



# Think differently about healthcare

India's public health system can no longer function within the shadows of its health services system



RAVIKUMAR CHOCKALINGAM

In India, public health and health services have been synonymous. This integration has dwarfed the growth of a comprehensive public health system, which is critical to overcome some of the systemic challenges in healthcare.

A stark increase in population growth, along with rising life expectancy, provides the burden of chronic diseases. Tackling this requires an interdisciplinary approach. An individual-centric approach within healthcare centres does little to promote well-being in the community. Seat belt laws, regulations around food and drug safety, and policies for tobacco and substance use as well as climate change and clean energy are all intrinsic to health, but they are not necessarily the responsibilities of healthcare services. As most nations realise the vitality of a robust public health system, India lacks a comprehensive model that isn't subservient to healthcare services.

## A different curriculum

India's public health workforce come from an estimated 51 colleges that offer a graduate programme in public health. This number is lower at the undergraduate level. In stark contrast, 238 universities offer a Master of Public Health (MPH) degree in the U.S.

In addition to the quantitative problem, India also has a diversity problem. A diverse student population is necessary to create an interdisciplinary workforce. The 2017 Gorakhpur tragedy in Uttar Pradesh, the 2018 Majerhat bridge collapse in Kolkata, air pollution in Delhi and the Punjab narcotics crisis are all public health tragedies. In all these cases, the quality of healthcare services is critical to prevent morbidity and mortality. However, a well organised public health system with supporting infrastructure strives to prevent catastrophic events like this.

Public health tracks range from research, global health, health communication, urban planning, health pol-



"India certainly has a serious problem with health literacy and it is the responsibility of public health professionals to close this gap." Stubble burning in Dadri, Uttar Pradesh in 2018. ■ R.V. MOORTHY

icy, environmental science, behavioural sciences, healthcare management, financing, and behavioural economics. In the U.S., it is routine for public health graduates to come from engineering, social work, medicine, finance, law, architecture, and anthropology. This diversity is further enhanced by a curriculum that enables graduates to become key stakeholders in the health system. Hence, strong academic programmes are critical to harness the potential that students from various disciplines will prospectively bring to MPH training.

Investments in health and social services tend to take precedence over public health expenditure. While benefits from population-level investments are usually long term but sustained, they tend to accrue much later than the tenure of most politicians. This is often cited to be a reason for reluctance in investing in public health as opposed to other health and social services. This is not only specific to India; most national health systems struggle with this conundrum. A recent systematic review on Return on Investment (ROI) in public health looked at health promotion, legislation, social determinants, and health protection. They opine that a \$1 investment in the taxation of sugary beverages can yield

returns of \$55 in the long term. Another study showed a \$9 ROI for every dollar spent on early childhood health, while tobacco prevention programmes yield a 1,900% ROI for every dollar spent. The impact of saving valuable revenue through prevention is indispensable for growing economies like India.

## Problem of health literacy

Legislation is often shaped by public perception. While it is ideal for legislation to be informed by research, it is rarely the case. It is health literacy through health communication that shapes this perception. Health communication, an integral arm of public health, aims to disseminate critical information to improve the health literacy of the population. The World Health Organisation calls for efforts to improve health literacy, which is an independent determinant of better health outcome. Data from the U.S. show that close to half of Americans lack the necessary knowledge to act on health information and one-third of Europeans have problems with health literacy. India certainly has a serious problem with health literacy and it is the responsibility of public health professionals to close this gap.

Equally important is a system of evaluating national programmes.

While some fail due to the internal validity of the intervention itself, many fail from improper implementation. Programme planning, implementation and evaluation matrices will distinguish formative and outcome evaluation, so valuable time and money can be saved.

The public health system looks at the social ecology and determinants focusing on optimising wellness. Healthcare services, on the other hand, primarily focus on preventing morbidity and mortality. A comprehensive healthcare system will seamlessly bridge the two.

## A council for public health

A central body along the lines of a council for public health may be envisaged to synergistically work with agencies such as the public works department, the narcotics bureau, water management, food safety, sanitation, urban and rural planning, housing and infrastructure to promote population-level health. In many ways, these agencies serve to bring in many facets of existing State and federal agencies and force them to see through the lens of public health. The proposed council for public health should also work closely with academic institutions to develop curriculum and provide license and accreditation to schools to promote interdisciplinary curriculum in public health.

