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Preparedness for a High-Impact Respiratory Pathogen Pandemic

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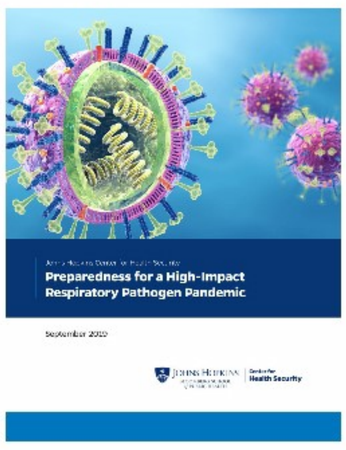

Introduction:

This report examines the current state of preparedness for pandemics caused by "high-impact respiratory pathogens"—that is, pathogens with the potential for widespread transmission and high observed mortality. Were a high-impact respiratory pathogen to emerge, either naturally or as the result of accidental or deliberate release, it would likely have significant public health, economic, social, and political consequences. Novel high-impact respiratory pathogens have a combination of qualities that contribute to their potential to initiate a pandemic. The combined possibilities of short incubation periods and asymptomatic spread can result in very small windows for interrupting transmission, making such an outbreak difficult to contain. The potential for high-impact respiratory pathogens to affect many countries at once will likely require international approaches different from those that have typically occurred in geographically limited events, such as the ongoing Ebola crisis in Democratic Republic of the Congo (DRC).

Numerous high-level reviews have been commissioned in recent years to take stock of global preparedness for infectious disease outbreaks, epidemics, and pandemics. These reviews have assessed current preparedness structures and capabilities, have identified existing gaps, and have proposed recommendations for strengthening outbreak prevention, detection, and response. But preparedness for a high-impact respiratory pathogen pandemic has received little specific focus in these high-level reviews. While there has been some focus on improving international and national capacities for pandemic influenza, specifically after the 2009 H1N1 pandemic, there have been few (if any) high-level reviews or recommendations focusing on the possibility of other high-impact respiratory pathogens with pandemic potential. The lack of global attention on and consideration of this threat speaks to the urgency of addressing preparedness for epidemics and pandemics that might be caused by high-impact respiratory pathogens. While there is overlap between the systems and capabilities required to respond to any disease outbreak, a high-impact respiratory pathogen poses serious additional challenges that deserve special consideration.

In preparing this report, Preparedness for High-Impact Respiratory Pathogen Pandemics, we reviewed dozens of high-level reviews of global preparedness and conducted interviews with international experts in pandemic preparedness and response. The state of national and global readiness in 10 functional areas were examined: global preparedness mechanisms; multisectoral involvement and coordination; surveillance, monitoring, and assessment; health systems and clinical management; community engagement; risk communication; research and development for medical countermeasures; nonpharmaceutical interventions; accidental release and biosafety; and deliberate use and biosecurity. In our findings, we detail capabilities and gaps that would likely hamper efforts to respond to a high-impact respiratory pathogen. The report identifies priority actions for countries, international organizations, and other stakeholders to pursue that would mitigate the public health, economic, social, and political consequences of the emergence of a high-impact respiratory pathogen. These conclusions are summarized below.