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The Blind Spots of Public Health

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The Covid-19 pandemic demonstrates that the discipline of public health needs to be open towards a plurality of ideas and paradigms. Else it could end up being reductionist and suited to authoritarian governance and commercial interests.

The discipline of public health, otherwise considered a poor cousin of medical science in India, is seeing a resurgence in interest as the country continues to tackle the Covid-19 pandemic. The recent announcements of increased public health spending, setting up of public health laboratories all the way to the block level, and the call for support for public health research indicate the government's belated recognition of the importance of public health.

While this renewed interest is indeed welcome, its value will depend on the kind of public health that comes into play, as noted by a recent joint statement by three Indian public health related associations. Public health accommodates a variety of perspectives, both competing and complementary. These perspectives shape what we identify as priority problems; how we understand them and their causality; what we propose as solutions; and how they are to be operationalised.

We can broadly delineate three paradigms in public health: a 'one-size-fits-all' mechanistic approach of global health; the approach of community medicine that is preoccupied with narrowly defined risk factors and local implementation of conventional bio-medical interventions; and of holistic and critical public health. The first two have undergirded the various narratives of the Covid-19 pandemic. The third has been conspicuous by its absence in shaping the official response to Covid-19 in most countries, including India. Unlike the other two paradigms the holistic and critical paradigm has a contextualised understanding of health determinants and of how social hierarchy and power relationships shape these determinants across population subgroups and communities.

The blindspots of public health and the missing paradigm

Over the past few months of the lockdown in India, a combination of the first and second paradigms, without inputs from the third paradigm, have seen the anticipated threat of Covid-19 turn into actual and widespread hunger, anxiety, and physical distress. This violates fundamental principles of public health. Adopting a holistic and critical paradigm could have democratised the potential inherent in public health and allowed agency to communities, during this pandemic.

To understand what this paradigm adds to the dominant knowledge invoked by policymakers, let us look at what did not happen in this epidemic and lockdown and ask: why? In a country of more than a billion people differentiated by caste, class, gender, occupation, ability and many other identities, the iron-fisted total lockdown has proven to be both inadequate and excessive at the same time. It was inadequate because it did not take the differentiated approach required for epidemiological diversity across regions and even within cities. Nor did it anticipate the dynamic evolution of the situation and prepare for the social and economic consequences of the measures instituted.

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It was excessive in how it disrupted all spheres of life, all over the country uniformly. Take, for instance, the announcement of a *nationwide* lockdown for 1.3 billion people, despite cases initially coming in exclusively through a limited number of international entry points, which could have been monitored more strictly; and despite the fact that in the early stages, 70% of the Covid-19 cases were located in just 30 districts. There was no consideration of the needs, social responses and health impact of the lockdown, especially on the vast numbers of informal sector workers, their rural kin, or even the lower middle classes, all of whom have been the most adversely affected by the lockdown.

Similarly, there was an ignoring of the needs of other patients such as those suffering from TB, cancer, kidney problems requiring dialysis, or HIV; or of women needing childbirth services, among others, who would suffer due to lack of health care as hospitals were converted into exclusively Covid-19 hospitals without alternate arrangements. As another instance, the opening of liquor shops was one

of the first steps towards relief from the lockdown, ignoring its likely impact on the already increasing incidence of domestic violence. Both the lockdown and its relaxation illustrate that overlooking the social determinants of health and the tradeoffs in control of the pandemic extract benefits for some at the cost of the most powerless.

A holistic and critical approach to public health provides the lenses to bridge the divides between the various dimensions essential for people's health. We illustrate this in the subsequent part of this essay.

The paradigm of global health

There have been several question marks raised on the epidemiological necessity of India's stringent nationwide lockdown. The lockdown was a consequence of strategic plans informed by the global health paradigm, which is focussed on international and national policy intervention.

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This paradigm fails to recognise the multiple dimensions of context specific diversity — social, economic, cultural, ecological, and epidemiological — that shape the trajectory of any disease across countries and within countries. Interventions informed by the global health paradigm are centred on state enforcement and technologies, ignoring the potential of community initiatives in developing localised and contextually suited containment measures. Such measures could have complemented the struggling public services, as indeed the many spontaneous instances of community initiatives across the country have shown.

The idea of suppression strategies such as 'social distancing' was supposed to buy time to prepare the health services for the surge in cases, and not to necessarily reduce the total number of persons infected. The preparedness required for India's health services was much more than just the capacity for testing, the availability of hospital beds, or ventilators that were the focus of the global health discourse. Ignored was the need to fill the longstanding vacancies of doctors, nurses, paramedics in public hospitals and creating primary level services that urban areas never really had in most states.

Such outcomes are typical of the paradigm of global health, which avoids dealing with the so-called messy elements in health interventions: the diverse socio-cultural contexts. Backed by philanthrocapitalists and medico-industrial complexes, the global health paradigm emerged in the 1990s as worldwide alliances of public health researchers and medical professionals, usually from the global North. These networks have little oversight or accountability to anyone other than their professional peers and funding patrons.

