facility density. By enabling remote consultations, diagnostics, and expert referrals in previously underserved blocks and districts, the growth of telemedicine services has further broken down geographical barriers. This has been especially helpful for follow-up care and the management of chronic illnesses, when frequent access to doctors is crucial.

Furthermore, the expansion of the Aarogyasri health insurance program has been instrumental in making healthcare more affordable. Aarogyasri has helped rural households avoid catastrophic out-of-pocket expenses by providing coverage for expensive tertiary treatments, including as surgeries and specialist procedures. This financial protection has strengthened equity in healthcare utilization and improved overall health outcomes in rural Telangana by giving rural patients access to previously pricey advanced medical treatment.

Workforce Issues and Human Resource Gaps

Shortages of employees continue to be a major obstacle despite greater facility coverage. According to reports, there are up to 50% of authorized positions for doctors and specialists in several rural health centers.

Key positions including medical officers, specialists (surgeons, gynecologists, pediatricians), and anesthetists are most severely short-staffed. These shortcomings reduce the institutions' potential efficacy, restricting their ability to provide services and make referrals, and frequently requiring rural patients to go to metropolitan or district hospitals.

Socio-Economic Barriers Factors

Telangana's rural healthcare accessibility is significantly influenced by socioeconomic considerations. Due to their reliance on agriculture and informal labor, a sizable section of the rural population has erratic incomes that make it difficult for them to pay for private healthcare services. Dependency on government-funded programs and public health facilities is increased by poverty and low household savings. Preventive care, timely health-seeking behavior, and understanding of relevant health programs are all impacted by educational gaps, especially inadequate health literacy in rural and marginalized populations. Access is also impacted by social stratification based on gender and caste, with women, Scheduled Castes, and Scheduled Tribes frequently encountering additional obstacles to care. Healthcare continuity is disrupted by migration for seasonal work, particularly when it comes to managing chronic illnesses and maternity care. Additionally, poor transportation infrastructure in isolated areas makes travel more expensive and time-consuming, which deters people from using medical services. In order to guarantee inclusive, egalitarian, and efficient rural healthcare accessible, Telangana's public health policies must incorporate socioeconomic realities.

Technology and Accessibility

The expansion of telemedicine reveals how technology can enhance rural accessibility. Through online consultations, villagers can access specialties otherwise unavailable locally, minimizing travel and delays.

However, digital divides — including unreliable internet connectivity, lack of digital literacy, and equipment shortages — constrain telemedicine's inclusivity, especially in remote tribal areas.

Public Health Outcomes and Disease Burden

Telangana faces a dual disease burden: persistent communicable diseases in rural pockets co-existing with rising non-communicable diseases (NCDs) like hypertension, diabetes, and heart disease.

Public policies focusing on prevention and early detection (e.g., rural cancer clinics, NCD monitoring) aim to curb this trend, but long-term behavioural change and widespread program adoption remain challenges. Integration of community health workers and awareness campaigns is vital for policy impact.

Governance and Accountability Issues

Effective execution of policies also depends on transparent governance, accountability in fund utilization, and robust monitoring frameworks. Gaps in these areas can result in underperformance or uneven distribution of healthcare benefits across districts.

Innovations, Partnerships, and Future Directions

Public-Private and Academic Partnerships

Collaborations with private hospitals, NGOs, and academic institutions are emerging as important avenues to enhance rural healthcare delivery. These partnerships can augment training, infrastructure support, and community outreach, addressing gaps that government systems alone cannot fill.

Enhanced Digital Health Tools

The number of patients accessing medical services through telemedicine in the state has seen a significant rise. From minor ailments to specialised treatments, patients are increasingly consulting doctors online. Over the past three years (up to March this year), 2.23 crore people, including those in remote areas, have benefited from telemedicine services provided by the state govt under the National Health Scheme.

Most teleconsultations are related to gynecology, pediatrics, and dietetics. For patients in remote regions, these services eliminate the need to travel to major hospitals in Hyderabad, offering timely care closer to home. Even in tribal areas, telemedicine is gaining traction, ensuring healthcare reaches the most underserved communities.

Community Engagement and Preventive Health

Health literacy may be increased, preventative health behaviors can be improved, and primary care reach can be expanded by empowering local health workers, including culturally relevant health education, and organizing community leaders.

