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Strengthening Primary Care in India

Opportunities and Challenges

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Abbreviations

ABDM	Ayushman Bharat Digital Mission
AB-HWC	Ayushman Bharat – Health and Wellness Centres
AB-PMJAY	Ayushman Bharat – Pradhan Mantri Jan Arogya Yojana
ANC	Antenatal care
ANM	Auxiliary Nurse Midwife
ASHA	Accredited Social Health Activists
CHC	Community Health Centre
CHO	Community Health Officer
CPHC	Comprehensive Primary Health Care
CPMF	Temporary Contributions on Financial Transactions
CVD	Cardio-vascular diseases
DHS	District Health System
DMO	District Medical Officer
FHW	Frontline Health Workers
FTH	Family Health Teams
GHE	Government Health Expenditure
HFR	Health Facility Registry
HMIS	Health Management Information System
HPR	Health Professional Registry
HTA	Health Technology Assessments
HTP	Health Transformative Programme
HWC	Health and Wellness Centre
IMR	Infant Mortality Rate
IPD	In–patient Department
IPHS	Indian Public Health Standard
LaQshya	Labour Room Quality Improvement Initiative
MDG	Millenium Development Goal
MMR	Maternal Mortality Rate
MMU	Mobile Medical Unit
MO	Medical Officer
MoHFW	Ministry of Health and Family Welfare
MPW	Multipurpose Health Worker
NABH	National Accreditation Board for Hospitals and Healthcare Providers
NABL	National Accreditation Board for Laboratories
NCD	Non-communicable diseases
NDM	National Digital Mission
NHM	National Health Mission
NHSRC	National Health Systems Resource Centre
NMC	National Medical Commission
NP-NCD	National Programme for Prevention and Control of non-Communicable Diseases
NQAS	National Quality Assurance Standards
NRHM	National Rural Health Mission
NSS	National Sample Survey
OECD	Organization for Economic Cooperation and Development
OOPE	Out of Pocket Expenditure
OPD	Out–patient Department
PHC	Primary Health Centre/Primary Health Care
QALY	Quality-Adjusted Life Years
RCH	Reproductive and Child Health
SHC/SC	Sub-health Centre/Sub-Centre
TFR	Total Fertility Rate
THE	Total Health Expenditure
UPHC	Urban Primary Health Centre
WHO	World Health Organization

Abstract

India has made significant progress in improving primary healthcare delivery, but its focus, until recently, has largely remained on the provision of reproductive and child health services. Given the growing burden of non-communicable diseases (NCDs), and the overall demographic transition, the Government of India launched the Ayushman Bharat-Health and Wellness Centres scheme (renamed Ayushman Arogya Mandir) in 2018. The scheme aimed at transitioning from selective to comprehensive primary care in a phased manner by converting sub-centres (SCs) and primary health centres (PHC) into Health and Wellness Centres (HWCs). Nearly five years after its implementation, India has made progress in attaining some of its primary health goals, yet challenges remain in terms of the inadequacy of funding, inequities in the availability of physical and human infrastructure, and a fragmented, low-accountability, and quality assurance system. This paper identifies some of the key gaps in policy design and implementation and reflects on the key insights from comparable countries, which experienced similar challenges to India in the recent decades. The paper makes a case for: 1) A system-initiated model of primary healthcare that focuses on population health, 2) A care system integrated across primary, secondary, and tertiary levels of care, 3) Re-thinking of the workforce mix and improving the density of frontline workers, 4) Design elements that improve quality and accountability of services, and 5) Greater budgetary allocation towards primary healthcare, with a dedicated administrative structure within the Ministry of Health and Family Welfare (MoHFW) focused on the strengthening of the primary healthcare system.

1. Background

The birth of the public Primary Health Centre (PHC) can be traced to the Bhore Committee report (1946), which recommended one PHC for every 40,000 members of the population as the unit for the provision of both preventive and curative care. This became a norm which was subsequently revised on the recommendations of multiple committee reports (Ramani et al., 2018). India was a signatory to the Alma Ata Declaration (1978), which focused the world's attention on primary health care as the key to achieving acceptable levels of health throughout the world. Yet, PHCs in India continued to grapple with the challenges of infrastructural deficits and inadequate funding (Ramani et al., 2018). In response, the National Rural Health Mission (NRHM) was launched in 2005 to address some of these gaps, with a specific focus on strengthening the public health and healthcare systems in rural areas.

Concerted efforts by the Government of India towards strengthening public facilities for primary healthcare over the past two decades, specifically since the launch of NRHM in 2005, have witnessed a steady increase in the utilisation of public facilities (Table 1), for both in-patient and out-patient treatment. The increase in the case of out-patient facilities has been slower, with mere 30% of the population utilising public facilities for out-patient treatment in 2018 (GoI, 2019). An analysis disaggregated across income quintiles reveals that although the use of public out-patient facilities decreases with income in urban areas, rural areas exhibit little variation in public facility use across income classes. This suggests an overall preference for private facilities in rural areas, emphasising the need for further strengthening of primary healthcare facilities (Figure 1).

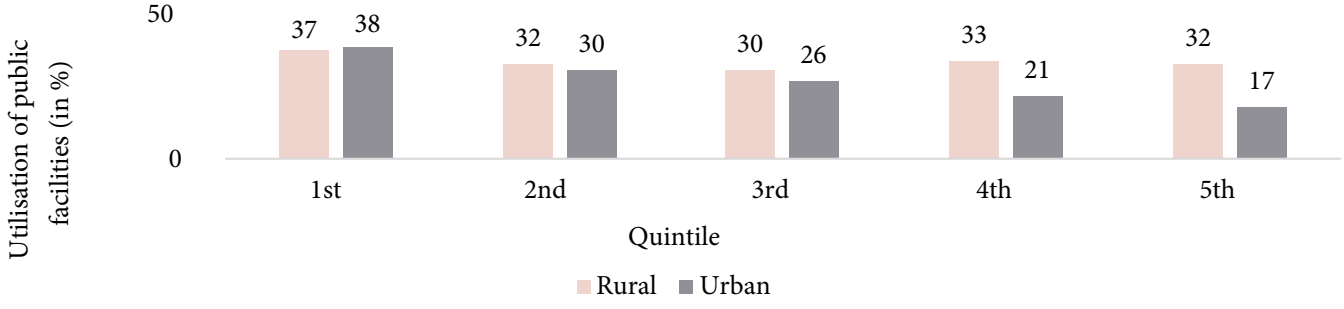
Table 1: Trends in Utilisation of Facilities by Ownership

Nature of Treatment	Year[1]	Government	Private
Outpatient	2004	23	77
	2014	25	75
	2018	30	70
Inpatient	2004	41	59
	2014	45	55
	2018	51	49

Source: Authors' calculations based on unit level data of National Sample Survey (NSS) for multiple years.

Following the focus on primary healthcare, India has made significant progress in key health indicators. National level declines in total fertility rate (TFR), infant mortality rate (IMR), and maternal mortality rate (MMR) stand out. Regional disparities, however, remain (GoI, 2023; Ministry of Health and Family Welfare (MoHFW), 2021; MoHFW, 2022), with Assam's MMR at 215 and Kerala's at 43 per 100,000 live births in 2016-18 (MoHFW, 2021). Progress on communicable diseases has been uneven and difficult to sustain, especially in the context of Malaria and Tuberculosis (TB) (World Health Organization [WHO], 2023a; WHO, 2023b; MoHFW, 2013). When combined with other diseases such as Chikungunya, Dengue, and Japanese Encephalitis (especially in urban and peri-urban areas) and the rapidly rising non-communicable disease (NCD) burden, the need for a more proactive system, with comprehensive surveillance and early detection, becomes imperative. The current healthcare system's emphasis on curative care, driven by patient-initiated engagement, weakens the effectiveness of a population-based approach.

Figure 1: Quintile-Wise Trends in Utilisation of Public Facilities for Out-patient Treatment



Source: Singh and Venkateswaran (2023), Muraleedharan et al., (2020).

[1] The years 2004, 2014, and 2018 have been taken for analysis due to the availability of National Sample Survey (NSS) for those years.

India has a well-defined health system architecture based on population norms. However, gaps in meeting Indian Public Health Standard (IPHS) norms and continuing infrastructure deficits (physical and human) have contributed to inadequate fulfilment of the healthcare needs of the population (Vij, 2019). Gaps at the primary care level have translated into patients accessing higher levels of care in the public system, even when not needed, or accessing the private system.

Thus, over the last few decades, primary healthcare has witnessed significant progress, as evident from the increasing attention, rise in infrastructural development, and public facility utilisation. However, considering the scale of the problems, much more attention is required to strengthen the primary healthcare system.

This paper reviews the structural features of providing primary healthcare in the country and identifies both, areas that require incremental changes and architectural corrections in the design, administration, and governance of the health system. It examines recent government initiatives aimed at comprehensive primary healthcare and identifies areas for strengthening policy design and implementation. It draws upon initiatives and experiences of other comparable developing countries which have undergone similar transitions in their healthcare systems and have broadened the coverage of primary healthcare provision to the entire population. This paper argues for a stronger system-initiated model of primary healthcare, for integrated provisioning of healthcare, with formalised private-public sector coordination, and leveraging multiple mechanisms to improve service quality. It also argues for re-thinking the workforce mix to increase frontline health worker (FHW) density, using technology to optimise limited resources, and training the workforce to meet the expanding objectives of Comprehensive Primary Health Care (CPHC).

This paper is organised as follows. Section I presents a background of primary care provisioning in the country. Section II discusses government initiatives towards strengthening primary healthcare provisioning and transitioning from selective primary healthcare approach to comprehensive primary healthcare. Section III outlines and discusses key gaps in policy design and implementation of ongoing initiatives. Section IV draws on the experiences of state-specific initiatives and select countries to address some of these challenges. Section V discusses the recommendations for India as it transitions towards comprehensive primary healthcare coverage.

2. Government Initiatives Aimed at Primary Healthcare

The NHM, as the successor of NRHM, sought to revitalise primary healthcare and put 'architectural corrections' in place for the basic healthcare system through horizontal integration and increased scope (Mishra, 2014). Some of its core strategies included integration of vertical programmes and structures, integration of health with its broader determinants, mainstreaming traditional systems of medicine and revitalisation of local health traditions, decentralisation of health planning, effective community participation and ownership of health, and improved and effective public health management (Mishra, 2014; Narwal, 2015). Principles of integration were based on the CPHC approach including curative, preventive and promotive care, inter-sectoral collaboration, decentralisation, and equity (Mishra, 2014; Narwal, 2015).

NHM enabled strengthening of primary healthcare services and increased utilisation of public facilities, especially in rural areas (Muraleedharan et al., 2020; Gulati et al., 2011). The introduction of the Accredited Social Health Activists (ASHA) brought forth a more proactive system with stronger outreach. However, the focus largely remained limited to reproductive and child health and some select NCDs. It has also been argued that inadequate public health expenditure at the national level and lower fund absorption capacity of some states impacted the programmes' ability to achieve the desired results (Narwal, 2015).

While progress on some fronts has been evident, the overall transition from selective to comprehensive primary healthcare could not be achieved meaningfully. This was partly due to the shortage of staff in both SCs and PHCs, and the unavailability of medicines and equipment. The major reason was due to the greater policy focus on reproductive and child health (RCH) services (Rao, 2019; Narwal, 2015). The recent reform in terms of HWCs are aimed at strengthening this transition (National Health Systems Resource Centre [RHSRC], 2018).

It is not to say that NCDs were completely ignored. The National Program for Prevention and Control of Cancer, Diabetes, Cardio-vascular diseases

(CVDs), and Stroke was launched in 2010 (renamed the National Programme for Prevention and Control of Non-Communicable Diseases (NP–NCD) in 2023), under NHM, to address the four major NCDs which together account for 60% of all deaths in India (Nathan et al., 2017). Initially implemented in 100 districts across 21 states, it was to be scaled to the entire country by 2017. Contrastingly, it was found, that nearly eight years after its implementation, the availability of essential medicines and diagnostic equipment required to manage the four NCDs under primary care was as low as 1.1% in public facilities in rural areas with staff shortages and gaps in training (Krishnan et al., 2021).

The transition from the previously predominant RCH focus to a broader ambit in recent years reflects the attention to a more comprehensive model. The HWC programme aimed to address previous gaps through upgradation of existing primary facilities, offering a comprehensive set of services, ensuring availability of medicines and diagnostic services, introducing a new cadre at the SC level, greater community awareness, and leveraging technology to fill gaps in availability of doctors.

The Government of India has simultaneously made steady investments in digital infrastructure to facilitate integration across levels of care. The National Digital Health Mission (rechristened as Ayushman Bharat Digital Mission (ABDM)) was launched in September 2021, focusing on the creation of a health registry with every individual assigned a unique Health ID to facilitate tracking of their health history. Other initiatives included a Health Facility Registry (HFR) and a Health Professional Registry (HPR) for monitoring facilities, seamless data exchange, and a telemedicine platform (e-Sanjeevani).

3. Key Gaps in Policy Design and Implementation

An extensive program in the form of NHM, a well-visioned primary care system geared towards providing comprehensive services through the HWC programme, and a rapidly-developing digital health architecture are all part of the foundation aimed at strengthening primary healthcare provisioning in the country.

The transition to HWCs has witnessed early gains. Since the programme's inception, patient visits have increased by 68% per quarter at the SCs where Community Health Officers (CHOs) have been posted (Agte and Soni, 2023). State-specific evidence in the context of HWCs has also been encouraging in some cases: the upgradation of SCs and PHCs into HWCs in Tamil Nadu and Rajasthan has redirected footfall from higher-level public facilities as well as private facilities to HWCs (Muraleedharan et al., 2018; Agte and Soni, 2023). This has resulted in reduced travel and wait times, as well as a lower burden of out–of–pocket expenditure (OOPE) on health.

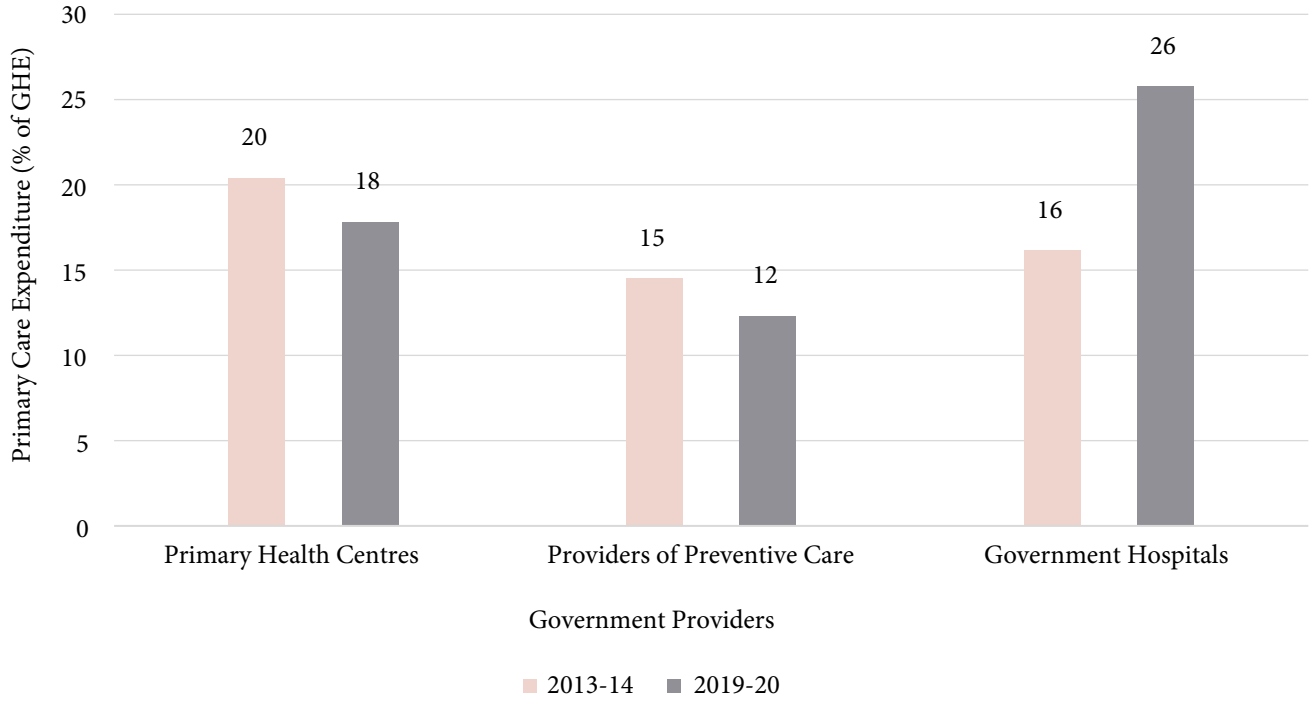
However, a closer look at some of the reforms undertaken reveals that while many of these have aimed at addressing the existing structural challenges, issues of financing (adequacy and targeting), infrastructure (facilities and workforce), quality and accountability within services, and structural design elements, all need greater attention. These are outlined below in more detail.

