In search of a fix to the primary health care chasm in India: can institutionalizing a public health cadre and inducting family physicians be the answer?

Allen Prabhaker Ugargol,[a,*] *Arnab Mukherji,*[a] *and Ritika Tiwari*[b]

[a]Centre for Public Policy, Indian Institute of Management Bangalore (IIMB), Bengaluru, India
[b]School of Human Sciences, Faculty of Education, Health & Human Sciences (FEHHS), University of Greenwich, UK

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Summary

India's woes with an underprioritized and hence underfunded and understaffed public health system continue to plague public healthcare delivery. Though the need for appropriately qualified public health cadre to lead public health programmes is well established, a well-meaning conducive approach to implementing this is lacking. As the COVID-19 pandemic brought back the focus on India's fragmented health system and primary healthcare deficiencies, we discuss the primary healthcare conundrum in India in search of a quintessential fix. We argue for instituting a well-thought and inclusive public health cadre to lead preventive and promotive public health programmes and manage public health delivery. With the aim being to increase community confidence in primary health care, along with the need to augment primary healthcare infrastructure, we argue for a need to augment primary healthcare with physicians trained in family medicine. Provisioning medical officers and general practitioners trained in family medicine can salvage community's confidence in primary care, increase primary healthcare utilization, stymie over-specialization of care, channelize and prioritize referrals, and guarantee competence in healthcare quality for rural communities.

Keywords: Primary health care; Health systems; Health workforce; Public health cadre; Family medicine; Health policy

Introduction

At a time when the COVID-19 pandemic highlighted the inefficiencies of the primary health care setup and health system preparedness in many developed and developing countries, it seems quite quintessential to look back at the primary health care conundrum in India and re-explore the possibility of a fix.[1] The World Health Report (WHR) of 2008 had upheld that primary health care should remain the foundation of what can be an effective health system, and this is why primary health care is also generally accepted as the appropriate approach towards achieving Universal Health Coverage (UHC) and as a fundamental step towards achieving the Sustainable Development Goals (SDGs).[2] Unfortunately, though the concept of primary health care was echoed and accepted way back at Alma Ata in 1978, most nations have only partly succeeded in their efforts to establish an effective primary health care model including India.[3] In India, primary health care is predominantly executed through Primary Health Centres (PHCs) and their subsidiary jurisdictional Sub-Centres (SCs). Unfortunately, public recall of PHCs is often unexciting and reminiscent of sporadically available less reliable health care handed out mostly by overloaded, less process-oriented and ineffectually monitored health workforce, and mostly limited to focussed maternal and child health initiatives among other vertical disease-control programmes.[3–6]

The recommendations of the World Health Report (2008) included reforms necessary to establish a more effectively structured primary health care model such as through improving health equity through universal health coverage, modelling health systems into more people-centred service delivery units, thereby making governance of the system more robust through developing and rewarding leadership and being more community-oriented with public health goals ingrained in the functioning. The WHR (2008) also made important recommendations that successful primary health care systems can work better with the services of the primary care doctor, who possibly with a post-graduate training in family medicine or general practice, can lead and orient medical services at the community level.[2,7] In India, with health considered a 'State' subject with few vertical programmes such as the Universal Immunization Programme being

*Corresponding author.
E-mail addresses: allen.ugargol@iimb.ac.in (A.P. Ugargol), arnab@iimb.ac.in (A. Mukherji), ritika.tiwari@greenwich.ac.uk (R. Tiwari).

directed and managed by the Centre, the revolution and progressive revamp needed to transform primary health care into an evolving community-oriented future-ready model remains an aspirational goal.[3,8,9]

PHCs are expected to provide integrated curative and preventive healthcare to the rural communities and form one of the three tiers of the public health infrastructure in India—the SC, PHCs and Community Health Centres (CHCs). Though there is a medical officer at the PHC, the lack of a family-medicine oriented 'primary care physician' at the PHC is probably one of the shortcomings. Even though vacancies and occasional health human resource shortages plague these centres, it is the in practice status of these centres that needs to be explored to understand the 'real-life' unavailability of physical infrastructure, skilled workforce, equipment, drugs, and other logistical supplies at these centres.[3,6,10] It is not very difficult to identify essential gaps, recommend changes and suggest amends to support these primary care structures with quality infrastructure, regular availability of skilled, motivated, undistracted, and trained workforce and ensure these centres can deliver high quality health care services across the year.[3,6,8] Ironically, even in some of the better States, several PHCs continue to function with skeletal staff and there are often largescale vacancies among doctors, laboratory technicians and pharmacists. Medical officers and other personnel are often seen either managing two-three PHCs or shuffling between two-three PHCs on a weekly rotation basis.[11–13] This provides us the opportunity in identifying measures that can provide for significant gains in efficiency. In the absence of effective control, supervision, monitoring and evaluation yardsticks, primary health care provision through a less motivated, non-process driven and less community-engaged health workforce is a sure roadblock to effective community entrenchment of health care services.[8,14] This paper however looks at the positive spectrum and provides a nuanced perspective on the issues plaguing effective primary health care provision in India reflecting on contradictions that exist while arguing for and suggesting possible fixes to the problem including supporting an inclusive and community-oriented multidisciplinary public health cadre and augmenting primary healthcare with physicians qualified in family medicine.

