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What makes primary healthcare facilities functional, and increases the utilization? Learnings from 12 case studies

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ABSTRACT

Background: The last few decades have witnessed a number of innovative approaches and interventions to deliver primary healthcare (PHC) services in different parts of India. The lessons from these initiatives can be useful as India aims to strengthen the PHC system through Health and Wellness Centres (HWCs) component under Ayushman Bharat Program, launched in early 2018. **Materials and Methods:** Comparative case study method was adopted to systematically document a few identified initiatives/ models delivering the PHC services in India. Desk review was followed by field visits and key informant interviews. Twelve PHC case studies from 14 Indian states, with a focus on equity and 'potentially replicable designs' were included from the government as well as the 'not-for-profit' sector. The case studies comprised of initiatives/ models having the provision of PHC services, whether exclusively or as part of broader hospital services. The data was collected from May 2016 to March 2017. **Results:** The 'political will' for government facilities and 'leadership and motivation' for 'not-for-profit' facilities adjudged to contribute towards improved financing. A comprehensive package of services, functional, continuity of care, access levels, efforts to meet one or more type of quality standards and limited 'referral to availability' gap (or assured provision of promised services) were considered to be associated with increased utilization. A total of 10 lessons and learnings derived from the analysis of these case studies have been summarized. **Conclusions:** The case studies in this article highlight the enablers which makes PHC facilities functional and have potential for increased utilization. The article underlines the need for institutional mechanisms for health system research and innovation hubs at both national and state level in India, for the rapid scale of comprehensive primary healthcare. Lessons can be applied to other low- and middle-income countries intending to deliver comprehensive PHC services to advance towards universal health coverage.

Keywords: Ayushman Bharat Program, case studies, India, primary healthcare, universal health coverage, urban health

Introduction

Primary healthcare (PHC) is considered the foundation of any well-functioning healthcare system. The need for stronger PHC

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was first highlighted during the Alma-Ata Conference in 1978¹ and then reinforced once again through the Astana Declaration of 2018.² As the global public health community aims to achieve universal health coverage (UHC),³ and achieve health-related sustainable development goal 3 (SDG-3),⁴ effective PHC systems are being considered as integral part of the process. Many low- and middle-income countries (LMICs), such as Thailand and Brazil, prioritized and strengthened PHC systems, years before starting to other strategies to achieve UHC.^{5,6} The Government

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of India started expanding the network of the PHC system in a rural area, soon after Alma Ata conference in 1978. Nearly 40 years have been, there is an extensive network of nearly 200,000 government primary healthcare facilities (GFHCF) in both rural and urban parts of the country. Yet, this vast network of GFHCFs delivers around 3.5% and 11% of total out-patient services in urban and rural India, respectively, excluding the services for mothers and children.¹⁷ The health services for emerging challenges such as non-communicable diseases are often not available. Recognizing the challenges of underfunded facilities and limited provision of health services, Indian government set up a task force on PHC in 2012.¹⁸ The task force recommended, inter alia, to study the models or newer initiatives to deliver PHC services in the country. Therefore, this study was conducted to document the common characteristics of initiatives and models of PHC in India, which have been aiming to reach the poor and marginalized. The second objective was to derive lessons on what makes PHCs functional and result in the increased utilization. It was done with expectations that the findings may help in designing and developing new approaches to deliver comprehensive PHC services in Indian states.

Materials and Methods

The study included the models/initiatives which had focus on reducing inequities and increasing access to health services by the marginalized and underserved from the public, private, and non-for-profit sectors. There was an explicit intention to include those initiatives which aimed at reaching the poor and focused on low-cost yet quality PHC services. The case studies were also chosen to ensure geographical representativeness as well as initiatives known for innovations in PHC service delivery.

