



Scenario

Scaling the tried and true

This is a world where a series of rolling crises spur effective global collaboration to address health concerns broadly. Meanwhile, medical advances based on big data and artificial intelligence occur gradually and are implemented incrementally. As a result, the focus is on baseline care, provided to all.

In the first half of the 2020s, a series of health crises occur. Climate emergencies create large numbers of disaster victims; heretofore less recognized environmental threats like micro-particulates in the air and plastics in water are recognized as posing severe health risks; viruses and microbes that are resistant to antibiotics emerge, leading to outbreaks of newly virulent infectious diseases; and mosquito-borne diseases (e.g., malaria, West Nile, Eastern Equine Encephalitis, Zika) become increasingly prevalent in what were once more temperate regions.

In parallel, while the application of big data and AI contributes to some medical advances, these occur more slowly than had initially been expected. They are also less than revolutionary and apply to only small numbers of people.

Many of the health problems that trouble the world span national boundaries—for example, plastics waste in Indonesia affects health in Japan—so it's not enough for countries to police themselves. Instead, effective action requires broad cooperation. At first, nationalism and polarization driven by social media manipulation prevent nations from effectively working together. The initial response to the wave of health crises is fear and an impulse to close ranks.

But nothing focuses the mind more than a crisis—or a series of them. Over time, high-profile successful collaborations emerge. When a major outbreak of Ebola spreads from sub-Saharan Africa to Western Europe, the non-governmental organizations (NGOs) Partners in Health and Médecins Sans Frontiers jump in. Working closely with the World Health Organization and a consortium of pharmaceutical companies—and assisted by young biohackers based at a university in Liberia—they manage to curb the contagion. Similar efforts, involving health-focused NGOs, the medical research establishment, large foundations and groups of dedicated physicians, succeed in staunching an outbreak of malaria in the southern U.S. and a major occurrence of tuberculosis in East Asia.

Global media coverage draws attention to the success of these heroic efforts. It also shows how close the world came, in several instances, to facing large-scale pandemics. The global community gets very pragmatic. A broad range of collaborations is forged across nations and between the private and public sectors to address emerging health challenges. These collaborations focus on using technology to scale up global delivery of tried-and-true solutions rather than cutting-edge advances.

The nature of the new threats also leads to recognition that everyone is in it together. As the crises show, it only takes a few unprotected people for a virulent illness to spread widely. Providing adequate health care to all members of society comes to be seen as an imperative for ensuring the safety of the population of a country—and the world as a whole. As a result, there is a new emphasis on equity and guaranteeing broad access to care.

One important element of the global collaboration among nations and other organizations is the codifying of responses to major health crises such as treatments used, protocols for patient care, innovative new practices, and real-world trial and error. After recovering from a major global health crisis, leaders conduct after-action reviews based on lessons learned in order to create standardized approaches that are deployed around the world in subsequent emergencies. On-the-ground experimentation

with new treatments becomes real-world clinical trials, which lead to streamlined regulatory approvals, providing flexibility in the up-front stages balanced by real-world feedback loops.

Genetic research emphasizes understanding the genetics and life cycle of pathogens and the genetic makeup of people able to resist them. This focus leads to development of new vaccines and genetic treatments.

While these breakthroughs are important, implementation science becomes the center of health care innovation efforts, to ensure that resources are used in the most effective way. One element of this is disseminating preventive measures at scale. Another is a push to accelerate the pace with which proven therapeutic approaches are implemented. As a result, the timetable for adoption of best medical practices shrinks from seven years to nine months.

Novel modes of delivering health services, relying on information technology, also play a big role. A large Chinese tech company launches a health care venture that comes to span the globe. It provides patients around the world with low-cost access to doctors based in China. The system is powered by web-based telepresence and real-time voice translation, with mobile payments allowing access to these services even in rural parts of developing countries.

Low-cost medicines and preventive measures, delivered at scale, are core to this world. Companies active in the health care sector adjust their business models so they can deliver well-established therapies while still providing an adequate return on investment.

Advanced economies are no longer the main place where medical innovations arise. New approaches in Sierra Leone for delivering care quickly and at scale may be as important—or even more important—than a new cell therapy developed in a lab in Western Europe.

Through a combination of new preventive/therapeutic measures, innovative new approaches for delivering them and faster adoption, several diseases—measles, malaria, yellow fever and HIV/AIDS—are effectively eradicated globally.

Trust is crucial in this future. Memories of the crises that swept the world in the early 2020s remain fresh and ensure that broad cooperation remains in place across the entire global health care system. The success of cooperative models is proved time and again, making trusting partnerships the bedrock of global health care in 2040. ●



Implications

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In this future, the focus of innovation shifts from developing new therapies to identifying new ways to deliver proven preventive measures and cures. New discoveries continue. The emphasis is not on pushing the envelope with the novel and exotic, but rather, on what can serve the largest number in a cost-effective way. Another new form of innovation is ensuring that, when new approaches are developed, they are disseminated into medical practice as quickly as possible. Given all these changes, innovation is no longer dominated by the United States and Western Europe, as it was before 2020. Instead, new ideas arise from all around the world, with innovation often coming from developing countries.

Regulators shift from focusing on approval of new therapies to establishing process standards that ensure broad distribution and adoption of already proven medical practices and products. There is more cross-cooperation between national regulators. International groups working in the health sector, both governmental and non-governmental, increasingly seek to bring in more representatives from developing and emerging economies.

Standards that ensure the quality of medicines remain very important, especially in a world where many emerging economies need to be able to access generic drugs on a large scale and at affordable cost. New standards are also developed—not only for the quality of the chemical and biological substances people rely on but also for the processes that ensure effective treatments can be delivered broadly. Examples include methods to ensure new vaccines, drug-linked devices, and digital therapeutics that are widely deployed and campaigns that enable broad and rapid diffusion of genetic testing and new medical practices.

In this future, trust is elusive at the outset as the world faces a series of serious health care crises; the initial reaction is mistrust and suspicion. Close cooperation between physicians, pharmaceutical and medical technology companies, standards-setting organizations and government entities at the local, national and international levels successfully addresses the challenges. As a result, the public sees the value of health care collaboration and regains a sense of trust in the overall system. In subsequent years, an institutional framework is built to support a global, cross-sector network that delivers tried-and-tested modes of health care to all who need it. While there are temptations to defect from collaborative agreements, memories of the crises of the early 2020s remain strong and are invoked to ensure cooperation continues. The result is broad trust in medicine and health care at all levels—patients, caregivers, corporations and policymakers. ●

In short, the world depicted in this scenario relies on pragmatic, scientific, evidence-based approaches that are focused on results. The benefits of collaboration are clearly and continually articulated so the prospect of achieving them outweighs the challenges of working across disciplinary, organizational and national boundaries.