Health workforce composition (urban vs rural)

The availability of medical and health workforce across India is characterized by diverse disparities and is often compounded by the lack of preference of physicians and healthcare workers to serve in the rural peripheries; something that is almost expected since the ecosystem for a professional to live and serve in the communities has been less than desirable. Evidence points that among all health workers, 66.91% were serving in urban areas where 33.48% of the population is based; and 33.09% were serving in rural areas where 66.52% of the population resides. In terms of numbers, as of 2018, there were 25,89,417 health workers in urban areas and 12,80,583 in rural areas with an urban–rural ratio of 2.0 whereas contrastingly the urban–rural population ratio was 0.5. The ratio of urban to rural density of health workers was greater than one for every health worker category. The ratio of urban to rural density was 10.5 for dental practitioners, followed by 2.67 for allopathic doctors, 1.80 for nurses, 1.08 for AYUSH doctors,[15] 3.6 for ancillary health professionals, 3.2 for pharmacists, and 1.5 for traditional and faith healers.[16] According to the National Health Profile (2021), the number of allopathic doctors working in rural PHCs (as of March 2020) was 28,516 out of 1.23 million registered allopathic doctors.[17]

Another disparity in distribution of doctors is visible when we compare the total registrations in medical councils to those that enter and serve in the government health system. As of December 2019, 1.23 million doctors were registered in India out of which a mere 11.4% (1,40,653) were serving in the government sector.[17] While there isn't an optimal fraction to reflect what fraction of all registered doctors should serve in the government, the numbers reflect that even with opportunities available in the government sector, nearly 90% of all registered doctors choose to remain in the private sector. The World Health Organization (WHO) recommended doctor to population ratio is 1 per 1000 and the ideal nurse density is 3 per 1000 people, as per the National Health Workforce Accounts Data (2020) portal, 0.73 doctors are available per 1000 population and 1.74 nurses per 1000 population in India. However, as per National Sample Survey Office (NSSO) 2017–18 the availability of doctors and nurses in India in 2018 is 0.5 and 0.6 (accounting for adequate qualifications) respectively.[15] Largescale variations also exist among Indian States with regards to the population served by a doctor, for example, a doctor in Bihar serves 28,391 people whereas a doctor in Kerala serves 6810 people.[18] Most vacancies of doctors and health professionals exist in remote, tribal, and other similarly underserved areas of India and existing mechanisms do not seem to address these gaps.[19,20]

Primary health care challenges

The PHC is often the first recognized point of contact for accessing primary care, barring of course the subsidiary SCs that perform under the PHC's jurisdiction and directions. As per the guidelines of the Indian Public Health Standards (IPHS), if PHCs are to provide efficient medical care, every PHC should have at least four to six beds with earmarked wards for males and females. It is also necessary that these centres have a standard minimum infrastructure available; however, we see that a majority of the PHCs do not strictly adhere to these standards. The Rural Health Statistics 2019–20

reported that as of March 2020, only 3.4% of the 1.55 lakh Sub Centres were functioning as per Indian Public Health Standards (IPHS). A lowly 13% (3278) of the 24,918 PHCs, and 8.4% of CHCs adhered to basic standards. More than 37% of the health assistant positions, 19% of pharmacist positions, 34% of laboratory staff and 21% of nurse positions are vacant.[21] Also, there were nearly 24% vacancies in rural PHCs for the sanctioned medical officer positions in the year 2020. As compared to 2019, there was a reduction of 4.3% in the number of doctors available in rural PHCs and there were disaggregated shortfalls of 24%, 29% and 38% for SCs, PHCs and CHCs respectively.[22,23]

Even though 65% of India's population resided in villages,[24] their access to basic rural health services is mainly through the PHCs; however, this access is quite fragmented. In 2020, there were 24,918 PHCs operating in India, with each expected to cater to a population of 20,000 in hilly/tribal areas and 30,000 in the plains.[23,25] This expected coverage was only on paper. A 2015 article in *The Lancet* reported that more than 8% of the 25,300 PHCs in India did not have a single doctor, 38% had no laboratory technician, 22% had no pharmacist, and nearly 50% of posts for female health assistants and 61% for male health assistants remained vacant. Across the country, the average absenteeism of doctors appointed to PHCs on any given day was 43% in 2003 and 40% in 2010.[26] Similarly, absenteeism among nurses assigned to PHCs was also chronic and widespread.[27]

The inefficiency of the system has led patients to seek care from the private sector, which consisted of a wide spectrum of providers, ranging from the qualified to the unqualified. Das et al. (2016) found that private and unqualified healthcare providers spent more time with the patients and completed more essential checklist items required to provide proper healthcare than public healthcare providers, who were also reported to often operate their own clinics in parallel with their employment in public healthcare facilities.[28] This is a telling predicament.

