

World view



By Shobita
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More testing alone will not get us out of this pandemic

Inequities and other social realities must be factored into diagnoses and tracing of COVID-19.

In the past few weeks, public-health experts were rightfully outraged at moves by the US Centers for Disease Control and Prevention (CDC) to discourage testing for asymptomatic people exposed to COVID-19. Expanding diagnostic testing is essential to inform public-health policies, education campaigns and containment strategies. But, as I've investigated testing approaches around the world, I worry that a narrow focus on more, and more-sophisticated, tests will divert attention from other crucial issues in testing and diagnosis.

Many governments are pinning their hopes on tests. The UK government plans to administer 500,000 tests daily by the end of October, more than double the current number; India's Ministry of Health and Welfare has announced a goal of one million daily tests. Policymakers are also trying to innovate their way out of the problem: the US National Institutes of Health (NIH) has launched a US\$1.5-billion funding initiative, Rapid Acceleration of Diagnostics (RADx), to do so.

Broader testing proffers a seductively straightforward technological remedy. But these solutions can fail when they run into messy, complex and unequal social realities.

Starting in April, the UK government sent hundreds of thousands of self-swab kits to homes across the country – a technical solution to cope with a scarcity of trained personnel and testing sites. But nearly two-thirds of the tests went undone because some samples were not returned intact, or at all. In the United States, cumbersome contracts mean that health providers cannot turn to alternative laboratories, even if a designated lab is overstretched or underperforming.

Disparities, distrust in health systems and other complexities must be explicitly factored into solutions. Right now, in the United States and other rich countries, it is easier to get a test in whiter, richer neighbourhoods. Essential workers – grocery shop clerks, bus drivers, cleaners – are disproportionately people of colour and living in poverty. They are at higher risk of infection and transmission, and so are more in need of testing and less likely to have access to it. The changes to the CDC guidelines will probably increase disparities.

What's more, after decades of discrimination and mistreatment, communities of colour are rational in hesitating to get tested, provide personal information to contact tracers or download a tracing app. Many have experienced unfair surveillance by law enforcement. Racism can even be baked into medical technologies. Pushing these towards disadvantaged communities could be ineffective, or even backfire.

Finally, the test-trace-isolate approach makes some sense for those with a relatively spacious home and

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the ability to work remotely. But for those in crowded apartments who cannot get paid time off or work from home, 'isolation' is almost impossible.

Singapore's experience with COVID-19 is instructive. Initially, the country seemed like a success story – until leaders realized that the disease was spreading rapidly among migrant workers living in dormitories, a large and largely overlooked population. Singapore quickly ramped up diagnostic capacity, but it took 5 months to test all 323,000 workers. Eventually, 52,968 workers tested positive, accounting for more than 96% of the country's total cases. All the while, workers were mostly restricted to their dormitories: rates of anxiety and depression soared, and the disease persists.

The good news is that governments seem to be taking structural inequalities seriously. The UK government's Race Disparity Unit has begun to focus on COVID-19, and individual US states have acted similarly. (Michigan, for example, has created the Coronavirus Task Force on Racial Disparities.) But separating technology development from equity considerations is ineffective. Although the NIH's RADx initiative includes \$500 million to focus on underserved populations, this programme is separate from an incubator that has funded companies developing diagnostics. It's unclear what, if any, communication exists between these efforts.

We cannot assume that we should first find some perfect technological solution and only then engage with communities to learn what is needed for their access and participation. If the realities of marginalized communities do not help to set the terms of innovation, these populations are unlikely to benefit. The technologies might even marginalize them further. Consider the pulse oximeter, crucial for diagnosing serious cases of COVID-19. It detects blood oxygen by measuring the amount of light that passes through skin. It was developed using white skin, so it can be inaccurate for people of colour.

We need a fundamentally interdisciplinary approach, with the knowledge and insights of historically disadvantaged communities and social-science expertise embedded into technology development. Critics might argue that this approach is too time-consuming, especially during a crisis. But we need solutions that actually work.

In North Carolina, public-health researchers working with an at-risk Latinx population devised a surprising solution to minimize HIV exposure in that community: a recreational soccer club. It provides a sense of connection and community that, preliminary evidence suggests, has reduced risky behaviour and infection, and increased trust in and chances to interact with public-health workers.

We cannot close our eyes to these kinds of innovation. We can't just 'tech' our way out of the pandemic. Success depends on a much more sober perspective of how technologies and their consequences are shaped by the real world.