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Neglected Dimensions of Global Security
The Global Health Risk Framework Commission

The world has experienced global health crises ranging from novel influenzas (H5N1 and H1N1) and coronaviruses (SARS and MERS) to the Ebola and Zika viruses. In each case, governments and international organizations seemed unable to react quickly and decisively. Health crises have unmasked critical vulnerabilities—weak health systems, failures of leadership, and political overreaction and underreaction. The Global Health Risk Framework Commission, for which the National Academy of Medicine served as the secretariat, recently set out a comprehensive strategy to safeguard human and economic security from pandemic threats (eTable in the Supplement).1

The Business Case for Health Security
The international community has significantly underestimated the risk that pandemics pose to human life and livelihood. The HIV/AIDS pandemic has killed more than 35 million people since the late 1960s.2 Even relatively low-mortality events have substantial economic consequences. During the Ebola epidemic, the 3 most affected West African countries experienced aggregate cumulative gross domestic product losses of more than 10%,3 while the economic cost of SARS was estimated at more than $40 billion.4 The commission’s modeling suggests 21st-century pandemics could cost in excess of $6 trillion, with an annualized expected loss of more than $60 billion.1 The scale of human and economic harm from pandemics compares with war, terrorism, and financial crises, yet funding dedicated to pandemic preparedness is of an entirely different magnitude.

The commission proposed an incremental $4.5 billion per year for spending on health systems, emergency response, and research. This investment should yield significant benefits, protecting the public from infectious diseases and related risks such as antimicrobial resistance and bioterrorism. By spending just 65 cents per person per annum, the world would gain a far greater dividend in human and economic security. The secretary-general of the United Nations (UN) should commission a triannual review to ensure effective implementation. National governments and multilateral financing agencies, among others, should fully fund the preparedness agenda set out by the commission.

National Health Systems
National health systems are the foundation of a global health risk framework. The International Health Regulations is an international treaty that requires 196 countries, or States Parties, to build and maintain core health system capacities to detect, assess, report, and respond to “potential public health emergencies of international concern.”5 Currently, States Parties perform self-assessments of their core capacities, but only 64 of the countries have affirmed meeting core capacities.6 Self-assessments, moreover, are inherently unreliable and cannot ensure uniformly high-quality national preparedness.

The World Health Organization (WHO) should require States Parties to undergo independent and transparent assessments, with an annual report submitted to the World Health Assembly. Peer reviewers would use objective standards to assess capacities and performance. Governments would be required to create national plans to achieve public health core capacities funded through domestic budgets, with international assistance to fill any capacity gaps. The World Bank and other donors should condition financial assistance based on a country’s agreement to participate in external assessments.

Resilient health systems must have well-trained health workers and community participation to build public trust and provide culturally appropriate services. Health systems should incorporate a “One Health” strategy because most diseases in humans are spread from animals. A One Health strategy recognizes that the health of humans is connected to the health of animals and the environment and integrates veterinary and agricultural perspectives. If robust health systems were seen as vital to national security, it would strengthen political will and mobilize resources.

International Leadership and Governance
While a national health system is the foundation of security, international leadership is at the apex because infectious diseases rapidly transcend borders. A global response also transcends the health sector, encompassing transportation, commerce, trade, and the environment. Global coordination across diverse sectors requires managing logistics, deploying medical teams and equipment, and mobilizing humanitarian assistance. Preparedness against infectious diseases is a global public good—deficiencies in one country endanger all of humanity. That is why international norms and well-functioning institutions are essential.

Yet Ebola revealed major deficiencies in governance, particularly at WHO.7 WHO must improve its ability to coordinate with other UN agencies, regional networks, and nonstate actors. Through various incentives, these parties should hold countries publicly accountable for timely reporting of outbreaks of potential international importance. Multilateral finance agencies (eg, World Bank, International Monetary Fund, and regional development banks) should raise and disperse financial resources for pandemic preparedness and response. Access to favorable investment terms could be influenced by country preparedness.
A well-equipped WHO Center for Health Emergency Preparedness and Response (CHEPR) would be the most important WHO organizational reform—operating scientifically and apolitically. The CHEPR would have its own executive director (at the deputy director-general level) and would report directly to an independent technical governing board. The center would oversee all WHO emergency preparedness and response functions including International Health Regulations implementation. It would create a daily high-priority watch list of diseases with potential to become public health emergencies of international concern. A 5% ($50 million over 2016–2017) increase in core contributions of the member states would cover the center’s incremental startup costs as well as a sustainable $100 million contingency fund for WHO operations and emergency surge response.

The center’s routine operations would remain within the WHO Secretariat. However, if a crisis escalates to a high-level international threat or broader humanitarian disaster, the technical governing board would report to the UN secretary-general to lead an integrated, multiagency response. The transition to the UN would generate political and financial commitment, triggering intensified UN agency action.

Accelerating Research and Development

Emerging and resurgent infectious diseases demand rapid development of fit-for-purpose tools and technologies, such as vaccines, drugs, diagnostics, personal protective equipment, and medical devices. The Ebola epidemic highlighted important deficiencies in the deployment of medical products. An effective research and development (R&D) strategy would include an international coordinating entity; sustainable investments; convergence of diverse regulatory pathways; and access to intellectual property, data, and biological samples—ensuring rigorous scientific standards. Success requires community engagement and anthropological input to promote swift adoption of new technologies.

The R&D community—academia, government, industry, and civil society—must be galvanized into a cohesive group to determine swiftly the biomedical interventions needed to respond to a pandemic, identifying key gaps that require collective ingenuity and funding. In interpandemic phases, when there is no pressing emergency, the R&D community must develop knowledge and have products ready for advanced development.

To carry out these functions, WHO should establish a high-level expert panel that is independent from WHO and reports to the technical governing board. The Pandemic Product Development Committee would be composed of 15 members with world-class expertise in discovery, development, regulatory approval, and medical product manufacturing. The committee would set priorities for R&D on high-risk pathogens, mobilize resources, coordinate public/private actors, reduce redundancies and cost, and create a strategic R&D.

Accelerated R&D requires significant new financing, with a recommended incremental spend from governmental health and defense and private sources of $1 billion per year for at least 15 years. Used synergistically with existing and new public and private expenditures, these funds would build and sustain R&D preparedness. The $1 billion figure can be compared with the scale of a small to medium pharmaceutical company’s R&D activities working on a portfolio of promising drugs and vaccines for key target diseases. With this relatively modest investment, early research on Pandemic Product Development Committee-prioritized pathogens and platforms would be completed before a crisis arises, making it possible to move products more quickly to clinical testing, regulatory approval, production, and deployment.

There is no question that the world will face pandemics in the future; the only question is the level of national and global preparedness and response. The commission recommends a bold, 3-pronged framework: reinforcing national public health capabilities, strengthening WHO and the UN system, and accelerating R&D. The scale of these reforms and the $4.5 billion incremental financing proposed by the commission is not trivial, but neither is it beyond reach. In the context of estimated expected annualized losses from pandemics of more than $60 billion, it is a very good investment. Considering the threat to human lives, the normative and business case is compelling.

ARTICLE INFORMATION

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REFERENCES