An earlier study by the International Institute for Population Studies (IIPS) indicated that in high focus states such as Uttar Pradesh and Bihar, where the state of public healthcare was weaker, especially in the rural hinterland, most of the PHCs lacked basic facilities such as piped water supply. Accredited Social Health Activists (ASHAs), despite being the backbone of the primary healthcare delivery system, were not incentivized for their rigorous and routine work and this affected their morale. Auxiliary Nursing Midwives (ANMs) chose not to live at the residential quarters they were provided to ensure round-the-clock healthcare delivery. Further, many of the clinics across the country had not been upgraded in line with Indian Public Health Standards (IPHS).[22,23,29] Primary healthcare in India hence does have its recognizable shortcomings and is badly in need of reimagining.

To correct the unfortunate situation, the Government of India, as part of its much-touted 'Ayushman Bharat' project, planned to set up 1.5 lakh *Health and Wellness Centres* to provide access to primary care across the country. To many researchers in the healthcare field, it seemed ironic that Health and Wellness Centres (HWCs) were being set up to do the job that the PHCs were expected to do in the first place and somehow could not. Some pundits pointed out that while the initiative might address the challenge of access to primary healthcare facilities, there were myriad human, motivational and organizational challenges that would continue to be intractable. They wondered whether the government's ambitious plan would succeed without addressing the inherent systemic flaws both at the conception and implementation stages. Meanwhile, HWCs are currently being implemented across the nation and there does seem to be a positive traction from their presence.

The other problems lay with the prevalence of superstitions and myths related to healthcare making people further resistant to modern healthcare providers and therapies. Another issue has been the presence of unqualified practitioners (local superstitious healers and quacks) who falsely claimed to possess medical knowledge and went about providing unscientific and unproven treatment to patients. Quacks were seen by the community as a group of people who preferred to provide medications, injections or even intravenous drip, promising instant relief to patients. This was no doubt convenient for rural folk who could not differentiate between a qualified practitioner and an unqualified one and probably did not have the time and hence could not afford the opportunity cost to visit a public healthcare facility. Quacks, with their ubiquitous availability and accessibility, inevitably become the *laisse faire* alternative when formal systems of provision are sparse.[30] The oft reported absence of the doctors at PHCs and the reported indifferent behaviour of staff has often kept patients from seeking care at these facilities.

Since the management of the PHCs as well as provision of curative services is essentially dependent on the medical officer or the physician, the absence of doctors, either conspicuously absent, moonlighting, or on account of actual unfilled positions effectively means that these PHCs lack leadership, lack role models, are hence poorly-managed and ill-equipped to provide any quality care to the populations they are intended to serve. Even when positions are filled and doctors are expected to be available, instances of dereliction to duty and being conspicuously absent from the place of duty seem to erode people's confidence in the primary health care setup.[7,31] These obvious deficits hint at a fall in motivating the health workforce, professional ethics, lack of integrity, and of a systemic lack of a health

system-driven commitment to providing care to the common man. It is ironic that the lack of community-focussed learning in medical education and the lack of a community-oriented health system ensures that doctors are not adequately prepared and trained to understand and meet the needs of the communities and carry out their role as effective preventive and primary care-providers.[32] While we do encounter increased focus and visible improvements in selected vertical programmes at the PHC level, the generalist curative services continue to be less than satisfactory across India.[7,8]