The initial list of models/initiatives was developed following a series of discussions with the health policymakers, national program managers, and subject experts. For data collection, a mixed-method approach of desk review, field and/or facility visits, in-depth interviews, and group discussions were adopted. The data was collected on a pre-tested structured interview schedule. Considering the nature in these models and type of data available, “comparative case studies” approach was adopted for documentation and analysis.¹⁹ The initial desk review, field visits, and primary data collection were completed from May 2016 and March 2017. The preliminary findings were presented in a consultative workshop in May 2017, which was attended by study investigators, program officials, subject experts, and senior health policymakers. The input received was used for further refinement in analysis and interpretations. Through 13 such initiatives were studied in detail,²⁰ this paper is based on 12 of those case studies. These case studies were included at the stage of writing this paper, for the non-comparative and the variable quality of information. The 12 case-studies included were from 14 states of India, which represent nearly 73% of the Indian population. The number of states was higher than the number of case studies, as a few initiatives were based upon facilities from more than one state. The terms ‘initiatives’ and ‘models’

have been used interchangeably in this article, as often referred by health officials and program managers in Indian states while referring to the case studies detailed.

Results

A majority of the case studies included in this article were exclusively focused on delivering the PHC services, a few were secondary level facilities delivering PHC services and two were tertiary care facilities, delivering a large volume of primary care services (Table 1).²¹ It was noted that these case studies had a few common characteristics (Box 1), and possible learnings for India and other LMICs, which are summarized below:

1. Provision of a ‘broader’ packages of services²² in the first step towards increased utilization of health facilities and services. The case studies which had relatively higher utilization provided broader package of health services beyond maternal and child health (MCH), like a the case with a majority of PHC facilities in India. The facilities with services that cater to the health needs of the entire family and all age groups had higher utilization than those mostly focused on specific target populations. All “wood-for-grain” initiatives included in these case studies had a broader range of packages and higher than average utilization. In contrast, the public-private partnership (PPP) models and most GFHCFs provided selective care. The facilities which were less utilized in their respective states, there was a considerable burden of healthcare needs without appropriate services, and this was perceived as poor quality and had low credibility and utilization.
2. Assured provision of services offered and/or “intention-provision assurance” increased utilization. Facilities with assured availability of services and providers had higher utilization and assured patient attendance. This can be called “assurance-provision assurance” at the facility level. In other words, if the intended health services was being provided, it resulted in the increased utilization. It was noted that the popularity and higher use of secondary and tertiary care facilities for PHC services were partially due to a broader range of services and some assurance on the availability of those services.
3. Well-performing facilities were, almost always, better harmonized with a secondary level of services and focused on “continuity of care.” A functioning referral system for ensuring continuity of care was reported as a key factor for increased utilization. In one case study, the formulation of a treatment plan for chronic diseases was done in consultation with the providers at two levels (primary and secondary) and was followed by the clinic laid down procedures and standard treatment protocols, to ensure that need for specialist consultation was met seamlessly. Another model used telemedicine efficiently to ensure “continuity of care.” Even with the adequate provision of PHC services, involvement support