3.1 Financing Primary Healthcare

Financing for primary healthcare in India needs attention in at least three aspects: 1) the adequacy of funding, 2) fund flows, and 3) the distribution of primary care expenditure. Adequacy of funding can be viewed through two lenses. First, the extent to which primary healthcare expenditure aligns with global norms. Second, how current expenditures compare with estimates of required funds. Regarding the first, India's primary healthcare expenditure is estimated at about 56% of Government Health Expenditure (GHE), which in itself is comparable to the global norm of about 60%. However, disaggregated across levels of care, what emerges is that a large proportion of this is spent on hospitals (Figure 2). While 30% of GHE is spent at primary care centres and for preventive care, 26% is incurred at hospitals. Importantly, trends across 2013-2019 show an increase in such expenditure on hospitals, reflecting that healthcare at the primary level is not getting priority.

Regarding the second, shortfalls are evident from estimates of fund requirements to cover the entire population. An analysis of expenditure needs suggested the total expenditure required for the HWC programme to cover the entire population to be Rs 72,151 crores for the period of 2019-23. In contrast, the actual allocation for the programme was Rs 6,075 crores for the period of 2018-22 (Figure 3).

Figure 2: Primary Care Expenditure at Levels of Care



Source: National Health Accounts Report, 2013-14 and 2019-2020.

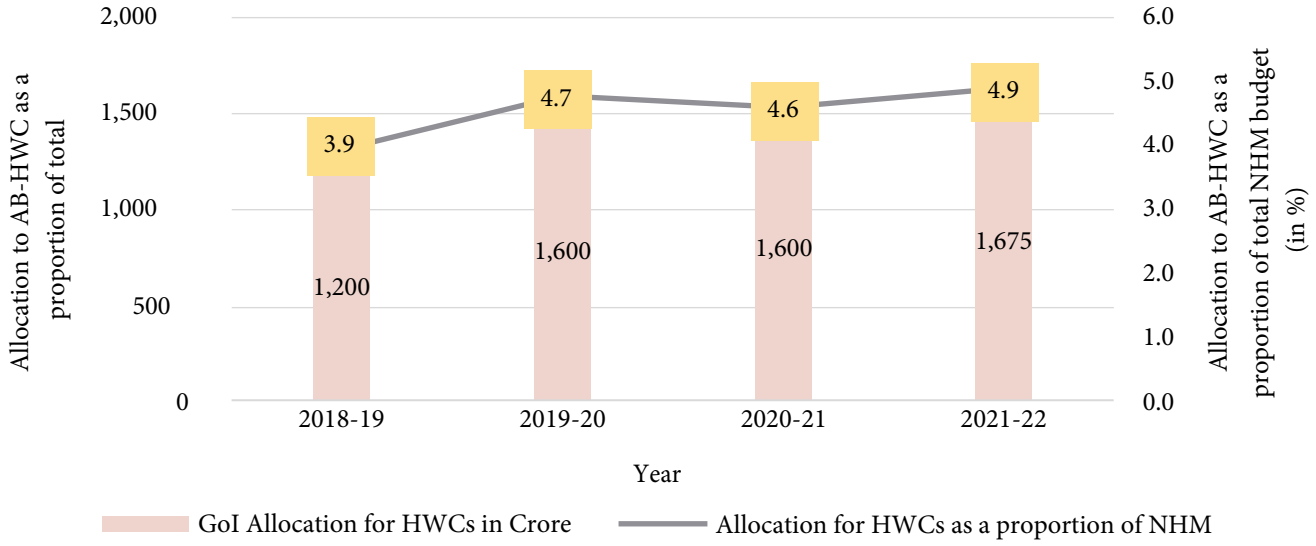
Note: 1. PHCs comprise of SCs, PHCs, Family Planning Centres and Dispensaries including those of AYUSH, CGHS, ESIS, and Railway Polyclinics.

2. Providers of Preventive Care is a broad category that comprises of all health facilities including Community Health Centres (CHCs) and above that implement public health programs and preventive services.

3. Government hospitals comprise of CHC and above.

4. Primary care expenditure as a percentage of GHE is 51% for 2013-14 and 56% for 2019-20.

Figure 3: Yearly Expenditure on Ayushman Bharat–Health Wellness Centres (AB-HWC) as a Proportion of the NHM



Source: Sharma et al. (2023); Kapur et al. (2023).

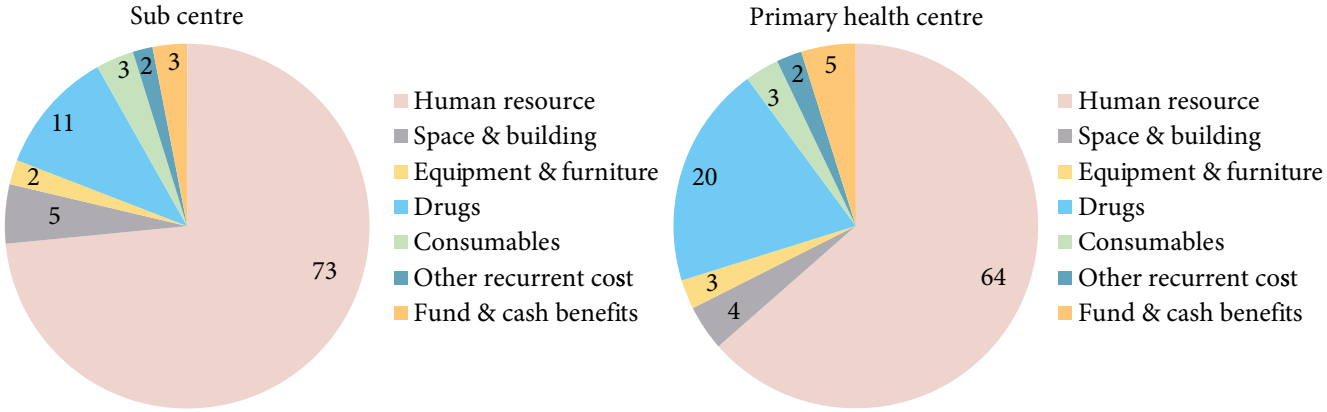
Note: No budget was allocated to AB-HWCs since 2022-23. Only 63% of the allocated funds were released by Government of India for 2021-22, when close to 100% of the allocated funds were released in the previous year.

Delays in fund flows undermine the optimal use of available resources. Complex administrative procedures related to the release of NHM funds from state treasuries to facilities cause delays in the transfer of funds, consequently impacting the implementation of the programme at the primary care facility level (Prinja & Muraleedharan, 2021).

Allocation of funds has been a third challenge. It has been reported that a majority of primary healthcare spending (73% in SCs and 64% in PHCs) was incurred on salaries, and a meagre proportion (11% in SCs and 20% in PHCs) spent on drugs/consumables in 2014-15 (Chauhan, et al., 2022) (Figure 4). This becomes important to note in view of the share of OOPE incurred on drugs and diagnostics.

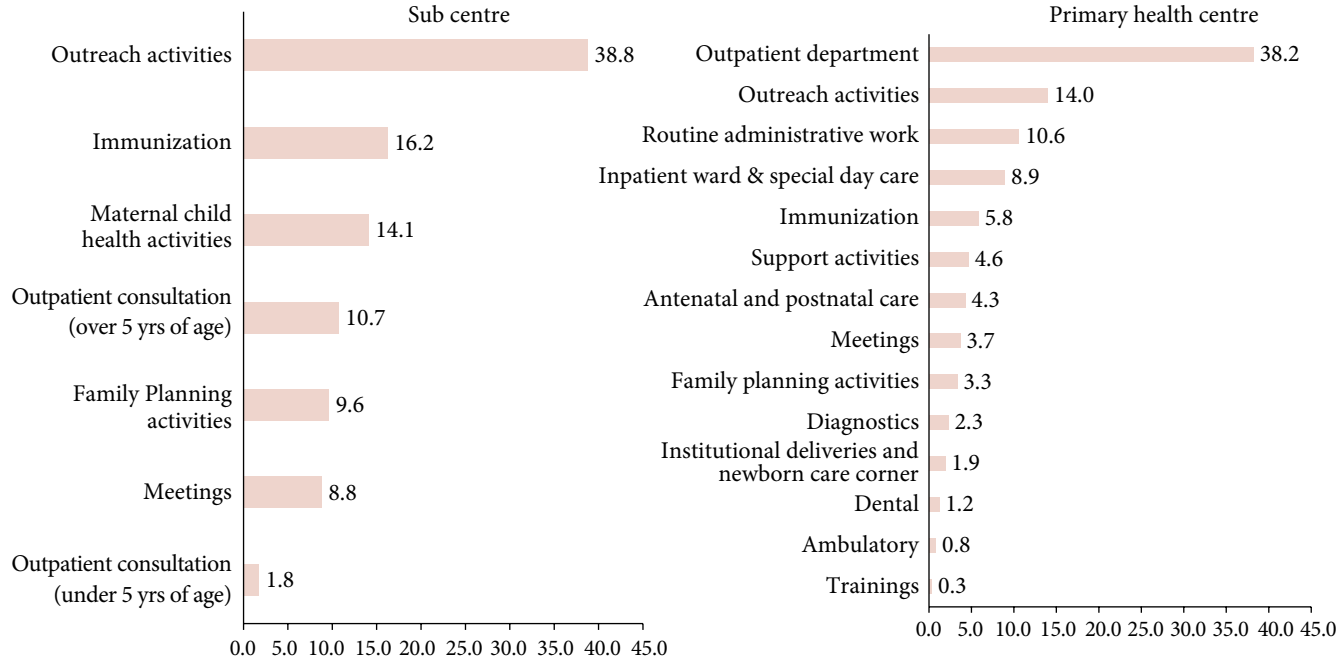
A disaggregated analysis of expenditure at the PHCs also reveals that expenditure on routine administrative work constituted 10.6% (Figure 5), which is much higher than the 5% norm suggested by the Organization for Economic Co-operation and Development (OECD) (OECD, 2013), signifying inefficiencies in the system.

Figure 4: Components of Primary Care Expenditure, 2014-15



Source: Chauhan, et al., 2022.

Figure 5: Primary Care Expenditure by Service, 2014-15



Source: Chauhan, et al., 2022.

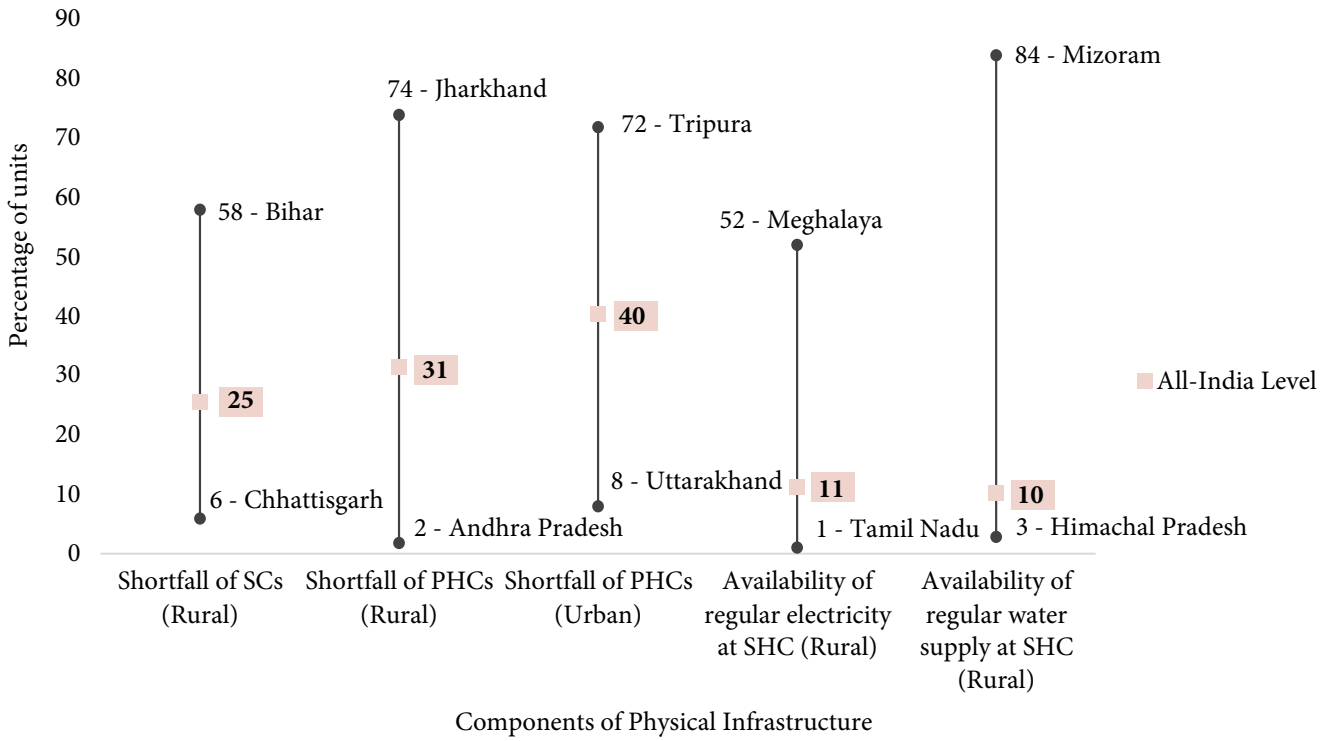
3.2 Health Infrastructure Deficit

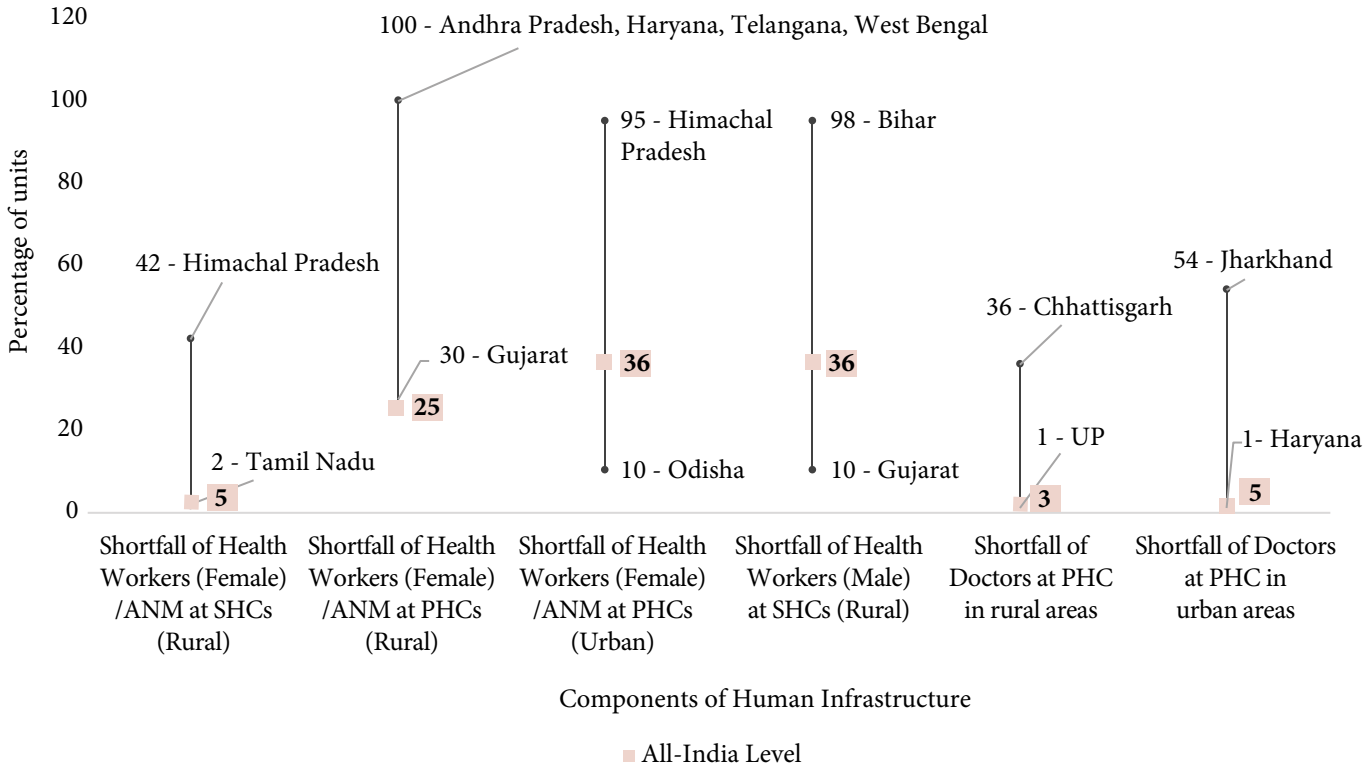
The focus on primary healthcare through NRHM/NHM has reduced the shortage of physical and human resources in primary healthcare at the all-India level. However, a sub-national analysis reveals considerable inter-state differences in the availability of infrastructure with SC shortfalls (as per population norms) ranging from 6% in Chhattisgarh to 58% in Bihar. The shortfall of SCs and PHCs becomes relevant to the availability of HWCs as all SCs and PHCs are envisaged to be upgraded into HWCs. Shortfalls in the workforce also vary across states (Figure 6).