In countries where inequality exists between urban and rural areas, among geographic regions and social castes & classes, a sustainable community-oriented primary health care setup is vital and the need of the hour.[5,7,8] India's public health journey is steadily moving towards one being increasingly dominated by the private sector, leaving the disadvantaged and socio-economically weaker sections of the society to the care of the public health system. With some erosion of public trust and community engagement with public health institutions dropping, there is a growing 'chasm' that primary health care needs to overcome today.[33] Meanwhile, India has pledged itself to attaining Universal Health Coverage since 2011 and progressive efforts towards this are being seen but none so far seem directed at improving the primary health care setup in terms of either sustained funding, physical infrastructure, capacity building or staffing.[34,35] The introduction of the Mid-Level Health Providers (MLHPs) reflects another attempt to increase community engagement and also to get around the acute shortage of medical professionals at the periphery level, a human resource complication that is compounded by years of delay in arriving at a solution with a cadre that combines the medical qualification and expertise with the aptitude and field-level exposure to effectuate the primary care role.[36] The health system has so far not been able to provide stable availability and access to a qualified medical doctor to the peripheral communities, something which every community has the right to demand and expect. Each new cadre of health workforce being introduced in the recent past, the Accredited Social Health Activists (ASHAs) and MLHPs for example with job roles intended to increase community engagement and demand generation for health services, are also likely to raise the demand for qualified healthcare professionals at the periphery since one of their primary role is demand generation for healthcare services. The demand therefore is no doubt for physicians of the family medicine mould—who are prepared and can cater to the continuum of care from pre-natal care to geriatric and end of life care. Basically, there exists a need for a 'womb to tomb' approach that a traditional family physician would provide with no undue dependence on referrals or sophistication. Unfortunately, the current health personnel at the PHC level are often unable to engage with the community and provide the family-oriented preventive and promotive care expected of a family physician at the rural peripheries[37] since the quality or focus of the induction training or the absence of it have not been able to prepare individuals for the role. At most tertiary healthcare facilities in India, patients can directly walk in and access specialist care without the need for a referral from a primary care gatekeeper—again indicative of the grossly ineffective referral system. The situation has evolved into one characterized by on-demand necessity rather than choice due to a the current nature of primary care that is often unable to cater to most medical needs at the peripheries. Hence, public tertiary healthcare facilities are often seen to be overcrowded, having high waiting times, and short of resources indicating a less than satisfactory provision of healthcare to the masses.[3,7]

A cadre for public health?

In India, medical doctors working in PHCs are often not totally at ease with being assigned administrative or managerial roles and would generally prefer to perform clinical care duties. This probably highlights one of the characteristic dichotomies visible at the ground level and accounts for a large degree of varied role dereliction at the primary health care front.[38] While medical doctors are trained and prepared to provide medical services at medical college, this education does not prepare them for anything that is non-clinical or administrative in nature. Thus, by design, medical graduates are in some ways lacking serious and active community engagement (apart from the occasional medical camp which is again often curative in nature and semblance), exposure to preventive health initiatives, public health programming knowledge, administration, human resource management, leading and working within diverse health teams, and many even find it difficult to manage patient communication let alone the language barrier.[39–41] It then comes as no surprise that they do not see public health management as an attractive area of engagement and career progression.

On the other hand, knowledge and insights into the preventive and promotive aspects critical to public health community initiatives are largely a quality that public health professionals come to possess through their extensive classroom oriented training, rural immersions and field work experience. Further, public health education and training enables these public health professionals to communicate effectively, manage and assimilate into and also lead public health teams, manage multi-disciplinary and inter-disciplinary teams, engage between with the community and bridge the gap between epidemiology and public policy.[39,42,43] Hence, it is a natural expectation that the induction of the proverbial *public health cadre*—promised, discussed, and debated since several years, deserves to be implemented appropriately and can hasten efforts to improve community health

through health awareness, community engagement and responsiveness. Public health professionals of this *cadre* can effectively lead national programmes, manage state-specific preventive and health promotive programmes, function as field-level managers, community engagers, lead programme drivers, engage in data collection, data management and information handling, analyse primary data, assess and plan for health actions, conduct public health planning, provide evidence-based inputs, bottoms-up budgeting and real-life implementation plans in tune with the health burden of their area.[44] The earliest advocate for this cadre was as early as the 1959 Mudaliar Committee; with numerous subsequent attempts to re-position the *public health cadre* as a parallel health workforce that leads public health efforts and one that allows the primary care medical officer or family medicine practitioner to continue with his/her clinical mould of functioning without undue distraction.[45] Despite several recommendations, discussion and reports, the public health cadre for many Indian States remains an elusive solution but something that is again on the anvil today.[29,45] The latest initiative in this vein is the Public Health Management Cadre (PHMC) proposed by the Ministry of Health and Family Welfare, Government of India.[46]

While individual patient care is the focus of doctors, public health professionals on the other hand explore and address the preventive, promotive health and well-being of populations. Problem identification, gathering and prioritizing of potential solutions, formulation of programs and policies, implementation, monitoring, and evaluation are the expected functionalities of this cadre. The supply and need gap of public health professionals was estimated to be around 28,000 in 2017 and is expected to go up to 45,000 by 2026.[41] The need for a public health cadre has been recognized and established for several years now and needs pursuance. In 2005, the National Commission on Macroeconomics and Health identified that the failure to develop a public health cadre had adversely affected the implementation of public health programmes. The sustained expansion of the NHM has fuelled the growth of public health courses across the nation and it is anticipated that as prioritized by the Government of India in the National Health Policy 2017 (NHP 2017),[47] the creation of a distinct public health cadre within the public health system will provide appropriate workforce re-inforcements. Another important emphasis of the NHP is that it advocates for an appropriate career structure and a stable recruitment policy to attract young and talented multidisciplinary professionals from spheres of medicine, public health, social sciences—including sociology, economics and anthropology, nursing, hospital[2] management, communications, etc., who have undergone public health management training which is probably the need of the hour. Going by rather positive assumptions there is an expected requirement of around 33,000 plus public health professionals to be available for induction into the Public Health Cadre by 2026.[41]