As international health systems are combating rising healthcare costs, there is an impending need to systematically make healthcare inclusive to all. While the proposed, comprehensive insurance programme Ayushman Bharat caters to a subset of the population, systemic reforms in public health will shift the entire population to better health. Regulatory challenges force governments to deploy cost-effective solutions while ethical challenges to create equitable services concerns all of India. With the infusion of technology driving costs on the secondary and tertiary end, it is going to be paramount for India to reinvigorate its public health system to maximise prevention. India's public health system can no longer function within the shadow of its health services.

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# Learning to probe early

Why research should be made part of UG curriculum in India



HARSH V. PANT & ANTARA SENGUPTA

While addressing the 106th Indian Science Congress, Prime Minister Narendra Modi underscored the need for universities to get involved in research. While India has made considerable strides in achieving a near-perfect enrolment rate in primary education, it has failed to give higher education as much attention. As a consequence, Gross Enrolment Ratio in higher education is 25.8%, against China's 48.44% and the U.S.'s 88.84%. Mr. Modi's address alerts us to major lacunae in the education system that need to be looked at urgently if the higher education system is to meet the demands of today.

## The importance of research

Research remains a significant weakness in India's higher education system, traditionally cocooned in specialised institutes such as the Tata Institute of Fundamental Research (TIFR), the Homi Bhabha Centre for Science Education, and the Indian Institute of Science (IISc). Unlike the world's best higher education systems, there is hardly any interaction between these institutes and teaching universities.

In India, about 80% of the students enrolled in higher education are concentrated in undergraduate (UG) programmes. Research and application-oriented education can substantially enhance the quality of UG education. While the concept of UG research is fairly new in India, it is now taken as a given in many parts of the world. Several studies on such programmes have shown a positive impact on students, such as enhanced learning through mentorship, increased retention, increased enrolment in graduate education, more prowess in critical thinking, creativity, problem solving, intellectual independence, and understanding of research methodologies. Research at the UG level increases the aptitude for research-oriented career options as well as the employability of students. Based on the nature of their association and the nuances of a research programme, the faculty can also gain by sharing their research ideas with students, receive valuable feedback as well as help in the form of assistantship and apprenticeship. Additionally, research also helps the faculty enhance their teaching abilities and content by upgrading knowledge. Introducing and sustaining the culture of research at this level can also help solve the problem of shortage of faculty, as more students will likely opt for

doctoral and post-doctoral studies and teach in their home country. In any sound higher education system, research and teaching should ideally go together.

Besides, the government has also floated two ambitious projects towards internationalising higher education in India: 'Study in India' and 'Institutes of Eminence'. Both these will need institutes to become world class and carry out high-quality research on campuses. Only then will competent faculty as well as doctoral students from across the world come to India. Internationalisation of campuses is important if India wants to be in the global university ranking lists and this will not happen without encouraging an ecosystem that promotes high-quality research.

## Some strategic steps

However, given the impediments vis-a-vis infrastructure, teachers, funds and content, the government will need to take strategic steps to roll out policies to promote UG research programmes. First, investment in education needs to meet the world standard of at least 6% of GDP, to upgrade infrastructure, labs and resources, which are essential to carry out high-quality research. Second, the University Grants Commission and other regulatory bodies will have to come out with a priority list of reputable journals. This will rid the country of the problem of bogus journals and publications. Research institutes such as TIFR and IISc should mentor some of the well-performing universities and colleges till they become aware of the nuances of conducting fair and high-quality research. Once capable, these trained institutes can then help the second rung of colleges and so on. Third, there should be planned ways to embed research in UG curriculum. Due to limitations in curriculum and the practice of rote learning, most students in India, even at the Masters level, graduate without having attempted an original piece of research or dissertation. The UGC should make it compulsory for students to submit at least a 5,000-word research paper that should be assessed just as publication in serious research journals are. Unless students are made aware of the value of research from an early stage, they will not recognise the true value of higher education.

The status quo in education has resulted in education that is not only substandard but also fails to open inquiring minds to the world of research. India must be innovative in its approach if its demographic dividend is to be tapped into. Otherwise, what Mr. Modi said will remain a quotable quote.

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## SINGLE FILE

### Investment over subsidies

A reconfiguration of public policy is needed to replace agricultural subsidies with investment

PULAPRE BALAKRISHNAN



We are witnessing something akin to lobbying for a universal basic income whereby every Indian citizen gets money paid into their bank account. A recent proposal published in the print media is presented also as a solution to the current agrarian impasse. It argues for the removal

of all agricultural subsidies, which range from fertilizer subsidies to those on interest, water and power, and distributing the saving among most of the rural population. To its authors, this scheme presents itself as addressing 'rural' and not just 'farm' distress. To evaluate what is being proposed as a way out of the present agrarian crisis it would be useful to understand what defines it and to recognise the originally intended role for the agricultural subsidy.