Shortfalls are not the only concern with respect to the workforce. Clarity of roles, duplication, and workload are of equal concern. The introduction of the CHO was expected to reduce the workload of the overburdened Auxiliary Nurse Midwives (ANM), but in the absence of clear delineation of responsibilities between CHOs and ANMs, the latter continue to feel overburdened (Agte and Soni, 2023). The CHO was entrusted with NCD-related responsibilities with the ANM catering to RCH work, but the bulk of outreach and screening activities under the NCD program is entrusted to ANMs (Table 2). Despite the addition of a new cadre, the workload for the ASHA workers has increased as well. Follow-up responsibilities for ASHA workers, their pre-existing workload, increased set of functions pertaining to maintaining population registers, data validation, and outreach activities relating to vertical programmes have combined to increase the workload of the ASHA (Solanki, 2020; Manjunath et al., 2022; Abdel All et al., 2019) (Table 3). Compounding the problem is the increase in population handled by the ASHA workers over the past few years (Figure 7). Apart from workload challenges, there is a mismatch of managerial and technical capacity, with clinicians expected to function as managers, in addition to their core responsibilities. With the reform focused on the introduction of the CHO, the gaps in doctor availability remain.

The key challenges with respect to the workforce can thus be summarised as: 1) the variance in availability of healthcare personnel across states, 2) the need for clear delineation of roles for ANMs and CHOs, with a focus on the optimal utilisation of the CHO, 3) managing workload challenges for frontline workers, and 4) improving the density of frontline workers (ASHA and ANM) in order to facilitate comprehensive screening and data enumeration of the population.

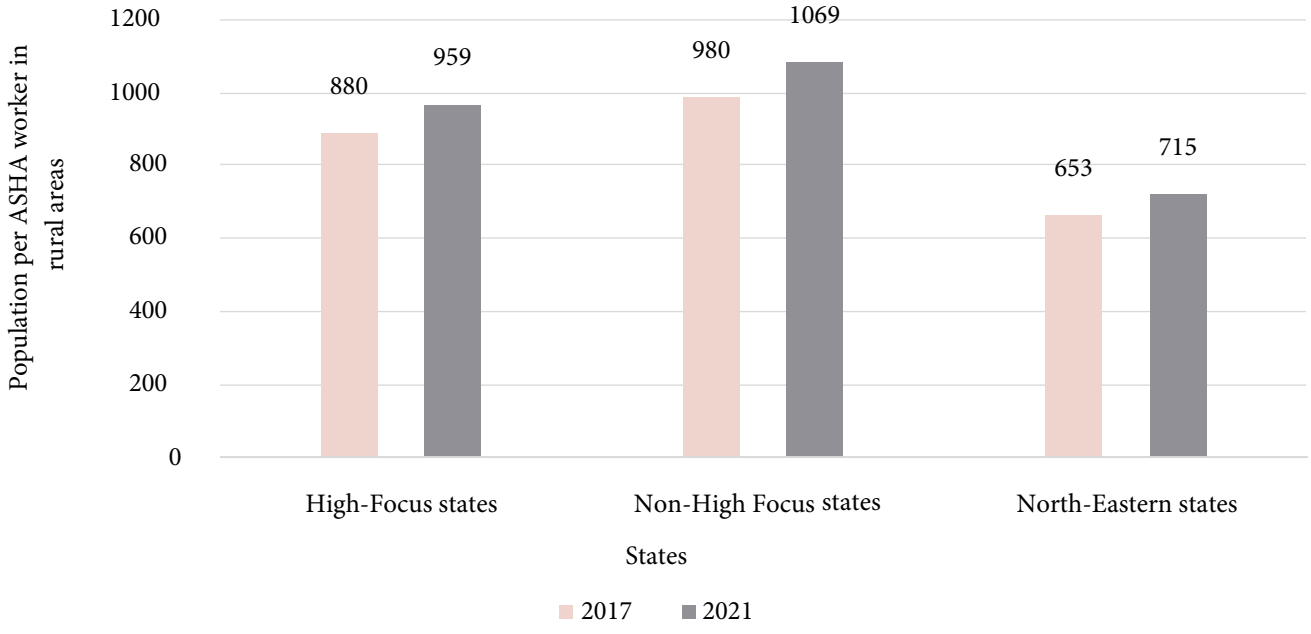
Figure 6: Availability of Physical and Human Infrastructure in PHCs and SCs





Source: Rural Health Statistics, 2021-22.

Figure 7: ASHA–Population Ratio



Source: NHSRC (2017) and NHSRC (2021).

Note: July 2017 report is Quarterly updated. States are categorised as per NHM classification.

Table 2: Overlap in Roles of CHO/ANM and MO

Components	MO PHC		Community Health Officer		ANM		Remarks
	Before AB-HWC	After AB-HWC	Before AB-HWC	After AB-HWC	Before AB-HWC	After AB-HWC	
IPHS norms	~ 1:30,000	~ 1:30,000	NA	~ 1:5,000	~ 1:5,000	~ 1:5,000	
Roles	No change as per IPHS 2022		NA	IPHS 2022 (see below)	No change as per IPHS 2022		i) Instead of reporting to the Medical Officer (MO) in the PHC, now ANMs report to CHOs. Rest of the roles are the same as before AB-HWC. ii) No geographical distinction is marked in delivering the set roles for CHO and ANM (no relevant guideline in IPHS 2022).
Clinical Work (OPD and IPD services)	All OPD and IPD services at PHC level (including referrals)		All OPD services at SHC level		All OPD services at SHC level		i) Overlapping the roles of CHO and ANM to manage and deliver clinical care at SHC. ii) Case management of all clinical care and referrals per 30,000 population by one MO PHC.
Screening of patients (NCDs and specialised care)	Screening of NCDs and patients needing specialised care		Screening of NCDs and referral to PHC		i) Screening of NCDs and referral to PHC. ii) Screening for any pregnancy related complications and referral.		i) Overlapping tasks at SHC level with greater burden on ANM to deliver comprehensive care.
Coordination and management of maternal and childcare	All cases at PHC level (with support from PHC staff)		All cases at SHC level (with support from SHC staff)		All cases at SHC level		–
Outreach activities (including VHND/UHND)	As and when required as per IPHS guideline		With support from SHC staff (as and when required as per IPHS guideline)		Outreach activities as per IPHS guidelines, in coordination with ASHA		i) ANM and ASHA are mandated to conduct outreach sessions on a regular basis (as per IPHS guideline), whereas the degree of involvement of CHO is not clear.
Training and capacity building of subordinates	All PHC staff		All SHC staff		Multipurpose worker and ASHA		–
Supervision of frontline workers	With support from CHO		Supervising ANM, and ASHA		Supervising ASHA		–
Mapping, enumeration, and enrolment of population	Ensuring maintenance of population register at PHC level		Support and supervise data collection to create population register		Undertake household surveys with ASHA for mapping, enumeration, and enrolment of population at SHC level		–

Source: IPHS Guidelines 2022.

Table 3: Increased Workload for ASHA Workers

Components	Accredited Social Health Activist (ASHA)		Remarks
	Before AB-HWC	After AB-HWC	
IPHS norms	~ 1:1,000 (rural), ~ 1:2,000 (urban)	~ 1:1,000 (rural), ~ 1:2,000 (urban)	
Job-status	Honorary volunteer (no fixed salary)	Fixed monthly honorarium (state initiative–17 states)	Not a part of the HWC initiative
Roles (40 nationally approved incentive-based activities)			
Maternal and child health (continuum of care)	Mobilising pregnant and lactating women, and children for ANC/ PNC check-up, immunisation, and nutritional supplement	No Change (new incentive added to ensure five home visits in case of young child)	Coordination amongst various verticals (health, ICDS, and Panchayati raj institutions/Ward member)
Adolescent health	Mobilising adolescents for health prevention and promotion activities	No change	
Family Planning	Counselling, motivation, and follow up of cases related to family planning	No change	–
Vertical programmes (including TB)	Referral and ensuring compliance for complete treatment	Additional incentive-based IEC activities in 12 high endemic states (Dengue and Chikungunya)	–
Maintaining data validation for PMJAY	Not part of earlier guideline	Maintaining data validation and collection of additional family information for PMJAY	An incentive of Rs 5/form/family
Mobilising and attending VHND/UHND	Mobilising people and relevant stakeholders every month for health planning	No change	Coordination amongst various verticals (Health, ICDS, etc.)
Mapping, enumeration, and enrolment of population	Not part of earlier guideline	Line listing of households at the beginning of year and updated every six months. Maintaining village health register	

Source: NHM Guidelines on ASHA (2019).

3.3 Quality of Care and Accountability

Gaps in quality and accountability have been discussed and acknowledged for long, typically concerning the following dimensions:

- Input gaps: workforce shortage; supply shortage (medicines, diagnostics).
- Motivation gaps: know-do gap in provision; lapse in examination; minimal time spent per patient examination; absenteeism.
- Regulatory gaps: limited adherence to protocols of referral; over-prescription of medicines by both public and private providers; no periodic accreditation of facilities.
- Ineffective grievance redressal & accountability system: both community-led initiatives and others.

In addition to the shortages already discussed, quality and accountability in service provision are impacted by low provider motivation to effectively respond to patients, adherence to protocols, and over-prescription of drugs and diagnostics (Das et al., 2016; Mohanan et al., 2016; Das and Mohapal, 2016; Das and Hammer, 2007). These in turn are influenced by the absence of strong regulatory, monitoring, and grievance redressal mechanisms, input-based budgeting (that does not create incentives for quality), and the absence of strong data systems.

Issues of quality are not consistent, with motivation influenced by several variables including:

- Patient characteristics such as level of awareness, social identity, location.
- The location of the providers is shown to be one of the best predictors of quality (Das and Mohpal, 2016; Das and Hammer, 2016). Differences in the public and private domains are noted, with private sector doctors (qualified and unqualified) investing more time and effort (in terms of number of questions asked) in inquiry and diagnosis (Das et al., 2016).
- Provider Incentives where the know-do gap is linked with the incentive structure. Fixed salaries for public sector doctors are de-linked with patient load or provider effort, in contrast to private sector doctors where provider effort has been seen to be correlated with 'perceived quality' and in turn, income (Das et al., 2016). A financing system based on input rather than output/outcome contributes to the lack of incentives for quality. The know-do gap points out the insufficiency of increased training, knowledge, and competency of medical practitioners, in the absence of incentives to use the available knowledge, incentives rewarding the performance of the practitioners and improving patient awareness about practitioner performance and about their own rights.

There have been numerous attempts to strengthen regulation, through legislations and guidelines, but with inconsistent impact.

- The Consumer Protection Act, 2019 protects against medical negligence and deficiencies in service provision but has not explicitly defined the rights of the patients (MoHFW, 2017a).
- The Clinical Establishments (Registration and Regulation) Act, 2010 outlines the legal rights of the patients and establishes minimum standards of service provision by health establishments in the country, but most states have not implemented it (Mehra, 2021).
- Accreditation through the National Accreditation Board for Hospitals and Healthcare Providers (NABH) and the National Accreditation Board for Laboratories (NABL) aims to standardise and certify quality standards for private sector hospitals and diagnostic laboratories, but most current systems of accreditation limit their focus to input indicators (Lenin and Marwah, 2023).
- The National Quality Assurance Standards (NQAS) checklist for HWCs released by NHSRC is largely focused on the availability and accessibility of various inputs, with a limited focus on output and quality improvement.
- NQAS was introduced in 2013 for public facilities, but so far only 2.5% of the public health facilities were NQAS certified (Bahri, 2023). Labour Room Quality Improvement Initiative (LaQshya) was introduced in 2017 to ensure good-quality care for mothers and infants during the intrapartum and postpartum periods. *Kayakalp* awards were initiated in 2015 by MoHFW to promote hygiene in health facilities and improve patient safety.

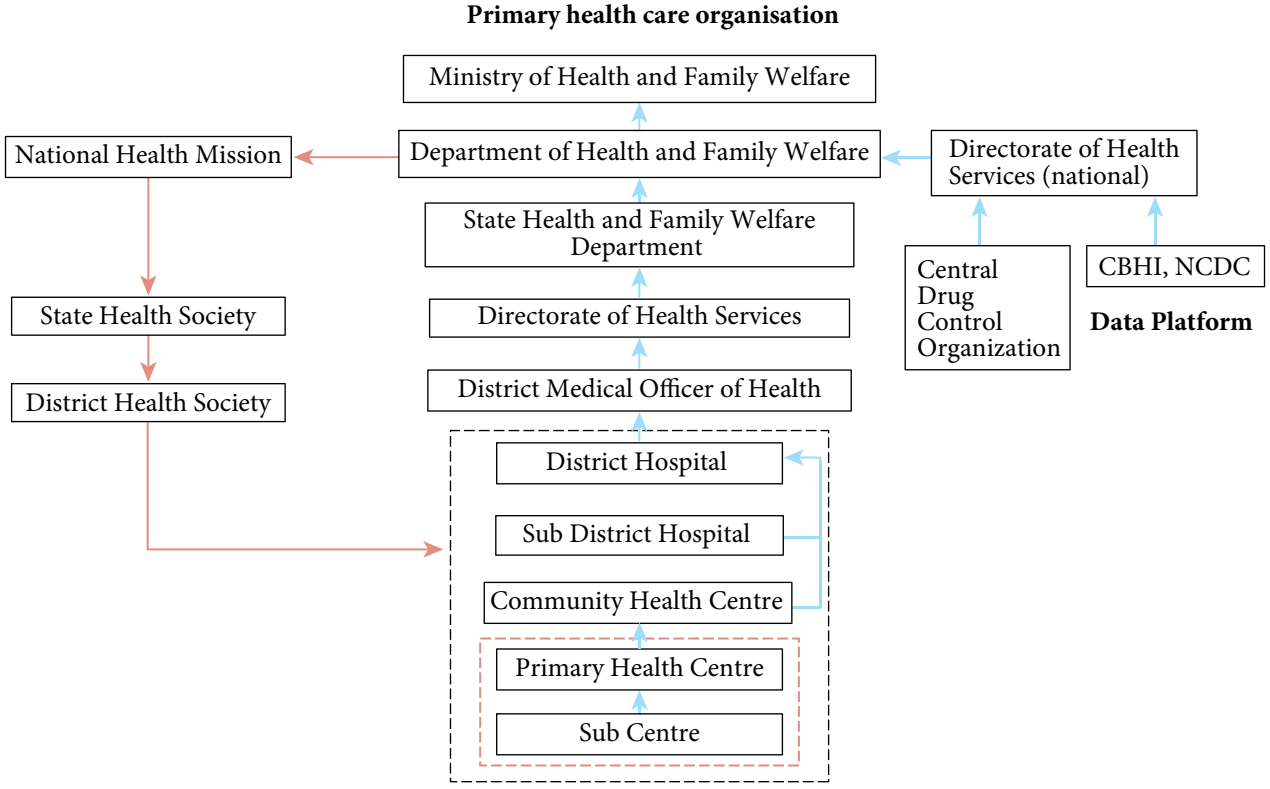
It is evident that the current quality framework is fragmented with multiple initiatives focusing on different aspects of quality, often fraught with their own unique challenges, underlining the need for a comprehensive framework for quality evaluation. The selective targeting of health system actors, absence of linked initiatives, and a lack of focus on larger health system determinants of quality have undermined their effectiveness in ensuring quality of care (Kalita et al., 2022).