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Their development agenda, in the name of targeting neglected diseases in the global South, has led to context-blind technocentric bio-medical solutions, fertile with commercial possibilities. This has led even the *Lancet* to question global health paradigm's intentions as "repackaged colonial ambitions."

The global health paradigm is dominated by technical exercises that use universally applied assumptions for quantifying the disease burden and identifying global health priorities and interventions. The technique is sophisticated but is reductive in outlook and devoid of real-life fieldwork in affected areas. Due to the considerable funds and political reach of its backers, this paradigm has over the last two decades disproportionately influenced public health policies across countries of the global South and skewed them towards adopting technological solutions. This has obscured systemic issues that significantly influence health outcomes in low- and middle-income countries, such as unemployment, poverty or environmental health.

The community medicine paradigm

In contrast to the public health response emerging from the global health paradigm, containment strategies informed by a community medicine paradigm have been more successful, especially wherever the ground-level public health service capacities were adequate, as in Kerala among the Indian states. This paradigm is primarily concerned with the prevention of communicable and non-communicable diseases through implementation of government health programmes and is most evident in classical epidemic control activities of contact tracing, testing, isolation and quarantine. However, the preoccupation with narrowly defined risk, such as travel risk or contact risk,

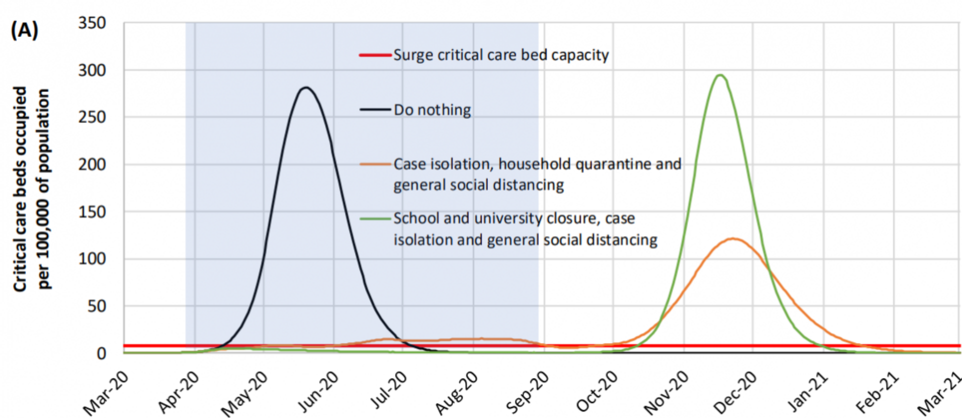
obscured the many other social risks that unfolded during this epidemic to grave outcomes.

> [The community medicine] paradigm also has a tendency to dehumanise and reduce people to an aggregate of risk factors that need to be controlled. This can give it an authoritarian face.

Informed by a simple medicalised view of health combined with public administration, this paradigm also has a tendency to dehumanise and reduce people to an aggregate of risk factors that need to be controlled. This can give it an authoritarian face, with coercive practices adopted by those in power. The police brutality on the lockdown violators, showering the migrant workers with disinfectant, or the insistence on using an app with privacy concerns are uncomfortable reminders of past instances like the forced sterilisations during the Emergency, all done in the name of 'greater public good'.

Modelling exercises: More humility and transparency

The initial narrative of Covid-19 in India significantly drew from the global projections of cases and deaths based on statistical modelling done by first world experts for first world epidemiological conditions. These projections have so far proved to be inaccurate by a wide margin. The projections also attempted to predict the possible effects of various approaches to suppress the viral transmission.



A figure from the Imperial College London study, on suppression strategy scenarios for Great Britain regarding ICU bed requirements. The black line shows the unmitigated epidemic. Green shows a suppression strategy incorporating closure of schools and universities, case isolation and population-wide social distancing beginning in late March 2020. The orange line shows a containment strategy incorporating case isolation, household quarantine and population-wide social distancing. The red line is the estimated ICU bed capacity in Great Britain with the blue shading showing the 5-month period in which these interventions are assumed to remain in place, so as to prepare for the surge in demand for ICU beds.

The failure of these models reflects the complexity and diversity of real-life situations of health service systems and of the conditions in society that shape the dynamics of health and disease.[1] Modelling exercises are not expected to take all of them into consideration. In fact, if they tried to, they may be further counter-productive, since it may increase the errors in predictions due to a cascading effect of uncertainty. In the absence of a comprehensive perspective like that offered by the holistic and critical public health paradigm, modellers would not know what to factor in or where to look.

The global graphs and projections of the Covid-19 pandemic served to warn countries and governments to act urgently. They provided a working hypothesis for the political leadership and health administrators to work upon. But it would be wise for modellers to incorporate a higher level of humility and transparency in presenting their work.

Decision makers need to be made aware of the possible limitations of the modelling exercises. The mathematical projections of global health experts must be supplemented with holistic and critical public health assessments from local experts. This will help understand local real-life situations, contextualise the projections, and strategise accordingly.