Table 1. Key features of case studies included^{PHI}

Name and location	Start year and type of ownership	Approx. population size and population being served	Level of services and provision	Key features of financing	Key findings
1. Jan Swasthya Seva, Haryana, Chandigarh	1999, Private, Not for Profit	45,000 covered in 10-year health and wellness centres	Comprehensive primary healthcare services with provision of preventive services	Supported by a mix of donors, grants and affordable "for fee services"	Locally initiated, rooted in health human resources; Multiple approaches to the financing of care; Addressed local commitment of health through efficient community engagement
2. The Health Spring, Tamil Nadu, Sivakasi	2011, Private, Commercial	34 Clinics, about 27,000 members, 500 members in all	Comprehensive PHC services; enough to meet all requirements	A business model based upon an annual fee paid by members, stocking of over 10,000 products of over 10,000 and recreational items sold	PHC services are the core of the middle income population; High quality PHC services are provided; the middle income population has more choice and willingness to pay; Important to long PHC services, comprehensive and meeting diagnostic and referral support
3. Suba Seva, Karnataka, Channarayana (Unaffiliated)	2014, Private, Commercial	11 community health centres, operating in rural in about 1 million population	Private clinic, two-week primary and secondary level, offering primary health services in the form of primary	Government contract in a joint venture and commercial government CHC provision	PHC has a central strategy of meeting human resources, as in the joint venture; There is the shared support of government to ensure delivery and management with support to recruit government-trained personnel; Government support can bring multi-sectoral value addition in other areas of PHC services
4. Orissa Footpath, Orissa, Cuttack, Odisha, India	2008, Private, Not for Profit	Total health of Odisha; family approach; population of 60,000	Only primary and secondary care services; not of our primary to primary	A Corporate Social Responsibility (CSR) driven primary health care provision	Financing and retaining health workforce requires a strategy
5. Janani Seva, Andhra Pradesh, Guntur, Andhra Pradesh, India	1976, Hospital, Trust, owned in 2014, Private, Not for Profit	1.1 million people through 40 health centres	Primary care, emergency, secondary and tertiary care; primary and secondary and tertiary	For fee services with a strong element of non-subsidy or cross-subsidy to primary population	Major investments using technology for community of care; Population-based care for a wide range of conditions; Increased PHC strategies
6. Dr. Anjan Kumar, Karnataka, Mysore, Karnataka, India	1991, Private, Not for Profit	About 75,000 population	Comprehensive PHC services with strong secondary and tertiary	Capital investment as donations; Financing was supported by non-state; No user fees for primary care	Population-based care and equity; Comprehensive care; meeting community care for the ability and effectiveness care
7. Kaveri Hospitals and Services, Andhra Pradesh, Vijayanagara, Andhra Pradesh, India	Private, Not for Profit (2007-2014); Private, Not for Profit (2014-2015); Government (2015-2016)	Administrative block of rural areas covered; about 100,000 in 200,000	Comprehensive of tertiary-level primary and secondary care with varying levels of maternal services	Capital investment based on donations; Financing came from government and state; Different primary and non-subsidy to reach the poor	Failures led to difficult to sustain sustainability and maintenance; Use of games for social communication

Cont.

Table 1 | **Contd.**

Name and location	Year and type of awarding	Approx. population size and population being covered	Level of services and provision	Key features of financing	Key findings
Chandrasekhar, Tamil Nadu, Jambayam, Karaik			Just as village health centres were primary care for both public and private patients		Successfully address PHC issues using a combination of local talent and a positive outdoor environment
1) District: Haryana, Dill, Pathankot, Chhambagar and Durgam, Rajasthan, Jaipur, Andhra Pradesh	1988, Public Sector	Many populations in this district, but not covered coming to rural and urban health centres	affordable primary and secondary healthcare and clinical support at both public and private primary care providers	Capital investment based on donations and social savings. Financing came primarily from the state and fees	Committing to people-oriented systems of care primary healthcare model. Efficient use of funds generated through Govt. insurance schemes or semi-subsidised poor fee and insurance (Insurance Haryana)
2) ICMR, Pathankot and King Edward's Memorial Hospital (KEM), Jaipur	1984, Public Sector	Wide range for secondary and primary care and primary care for surrounding districts and urban sites	Advanced tertiary care hospitals - run since 1970s or 1970s primary care from facilities for primary care needs	Budget funded by government. Final appointments from publicly funded institutions	Comprehensive care for rural PHC needs. Clear the first part of affordable care for the poor. The high degree of trust in providers
11) Kerala Council of Health	2014, Public Sector	Nearly 180 clinics by mid 2017. Served for 11,000 population	Medical services, women, geriatrics and accident. Maternal and diagnostic services in common services	Budget funded. Doctors and nurses hired by govt employees or contracted in and paid by the government as "For the services" fees	Ensured that in the systems essential services provided and medicines and diagnostics available along with essential. Population-based prevention care strategy through efficient. Patient service engagement through a series of innovative partnerships
11) District: Haryana, Dill, Chhambagar	1988, Public Sector	Covered nearly 600,000 people	Comprehensive secondary care services	Budget funded	Comprehensive services. Quality assurance system in place
12) Government Family Health Centre in Panchsagar, Maharashtra, Tamil Nadu, Karaik	1980s, Public Sector	Health centres in about 20-40,000 population	a package of services - both maternal and child and adolescent programs focus along with sub-centre	Budget funded	These "low primary" primary health centres are proof the government families can deliver what was a country being delivered. Detailed financing permitted in the health centres

from specialist consultation at secondary levels affected the feasibility and reduced the utilization. It can be argued that PHC services functioned well, only when well-linked to specialist and tertiary services.