Importantly, there is an absence of a robust data system to monitor performances on various aspects of physical and human infrastructure. This has implied limited information on facility performance, and data released under Health Management Information System (HMIS) has generally been found to be fraught with data quality issues (Sharma et al., 2016; Meghani, et al., 2023). The focus so far has largely been on RCH related indicators. The advancing disease burden towards NCDs and an ageing population, highlight the need to improve understanding of dimensions of quality of care across all levels of care (Gopal, 2019; Ether & Saif-Ur-Rahman, 2021).

Finally, there is a need to further strengthen the grassroots, community-based mechanisms of accountability and grievance redressal, where low consumer awareness, low frequency of community hearings (semi-annual basis), and absence of capacity among the health staff to demand that accountability from the health systems (Madon and Krishna, 2017; Srivastava et al., 2015) have limited impact. *Jan Arogya Samitis* have been envisaged at the HWC level, as an initiative aimed at ensuring greater community engagement and accountability, containing representatives from local bodies and Panchayats, self-help groups, and patients. They are aimed at dispensing similar functions as *Rogi Kalyan Samitis* at the hospital level, but there is a need to build on the experiences of *Rogi Kalyan Samitis* to ensure more active and consistent engagement from the community.

Quality, accountability, and other aspects are linked with the organisation of primary healthcare. The current organisational structure (Figure 8) consolidates different levels of care under the Department of Health and Family Welfare, which at the district level translates to the District Medical Officer of Health being the nodal officer for administrative and financial aspects for primary, secondary, and tertiary levels.

Figure 8: Organisation of Health-Relationship Between the Centre, State, and District Levels



Source: Selvaraj, Karan, Srivastava, Bhan, & Mukhopadhyay, 2022.

Note: The dotted shaded red line is the newly created HWC. The shaded blue line depicts administrative relations. The shaded red line depicts financial relations. The dotted shaded grey line represents healthcare delivery system at the district level.

Funds flow from the District Health Society (DHS) to all three levels, almost as a consolidated set of facilities. Thus, resources for activities at the primary care level may be impacted by low levels of capacities of PHCs and SCs, leading to overcompensating higher levels of care. Autonomy at the primary level may be similarly impacted. Additionally, the District Medical Officer (DMO) being responsible for all levels may dilute accountability and performance at primary levels in the absence of a dedicated authority for primary care.

3.4 Structural Design Elements

An overarching structural element preventing the delivery of effective primary healthcare services in India is its reactive nature, comprising of episodic, largely curative engagement with the system, driven by patients seeking care in the event of health distress. With limited screening and outreach, population health has been on the backburner. The inception of NRHM led to the initiation of selective public health initiatives such as child immunisation, birthweight screening, and antenatal care (ANC) visits, but these remain limited, and gaps in coverage and screening persist (Bango and Ghosh, 2022; Panda et al., 2020).

The rapidly changing demographic and epidemiological profile of the country has widened the disease burden. The proportion of the population which is over 60 years of age is set to increase from 8.6% of the population in 2011 to 20% by 2050 (Lakshman, 2023). The burden of deaths attributable to NCDs has increased from 37.9% in 1990 to 61.8% in 2016 (MoHFW, 2022). The absence of comprehensive population-based screening (which is now getting attention under the HWCs) is contributing to a greater prevalence of NCDs, in turn to a substantial financial cost of healthcare and loss of the demographic dividend. An estimated 30%-50% of the population with diabetes is unaware of it (The Indian Express, 2023; Pradeepa and Mohan, 2021). Additionally, the prevalence of undiagnosed hypertension among older adults is estimated at 42.3% (Boro and Banerjee, 2022). Similar instances have also been reported for cervical cancer (Chakraborty and Deshpande, 2022), endocrine disorders, and drug-resistant TB (WHO, 2019; Wu, 2023). Combined with the sizable remaining burden of communicable diseases, India has a large dual disease burden to address. These transitions underline the need for a much stronger screening and outreach system than what is currently in place.

A second structural aspect is the absence of effective integration across levels of care, leading citizens to access the level they choose, irrespective of need, often bypassing the primary level, causing overcrowding of secondary and tertiary institutions, or switching from public to private providers. This has resulted in criss-crossing across levels of care, systems of medicine, nature of provider (qualified versus unqualified), and ownership (public versus private). The preference for a specialist even for the most basic illness in India (Makkar et al., 2003; Unnikrishnan and Sharma, 2018) has further aggravated the crowding of tertiary care public facilities. Gaps in accessibility and capacity to pay have caused delays in receiving care (Ghosh et al., 2022), and impoverishment due to unregulated medical expenditure. The absence of coherence in accessing the appropriate level of care has created inefficiencies, increased OOPE, and delayed treatment. Within India's mixed health system, which includes a very large landscape of private providers, the lack of integration between the public and private providers have resulted in parallel systems of care.

4. Insights from Other Countries

Several countries have experienced some or all the gaps in CPHC that India is currently facing. They have adopted varied mechanisms to address them, with varied experiences. This section distils insights from some of these experiences and sub-national initiatives in India, in the context of their unique challenges and how those were navigated. Specifically, the section examines the key administrative, financial, and governance reforms which enabled progress in primary care provision.

4.1 Adequate and Well–Targeted Financing

Two key components underlying effective primary healthcare systems include: 1) the availability of adequate financing, and 2) the effective utilisation of existing funds (Hanson, et al., 2022). For the first component, India's expenditure on primary healthcare is considerably lower than other countries (Table 4).

It is important to note that this is not merely a case of a country's economic status, the non-linear relationship between income and public expenditure on primary healthcare (Table 4) underscores drivers other than economic status, one of them being the politicalprioritisation of primary healthcare (Schneider et al., 2021).

Table 4: Primary Health Care Expenditure in 2017

Country	GDP per capita, PPP (constant 2017, $)	Public health expenditure (% GDP)	PHC per capita (2017 US$)	OOPE (as % of CHE) 2017	OOPE (as % of CHE) 2021
Costa Rica	20,168	5.18	322	21.26	20.74
Thailand	17,008	2.78	145	11.84	9.04
Turkey	28,193	3.25	132	17.38	16.27
Indonesia	10,942	1.35	49	36.60	27.49
Brazil	14,478	3.95	315	24.47	22.65
India	6,112	0.97	30	55.11	49.82
China	14,244	2.87	144	36.05	34.39

Source: Schneider, et al., 2021.

Note: The components of primary healthcare have been used from the definitions of WHO and OECD.

Brazil's expenditure on primary healthcare, at $315 per capita, is more than double that of China, the latter being at a similar development level and more than double that of other relatively higher income economies like Turkey and Thailand, suggesting a higher political priority accorded to primary healthcare in Brazil. Brazil's healthcare reforms were focused predominantly on primary healthcare with increased allocations, leading to greater attention to primary healthcare across municipalities in the country.

In the context of competing policy priorities, increased funding for health across countries was made possible through dedicated revenue streams with mechanisms ensuring that revenue sources earmarked for health are utilised for health expenditure. Thailand utilised the surcharge on tobacco and alcohol for funding preventive and promotive care (Pongutta et al., 2019), with the surcharge transferred by the Excise Department to the Thai Health Fund daily. Thai Health supports initiatives addressing health risks like alcohol, tobacco, accidents, and a lack of exercise, alongside programs in schools, workplaces, and communities (Watabe et al., 2017) As a result, the targeted funds have contributed to a decline in smoking and alcohol consumption rates (tobacco usage dropped from 22.5% in 2001 to 18.2% in 2014 and annual per capita alcohol intake decreased from 8.1 litres of pure alcohol in 2005 to 6.9 litres in 2014) (Pongutta et al., 2019).

A critical aspect of dedicated revenue streams is the utilisation of earmarked funds, but not all countries have had a positive experience in this regard. In 1988, Brazil introduced a social security budget to address the issue of the underfunded health sector, sourced from payroll contributions, taxes on company net profits and lottery revenue taxes, and company billings (Almeida et al., 2000). However, the government used the funds generated for purposes other than healthcare, such as public debt payments (Almeida et al., 2000). Similarly, "a new tax (Temporary Contribution on Financial Transactions, CPMF) was levied on all financial transactions to fund healthcare, however two-thirds of the funding was again used for public debt payment" (Almeida, et al., 2000).

Decentralisation of resources and state capacity

Control and autonomy over resources have been important differentiators. Decentralisation of financing played an important role in Brazil, which focused on greater devolution of funds to municipalities, but also explicitly addressed inter-municipality inequalities in funding. The SUS (Brazil's Unified Health System) reforms shifted control away from the federal government, which previously managed 70% of the resources, and implemented a minimum expenditure threshold for state and municipal governments (12% and 15%, respectively). These changes increased both revenue and the autonomy of state and municipal governments in allocating and spending federal and local funds (Venkateswaran & Singh, 2022).

Importantly, it led to greater prioritising of primary care by the local government, improving equity across municipalities, with less endowed municipalities being prioritised. Brazil witnessed a considerable rise in primary care expenditure in contrast to funding being predominantly directed towards hospital care prior to the reforms (excluding out-patient care in hospitals) (Venkateswaran & Singh, 2022). Between

1990-2018, the Federal Government's share in the total GHE reduced from 73% to 43.2%, the shares of states increased from 15% to 25.7%, and that of municipalities grew from 12% to 31% (OECD, 2021). The per capita primary healthcare expenditure spent by municipalities has doubled from R$ 245 in 2005 to R$ 490 in 2019 (OECD, 2021; Massuda et al., 2022).

Brazil's fiscal devolution impacted the availability of consumables. Its performance incentive program was designed to provide autonomy to municipalities in utilising the incentives, and nearly 60% of municipalities opted to use the funds for procuring inputs for healthcare facilities, potentially due to insufficient funding for essential expenses. Thus, a significant portion of the funds were not used as direct monetary incentives for the staff, but rather to improve working conditions (Venkateswaran & Singh, 2022).

While India provides for decentralisation of funds to the lowest tiers of government, it has been found that state governments continue to spend the bulk of the funds, with limited financial autonomy and resources available at the village and urban-local body level (Guha, Gautam, Joshi, Upadhyay, & Jain, 2023). To strengthen decentralisation, the 15 Finance Commission (2021-26) allocated Rs 4,36,000 crore to local bodies,[2] with a portion of it being linked to the performance of municipalities on select indicators (PRS, 2021). The Commission had also stipulated that there be greater flexibility in finances devolved through centrally sponsored schemes, thereby enabling states to adapt and innovate. However, based on past experience, the stark inter-state differences in the utilisation of funds (Choudhury and Mohanty, 2019) necessitate dedicated and consistent investments in the development of state capacity, across all levels of government, to translate increased devolution into increased expenditure.

The importance of investments towards building state capacity is key to greater devolution and a move towards performance-based payments. It is important to note Indonesia's dedicated line item for capacity building of health personnel at the district and facility level (Nundy and Bhatt, 2022). This has resulted in improved health outcomes, including a decline in hospitalisation rates and improved access to primary care facilities (Nishijima et al., 2019). While it may be argued that India too has budget line items for training, these are largely for technical training, and less for planning, budgeting, and other aspects relating to funds utilisation.

Targeting the allocation of primary healthcare funds

An analysis of Table 4 reveals that countries with varying expenditure levels on primary healthcare have managed to attain a sizable reduction in OOPE on healthcare. The absence of a direct association between the two (public expenditure and OOPE) points to the importance of targeting, innovations, and other characteristics of their health systems. Thailand has routinely undertaken health technology assessments (HTAs) for a variety of disease interventions and for designing its screening program. The Thai Health Intervention and Technology Assessment Program (HiTAP), established in 2007 and credited with undertaking a dozen HTAs on a yearly basis (Lahariya et al., 2023), helped in evaluating the cost-effectiveness of technological interventions, and the frequency with which screening has to be undertaken (Kingkaew et al., 2022). HTA-based decisions resulted in fewer costs, and superior health outcomes (more quality-adjusted life years, QALY) and aided the evaluation of medicines for inclusion in the Thai UHC benefit package (Kingkaew et al., 2022).

In India, a large-scale HTA has been conducted in the context of the AB-PMJAY. The Health Technology Assessment in India (HTAIn) has commissioned studies on cervical cancer, diabetes, and hypertension (Lahariya et al., 2023). Additionally, studies have been commissioned for mammography, mechanical ventilation, single-use syringes, and other diagnostic technologies as well (NHSRC and WHO, 2014). However, the current set of interventions have largely been inconsistent and not annual assessments.

A need to re-think the relative share of different components of public health expenditure is important. In India, the bulk of the expenditure continues to be on human resources, with a limited budget allocated towards medicine and diagnostics (Hooda, 2013), which combined with a lengthy procurement process, has translated into poor availability of drugs and

[2] Out of the total grant earmarked for respective local bodies (60% in case of panchayats and more than 60% in case of municipalities), a major proportion is allocated for water, sanitation, and solid waste management. This is possibly due to the absence of health service delivery from the defined 18 roles under the 74th constitutional amendment (XV Finance Commission, 2020).

diagnostics in public facilities (Anand et al., 2016). Consequently, drugs and diagnostics constitute the single biggest component of OOPE on health (GoI, 2019). The expanded list of medicines and diagnostics expected to be available at HWCs as per the AB-HWC programme, underlines the case for increased budget as well as streamlining the procurement process. In the aftermath of reforms, Turkey substantially increased expenditure on drugs and other supplies, with the aim of providing CPHC. This contributed to a reduction in OOPE from 28% in 2000 to 16% in 2020. Between 2003-2009, public spending on drugs grew at an annual rate of 7% on average in real terms (Gursoy, 2016). Brazil laid emphasis on drugs, due to its initial high OOPE on medicines. Between 2000-2018, Brazil's OOPE as a proportion of total health expenditure (THE) reduced from 37% in 2000 to 28% in 2018 and 22% in 2021 (PAHO, 2023). The government has taken strong measures for cost reduction in recent years by shifting from branded medicines to generic drugs. Drug spending as a percentage of total health spending has increased from 6% in 2001 to 13% in 2018 (IQVIA, 2024).

Streamlining drug procurement processes and reforms in drug pricing are other policy instruments leveraged to ensure better utilisation of limited funds. Different Indian states adopt different procurement strategies. The Tamil Nadu Medical Services Corporation has been one of the more successful ones. It streamlined the procedure for procurement, storage, and distribution of drugs, across all government health institutions, resulting in the state's spending on drugs as a proportion of THE in public hospitals being among the lowest (64% for Rural and 66% for Urban Out–Patient Departments), and also much lower than the all-India average (85% for Rural and 78% for Urban Out–Patient Departments) (GoI, 2019). The state's investment in digitising hospital records has further aided in tracking utilisation of medicines in public facilities and thereby, effective planning of procurement of drugs and diagnostics (Govindraj, 2016). Further, the mandate that doctors prescribe only from the list of drugs available at the facility has helped in containing the OOPE on drugs[3] (MoHFW, 2011).