While the primordial demand and need for a public health cadre stands clear and justified, further exemplified by the COVID-19 pandemic and health system learnings therein[48]; efforts to implement a broad and multidisciplinary public health cadre and bring in relevant, appropriate, field-trained and community-oriented public health graduates to the primary care setup where they are most suited and required for are an imminent need.[44] These public health professionals can lead the programming, preventive and community-oriented health promotive initiatives in the community and can be entrusted with managing the various vertical and State-specific disease prevention, monitoring, and surveillance efforts and these could have been pivotal assets during contact tracing and home quarantining of infected individuals during the recent wave of the pandemic.[49] It is through this public health functionary at the PHC level that we can expect to bring rigor to outbreak investigation, epidemiological reporting, rigorous data collection, monitoring of field efforts of grass-root level functionaries, apart from obtaining routine health data for monitoring and surveillance. The availability of accurate reliable data from the peripheries has been sometimes found to be inadequate and has been highlighted by numerous public health reports and experts in the very recent past as well.

The announcement of the PHMC by the Government of India is a welcome move and builds on the NHP 2017 document that re-affirms the value and relevance of such a cadre. This initiative has been given some structure through the booklet titled *Public Health Management Cadre—Guidance for Implementation* 2022 that is designed for implementation and is directed at the States of India in line with public health being under state jurisdiction.[50] The booklet envisages four categories—a) the Specialist Cadre, b) Public Health Cadre, c) Health Management Cadre, and d) Teaching Cadre. Across these four categories, except for the Health Management Cadre, the common entry eligibility requirement is an MBBS (Bachelor of Medicine and a Bachelor of Surgery) degree. It is only in the case of the Health Management Cadre where it mentions that 70% of the positions will be for graduates with PG qualification in Public Health and the rest of the 30% for MBAs in pre-specified categories such as Human Resources, Procurement/Supply Chain, Operations, Finance, Hospital/Health Management, etc. It is worth noting that very few of the leading institutes of management in India currently offer any full-time courses with healthcare orientation for these specializations and this can potentially lead to very limited availability for specialized personnel in this area. It is also surprising to note that while MBBS professionals with MD (PSM) or MPH degree find their way into the Public Health

Cadre, the rest of the healthcare professionals (BDS, AYUSH, Nursing, Allied Health) with valid MPH degrees and other healthcare MBAs have to reconcile themselves to the Health Management Cadre, a very unclear and debatable categorisation. Therefore, effective entry to the Public Health Cadre is largely signalled through the MBBS degree, which as discussed above provide little active public health exposure, and the envisaged public health specialist here does not seem to be in alignment with global health workforce constitution practices, health teams and policy where the multidisciplinary public health (MDPH) team is being increasingly recognised and valued.[51–53] Reinforcing the traditional or notional or hierarchical categorisation here could send out wrong signals and could in fact lead to further over-medicalization of public health, an occurrence that has been generally decried globally as something that should be avoided. There is an imminent need for training programs that produce professionals with the competencies needed for population-level thinking and public health approaches and these can include medical, dental, nursing, graduates of Indian Systems of Medicine, allied health, paramedical and non-medical professionals trained in public health, social scientists, epidemiologists, entomologists, etc., to name a few.[54–56] Though there are established programs within several schools of public health, public policy, allied health, healthcare management schools, and liberal arts programs, however, their promise and interdisciplinary underpinnings have not yet been utilized in conceiving MDPH and Human Resources for Health (HRH) for India.[57–60]