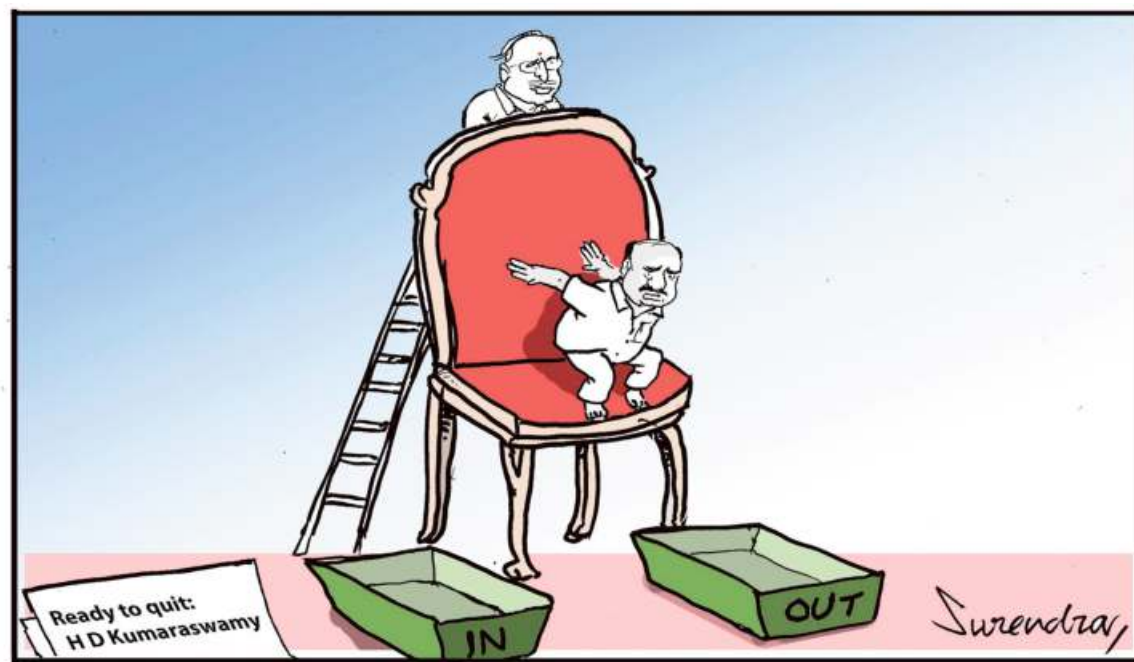
At its core the agrarian crisis is a case of agricultural activity not yielding enough returns for a section of the farming population. This group is facing a declining farm size due to partitioning across generations. As this population grows the process of fragmentation of the family farm will continue, with succeeding generations staring at a shrinking pie. There are two solutions to this problem. One is the obvious one of enabling some members of each household to shift out of farming. The other is to reconfigure public expenditure on agriculture to raise the yield of land. Actually, the latter would serve both objectives.

A reconfiguration of public policy is needed to replace agricultural subsidies by capital formation or 'investment'.

For three and a half decades now subsidies have progressively replaced public investment for agriculture. Having once been less than half that of investment it is now five times as large. Evidence points strongly to a case for moving some distance back. The impact of public investment on both the yield of land and rural poverty, encompassing a cohort wider than farmers, is far greater than that of fertilizer, electricity, irrigation and interest rate subsidy. This crucial finding is due to the Sino-Indian team of economists Shenggen Fan, Ashok Gulati and Sukhadeo Thorat. In their study, the investments found most valuable were "educational" and on rural roads.

The agricultural subsidies that are now found wasteful were designed with a purpose. The plan was to place agricultural production on a sound footing. It envisioned raising the yield of land, which works to generate rising output without inflation and with reasonable profit. The price of food has historically been high for Indians at the bottom of the income distribution. This has held back industrialisation and the desirable shifting of population away from farming to other activities. Even a total elimination of subsidies to enable this transformation via public investment may not be such a bad thing. However, eliminating them merely to implement a universal basic income would be unwise.

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## NOTEBOOK

### What reporters and rockets share in common

Covering rocket launches is a tricky affair, especially when deadlines beckon

T.K. ROHIT

On a starry night last Friday, the reflection of the moon glimmered on the dark waters of Pulicat Lake. It was close to midnight, but that didn't stop enthusiasts from lining up near the lake to watch yet another rocket go up from ISRO's launchpad at Sriharikota.