As Brazil shifted from hospital-based care to primary care, the SUS ensured access to essential medicines by the population through the institutionalisation of pharmaceutical services at PHCs. A national drug policy was adopted alongside the establishment of a permanent bidding committee for the procurement of medicines and personnel for distribution of medicines at PHCs. This policy aimed to ensure the safety, quality, and efficacy of medicines, and promote the rational use and access of essential medicines to the population. The decentralised approach of procurement and distribution has ensured greater access to essential medicines (Peixoto, et al., 2022). The transition to generic drugs has reduced the cost of medicine and increased accessibility (IQVIA, 2021). This has reduced OOPE as a percentage of current health expenditure (CHE) to 22.39%, down from 38% in 2001 (PAHO, 2023).

4.2 Transitioning from Patient-Initiated to a System-Initiated Model

While India has made some advancements towards a proactive health system with the introduction of ASHA workers under the NHM 2005, it remains reactive in large part, with patients accessing health services (of their choice) and in the event of a health episode. This has often implied a high burden of undiagnosed diseases and delays in care resulting in adverse health outcomes, as well as a higher financial burden.

Recognising the importance of system-initiated care, several countries introduced reforms with elements of proactive outreach. Key elements of such an approach have included the identification of a catchment area linked to a primary care facility or team, empanelment of the population to a facility, expansion of outreach teams, and capitation-based payments.

Identification of catchment and population empanelment

The size of the population covered by one team has implications for service quality. The density covered varies across countries (Table 5) with a much higher density for India, at up to 50,000 per PHC in urban areas, as compared to Turkey and Brazil at 3,000-4,000. Thailand, Costa Rica, Turkey, and Brazil are key examples of system outreach with population empanelment.

At 50,000 individuals in a catchment area, Thailand has a similar population density as India, but the

[3] In cases where drugs are not available at the facility and the patient requires the drug, they are referred to a higher facility.

population is registered with the District Health Service (DHS) and individuals are free to access any PHC registered within that DHS (Nundy & Bhatt, 2022). This process of population empanelment resulted in greater accountability of the PHC team. It also led to increased footfall, contributed by the decentralisation of healthcare decision-making and management to the district level. This, in turn, allowed for increased community participation alongside the involvement of local authorities (Nittayarumpong S, 1990, cited in Sumriddetchkajorn, K., Shimazaki, K., Ono, T et al., 2019). Primary healthcare centres in Thailand provide a wide range of services, including preventive, promotive, curative, and rehabilitative care, enabling access to comprehensive care in proximity to their residence, resulting in heightened utilisation of primary healthcare facilities. Between 1982 to 1986, Thailand successfully established at least one primary care health centre in over 90% of its districts. One of the reasons for the success of the DHS could be that they are often the only choice within the district, fostering a path dependency that encourages individuals to choose DHS as their first point of contact (Tangcharoensathien, V et al., 2018); an aspect that may vary in contexts such as India's which has several other options.

Brazil saw primary care coverage escalate from 4% in 1998 to 62% in 2014 due to the shift in priorities from hospital-based care to PHC-based care with empanelment and the scale up of the family health strategy across the country in the early 2000s (Macinko et al., 2012). Since government expenditure as a percentage of GDP did not increase significantly during this period, the increased coverage was mainly due to shifting priorities from hospital-based care to PHC-based care (Venkateswaran & Singh, 2022a). OECD (2019) highlights Brazil's expenditure to be a little over 20% (of expenditure on all healthcare) on in–patient care while 40% on out-patient care.

Country experience has demonstrated the enhancement of continuity and coordination in the system through empanelment by fostering long–term relationships between individuals and their care providers or teams (Joint Learning Network, 2019). This promotes relational, managerial, and informational continuity over time (Joint Learning Network, 2019). Further, it establishes a defined group of individuals for whom a specific facility, provider, or care team is accountable, providing support in the development and implementation of clinical pathways and dual referral systems (Joint Learning Network, 2019). At the same time, it needs to be recognised that population empanelment may limit the autonomy of patients to choose their providers and subsequently decrease patient trust in the system (PHCPI, 2019). Freedom of provider choice encourages the development of competing provider networks, and the capitation payment approach (discussed in a subsequent section) helps contain costs and promote efficiency (Towse, Mills, & Tangcharoensathien, 2004).

Individuals are given the choice of seeking treatment at a PHC other than the one they were empanelled at in Brazil, Thailand, and Indonesia and are mandated to seek treatment at PHCs where they were empanelled in Turkey, and Costa Rica. Turkey adopted a hybrid empanelment approach in the Health Transformation Programme (HTP), whereby patients could switch providers, prioritising autonomy (Tatar, et al., 2011; World Bank, 2013).

Transitioning to capitation payments

The shift to a population-based empanelment model has also been combined with the redesigning of provider payments, invariably focusing on capitation-based payments. Turkey adopted the capitation system adjusted for the socio-economic level of the area and demographic characteristics, assigning weights to patient characteristics such as age, pregnancy, among others (Özçelik, 2020). This indexation has incentivised improved performance by providers and ensured an increase in the utilisation of services. Per capita per year visits to physicians in primary health care facilities increased from one in 2002 to three in 2020 (Tatar, et al., 2011; World Bank, 2013). Costa Rica and Thailand also adopted capitation payments aimed at incentivising providers to keep health costs down and more actively screen the population for health risks. Capitation payments in Thailand have led to the utilisation of generic essential medicines instead of branded medicines and reduced the inclination to prescribe more than necessary (Tangcharoensathien et al., 2015).

Table 5: Population Empanelment at PHC Level Across Different Countries

Country	Identifying catchment area per PHC team	Ensuring registration of the entire population with the PHC team	Outcomes/Shifts
Turkey	3K – 4K	Mandatory registration of the population within the catchment area.	Increased footfall at primary level; referral and facilitated change of funding mechanism and increased funding.
Brazil	3K – 4K	Registered with a PHC, but free to access the PHC services elsewhere.	Increased footfall at primary level; facilitated change of funding mechanism and increased funding.
Thailand	50K individuals within a DHS	Registration at the contracting unit (CUP), which is usually a district hospital.	Increased footfall at primary level; enabled referral and gatekeeping.
Indonesia	25K – 40K	Mandates to register but had the choice to change their registration after 3 months.	Increased footfall at PHC; adherence to gatekeeping and referral not successful.
Costa Rica	~ 4K – 7K	Geographically empanel population to specific EBAIS teams.	EABIS team delivers approximately 50% of all OPD visits and care for 80% of the nation's health needs.
India	20K – 30K (rural) / 50K (urban)	Slow progress is observed.	Expected to help in reaching the under-served population.

Source: Authors' compilation across multiple sources.

Apart from empanelment, other initiatives have been introduced towards a proactive approach. States like Chhattisgarh have addressed the needs of the remote and tribal areas, by organising *haat bazaar* clinics, under the *Mukhya Mantri Haat Bazaar Clinic Yojana.* Launched in 2019, the model focuses on setting up of Mobile Medical Units (MMUs) at the designated weekly marketplace. These MMUs are manned by a doctor and the paramedical staff who provide preventive, promotive, and curative services, and do not charge any user fee to patients (WHO, 2023). They also provide routine screening for NCDs and common cancers and are integrated with the larger public health system in the state.

Multi-disciplinary outreach teams

The other key element required for a proactive model is regular community outreach through a multi-disciplinary team (Table 6), focused on tracking disease-related risk-factors across age groups and for at-risk population, ensuring early detection of diseases, and reducing the burden of care by higher levels of facilities. The periodic screening not just necessitates sizeable budgetary allocation, but also an adequate, well-trained facility and field level workforce. Brazil and Turkey adopt door-to-door visits for NCD screening and other routine check-ups. Brazil focuses on the formation of multi-disciplinary teams and their skill building, especially for community health workers who are skilled to perform ANM level tasks (OECD, 2021). The team's efforts have been complemented by the maintenance of real-time, population-based, and disease registers to track patients on a real-time basis, all of which combined to reduce levels of hospitalisation rates for congestive heart failure, diabetes, and hypertension to below the OECD average by 2019 (OECD, 2021). Thailand witnessed a reduction in cervical cancer incidence after screening shifted from occasional campaigns to regular screening programs. Costa Rica witnessed a rise in PHC service accessibility from 25% to 93% in the aftermath of the introduction of PHC outreach teams during the 1990 reforms (Pesec et al., 2017). By 2014, more than 70% of all consultations were done at the primary care level, and the primary healthcare teams were catering to 80% of the health needs of the nation (Pesec et al., 2017).

Table 6: Patient Outreach Through Multi-Disciplinary Teams

Country	Primary care teams	Screening NCDs, other diseases	Outcomes
Turkey	• Physicians • Midwife • Nurse • Emergency medicine technician	Routine, population-based screening program for select NCDs	Recent program. No evaluation done yet.
Brazil	• At least one physician • One nurse • One medical assistant, and 4-6 CHAs. • Additional support staff -Nutritionists, psychologists, social workers, psychiatrists, pharmacists, speech and hearing therapists, gynaecologist/ obstetricians	Routine, population-based screening program for select NCDs; proactively identifying health issues, adherence to treatment; real-time population and disease registers, epidemiological status	Hospitalisation rates for chronic conditions such as congestive heart failure, hypertension, and diabetes reduced below the OECD average in 2019
Thailand	• Doctor (Rolling basis) • Nurses • VHV (frontline workers) • Pharmacists • Physiotherapists	Routine, population-based screening program for select NCDs	Cervical cancer incidence decreased after screening shifted from occasional campaigns to regular screening program
Indonesia	GP, nurses, CHW, pharmacists, technicians	Routine, population-based screening program for select NCDs	Inadequate screening – lack of tests, equipment, labs
Costa Rica	• Physician • Nurse • ATAP - Technical assistant (akin to a CHW) • Medical clerk (data collection) • Certified pharmacist	Screening for age-group related diseases. Those with chronic conditions have quarterly appointments at the EBAIS clinic	Reduction in hospitalisation.
India	• Community Health Officer • MPW (Male) • ANM (Female) • ASHA (frontline worker) • Doctor (at PHC, not HWC)	Phase-wise implementation of the program, currently focused on diabetes, hypertension, and three cancers (oral, breast and cervical)	In early stages

Source: Authors' compilation based on multiple sources.

Countries have expanded field level teams beyond the core team of doctors, frontline workers and ancillary nursing staff, to improve comprehensiveness and continuity of care, as witnessed in Brazil, Turkey, and Costa Rica. Brazil introduced Family Health Support Centres in 2008 to expand the scope of primary care, including nutritionists, psychologists, social workers, psychiatrists, pharmacists, and speech and hearing therapists, as well as gynaecologist/obstetrician (OECD, 2021). Turkey introduced Healthy Living Centres in 2014 to address the rising burden of NCDs (World Bank Group, 2019), by providing complementary services like nutritional counselling, healthy aging support, smoking cessation, screening, and follow-up visits for PHC patients. Costa Rica's EBAIS (Costa Rica's Healthcare Reforms) team's efforts are supported by a team of nutritionists, psychiatrists, and pharmacists, assigned to a larger Health Area containing 15 EBAIS (PHC) teams (VanderZanden et al., 2021), which led to an 8% reduction in IMR

and a 2% decline in adult mortality (Ratcliffe, 2020) over the first nine years of implementation.

Expansion of teams comes with an associated cost implication. As part of ensuring the availability of doctors in family health teams, Brazil initiated various incentive programs, most notably the More Doctors program, leading to considerable investment reflected in increased public health expenditure from 3.5% of GDP in 2000 to 4.6% in 2020 (World Bank, 2023). Similarly, Turkey increased the salary of upgraded general practitioners to three times the previous salary. This resulted in an immediate increase in public expenditure from 3.4% of GDP in 2005 to 4.4% in 2009 (World Bank, 2023).

4.3 From Fragmented to Integrated Care

As mentioned previously, the absence of gatekeeping results in the bypassing of lower-level public health facilities to seek even basic treatment at higher level facilities, resulting in overcrowding of the same. High staff absenteeism at lower level facilities (Pangariya, 2016), lack of availability of consumables like medicines and diagnostic equipment (Isalkar, 2013), and lower quality of providers at the primary healthcare level (Das et al., 2016), all contribute to the preference for higher level facilities. These challenges must be addressed before the introduction of gatekeeping, without which it will not be effective. In Indonesia, despite explicit norms pertaining to gatekeeping, individuals were willing to seek primary care at secondary and tertiary level facilities by incurring OOPE, due to the lengthy waiting time at the primary care level, lack of adherence to a referral system by the service providers, and overall sub-optimal quality of care (Nundy and Bhatt, 2022; Haemmerli et al., 2021).

Gatekeeping is not the only strategy that can be employed, and countries have controlled the bypassing of lower-level facilities by other means as well. Thailand does not formally have a gatekeeping mechanism, but any care sought at higher-level facilities without first accessing care at a designated primary care facility entails 100% OOPE cost for the patient (Paek et al., 2016). Turkey abolished the formal referral system[4] in 2007 but introduced co-payments for accessing secondary care without referral (Venkateswaran & Singh, 2022). Thus, whether through gatekeeping or through disincentives of directly accessing higher level of services, adherence to a rational pathway requires a strong primary healthcare system that effectively services people's needs.

One of the innovations facilitating continuity of care and greater integration across different levels of care is the formation of regional healthcare networks. Brazil's regional healthcare networks, created in 2011 by pooling resources across municipalities, facilitated integration of care, while solving for regional inequalities in availability of human resources and other physical infrastructure (OECD, 2021). The networks extended support to municipalities with low capacities, facilitating the integration of planning and provisioning of services (primary and specialised care) at the regional level. Provinces in China, such as Shenzhen, have successfully implemented integration through autonomous primary care groups managed by tertiary general hospitals. Government subsidies support primary healthcare physicians, who receive priority referrals for out-patient visits, tests, and hospital admissions at higher-level facilities.

4.4 Addressing Workforce Shortage

India's health system is fraught with challenges relating to the health workforce, including inequalities in the distribution of doctors, absenteeism of doctors, acute shortage of ancillary workforce, and overburdening of the ASHA workers. Global experience points to strategies of re–designing the workforce mix, task-shifting, extensive training of the ancillary workforce, and significant budgetary allocations to address these challenges.

Both Turkey and Brazil faced significant workforce related challenges prior to their reforms. Turkey experienced overall shortages and regional imbalances in distribution,[5] with physician shortages leading to 16.8% of PHCs running without physicians in 2003 (Venkateswaran & Singh, 2022). Brazil's challenge was one of distribution with physician shortage in its

[4] "The main reasons underlying the lack of a compulsory referral system are the general undersupply of doctors nationwide and, particularly, the insufficient number of doctors working at the primary care level who can act as gatekeepers" (Tatar, et al., 2011). This caused a stir amongst the people when the referral system was first initiated after the reform (Tatar, et al., 2011).

[5] "The total number of physicians per 1,000 people was 1.34 in 2000 for low-income countries, compared to 3.05 for high-income countries. The availability of nurses and midwives per 1,000 people was 1.75, compared with 8.19 for high-income countries" (Venkateswaran & Singh, 2022).

less developed regions.[6] Increased public expenditure of 1% between 2005 and 2009 in Brazil, and the family medicine program explicitly targeting less developed regions in the country, contributed to a decline in coverage gaps[7] and improved health outcomes.

With improved health workforce, primary level services utilisation improved. The Turkey health statistics in 2019 highlights the average per capita visit to a physician increasing from 1.1 in 2002 to 1.9 in 2006, the ANC coverage increasing from 81% in 2003 to 92% in 2008, vaccination coverage of children below two years of age increasing from 54% in 2003 to 77% in 2008 (Venkateswaran & Singh, 2022).