4. Attaining basic quality standards in government facilities improves patient attendance (possibly satisfactory): GFHCs in four states, considered as "the best" government primary health centres (GFHCs in the states by the state officials, based upon various criteria including utilization) had either already fulfilled or were making active efforts to meet at least one of the existing and agreed quality standards. However, this was not applicable to the nongovernmental institutes included in this study, which were mostly focused on meeting the self-defined quality criteria and were not always desirous of getting certification for quality standards. Experience shows that meeting quality standards in

government facilities increases patient attendance, however, a few respondents in this study opined that the quality standards used for a health facility in a large city or district may not be applicable for a facility situated in a far and remote tribal district with resource constraints.

5. Innovative and creative approaches to address gaps and deficiencies in the health human resources works: In the better performing and popular institutes, case studies in the nongovernment sector, except for doctors, all other cadres of health staff were "local" (the geographical location and residence of persons recruited and trained or both). The training provided was also job-oriented and hands-on for their specific job roles. The availability of qualified doctors was a big challenge and "motivating incentives" to attract doctors and meeting a value-based, positive workplace environment were reported as successful strategies.

Box 1: Key learnings from case studies on primary healthcare in India

1. Presence of a "secret passage" of services in the form of private, unlisted utilization of health facilities was common.
2. Assured provision of essential clinical and/or "non-essential" services in the villages.
3. Well-performing facilities are, often, small, team-based and with a secondary level of services and focused on "essential of care".
4. Having basic quality standards in government facilities improves patient satisfaction (especially satisfaction).
5. Government and private approaches to address gaps and deficiencies in the health system are diverse, viable and should be adopted even at small scale.
6. Utilization of computer-based health information system continues to remain an operational challenge. The digital ecosystem should be an integrating, open-ended, flexible and adaptive system.
7. "Leadership and motivation" at a small scale and "political will" at large scale contributes in making facilities functional.
8. There is a need for focused interventions to increase community engagement and participation. This helps in increasing the functioning and utilization and stage of service provision.
9. Access and choice of technologies is greater, a limited and low degree of innovation is the scenario at grassroots level primary health care facilities. There tends to be centrally government based use of mobile and tablet based "apps".
10. Increased utilization of GPHCF is not dependent upon assured provision, an appropriate mix of providers, quality assurance, strategic vision. There are to other "secret-passes" for increased utilization of GPHCF in India.

4. Utilization of computer-based health information system continues to remain an operational challenge. About all case studies were using computers and software for billing and diagnostic reports and very few were using the automated software for the entire range of case management. About all had recognized the role of digitization in the continuity of care across levels and across time (at the same level); however, the use of technology for health information systems (HIS) was limited. These were considered as resource-intensive, dependent upon many external factors such as assured power supply, need for maintenance, and not feasible in the immediate term and especially in under-served areas and settings.
7. "Leadership and motivation" at a small scale and "political will" at large scale contributes in making facilities functional. Many of the initiatives studied, especially those of non-governmental organizations, were started by motivated individuals (leadership). Overall staff motivation and performance at work were largely dependent upon the vision of the leadership of that facility (initiative). In a few case studies, the staff motivation was attempted to be aroused through selection of self-motivated individuals, their value to service, and willingness to work in those under-served settings. Most initiatives studied reported to have created a work-culture, where people fulfilled their assigned responsibilities. Even for those facilities, which were in the government terms and performing better, it was both stronger political and administrative will as well as local leadership, which helped in improving performance. In some of the case studies in the government terms, it was political will at the top level, which contributed to improved performance and assured service provision.
8. There is a need for focused interventions to increase community engagement and participation. This was mostly limited to government initiatives. In a few places, community members were involved in the selection of the site for a facility (and that the utilization of such facilities was reportedly higher). The role of the community in the

provision of non-communicable diseases was encouraged in a few case studies. Community engagement was considered an integral part of the process, especially when the case studies had a specific focus on addressing social determinants of health. However, there was a perceived need for increasing community engagement in all aspects of service delivery.