Interestingly, the PHMC guidance for implementation booklet exhorts those with existing MBBS degrees (GDMOs) to acquire postgraduate degree in public health to become eligible for recruitment in public health cadre therefore acknowledging the limits of the individual-oriented clinical training at the graduate level and thus shortcomings in addressing community-specific public health challenges at the population level. The general framing also fails to address the widely observed hesitation and reluctance for MBBS graduates to work in rural and underserved areas of India. This brings us to an important dilemma—will an individual with an MBBS degree and an additional postgraduate degree in public health behave any differently? Another missed opportunity lies is not recognizing the active public health role of the existing frontline health workers who are currently painstakingly engaged in grassroot-level public health work at the community, as part of the 'public health' cadre. These functionaries' were by default active at the grassroots and were much acclaimed public health warriors and foot soldiers during the recent pandemic. It would have been an appropriate signal if grassroot-level functionaries such as the ASHAs (accredited social health activists), ANMs (auxiliary nurse midwives) who mainly support maternal and child health initiatives, multipurpose workers (who played an important role in disease control programmes) and the recently inducted MLHP (mid-level health providers) find mention in the multi-disciplinary public health management cadre framework acknowledging their much-deserved public health role as part of the larger health team. In fact, NHP 2017 recommends the revival and strengthening of the Multipurpose Male Health Worker cadre for effectively managing emerging infectious and non-communicable diseases at the community level. The over-reliance on the biomedical approach to public health by side-lining social science insights and behavioural science approaches may provide limited effectiveness and the lack of such inclusivity has been decried in public health research and evidence across the world.[61,62]

The PHMC Guidelines currently do not envisage a particular role or mention the scope for dental practitioners (i.e., graduates and postgraduates in dentistry) with public health degrees in the public health cadre although a good number of dentists serve as general dental practitioners across the States. It is also unclear whether a serving dentist with PG qualification (MDS) will be on the same footing as a medical professional with MD/PG degree. This could have implications on role parity, on dental public health and oral care needs of the community as well as the oral health goals of the nation as envisaged in the National Oral Health Policy (NOHP, 2017).[63] Though there is a mention of public health professionals (non-medical background) with postgraduate qualification in public health to be a part of the 'Health Management Cadre' the cadre title does not align with the actual public health qualifications that they possess. Some of them could be subject matter experts in public health, doctorates in public health, epidemiologists, vector-borne disease experts, biostatisticians and other health professions, etc., but may not fit the 'eligibility criteria' for entry into the typically medicalized scheme of the 'Public Health Cadre'. There is no mention whether the 'Public Health Cadre' will be an exclusively-allopathic cadre although this seems more foreseeable. There is no explicit mention that graduates from the Indian Systems of Medicine or AYUSH (Ayurveda, Yoga, Unani, Siddha and Homoeopathy) with additional qualifications such as MPH can aspire to and will be part of the 'Public Health Cadre'; however, seems more likely that they can be part of the 70% workforce falling under the definition of 'graduates with PG qualification in Public Health' under the 'Health Management Cadre'. Thus, there is some concern whether public health postgraduates belonging to non-MBBS backgrounds, including candidates with general management degrees, will find opportunities to be inducted into the 'Public Health Cadre' and whether their inclusion and utilization as had been envisaged in the NHP 2017 would remain untapped.[62]

Effective physician-delivered care at primary level?
Secondly, the NHP 2017 also envisaged that the lack of primary medical care at the peripheries could be addressed through popularising courses that train post-graduates in family medicine. However, the status of courses made available and the opportunities for their entry into service is still unclear. Utilizing medical graduates with training in *family medicine* has been a long-recommended input for improving healthcare delivery. In as early as the National Health Policy 2002—'family medicine' was declared as a focus area for human resource development. It is reported that the medical management of patients who visit PHCs can best be construed in the hands of a physician who is appropriately trained in 'family medicine' and is hence oriented to general family practice.[64] By definition and by scope, family medicine is a specialty which provides comprehensive primary care to all the age groups in the community by combining biomedical, behavioural, and social sciences. The family physician is often the first point of contact providing preventive, curative and rehabilitative services to the patient and his/her family and helps in directing the patients towards specialized medical care only when it is necessary, thus avoiding unnecessary sophistication of care. Family medicine practitioners can also contribute significantly as 'gate-keepers' at primary care facilities where they can support cost-effectiveness of healthcare delivery as well as ensure appropriate triaging for referral care.[65] Since they are professionally trained to handle this scenario, they can hence strive to ensure that the basic health care needs of the community are met within their own environment and channelize and streamline referral so that the current sequalae that burdens secondary and tertiary care services is reduced.[66] Family medicine practitioners are essentially medical doctors with additional training or a postgraduate degree in Family Medicine—the admission for which is through a national entrance test. The National Board of Education (NBE) also offers a *Diplomate of National Board (DNB) in Family Medicine* while there are other short-term *family medicine* courses accredited internationally such as Membership of the Royal College of General Practitioners (MRCGP).[31] By convention and going by the current healthcare landscape of India—a family doctor can suitably fit into the role of a community-oriented specialist in family medicine, a general duty doctor in a private set up or a medical officer in a PHC.[67]