Thailand adopted strategies of re-designing the workforce mix and task shifting. The Ministry developed three different types of arrangements based on availability of resources–main node PHC with a doctor on rotation (THPH-DR), PHC with no doctor but a nurse practitioner or registered nurse[8] (THPH-NU), and PHC staffed with only public health officers (THPH-PH) (Kitreerawutiwong et al., 2017). Facilities with doctors on rotation were poorly rated by patients, possibly due to their inconsistent availability, while those managed by public health officers rated highest in terms of accessibility, comprehensiveness, and continuity of care.

Thailand addressed distributional inequities through the adoption of task shifting, aimed at remote areas with doctor shortages but where the capacity of nurses could be built. With the same doctor-to-population ratio as India, the nurse-doctor ratio in Thailand, at 3.4, is much higher than India's ratio of two (OECD, 2020). "This enables significant task-shifting and efficient utilisation of limited resources" (Pagaiya, 2009). Nurses have been trained to take on expanded roles, such as conducting routine check-ups, providing health education, administering vaccinations, handle minor treatments, and wound care (Partiprajak et al., 2011). For diabetes, care delivered by nurse specialists has been shown to have improved the management of Diabetes II among patients.

Costa Rica focused on training its community workers, who cater efficiently to a larger population, and go through a full year of mandatory training in preventive and curative services before they join the EBAIS team. The adoption of a risk stratification strategy allows them to manage the frequency of interactions (Spigel et al., 2020; Vanderzanden et al., 2021). Costa Rica's focus on training in public health aspects prevented a biomedical-focused system of primary care (Pesec et al., 2021), and fostered integration between clinical and preventive care.

Population norms and workloads have been another area of priority. In the case of Indonesia, Brazil, and Thailand, the population catered to by outreach workers is much lower (Table 7), which allows them to efficiently execute the expanded set of duties assigned to them.

[6] "The availability of physicians per 1,000 people in less-developed regions (north and northeast) was less than half than that in developed regions in Brazil (the southern region)" (Venkateswaran & Singh, 2022a).

[7] "Doctors per 1,000 people increased from 1.4 in 2000 to 2.2 in 2017 in Brazil. Nurses and midwives (per 1,0000 people) increased from 3.8 in 2000 to 9.7 in 2017" (Venkateswaran & Singh, 2022a).

[8] Registered Nurses (RNs) typically complete a bachelor's degree in nursing and are licensed to provide general nursing care. They work in various healthcare settings, such as hospitals, clinics, and community health centres, providing direct patient care, administering medications, conducting assessments, and collaborating with healthcare teams. Conversely, Nurse Practitioners (NPs) have advanced education and training beyond that of RNs. They usually hold a master's or doctoral degree in nursing and have specialised knowledge and skills in a particular area of healthcare. NPs often have prescriptive authority, can diagnose and treat illnesses, order and interpret diagnostic tests, and in some cases, have more autonomy in patient care. They might specialise in areas like family practice, paediatrics, geriatrics, or mental health.

Table 7: Addressing HR Shortage Through Frontline Health Workers (FHWs)

Countries	FHWs outreach density (HH/population)	Functions and Incentives of FHWs/Frontline Workers	Qualification
Thailand	~ 1:15 (HH)	**Functions:** Responsible for health promotion, basic care, and control of communicable disease and referral to higher facilities. **Incentive/compensation:** Monthly fixed salary plus social recognition awards.	Basic school education
Brazil	~ 1:150 (HH)	**Functions:** FHWs are tasked to perform ANM level tasks, leading to increased and effective coverage of family health. **Incentive/Compensation**: Monthly Base salary + Performance based bonus	Secondary education + professional diploma
Turkey	~ 1:1,400 ANM Equivalent	**Functions**: ANM as frontline worker to provide preventive, promotive aspects of health services including NCD screening and basic clinical care related to maternal and child health. **Incentive/Compensation**: Monthly Base salary + Performance based bonus	Bachelor's degree
Costa Rica	1:4,000/1:5,000 ASHA Equivalent	**Functions:** Provide disease prevention and health promotion education, and health activities through group education practices in a variety of locations such as schools, churches, community buildings and even workplace. Creates census of households, maintain robust epidemiological surveillance, anthropomorphic measurement of each family member and immunisation. **Incentive/Compensation**: Fixed salary	Basic High School
Indonesia	~ 1:140/1:233 ASHA Equivalent	**Functions:** FHWs include organising monthly community health sessions, weighing children under five and pregnant women, fill in the record book, provide health promotion and nutritional counselling, and help the village midwives in maternal health services **Compensation/Incentive:** Monthly honorarium payment for voluntary work. FHWs may receive informal types of compensation, such as free medical treatment from higher levels in the health system	Basic high school education
China	~ 1:3,000/1:2,500 ANM Level	**Functions:** FHWs are known as village doctors, who provide, basic medical consultation, treat minor ailments, provide preventive and promotive healthcare, immunisation and referral to higher facilities. **Compensation/Incentive:** Monthly salary + Govt. subsidies to deliver essential medicines.	Educational qualification varies across provinces: From basic high school education to additional vocational training or certification in specific areas of healthcare
India	1:1,000 (rural) 1:2,000 (Urban) (ASHA)	**Functions:** Extensive list of functions ranging from ANC outreach, to birthweight and NCD screening, maintaining population registers, increasing overall awareness about nutrition and public health and facilitating referral visits to higher level facilities, assist VHSNC to create village level health plan **Compensation/Incentive:** Monthly fixed honorarium + incentive linked to completion of certain number of tasks	Literate woman, with preference given to women who are qualified up to 10th standard

Source: (Venkateswaran & Singh, 2022; Venkateswaran & Singh, 2022a; Nundy & Venkateswaran, 2022; Nundy & Venkateswaran & Bhatt, 2022; Wadge, et al., 2016).

Leveraging technology to reduce the labour-intensive nature of tasks is another mechanism adopted. The Tamil Nadu Government collaborated with Google to develop a population-wide registry, where the latter is helping pilot population surveys in select districts (Singh, 2022). This registry (PHR) is focused on screening for both communicable and non-communicable diseases. Once the screening is completed, relevant drugs are directly delivered to the doorstep of persons suffering from chronic NCDs. All these records are maintained digitally to ensure timely follow-up. Similarly, child immunisation due date alerts will also be sent to the frontline workers.

4.5 Mechanisms to Ensure Quality and Accountability

Quality and accountability have been critical challenges in several countries, with multiple levers used to improve accountability and quality.

Performance incentives

Performance-linked incentives are a common lever to improve quality and accountability. Experiences from Brazil and Turkey point to the gains from such interventions. Brazil introduced results-based financing and aimed at increasing PHC coverage, especially in less-developed municipalities. This was based on the extent of enrolment in the catchment area, the number of functioning Family Health Teams (FHT), and availability of community health workers in the municipalities (OECD, 2021). Brazil introduced a national programme to improve primary care access and quality (PMAQ) in 2011, including a comprehensive incentive structure for municipalities to improve access, utilisation, and outcomes (Venkateswaran & Singh, 2022a). Implementation of PMAQ required financial commitment, reflected in increased public health expenditure from 3.35% in 2012 to 3.95% in 2017 (Macinko, Harris, & Rocha, 2017).

"The transfer of funds from federal to municipal governments was conditional on meeting the standards of care at PHCs, measured on structure (availability of drugs and equipment), process (ANC, immunisation, and treatment completion rates), and outcome (patient satisfaction and years of life lost due to chronic diseases) indicators. Even though PMAQ was voluntary, almost all FHTs participated in the programme by 2019 (OECD, 2021). While literature does not identify the reasons, the additional funds could be a source of motivation" (Venkateswaran & Singh, 2022). PMAQ was associated with an increase in the provision of maternal and child-related healthcare and a reduction in hospitalisation rates for chronic diseases (Venkateswaran & Singh, 2022; OECD, 2021).

According to Venkateswaran & Singh (2022), Turkey, through its Family Medicine Program, offers another example of performance-based incentives (Venkateswaran & Singh, 2022). The performance focused contracts for medical professionals addressed the inequitable distribution of human resources by linking salary to performance indicators such as enrolment numbers, compliance with work hours, coverage of services, and working in less developed areas (Venkateswaran & Singh, 2022). Non-compliance with target indicators, such as planned work hours, entailed a deduction of up to 20% of base salary or contract termination, and payment of up to 40% of base salary was provided to medical professionals posted in less developed areas (Venkateswaran & Singh, 2022; Özçelik, 2020). These reform measures resulted in a significant reduction in coverage disparities across regions and resulted in greater coverage of preventive services across regions (Venkateswaran & Singh, 2022). The percentage of pregnant women receiving four or more ANC services increased from 54% in 2003 to 74% in 2008, and subsequently, to 90% in 2018 (Venkateswaran & Singh, 2022). It also resulted in substantial improvements in institutional deliveries and child immunisation (Venkateswaran & Singh, 2022). This growth in preventive activities was commensurate with the increase in yearly per capita visits to a PHC physician, which improved gradually from 1.7 in 2005 to 3.5 in 2019 (Venkateswaran & Singh, 2022).

Provider regulation

The second key instrument for improving quality has been the regulation of health providers to ensure quality control. Accreditation leading to contracts has been a commonly deployed strategy. Indonesia has mandated accreditation through the Accreditation Commission for Primary Care (KAFTP), an independent body located outside of the Ministry of Health, which mandates accreditation and re-accreditation of PHCs against a set criteria based on facility and staff (Claramita et al., 2017). In Turkey, Social Security Institution (SSI) contracts most pharmacies and diagnostic services. Complemented by a robust

family medicine information system, the regulation has led to higher user satisfaction (67% in 2019) and low OOPE (16.7% in 2019) (Venkateswaran & Singh, 2022).

Community driven accountability

Besides ensuring accountability through state actors, community driven accountability has also been leveraged to address issues of quality and accountability. In India, the Village Health Sanitation and Nutrition Committee, Mahila Arogya Samiti and recently, the *Jan Arogya Samiti* are community-led initiatives, but as discussed in preceding sections, are fraught with their own set of challenges. Countries have developed different arrangements to seek community feedback and provide grievance redressal. In 2013, Indonesia launched a centralised People's Online Aspiration and Complaints Service (LAPOR), a web-based portal for registering complaints regarding any service delivery. The portal has outlined timelines for redressal, enhancing trust in the system. Early research specifically in the context of healthcare related complaints highlights differences in quality of redressal directly correlated with the prioritisation accorded to the handling of complaints. Based on the level of priority accorded, grievance redressal through LAPOR was considered either as an additional workload, eliciting a bare minimum response, or a select few complaints that sought insights and feedback from these for their future functioning (Pottier, 2023). Thailand has a similar complaint system specifically catering to the health sector, with the Contracting Unit at the district level generally acting as the agency that demands accountability on behalf of individuals (Nundy & Bhatt, 2022). In the case of Brazil, user satisfaction has been outlined as one of the components of the payment to the PHC team (OECD, 2021).

Unified framework for assessment of quality

Multiple levers have been used across health systems and coherence across these has been enabled through a unified framework for the assessment of quality. India's quality landscape is not only governed by different assessment frameworks (as discussed in previous sections for India) but is also supervised by different administrative structures. In contrast, Thailand introduced the Quality and Outcomes Framework in 2013, with the aim of strengthening the quality of primary care by introducing financial incentives and performance indicators for measuring the quality-of-service provision. The framework, initially fraught with design and implementation challenges, was subsequently strengthened through a piloting and indicator development process that was grounded in evidence produced at the facility level (HiTAP, 2016).

Costa Rica tracks quality through the Healthcare Delivery Performance Index, which ranks 106 health areas by using 15 quality indicators (Pesec et al., 2021). These reports are released annually by the Quality Assurance department, and regions ranking in the bottom 20% must outline and comply with a remediation plan, with a special focus on low-performing indicators. Costa Rica also has Regional Audits for tracking general and region-specific targets for health areas (annually) and Internal Health Area Monitoring at a local level (Pesec et al., 2021).

Organisation and governance of quality

Organisational aspects constitute an important aspect of effective primary healthcare delivery. Countries have delivered primary healthcare through the creation of a separate department dedicated to it. The General Directorate of Primary Health Care in Turkey is responsible for the strategic and operational management of health centres and human resources, controlling communicable diseases, and to a lesser extent, environmental health services (Venkateswaran & Singh, 2022). The formation of a separate directorate has two key benefits: 1) ensuring there is no internal substitution of funding due to changing policy priorities and the directorate receives a dedicated budget and 2) creating a dedicated administrative structure directly accountable for the provision of these services, without having to make policy choices.

4.6 Engaging Private Providers

Given the sizable presence of private providers in the country, any reimagining of the primary health system ignoring these stakeholders is likely to be incomplete. While the countries we compare with have a relatively smaller presence of private providers, their presence is steadily growing in some cases. Thailand, Indonesia, and China have generally utilised contracts that specify quality standards and other input criteria to be fulfilled by private providers to be part of the larger health system (Venkateswaran & Singh, 2022; Nundy & Venkateswaran, 2022; Nundy & Bhatt,

2022). These countries either have a social health insurance-based mechanism (China), where private clinics register with the health insurance scheme, or their services are purchased under a strategic purchasing agreement (Thailand and Indonesia), where the government buys services from private players at standardised rates for different sets of treatments, and the private sector is expected to adhere to all the outlined conditions of the contract. As a strategic purchaser, the government has greater control over quality and can control costs.

Costa Rica's cooperative model for financing and the provision of primary care also provides some insights into the way non-government actors can be incentivised in situations where they are entrusted with running primary care facilities (Pesec et al., 2021). While the co-operatives were provided with a capitation fee based on the population attached to that specific facility, there was no indexation of these payments based on the disease profile of the population or the location of the health facility. This incentivised them to maintain and improve the health profile of the assigned population to keep the costs down. They more actively mobilised the ATAPs (community health workers) to undertake health education and promotion programs and contained costs of operation more effectively than some government-run primary health facilities. For instance, in 2016, of the top eight performing health areas, six were cooperatives (Pesec et al., 2021).

In the Indian context, certain Public Private Partnership (PPP) models for managing primary care are gaining traction, and after appropriate impact evaluation studies, provide us with ready opportunities for further scale-up. Dutta et al. (2020) provide a detailed review of some of the prevalent non-governmental organisations (NGOs) providing primary care in rural and urban areas, with varying financial models. Besides the government, these organisations also utilise funds from the Corporate Social Responsibility (CSR), minimal user fees, cross-subsidisation from in-patient services, as well as grants from philanthropic foundations to fund their operational costs. In the case of some of the NGOs working in collaboration with the state government (Karuna Trust in the case of Karnataka and Basic Healthcare Services in the case of Rajasthan) they bear 25-100% of the operational costs and the provisioning of the services is completely managed by these NGOs (Prinja and Muraleedharan, 2021). However, notwithstanding variations in the different models of financing and provision, state capacity plays an important role in determining the ultimate success of these models (Dutta et al., 2020).

5. Discussion and Potential Pathways

The discussion in the preceding sections makes it evident that while India has made progress on the primary healthcare front, there are inter-related structural and implementation issues that are constraining the overall system from functioning effectively, efficiently, and equitably in addressing the health needs of the population without financial risk.

At an overarching level, structural elements of design have led to a patient-initiated model focused primarily on curative services, fragmented across levels of care and type of provider. Not only has this implied multiple strand of services, running in parallel or intersecting without coherence, in the absence of the required overall stewardship of a single system across levels and providers, but it has also implied a disease burden often not diagnosed in time, leading to unnecessary disease progression and increased financial costs.

Therefore, at the outset, attention is needed to reimagine the primary healthcare system design in terms of system ownership for population health and integration across levels and providers.

Strengthening the primary healthcare system will require not only a reimagining of the basic design but also ensuring the key input resources of physical and human infrastructure and medical and other supplies, all of which will require additional or differently targeted funds. The challenge is not one of merely additional resources but of maximising returns from existing ones, through improved accountability and quality, both of which are linked with system design.