9. Access and choice of technologies were restricted, and a culture of innovation not common. In a few case studies, the challenges in service delivery were attempted to be tackled through local and frugal innovation. One of the case studies had innovations documented for the internet-free environment, lowering the cost of diagnosis, and the use of information and communication technology (ICT). The continuity of care. Another case study demonstrated a few technological innovations including indigenously manufactured intracocular lenses (ICL) and eye suture. This tertiary care facility was also delivering PHC services using innovative life-relevant and e-prescriptions.
10. "Secret-passes" for increased utilization of GPHCF is "nearly revealed". One of the case study was of 13 GPHCF in four states, namely, Kerala, Tamil Nadu, Maharashtra, and Meghalaya. These are relatively better performing states as far as PHC services are concerned. Health facilities included for this case study were purposely selected, in consultation with state officials who identified these GPHCFs as amongst the best in their states. Common characteristics identified amongst the best performing GPHCF included (a) assured provision of services provided with a few additional services, (b) sufficient availability and mix of providers, (c) maximum of care for all services available, (d) any form/ stage of certification in quality standards, (e) strong facility-level leadership, and (f) functional community engagement and participation.

Discussion

In India, strengthening PHC services observed several pioneer since 2005 with the launch of the National Rural Health

Health (NHFI) and from the National Urban Health Mission in 2013, for rural and urban areas, respectively.^{17,18} These initiatives have been further supplemented by the work of the high-level expert group (HLEG) on UHC in India¹⁹ and the release of India's national health policy (NHP) in 2017.²⁰ In February 2018, the Government of India announced Ayushman Bharat Program (ABP) with one of two components being Health and Wellness Centres (HWCs).²¹ The HWC aims to integrate and provide comprehensive and population-centric PHC services.²² As the initial planning and deliberations on HWCs started in mid-2018, before the launch of the initiative in mid-2019, many of the learnings from these case studies had been shared with senior health policy makers and had contributed to the design of HWCs in India.

Since mid-2017, when data collection for these case studies was completed, a few Indian state governments have launched additional initiatives to expand PHC services. Kerala has started the Family Health Centres (FHC) in rural areas with the concept of family physicians and by engaging the elected local government bodies, who will bring other social services (sanitation, education, agriculture, water supply, and rural development) under one umbrella in delivery of PHC services. There is an emphasis on more medical officers and nurses at FHCs.²³ The Greater Hyderabad Municipal Corporation (GHMC) in Telangana state has started Health Development since April 2018, which equates to the first urban local body led community clinic in India. Health Development brings state health department, the Mission for Poverty Elimination in Municipal Areas (MEPMA) and the urban local body together to deliver PHC services and has potential to become a model for convergence amongst multiple agencies and improved urban health governance, to improve urban PHC services.²⁴ Tamil Nadu state piloted UHC model to strengthen the health subsector, without altering much of its existing policies and making all components tailor-made for public health system needs. The UHC pilot in Tamil Nadu had almost utilized out of pocket expenditure and increased utilization of GP/NGE in a short span of a year.²⁵

India's latest national health policy (NHP) has proposed to increase the government spending on health as well as to expand the comprehensive PHC services.²⁶ As part of implementing proposals in NHP, and under ABP, the country has set a target of making 150,000 HWCs functional by December 2022. The learnings from the case studies in this article and other emerging models, can provide important lessons for scaling up of the HWC. Understandably, a few of these initiatives/ models (including those not covered in this article) need to be studied in greater detail, focusing on the cost-effectiveness dimension as well.

The case studies in this article provide empirical evidence on the importance of secondary and tertiary level facilities in the efficient delivery of PHC services through well-functioning referral linkage. The case studies provide supporting evidence for the emerging consensus on breaking the "extended delivery"

of primary and other levels of healthcare and underscore the need for better linkage.²⁷

The role of research in advancing UHC is widely recognized.²⁸ In the last few months, since the completion of three case studies, there has been renewed focus and attention in India on documentation and design of the new models and approaches to deliver primary healthcare based upon available evidence and expert consultations.^{29,30} Fresh from August 2018, as there is already focus at both global³¹ and regional level,³² the search for evidence and the policy priority to strengthen PHC system in India needs to be continued. Therefore, this work should be considered as beginning of the process to generate additional evidence, both quantitative as well as qualitative, to support the evidence-informed policy formulation and program implementation process in India.