We are witnessing repeated health policy directives that encourage the training of medical doctors into 'Family Medicine Practitioners' (FPs) for primary and community health centres with an emphasis on improving their clinical, surgical, and anaesthetic skills within low-resource settings. There have also been other initiatives to up-skill the pool of existing primary care doctors through short courses in 'family medicine' that focus on key skill gaps such as anaesthesia, obstetrics, and neonatal care.[68] These trained FPs are hence well suited to meet the need for trained workforce in obstetric, anaesthetic, and surgical skills most relevant in rural primary care settings.[69] Since family medicine practitioners cover a range of services from antenatal care to palliative care and end of life situations including care of older adults, there is a value-added dimension in recruiting these trained practitioners as India's older adult population rises and eldercare needs surface.[70] It is these very reparative amends and future-ready investments that is required in primary healthcare to equip the health system and prepare healthcare professionals to be relevant and responsive to the evolving needs of the community while simultaneously enabling traditional and multi-stream practitioners at the primary care level. Therefore, there is an urgent need to proceed along national health policy directives and implement these recommendations consistently across Indian states. While there exist numerous initiatives to augment healthcare services through training of mid-level providers, train nurse practitioners to practice independently,[71] to train AYUSH practitioners in rural areas on prescribing of allopathic medicines,[72] and to continue up-skilling primary care doctors, the focus on improving primary healthcare delivery should not be lost. It is estimated that India would require roughly 15,000 family medicine practitioners per year by the year 2030. Hence, there is a requirement and community-based need for investing in and training doctors to be family medicine practitioners, a potentially vital workforce, and deserving of a much-needed policy direction and implementation.[73]

Conclusion

A fix for effective primary care: the way forward

Since PHCs are often expected to deliver standard healthcare services and targeted vertical programs, there is a likelihood of shortcomings between services offered and actual local contextual needs that could arise from changing epidemiological, lifestyle and demographic trends, thereby increasing unmet care expectations and alienating rural communities. As a result, even those households who would have preferred to access public healthcare through the PHCs might begin to look for other alternatives and even choose to travel quite a bit to access primary healthcare elsewhere. The local governance of primary care is another challenge that is intrinsic. In India, governance is largely decentralised to the State, District, Taluk and Municipal levels, respectively. Decentralised governance with decentralized mode of implementation is often welcome but again comes with a rider of extensive variations in implementation of policies, human and infrastructure resources, and health care provision.[74] Public dissatisfaction with health services at primary health centres in India is also attributed to households opting to access private healthcare with the corresponding increase in out-of-pocket expenditures,

even among the poorer rural populace.[75] Urban India on the other hand has for quite some time got access to and relied on a concentration of high-technology and expensive tertiary care private facilities and this trend is quickly spreading to the tier-2 cities and smaller towns of India as well.

Such a situation can be mitigated if there is adequate and appropriately tailored investment in public healthcare facilities and personnel, especially for delivering primary healthcare. However, while the public healthcare expenditure continues to plateau around 2% of GDP which quite low and lesser than a few poorer countries today.[76] Such low spending and low prioritization leads to a pattern that enhances social inequalities: poorer families end up contributing to 70% of their healthcare expenditure, mainly out of pocket, while central and state governments contribute only the remainder—a grim reminder of the burden it places on poorer households.[77] In summary, large fractions of the population lack access to a PHC. Even when PHCs are accessible, they are often understaffed, under-equipped, insufficient, and simply inefficient. Poorer households have no choice but to skip the PHC and seek healthcare from informal private providers or simply avoid hospital visits till the illness is quite advanced and expensive to treat. They often end up selling assets to seek care at private facilities and this is exactly the unintended sequelae that primary health care should intend to prevent in the first place.[78] Tertiary public healthcare facilities are often overburdened and short of resources and staff and there is in general an absence of a functional triage system and next to absent proper referral mechanisms.[79]

The private sector in India does not reflect a PHC approach, has no stated community-oriented responsibility, no onus on preventive health, does not rely on a functional referral system and often undermines it by offering direct access to specialist care that can be inappropriate and expensive to the common man. A well-planned and thought-out clinically relevant triaging system is the need of the hour since much of the care needs can be diagnosed early and healthy behaviours and promotive health instilled through a family-oriented approach and managed at the primary care level. It is for local general practitioners (GPs) to evaluate the patient and ascertain whether higher centre referral is even warranted where standards of care can be common.[80] This will pave the way for a coherent, responsive, and well-functioning public health system that is sensitive to patient needs and avoids the over-burdening of higher referral centres. This can also thwart the unfortunate 'direct access' to specialist care that is compounded by challenges of inappropriate care, over-medicalization and sophistication, unnecessary diagnostics, etc., and household misery through higher out of pocket expenditures which are often catastrophic.[81] It is therefore appropriate to augment primary health care infrastructure and take efforts to develop a central referral and triage system that incorporates primary health centres along with general practitioners in the local community. This will be of immense benefit to patients as patients can be prioritized and those who cannot wait to be seen are identified early and referred through the system to public facilities or empanelled private facilities.