Inside the spaceport, the speakers blared with the countdown. When the words "lift-off successful" rung through the night air, the black sky turned orange. Large trees always block the view of the base of the launchpad for us at the media centre and this time I was in for a surprise: unlike the GSLVs, which boom so much at lift-off that one waits in anticipation for the spectacle that unfolds over the next few seconds, the PSLV-C44 soared soundlessly into the sky. Only a few seconds after it sped ahead did a booming noise come from

the vehicle, a modified rocket with two strap-on boosters.

This was also the first time in nearly 13 years that I saw the separation of the rocket's first stage and second stage engine firing so clearly. The darkness of the sky ensured a clear view: white fumes emanated from the rocket, the fumes' tail accentuated by a dark red smoke, the first stage shut off, there were a few milliseconds of darkness, and then a sudden surge of orange light as the second stage fired, powering the rocket ahead on its path.

While all this was taking place in the distance, I was in for a third 'first': a flock of birds sailed across the sky. These migratory birds are regular visitors to the lake. This was such a beautiful sight to behold that I urge everyone to gather on the other side of the lake if there is another launch during the migratory season.

While the excitement in the air is palpable during rocket launches, journalists are always filled with some anxiety. Covering rocket launches is a tricky affair, especially when deadlines beckon. More than a decade ago, when I was working at a news agency, the moments following the lift-off used to cause panic, as the news of the lift-off, the announcements that followed, and the mission's success all had to be transmitted almost immediately to the subscribers. This had to be done despite patchy mobile signals. Sometimes, one had to run from the terrace to the nearest phone to transmit the news. And sometimes it also meant that we missed watching the launch and only heard the voice on the speakers to know if it was a success or not. GSLV launches in those days would give a lot of uncertain moments to reporters as they were prone to failure. On the

other hand, PSLVs were fairly easy to cover as ISRO has truly mastered them.

The C44 was also the first time I was covering a near-midnight launch, which is a nightmare as it is close to the time when our edition is put to bed. With the speeches of the ISRO chairman and the launch team eating into the deadline, I had a window of only about 15 minutes to cram in as many details as possible. It was then that my phone rang. Never a good sign. "Rohit, where's the copy," the copy editor asked. I was frantic. "Give me 10 minutes, I have two more paragraphs to go!" The voice on the other side was calm: "In two minutes, the edition has to go." "Damn," I muttered to myself. I typed as quickly as I could and mailed the copy. Sometimes we cannot write everything we want, but then there are other days. Who said only rockets have countdowns?

## FROM The Hindu ARCHIVES

FIFTY YEARS AGO JANUARY 29, 1969

### Call for trade preferences

The Council of Europe to-day [Jan. 28, Strasbourg] urged all member-Governments of the U.N. Conference on Trade and Development (UNCTAD) to proceed as rapidly as possible with the proposed scheme for a system of non-reciprocal temporary preferences in favour of raw materials, foodstuffs, semi-finished and manufactured goods and processed farm products of the developing countries. In a resolution based on the report of a committee of the council, it also called upon rich members of UNCTAD to increase their financial aid efforts in accordance with the new target figure of one per cent of Gross National Product agreed to by them at New Delhi last year.

A HUNDRED YEARS AGO JANUARY 29, 1919

### The Mad Hatter Again.

(From an Editorial)

That journalistic paragon, the Madras Mail, whose fairness in comment is on a par with the brilliancy of its logic, has discovered a new epithet for The Hindu. "Our Home Ruin contemporary" would strike most people as a somewhat vapour contribution to the vocabulary of vituperation, but if it pleases the Madras Mail to work it overtime we can only wish it joy of its modest ambitions in this direction... We quote this masterpiece in full so that our readers may not miss a syllogism which in its way is as perfect an one as they will find outside an asylum for the mentally indigent: "When we originally described as a 'Home Ruler' the traitor Sitarama Iyer, whose appeal against the sentence of seven years' imprisonment recently passed upon him had just been rejected, local Extremist journals howled protestingly in chorus that he had no connection with the 'Home Rule' movement... "We note also that, Home Rulers apart, the aid of the Indian public was also relied on by Sitarama Iyer. Would that not be a sufficient reason for branding that public as at least potential traitors? Junkerdom must be hard put to it if it cannot find a more worthy exponent of its cause than the Mad Hatter.

## CONCEPTUAL

### Psychological warfare

MILITARY

This refers to the use of effective propaganda, threats and other non-combat psychological techniques to manipulate the morale and the general behaviour of enemy forces. Psychological warfare may include using false media propaganda in order to negatively affect the psychological well-being of an enemy population and carrying out covert military operations that are intended to mislead the enemy and cause mental fatigue. It is often employed by governments to gain some level of mental advantage over the enemy and also, in several cases, to influence public opinion within their own countries.

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