These case studies and the need for additional and timely evidence for stronger PHC services, as described in earlier paragraphs, underscore the need for establishing institutional mechanism to first the policy questions in need of answers are identified, a robust system for operational research, documentation, and consistent evaluation is put in place and the solutions are based upon ongoing learning and evidence. Such mechanisms needs to be supported by health systems research, as being envisaged under the national knowledge platform in India.^{33,34} There is a strong case for the institutional mechanisms for health system research and innovation hubs, both at national and state-level with sufficient opportunities for cross-learning and sharing.

The challenges in scaling up of HWCs and strengthening PHC services need to be addressed timely and innovative ways. In this context, the 'policy labs' organized by the Ministry of Health & Family Welfare, Govt of India with WHO and other development partners on 13 Dec 2018 at New Delhi, on the occasion of the International Universal Health Coverage (UHC) Day-2018, could be a good model and approach to follow. In these structured 'Policy Labs', the identified experts and participants deliberated upon emerging operational and health policy challenges in scale up of comprehensive PHC services in three broad thematic areas of "Communication and wellness", "Comprehensive PHC services in urban areas" and "Strengthening service delivery for provision of an expanded package of services". It is hoped that such dialogue between experts, academicians, practitioners, and policy makers engagement would contribute to accelerated scale up of comprehensive PHC services in India. This approach of policy lab need to be continued and can also be taken up by Indian state governments to improve PHC services in their settings.

In 2019, before August Conference, a few case studies on PHC were released.³⁵ A global initiative regularly analyses and publishes the lessons on common characteristics of a better functioning PHC system.³⁶ While the approach and methods of the case studies in this paper are somewhat different, this article

provides additional evidence for accelerating global progress on universal FHC services.¹⁷

There are a few limitations of the evidence presented in this article. The method of comparative case studies, used for this work, is ranked lower in the hierarchy of evidence. Second, there was, by design, limited attention on collection of quantitative data on health outputs or outcomes. The research teams followed qualitative and subjective approaches for documentation, as the focus was on understanding how these successful models had addressed some of the well-known ‘‘problems’’ of establishing FHC systems.¹⁸

Finally, in this article, the authors have used the terms ‘‘models’’, ‘‘initiatives’’ and ‘‘case studies’’ interchangeably, for simplicity of language and ease of understanding, however, they are fully aware that each case study needs to be further assessed before being termed as ‘‘model for replication.’’ In this backdrop, through observations from these case studies need to be cautiously interpreted, the studies do bring out the wealth of learning from the diversity of FHC service delivery experiences within India.

Conclusion

A wide range of initiatives (models) to expand the purview of FHC services have emerged in India, in the last few decades. Many of these initiatives have focused upon the under-served and poor populations. The case studies outlined in this article provide the archetype of initiative & components primary healthcare, where healthcare for poor is non-profit healthcare. The popular models (initiatives), both in public and non-governmental sectors have a few common characteristics, which can be used as guiding steps to scale-up and deliver comprehensive primary healthcare (CPHC) services through HWCs in India. There is a need for more implementation and health systems research, preferably through institutional mechanisms for operational research with multi-stakeholder engagement. The lessons could be used by clinicians and middle-income countries, with similar challenges, to advance and accelerate progress towards universal health coverage.

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Author contributions

CL, TS, REV, MJ were involved in designing of this study. CL, TS and HDG prepared the first draft, which was reviewed by all other authors (REV, GSA, MJ, and HB). All authors were involved in data interpretation, analysis, and review of the final draft, which was approved by all authors listed.

Disclaimer

The affiliations in this paper reflect the author’s institutions at the time of completion of the study in mid-2017. TS and MJ had a change in their affiliations since then. At the time of publication of this paper, MJ was with the World Health Organization South-east Asia Regional Office based at New Delhi. CL, HDG, LC and HB are the staff member of WHO. The views expressed in this article are those of authors and does not reflect the views and opinion of the institutions/ organizations they are or have been associated in past or at present.

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Conflicts of interest

There are no conflicts of interest.

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