The increasing burden of non-communicable diseases (NCDs) pose a major challenge in the current health care delivery system that is traditionally focused on infectious diseases and maternal and child health services. Patients with chronic diseases need regular, long term and coordinated care. Continuous monitoring of treatment adherence and management of complications are essential components of NCD care and this warrants community-based interventions through primary health centres and Health and Wellness Centres (HWCs) to ensure access to continuous care. Primary health care upholds the ideology of prevention and treatment aspects of the NCDs. However, the implementation of cost effective and appropriate interventions at the community level needs further improvement.[82,83] There is an urgent need to increase budgetary allocations to healthcare so that public expenditure on healthcare is at least 70% of the total health expenditure. It is estimated that such an increase will significantly improve the availability of and access to high quality primary healthcare services for the most vulnerable segments of our population.[84] Despite the importance of primary health care to nations, to their health systems and to local communities, it is sufficiently evident that primary care as a career choice lacks in status for physicians. There could be several reasons for this belief including the possible lack of positive exposure to primary care in undergraduate education, perceived low remuneration and the uninviting requirement to work in rural and remote areas.[85] Several nations have been experimenting with ways to incentivise doctors to choose primary care as a career, for example, by ensuring a positive exposure to primary care in undergraduate training, internship and as a requirement for residency training.[86]

Even as we envisage training of existing medical practitioners in family medicine through short-term training programmes to prepare them for the primary health care world, it would be important to identify the competencies required to work and address the local community's health needs and priorities in the context of working with multi-professional public health teams. It would be prudent to develop tools that detail primary health care, integrate community-orientated thinking into primary care and involve an integrated approach rather than offer selected care as is the focus in vertical programmes, to focus on the socio-cultural aspects of health, and utilize the social determinants of health approach as the framework for improving primary

health access and utilization. There is a need for interprofessional education to engage the role players early on in a collaborative and complex adaptive approach to forming functional teams that will likely meet the community's needs as there will a complex adjustment of roles between community-facing public health roles and community-inclusive provision of medical care services at the Primary Health Centre (PHC).[3] In India, primary health care can only be strengthened with strong government commitment to providing accessible, affordable, quality primary healthcare through a multidisciplinary team that includes medical professionals, public health professionals, community health workers and nurse practitioners.

General practice/family medicine and primary healthcare strengthening plays an important role in the functioning of the entire healthcare system and has not only been emphasized by WHO time and again but is also one of the research agenda for Europe under the WONCA Europe and EURACT teaching agenda. In healthcare systems where the GP (family medicine trained physician) acts as a gatekeeper, as much as 90–95% of all patient complaints remain in long time primary care (even though specialists can be appropriately involved).[87–89] Of all the complaints encountered at the primary care level, around 80% can be solved within primary care hence the strong indication for family medicine oriented/trained primary care physicians. Even from LMIC contexts, initiatives such as these are currently in place and one such successful model for family medicine courses comes from South Africa wherein all medical schools teach a clinical master's degree in family medicine with a separate register for family medicine created by Health Professions Council of South Africa (HPCSA).[90–92] Even Cuba follows a community-oriented primary care and complementary and alternative medicine focus with the services of a family medicine physician.[93] Another LMIC country, Brazil, follows a family health strategy that delivers community-based primary care in a universal health system that is effective and hence can be a potential case in point for India.[66,94,95]

Universal health coverage through primary health care is an eagerly expected goal; however, it is the quality of primary healthcare provision that will elicit community trust and improve health outcomes. In order to ensure sufficient public health presence at the rural peripheries, it is important to focus on the socio-epidemiological approach to public health capacity building that takes into account the need to tackle the social determinants of disease, inequalities and challenges that plague healthcare access and effectiveness of disease prevention and control rather than only relying on the biomedical approach.[96,97] Along with a cadre of broad public health professionals at the primary care level to lead and carry out preventive and promotive public health programmes, there is an urgent need for medical doctors with postgraduate training in family medicine or short-term training in family medicine to offer medical care services such that this essential skill mix can ensure healthcare competence and quality of service delivery. India can benefit from embracing the idea of having trained generalists at the forefront of their primary health care systems to achieve primary health care goals for the communities[98] while ensuring multi-disciplinary health workforce teams work together and vitally constitute the public health management cadre.[75]

Contributors

APU contributed to the conceptualisation, curation, supervision, validation visualisation, writing original draft, and writing - review and editing. AM contributed to the conceptualisation, curation, supervision, writing original draft, and writing - review and editing. RT contributed to supervision, writing original draft, and writing review and editing.

Declaration of interests

The authors declare no conflict of interest.

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