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# WE NEED TO URGENTLY INVEST IN PUBLIC HEALTH

Relevant for: Developmental Issues | Topic: Health & Sanitation and related issues

The worst pandemic in a hundred years has demonstrated the importance of healthcare and public health in times of a health crisis. The efforts of healthcare personnel, from ASHA workers with only basic training, to highly specialised intensive care physicians, have saved countless lives and made India proud.

That healthcare is science-based was convincingly demonstrated. Lab diagnosis, clinical assessments, triage and management ranging from home quarantine to intensive care, clinical trials discriminating between useful and useless therapeutic modalities all gave society a glimpse of how modern medicine works. We learned that outcomes of well-designed clinical trials with their statistically significant differences between treatment modalities are sacrosanct for evidence — not unreliable personal anecdotes.

Healthcare personnel worked tirelessly, with single-minded devotion to duty, putting the best interests of others who were in need over their own personal priorities. This made a mark in public perception. Now we realise why good grounding in theory, long years in basics and specialisation, and apprenticing to gain experience in ethical, evidence-based medical practice are essential for the making of caring medical and nursing professionals. Both the science base and the discipline belong to the allopathic system of medicine. This was brought to India just over a century ago and successfully adopted by us as our own.

While the health-care capability in India ranks among the world’s best, it is a different story when it comes to public health. We need to distinguish between the two. Healthcare refers to the transaction between one caregiver and one sick person at a time – hence the client is the sick person and therapy is the mainstay. For public health, the client is the community at large and the goal is disease prevention and control. Disease control is the deliberate, intervention-based and quantified reduction of disease burden. It has to be data-driven. Data are required on baseline disease burden and real-time monitoring to track the control trajectory of all the highly prevalent infectious diseases. Reliable data must be collected from all sources including every healthcare provider, for monitoring disease burden by diagnosis and outcomes; for this exercise, the total population is the denominator.

Data collection for HIV control is sample-based, under the unique Indian design of sentinel surveillance, established in 1986 and still continuing. It shows only the time trend of declining infection prevalence. Counting of acute flaccid paralysis (AFP) and laboratory tests for polioviruses (including molecular methods distinguishing wild from vaccine viruses) were crucial for polio elimination in India. The commonality between HIV/AIDS and polio programmes is the availability of denominator-based data. The denominator for polio elimination is the national total under-five population. So, we knew the total disease burden. And when it reached zero, we knew polio was eliminated.

Our health management does not have a way of prospectively collecting data on all diseases and deaths by diagnosis. That is precisely the task of public health. In its absence, we have only the numerator data on various diseases, including COVID-19, but not the denominator — in short we do not have a comprehensive and quantified profile of any disease in the entire population, including those under vertical programmes — tuberculosis, malaria, leprosy, AIDS.

For COVID-19, computerised medical records informed us about how many were tested for SARS-CoV-2 infection — and among them, how many were positive, hospitalised, survived or

died. All statistics are available in the public domain. Everyone knows that the numbers cover only a fraction of the total, but what proportion of the total, will remain unknown forever.

To get an insight into the totality of infections in the whole population, we rely on the shape of the COVID-19 epidemic curve that peaked in September and steadily declined to the present — with less than 20,000 daily new infections since January 7 until recently. That informs the proportion already infected — most probably 50%-60%, for 700 million to 800 million people. But the detected numbers are over 11 million. Where does the truth lie: nearer to 11 million or to 700 million? We will not know without a public health surveillance system. The sero-surveys on random samples, an attempt to derive the totality of infections, reported widely disparate figures and failed to give us a reasonably reliable picture.

For COVID-19, there are non-pharmacological preventive interventions — face masks, hand hygiene, physical distancing — and pharmacological prevention by vaccination. Where we fell short is timely and comprehensive public education with authoritative and authentic information communicated effectively to the public for self-motivated behaviour modification. In other words, a ‘social vaccine’. Social vaccination is another function of public health.

In the absence of public health infrastructure, India’s AIDS Task Force designed and successfully applied ‘social vaccine’ during the HIV/AIDS epidemic and this was continued by the National AIDS Control Organization (NACO). Sadly, there was no crosstalk between the COVID-19 programme and NACO; hence principles of social vaccine, so effectively deployed in AIDS prevention, were not adopted for COVID-19 prevention. Now, during the COVID-19 vaccine roll-out, authentic health education regarding vaccination is conspicuously lacking, leading to considerable vaccine hesitancy among even healthcare staff. Post-vaccination surveillance, vital for assessing vaccine efficacy and safety, is not being conducted, again a lacuna in public health. We sorely miss public health.

COVID-19 has strong social determinants of infection transmission — overcrowding, lack of cough/sneeze etiquette, and urban-rural divide in health awareness and education. These factors are common for influenza and TB too. Typhoid, cholera, leptospirosis, scrub typhus, malaria, rabies, etc. have environmental determinants. In countries where public health is given equal status with healthcare, public health addresses both social and environmental determinants and controls these diseases. Public health personnel have jurisdiction over people in their homes and workplaces, food and water distribution chains, and over ecosystems — ranging from densities of arthropod vectors, rodent and canine populations, to flight ranges of fruit-eating bats.

Our government errs when it thinks that healthcare for people’s felt need alone will suffice, without mitigating disease determinants through public health. India’s style of mounting ad hoc responses only when there is a pandemic is no longer tenable. Currently our healthcare institutions are cluttered with too many infectious diseases that are amenable to control if only we had public health. Imagine how much wealth is going down the drain for want of public health. Investment in public health will result in health, wealth and prosperity.

T. Jacob John is retired professor of clinical virology, Christian Medical College, Vellore and M.S. Seshadri is retired professor of medicine (endocrinology), CMC, and Medical Director of Thirumalai Medical Mission Hospital, Ranipet

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