Several countries have experienced the challenges India is facing today, and in response, adopted reforms to address these. Not surprisingly, the experience of reforms has varied but common elements emerging from global experience can be categorised into at least the following five elements.

5.1 Population Health Through Patient-Centric and Integrated Systems

Reform outcomes across countries have demonstrated that empanelment of population groups to facilities, and enhancement of integration and coordination in the system foster long-term relationships between individuals and their care provider or team, building trust and greater satisfaction. In turn, this has enabled increased footfall at the primary care level and better management of disease. Empanelment to facilities and providers, alongside the transition in payment methods to capitation, has contributed to increased accountability of care teams towards a defined group of individuals.

The focus on an outreach-based system in India began with the introduction of the ASHA, as part of the NRHM. The continuing reactive and largely curative focus of the system can be perceived as a consequence of the diffused focus on empanelment, giving choice of provider to citizens, and the size and roles of the teams at the primary care level. Population empanelment is currently envisioned in the HWC initiative, with the creation of population registers underway. However, the high population attached to a single HWC, and the sizeable presence of private sector providers makes empanelment more complex in India. Path-dependencies of a patient-initiated system in India, and the choice of provider with individuals, necessitates a careful design of an incentive structure for patients to shift health seeking behaviours. It also necessitates the identification of mechanisms to mobilise private providers into a single consolidated system.

Empanelment with the removal of choice of provider and gatekeeping can only be considered once the system is delivering to a certain standard. Mandating a facility/provider for a group of citizens, in the absence of basic infrastructure and accountability, is unlikely to move them away from their current choice of providers. Hence, the already envisaged design reform will have to be implemented alongside strengthening input and quality of services.

Integration across the system has been achieved by gatekeeping and contracting private providers. Implementing gatekeeping in India poses challenges that require careful consideration of introducing disincentives for direct access to higher-level services and/or shifts in payment methods to capitation. Such measures can create a competitive environment and consequently motivate quality improvements. Each of these is discussed in the sections below.

A foundational requirement for a strong and integrated health system is a robust data collection and reporting architecture. Over the past few years, since the launch of the PMJAY, there has been a concerted push for these efforts through greater financing for the ABDM and the creation of population-based health registers at the HWC level. Not only is there a need to integrate these systems, but also to ensure that this data is available for sharing across different levels of care. Standardising the ABHA-ID for PMJAY to be utilised for HWC treatment will enable better tracking of patients across systems and ensure bi-directional referrals between IPD utilisation at hospitals and OPD facilities at HWCs, ensuring continuity of care (Lahariya, 2020).[9] The integration of the data across these two systems also promises to track population-level disease burden and health risks. This will enable more decentralised, evidence-based planning, but will also be a valuable input for conducting routine HTAs.

Suggested pathways for transitioning to a patient centric integrated system is outlined in Table 8.

5.2 Workforce as a Key Input

The health workforce is a key variable in determining the quality of services. Attention to the overall gaps in availability, division of responsibilities, and accountability will determine the success of any design reform. While there is currently a shortage of workforce at various levels, the overlap in duties alongside shortages suggests that even the available workforce is not optimally utilised. Clear role demarcation and duty assignment at HWCs (between CHOs, ANMs, and ASHAs) could address duplication, reduce workloads for ASHAs and ANMs, and align responsibilities with skill sets. Task shifting, redistribution with additional training to address doctor shortages, and stronger incentives for the workforce in less developed areas to address inequities could help mitigate the human resource challenge. While larger outreach teams are undoubtedly desirable, better utilisation of existing teams could nevertheless bring efficiencies.

[9] The referral system also must be extended further by proactively helping patients with appointments at higher level of facilities.

Table 8: Transitioning to a Patient Centric System

Main issue	Recommendation options	Advantage	Concerns	Country experience
Patient-initiated system focused on curative aspects	System-initiated model with elements of -population empanelment to providers.	Empanelment to providers can build trust with providers, which is not strong currently. Can increase footfall in public facilities, which is currently high in the formal and informal non-public system. Empanelling can build system ownership over a population group, thereby strengthening non-curative aspects and population health.	Population empanelment may limit patient autonomy to choose providers. Implications in a low-capacity system. Path dependencies. Will require incentives for citizen behaviour to change. Freedom of choice could create competitive environment amongst providers. Population empanelment will require more facilities.	Thailand, Brazil, Turkey, Costa Rica, Indonesia: population empanelled to providers. But there is nuance: Brazil, Thailand, Indonesia: Patients can choose provider other than where they are empanelled. Turkey: Patients can switch provider. Turkey and Brazil: cover 3,000-4,000 people per facility, Costa Rica covers 4,000-7,000 per facility, Indonesia covers 25,000. India covers upto 30,000. Brazil: Primary care coverage increased from 4% in 1998 to 62% in 2014 due to the shift in priorities from hospital-based care to PHC-based care with empanelment, even though overall budget did not increase.
	Gatekeeping for integration. OR Introduce co-payments if higher level facilities are accessed directly.	More efficient system, saves costs, rationalising footfall at different levels.	Can India introduce gatekeeping till primary level services are strengthened? Will require addressing staff absenteeism at lower levels, lack of drug and diagnostic availability, and quality of providers at the primary level to be addressed.	Indonesia: Despite gatekeeping, individuals sought primary care at secondary and tertiary level facilities by incurring OOP, due to lengthy waiting time at the primary care level, and overall sub-optimal quality of care. Thailand: Not formal gatekeeping but direct access to higher-level facilities incurs 100% OOPE. Turkey: Not gatekeeping but co-payments for direct access to higher-level facilities.
	Large outreach teams with comprehensive services OR Better use of existing teams	Improved screening, comprehensive care. Not dependent on patients initiating the system. Currently teams are over-burdened.	System initiated model with comprehensive services will need large outreach teams, that are well capacitated.	Thailand: Primary centres provide a range of services, including preventive, promotive, curative, and rehabilitative care, enabling access to comprehensive care in proximity of residence, resulting in heightened utilisation of primary healthcare facilities. Increased screening through outreach teams, reduction of cervical cancer incidence. Turkey: Door-to-door visits for NCD screening and other routine check-ups. Brazil: Door-to-door visits for NCD screening through multi-disciplinary teams, with focus on skill building. Costa Rica: Increase in PHC service accessibility from 25% to 93% after introduction of PHC outreach teams. By 2014, more than 70% of all consultations were done at the primary care level and EABAIS teams catered to 80% of the health needs of the nation.

Source: (Venkateswaran & Singh, 2022; Venkateswaran & Singh, 2022a; Nundy & Venkateswaran, 2022; Nundy & Venkateswaran & Bhatt, 2022; Wadge, et al., 2016; Pesec, VanderZanden, & Ratcliffe, 2020).

While the introduction of CHOs was a positive step, the emphasis remains on clinical medicine, revealing an absence of a public-health oriented cadre with implications for preventive and promotive care quality. Lessons from states in India could prove instructive. In the current structure, ASHAs and MPWs are over-burdened with preventive care and outreach tasks (Manjunath et al., 2022; Rao & Choudhury, 2021). Reducing ASHA workers burden would entail revisiting population norms for their expanded duties, requiring additional workforce and funds.

Beyond expanding the public workforce, India's health system can leverage its robust digital health architecture and sizeable private sector towards a more proactive system. Telemedicine advancements enable individuals in remote areas to connect with doctors (from both the public and private sectors) in urban areas. Currently, the MoHFW's telemedicine platform e-Sanjeevani requires traveling to the nearest HWC to connect with a PHC/CHC doctor or downloading the app to book appointments. While the application is still in its early stages and is fraught with some operational challenges, it holds potential for providing basic household-level primary care.10

Doctors from the private sector can be leveraged as well, as they form a sizeable portion of the total workforce (~80% of doctors work in the private sector) (Kumar, 2015). Besides, the ABDM's efforts towards creating a Healthcare Professional Registry, a comprehensive record of the active health workforce in the country, can be leveraged to empanel the services of doctors available for telemedicine consultations.

Mobilising private providers into one coherent system will require consideration of the introduction of private provider contracts, as done by several countries. Admittedly, India's private provider landscape is much larger than many other countries, but pilots in limited geographies in this regard could help chart the way forward for India.

Table 9: Suggested Pathways to Strengthen Health Workforce

Main issue	Recommendation options	Advantage	Concerns
Workforce	Increase outreach teams. Current catchment population in India is too high. 50,000 people covered per PHC in urban areas.	Will reduce burden on ASHA and MPWs, better use of HR resources and prevention efforts.	Fiscal implications
	OR Better use of existing teams by reducing overlaps in responsibility.		None
	OR Better use of existing teams by task shifting.		Will require capacity building
	OR Stronger public health cadre for prevention and promotion focus. CHO doesn't fill these roles.		Fiscal implications
	Leverage private providers through contracts.	–	–
	Or Leverage digital health architecture.	Remote areas can be connected with doctors. Can leverage private doctors.	Will be able to address some gaps, not all.

Source: Author's recommendations based on global evidence.

[10] The frontline workers can be utilised as an intermediary to handle the telemedicine technology between patients and doctors.

5.3 Quality and Accountability

Quality and accountability are recognised as one of the biggest challenges facing the Indian system, deterring people from public primary care services. Addressing this issue should be a prime area for reform.

As discussed, a mix of quality/performance incentives, stronger regulation, and reform in payment methods that promote quality are emerging insights from across countries. Targeted at improving performance, India too has introduced incentives, but attention is needed to what is being incentivised. Prinja and Muraleedharan (2021) note that incentives relating to the implementation of the NQAS are largely aimed at infrastructure improvement and other amenities, with limited targeting of outputs and outcomes. Limited compliance with the NQAS framework has meant a lack of availability of these funds for sourcing drugs and other consumables. The experience with other checklists is similar, in terms of their predominant focus on input.

The need to strengthen regulation in the Indian system is well recognised, but the instrument has been utilised in a limited manner so far. It has been highlighted that CHOs and ANMs continue to freely prescribe antibiotics, even where disease conditions do not require them (Agte and Soni, 2023). Even though the National Medical Commission (NMC) provides stringent regulation for medical practitioners, the absence of a robust monitoring, and accountability mechanism limits the value of regulation.

Regulation, though critical, may not in itself bring the necessary quality shift without structural changes. One such change includes shifts in payment methods, currently input-based in large part, which removes any potential motivation to improve quality. Shifting budgets and payments to doctors from an input-based or fixed contract system to one where payments are driven by outcomes, with performance evaluation conducted by an independent institution, could improve accountability. The introduction of capitation-based payments, as adopted by numerous countries, can provide the motivation for quality and create an environment of competition.

Attempts at addressing quality without attention to the large landscape of private providers will be an incomplete task. Accreditation of private facilities is another instrument that can be utilised to ensure standards of quality, although the challenge in India is the extremely heterogeneous nature of private providers, ranging from single-doctor-run clinics to multi-specialty corporate hospitals. While the government has designed separate guidelines for smaller private sector entities, rationalising input and cost requirements, the guidelines might still be onerous to comply with for single-owner clinics and entail substantial costs which make them financially non-viable. Thus, there is a need to re-think how some of the current standards, including those defined under the NQAS for the public sector and those outlined under the Clinical Establishment Act, can be operationalised into an accreditation framework for assessing the quality of primary care services provided by the private sector.

Suggested pathways for strengthening quality and accountability are outlined in Table 10.

5.4 Organisation and Governance

Across all countries, we observe that a strong political commitment preceded all major health reforms. Costa Rica and Brazil enshrined entitlement to primary care in their respective constitutions (Pesec et al., 2017; Machado and Silva, 2019), while Thailand positioned Universal Health Coverage as a central theme in the election campaign in 2001 (Nundy and Bhatt, 2021). Political commitment is required not only for increased financing but also for a separate department for primary healthcare.

Based on primary healthcare reforms in developing countries and WHO guidelines on the PHC approach, key factors to keep in mind include increased financial autonomy, greater accountability, increased local capacity, and the organisational mechanisms that can enable this. An independent authority for primary healthcare is one such organisational element that can contribute to administrative and financial autonomy.

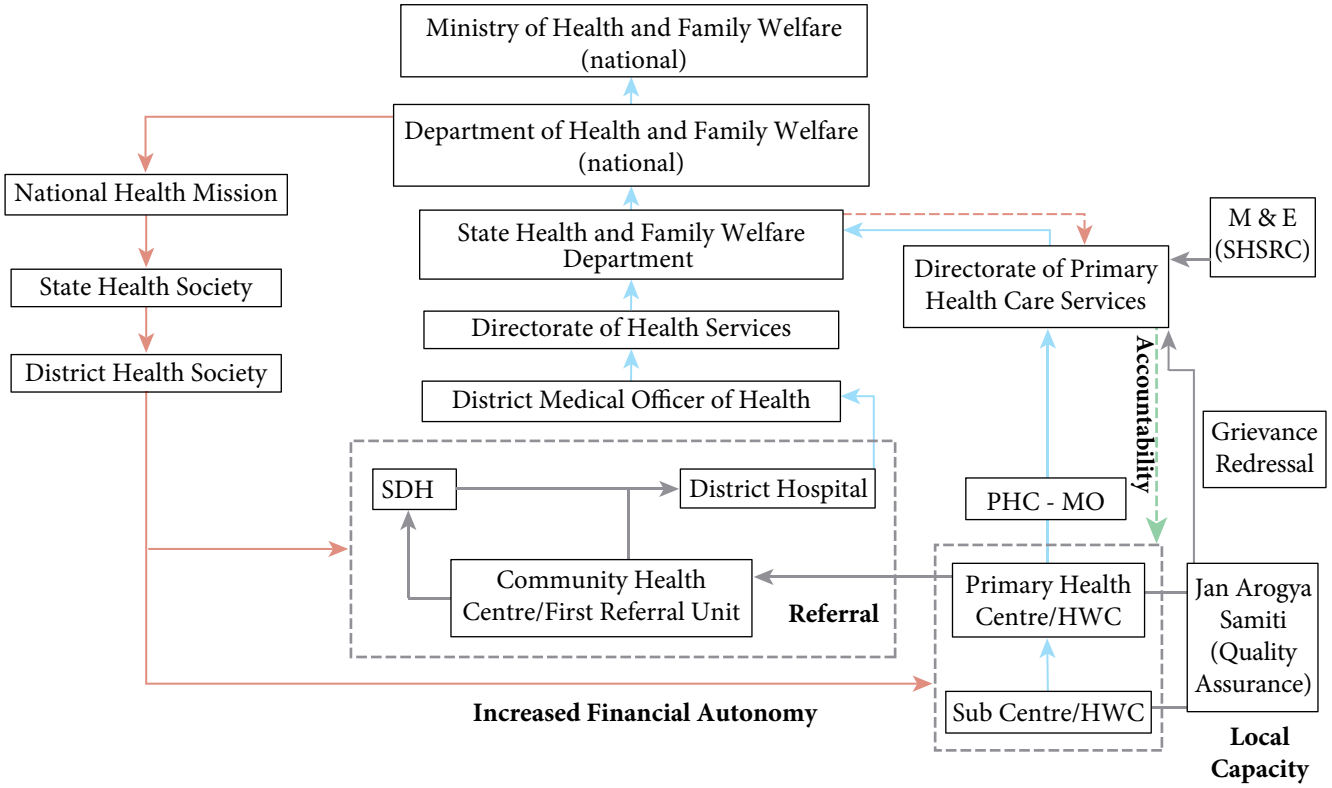
A Directorate of Primary Health Care (Figure 9), as an independent authority for decision-making on primary healthcare, responsible for policy formulation and implementation, could enable greater priority to primary healthcare. A PHC MO, reporting to the directorate, will separate funding and administration for PHC from those for other levels of care, moving towards greater accountability in the functioning of institutions. The new directorate could directly monitor PHC functioning through both periodic surveys and an integrated information system for PHC (real-time monitoring on a day-to-day basis). Linking the JAS with the directorate will ensure the effective implementation of NQAS.