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Modelling techniques are never neutral, as the choice of assumptions and tools considerably influences outcomes. If not transparent about their assumptions or accessible in terms of their logic, they become a black box. They would prevent any contextual variations being factored into the analysis.[2] Their very design imposes policy decisions in a particular direction, precluding local and decentralised democratic decision-making. This creates an undemocratic hierarchy between the global-health expert-modellers and the national or local public health analysts and decision-makers.

A universalist and context-blind framing that does not acknowledge power dynamics and differentiation between different sections in society risks becoming simplistic, or worse, exclusionary. People's voices, perceptions and agency, central to a critical holistic understanding of public health, would be a far cry.

The other politics of knowledge

Besides the politics of knowledge within the modern discipline of public health, we also need to acknowledge the hegemony of 'modern' or conventional biomedicine to the neglect of other systems of health knowledge.

Biomedicine and public health have an understanding of general and innate immunity, but the dominance of biomedical technologies such as vaccines has obliterated its importance in the technical public discourse. A vaccine for Covid-19 is awaited as the 'saviour'. Existing drugs with anti-viral potential and immune-modulators are being put to use and tested on Covid-19 patients, despite warnings of their hazards. However, the boosting of innate immunity using traditional health knowledge is ridiculed, or at best given some space to practice and test itself as a late concession.

> Acknowledging the plurality of medical knowledges [...] will ultimately help develop institutional eco-systems that appropriately assess and propagate the best practices for people's health without prejudice.

Together, the different views on health from differing systems of medicine can complement each other in achieving better health outcomes. Biomedicine looks for success in the universal standard of fixing a pathology across bodies treated as same, while alternative systems of medicine aim for success in bringing back balance among the different attributes unique to different bodies. Thus, one is focussed on the seed (the germ) and the other on the soil (the body's general state of health). The dominance of one system and the consequent delegitimisation of others make such integrative benefits a limited possibility.

A holistic and critical public health paradigm would question the processes that create and perpetuate such dominance. Acknowledging the plurality of medical knowledges with their varied understandings and contexts will ultimately help develop institutional eco-systems that appropriately assess and propagate the best practices for people's health without prejudice

Post-Covid-19 public health

The pandemic has once again underlined the fact that health, while experienced individually, is also a phenomenon shared by society at large. The social conditions in which people live, work, recreate, even seek healthcare, contribute significantly to their overall health. India's initial delayed but seemingly panic-stricken response to the pandemic revealed gross neglect of such considerations as a result of its succumbing to the influential global health paradigm and its technical wizardry. Once panic and hype sets in, global managerial consultancies, pharmaceutical companies, and vaccine lobbies find it conducive to propagating their professional and commercial interests. Thereby they provide support to such an approach, displacing the more plural and calibrated approaches, based on facts from the ground.

> Efforts informed by any singular idea of global epidemic response create an illusion of security at best, and a catastrophe at worst. A triangulation between multiple perspectives and knowledges thus remains our best bet.

The response to Covid-19 in India and its consequences have shown that in face of unprecedented uncertainties, efforts informed by any singular idea of global epidemic response create an illusion of security at best, and a catastrophe at worst. A triangulation between multiple perspectives and knowledges thus remains our best bet in navigating these uncharted waters.

But to do that, the public health we teach and practice have to be open towards the plurality of ideas, including lay knowledge. Will public health move in such a direction in the post-Covid-19 world? That will depend on what lessons we learn from this pandemic. These will, in turn, be shaped by the narratives that are widely accepted and the democratic demands they generate.

The strengths of the three approaches of public health can be brought together to adequately address the complexity of human health and wellbeing. That would require recognising people's health as the goal of all development. It would also require health itself to be visualised as a dynamic function of the collective biological, economic, mental, social and spiritual conditions in society.

Otherwise, a reductionist approach, coming from mathematical economics and management sciences, and suited to authoritarian governance and commercial interests, will continue to play its role.

Footnotes:

1 Recent trends in Health Systems Research (HSR), a subdomain of PH, identify six building blocks: Health services; Health workforce; Health technology; Health research; Healthcare financing and Governance. Also acknowledged is the interrelationship between the different elements of the health service system and people's adaptive responses and emergent behaviours, as significant determinants of health and cost-effective solutions. Systems dynamics under HSR is one such approach that tries to make sense of such complexities in health by using computer-based modelling, among other tools. Modelling, a mainstay in the GH paradigm these days, is adept in calculating systemic dynamicity, albeit based on limited assumptions.

2 The national and global 'burden of disease' data sets being produced using DALYs is a widely used and widely critiqued example of this. Disability Adjusted Life Years (DALYs) are calculated for 'burden of disease' by using a statistical equation based on incidence of a disease, deaths due to it and the disability it causes over the years affected. It was generated as a tool for priority setting for the World Bank's global health funding in the 1990s, but since then its national dat sets have been increasingly used for national priority-setting. Its major critique is that it, by stated intent, obliterates contextual realities in assessing health problems and cost-effectiveness of optional interventions, favouring individual over collective health interventions. Further, the Institute of Health Metrics and Evaluation does not reveal its methodology in full, even to the national experts in countries (such as India) for whom it creates the DALYs based burden of disease assessments at regular intervals.