The National Health Mission (NHM) and Ayushman Bharat-Health and Wellness Centers (HWCs), two public health initiatives targeted at enhancing rural healthcare accessibility in Telangana, have improved primary healthcare infrastructure and increased service coverage. Access to basic diagnostics, non-communicable disease screening, and preventive treatment has improved in rural regions since HWCs were established. However, due to a lack of community involvement, unreliable medication delivery, and a paucity of healthcare workers, policy outcomes are still uneven. Although geographical barriers to care have been lessened by these programs, equitable and dependable healthcare access for rural communities requires efficient implementation, ongoing funding, and more robust monitoring systems.

Impact on Public health policies in Telangana

Through reducing financial, service-related, and physical barriers, Telangana's public health initiatives have significantly improved rural healthcare accessible. The rural healthcare delivery system has been reinforced by programs like the National Health Mission (NHM), Ayushman Bharat-Health and Wellness Centers (HWCs), and the state-sponsored Aarogyasri plan. Rural communities now have easier access to vital healthcare services thanks to the growth and modernization of Primary Health Centers (PHCs), Sub-Centers (SCs), and Community Health Centers (CHCs).

By combining preventative, promotional, and curative treatments, the conversion of PHCs and SCs into Health and Wellness Centers has expanded the scope of primary care. Immunization programs, basic diagnostics, maternity and child health care, and routine screening for non-communicable diseases have all increased early detection and decreased the

burden of disease in rural areas. By assuring continuity of care for chronic illnesses, reducing travel time and expenses, and linking isolated areas with specialists, telemedicine projects have further improved accessibility.

Financial accessibility has improved markedly through the expansion of Aarogyasri, which provides cashless treatment for high-cost tertiary care procedures. This has significantly reduced catastrophic out-of-pocket expenditure for rural households and increased utilization of advanced medical services that were previously unaffordable. As a result, equity in healthcare access has improved, particularly for economically vulnerable populations.

However, enduring issues such as a lack of healthcare workers, unequal service quality, erratic medication supply, and low community knowledge restrict the overall impact of these measures. Despite these limitations, Telangana's public health policies have improved rural health outcomes, service utilization, and health-seeking behavior. Maintaining and increasing the beneficial effects of these policies on rural healthcare accessibility will require strengthening implementation, worker capability, and community involvement.

Conclusion

Public health programs have had a significant, albeit inconsistent, impact on rural healthcare accessible in Telangana. The rural health ecosystem has been enhanced by important initiatives like the extension of the Aarogyasri health insurance program, state-sponsored nutritional programs, digital health interventions, and non-communicable disease (NCD) preventive strategies. While dietary programs aimed at mothers, children, and vulnerable groups have addressed the root causes of poor health, Aarogyasri has improved financial access to tertiary treatment by lowering catastrophic out-of-pocket cost.

By providing rural villages with access to expert consultations and continuity of care, digital health initiatives like telemedicine and electronic health records have assisted in overcoming geographical constraints. In a same vein, Health and Wellness Centers' NCD prevention and screening programs have improved the early identification and treatment of chronic illnesses like diabetes and hypertension, which are becoming more common in rural Telangana. In rural communities, these strategies have improved health-seeking behavior, increased service utilization, and raised health awareness.

Notwithstanding these improvements, a number of obstacles still prevent policy goals from being fully realized. Service availability and quality are compromised by ongoing shortages of qualified healthcare workers, especially physicians and specialists in rural locations. Access to healthcare services is further hampered by socioeconomic obstacles such as poverty, inadequate health literacy, gender inequity, and caste-based disadvantages. The reach and efficacy of health services are also impacted by infrastructure deficiencies, such as poor transportation, erratic power supplies, and restricted digital access. The effectiveness of policy delivery is further diminished by deficiencies in interdepartmental coordination, monitoring, and implementation. Telangana must give top priority to improving community involvement, guaranteeing fair service distribution, and bolstering human resources for health in order to effectively realize the goals of public health programs. It will be crucial to combine digital health solutions with community engagement and customize interventions to meet local needs. Reducing urban-rural gaps and attaining long-term health equity in Telangana require a persistent and context-sensitive commitment to rural health development.

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