Table 10: Suggested Pathways to Improve Quality and Accountability

Main issue	Recommendation options	Advantage	Concerns	Country experience
Quality and accountability	Unified framework for quality	Improving quality and accountability can build trust and greater priority to public services.	India has distinct and fragmented quality mechanisms. Bringing them under one autonomous agency may receive pushback.	Brazil: National programme to improve primary care access and quality (PMAQ) in 2011, including a comprehensive incentive structure for municipalities to improve access, utilisation, and outcomes. Implementation of PMAQ required financial commitment, reflected in increased public health expenditure from 3.35% in 2012 to 3.95% in 2017.
	Introduce quality/ performance incentives	Incentivises service quality (creates competitive environment) and motivation to keep costs low and control health conditions. Can improve focus on outcomes. India: Current incentive system focuses on infrastructure, not outputs and outcomes.	Will require additional resources, unless a re-architecting of financing is done.	Individual incentives– Brazil, Turkey: Monthly base salary + performance bonus to FHW. Indonesia: Monthly honorarium + perks (free treatment at higher facilities). Costa Rica: Fixed salary. Turkey: Contracts linked salary with performance such as enrolment numbers, compliance with work hours, coverage of services, and working in less developed areas. Non-compliance with target indicators, such as planned work hours, entailed a deduction of up to 20% of base salary or contract termination, and payment of up to 40% of base salary was provided to medical professionals posted in less developed areas. These measures resulted in a reduction in coverage disparities across regions and also resulted in greater coverage of preventive services across regions. Percentage of pregnant women receiving four or more ANC services increased from 54% (2003) to 74% (2008), and, subsequently, to 90% (2018). Turkey: Indexation incentivised improved provider performance and increased service utilisation; per capita annual visits to physicians in primary health care facilities increased from one in 2002 to three in 2020. Brazil: Results-based financing, aimed at increasing PHC coverage in less-developed municipalities. Based on the extent of enrolment in the catchment area, the number of functioning Family Health Teams and availability of community health workers in the municipalities. Transfer of funds from federal to municipal governments conditional on meeting standards of care at PHCs, measured on structure (measured by availability of drugs and equipment); process (measured by ANC, immunisation, and treatment completion rates); and outcome (patient satisfaction and years of life lost due to chronic diseases) indicators. Turkey: Contracts linked salary with performance such as enrolment numbers, compliance with work hours, coverage of services, and working in less developed areas. Non-compliance with target indicators, such as planned work hours, entailed a deduction of up to 20% of base salary or contract termination, and payment of up to 40% of base salary was provided to medical professionals posted in less developed areas. These measures resulted in a reduction in coverage disparities across regions and resulted in greater coverage of preventive services across regions. Percentage of pregnant women receiving four or more ANC services increased from 54% (2003) to 74% (2008), and, subsequently, to 90% (2018). Nearly 60% of municipalities opted to use funds from incentives for procuring inputs for facilities.
	Contract private providers, accreditation. Stronger regulation: wider adherence to and implementation of CEA		States not implementing CEA: Separate guidelines for smaller private sector entities, rationalising input and cost requirements, but guidelines often onerous to comply with single-owner clinics and entail substantial costs which make them financially non-viable.	Thailand, Indonesia, and China: Contracts specifying quality standards and other input criteria to be fulfilled by private providers to be a part of the larger health system. Thailand and Indonesia: Private services purchased under a strategic purchasing agreement with government buys services from private players. China: Social health insurance-based mechanism, where private clinics register with the health insurance scheme.

Source: (Venkateswaran & Singh, 2022; Venkateswaran & Singh, 2022a; Nundy & Venkateswaran, 2022; Nundy & Venkateswaran & Bhatt, 2022; Wadge, et al., 2016; Pesec, VanderZanden, & Ratcliffe, 2020).

Figure 9: Suggested Organisation of Health–Relationship Between the Centre, State, and District Levels



Source: Author's representation based on global evidence.

Note: The shaded blue lines represent administrative relations, whereas shaded red lines represent financial relations. The dotted shaded red line is additional funding from state treasury to PHC. The dotted shaded green line represents supervision of Primary Health Centres by the Directorate of Primary Health Care Services. The dotted shaded grey line depicts secondary and tertiary Health Care Units. The shaded red line represents financial relations between the Centre, States and Districts. The shaded grey line depicts referral.

5.5 Financing Primary Healthcare

Country evidence points to the need for not only ensuring adequate financing for primary healthcare but also, unlike India, that it be targeted at primary level facilities. Allocations for the elements that contribute the most to OOPE are key, which points to attention to funding for medicines and diagnostics. Perhaps the most important element is the financing mechanism for primary care, moving from input budgeting to capitation. Suggested pathways in this regard are outlined in Table 11.

5.6 Summing Up

To conclude, there are a range of available options, their appropriateness determined by the local context. The varied contexts across India's states suggest that different models may apply to different states, rather than a consistent strategy across the country. What is of note, however, is the set of enablers that will facilitate these transitions, including:

- Strengthening regulatory capacity, especially at state-level
- Robust IT systems and data collection for monitoring
- Capacity strengthening of health facilities and workforce
- Promoting digital literacy among healthcare workers
- Capacity building and devolution to local governance institutions
- Promoting social participation for raising awareness, grievance redressal, and M&E

Table 11: Suggested Pathways for Redesigning Primary Healthcare Financing

Main issue	Recommendation options	Advantage	Concerns	Country experience
Financing primary healthcare	Increase primary healthcare allocations – a political priority. India spends $30 per capita (2017). Currently, a large part of primary healthcare budget is spent through higher-level facilities.	Focus on primary healthcare through dedicated budget	Increase in budget for PHC's may decrease budget for other needs.	Brazil ($315 per capita 2017): High political priority to PHC. Not related to economic condition. Brazil's allocation more than double China's despite being at the same development level, and more than double Thailand and Turkey which are higher economies. Thailand ($145 per capita 2017) and Turkey ($132 per capita 2017): High political priority across all levels of care. China $144 per capita and Costa Rica $322 per capita – 2017. Indonesia: $49 per capita.
	Introduce dedicated revenue handles to increase budget	Generation of increased resources	Additional resources generated may get utilised elsewhere	Thailand: surcharge on tobacco and alcohol used for prevention and promotion activities. Contributed to decline in tobacco and alcohol consumption. Brazil: Social security budget introduced to fund health sector, sourced from payroll contributions, taxes on company profits and lottery revenue taxes but used for public debt payments.
	OR Decentralise financing with autonomy to local government	Additional resources at local levels and autonomy motivates focus on PHC. Greater prioritisation of PHC at local level. Fiscal devolution fills local gaps (eg., on drugs).	Can create inequities at sub national level through variable local capacities and local context (ability to raise additional resources); will require building capacity and allocation for funds for that. Will require change in tax generation regime at local level.	Brazil: Performance incentive program, designed to provide autonomy to municipalities in utilising the incentives. Municipalities able to raise own resources with autonomy on use–increased focus on primary care and better use of funds. Between 1990-2018, the federal government's share in the total GHE has reduced from 73% to 43.2% and the shares of municipalities grew from 12 % to 31 %. Per capita PHC spent by municipalities doubled from R$245 in 2005 to R$490 in 2019. Brazil's fiscal devolution improved the availability of consumables. Indonesia: Dedicated line item for capacity building of health personnel at the district and facility level, resulted in improvement in health outcomes in terms of a decline of hospitalisation rates and improved access to primary care facilities. India: Provides for decentralisation of funds to lowest tiers of government, but state government continues to spend the bulk of the funds, with limited financial autonomy and resources available at the village and urban-local bodies level. India: Budget line items for training, but largely for technical training, and less for planning, budgeting, and other aspects relating to funds utilisation.

Main issue	Recommendation options	Advantage	Concerns	Country experience
	OR Improve targeting of resources – improve allocative efficiencies. Streamline drug procurement etc.	Improved outcomes even with limited resources		Thailand: lower OOPE than China and Costa Rica, despite lower PHC budget. HiTAP undertakes a dozen HTAs annually to improve cost-effectiveness of technological interventions and identify frequency of screening. HTA-based decisions led to lower costs, superior health outcomes and also aided the evaluation of medicines for inclusion in the Thai UHC benefit package. Turkey: Substantially increased expenditure on drugs and other supplies, post reforms, contributing to OOPE reduction from 28% in 2000 to 16% in 2020. Between 2003-2009, public spending on drugs grew at an annual rate of 7% on average in real terms. Brazil: Emphasis on drugs. due to high OOP on medicines. Between 2000-2018, Brazil's OOP as a proportion of THE reduced from 37% in 2000 to 22 % in 2021. Drug spending as a percentage of total health spending has increased from 6% in 2001 to 13% in 2018. Brazil: Moved from branded medicines to generic drugs reducing medicine cost and increasing accessibility, reducing OOP. Institutionalisation of pharmaceutical services at PHCs. A national drug policy to ensure safety, quality, and efficacy of medicines, and promote rational use and access of essential medicines to the population was adopted alongside the establishment of a permanent bidding committee for the procurement of medicines and personnel for distribution of medicines at PHCs. The decentralised approach of procurement and distribution has ensured greater access to essential medicines. India: Deploys HTA, but largely as a one-off exercise and not annual assessments. Bulk of expenditure continues to be on human resources, with a limited budget allocated to medicine and diagnostics.
	OR Transition from input based to capitation-based financing.	More efficient use of resources, can keep health costs down		Turkey: Capitation system adjusted for socio economic level of the area, demographic characteristics. Thailand, Costa Rica: Capitation payments aimed at incentivising providers to keep health costs down and more actively screen population for health risks. Capitation payments in Thailand have led to the utilisation of generic essential medicines instead of branded medicines and reduced the inclination to prescribe more than necessary.

Source: (Schneider, et al., 2021; Venkateswaran & Singh, 2022; Venkateswaran & Singh, 2022a; Nundy & Venkateswaran, 2022; Nundy & Venkateswaran & Bhatt, 2022; Wadge, et al., 2016; Pesec, VanderZanden, & Ratcliffe, 2020).

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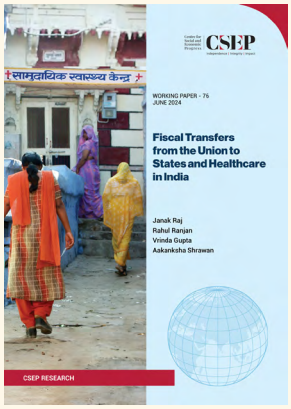

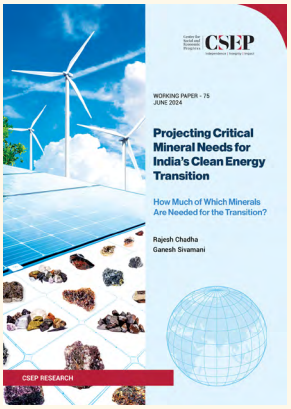

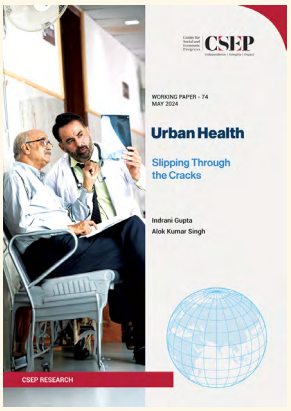

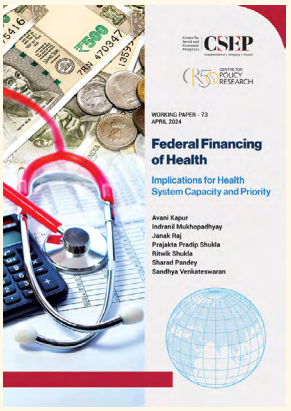

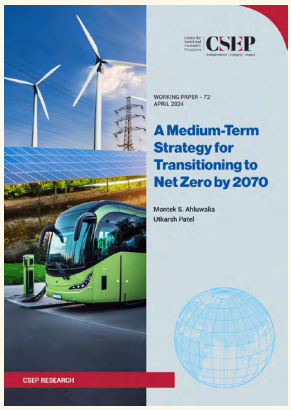

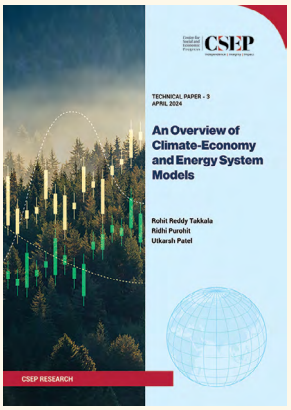

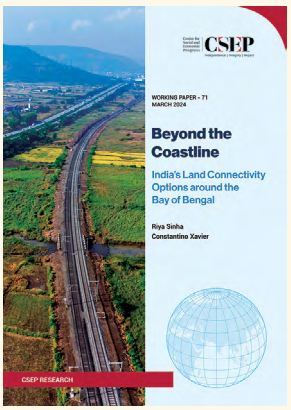

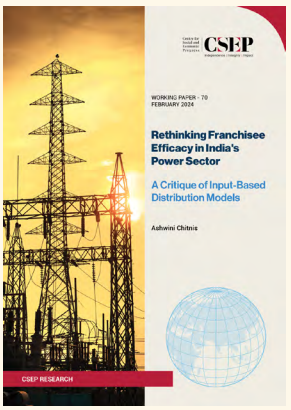

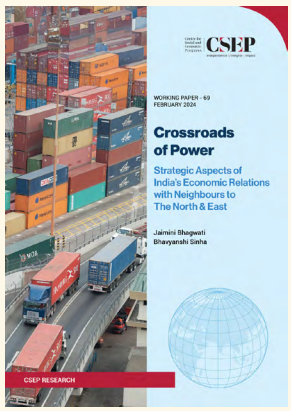

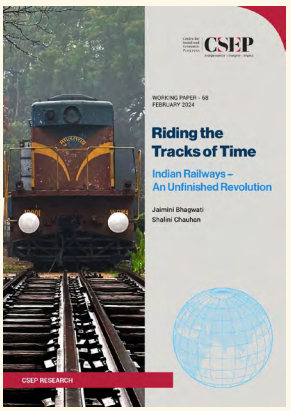

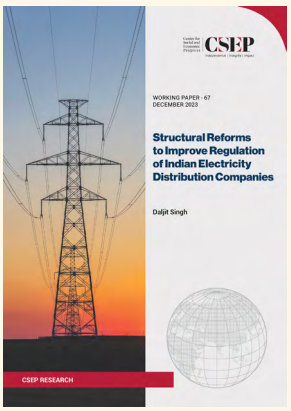

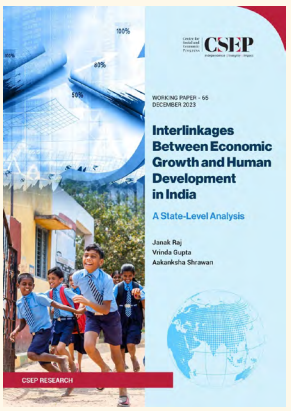

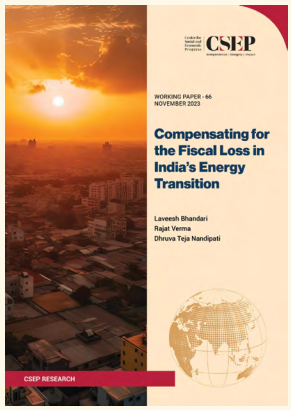

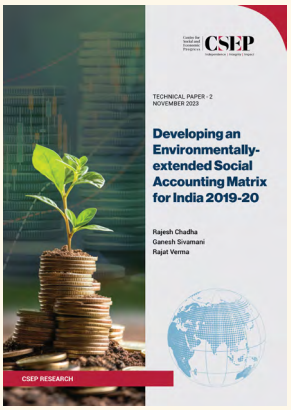

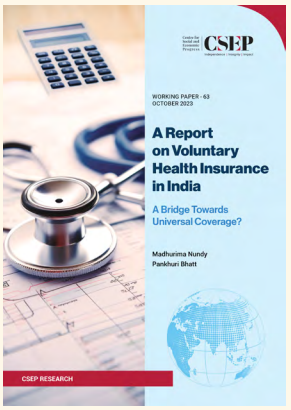

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