HEALTH SECURITY

How can the world prepare?

The global community must recognize that health security presents a clear risk for all nations – it cannot be addressed solely by philanthropic endeavors."

David Heymann,
London School of Hygiene
and Tropical Medicine

This year marks the 100th anniversary of the great influenza pandemic, which killed between 50 and 100 million people, and happens to be one of the worst flu years in recent history. Despite advances in understanding and the development and use of vaccines, concern with flu looms large in public consciousness. Combined with unpredictable outbreaks of infectious diseases – Ebola and Zika in recent memory – global health security is top of mind.

WHAT CAN BE LEARNED FROM THESE PANDEMICS TO BETTER PREPARE?

SEVERE ACUTE RESPIRATORY SYNDROME (SARS)	EBOLA	ZIKA
Within weeks the virus spread from China to 37 countries through air travel in 2002, infecting 8,000 people worldwide and killing 800.	The 2014-15 outbreak in West Africa left 11,000 dead from over 28,000 cases.	Two years after the peak epidemic in Central and South America, the world is still understanding the full impact of its damaging effects, such as microcephaly.

Disease X represents the knowledge that a serious international epidemic could be caused by a pathogen currently unknown to cause human disease.

"

– WHO

With more than a billion people travelling outside their country every year, it is extremely easy for viruses to spread. An infectious disease in one location can – in as little as 36 hours – pose a global threat. This year WHO added a hypothetical virus, 'Disease X', to its list of priority diseases, encouraging the global health community to build resilience and capacity to tackle all threats – not just predictable ones.

Beyond direct effects on health, global disease outbreaks have significant economic impact. This includes direct costs to sufferers and communities, aversion costs as people seek to avoid exposure, as well as broader costs in a connected global economy. The World Bank estimated that, in 2015, Ebola caused a potential GDP loss of more than USD 1.6 billion in the three most affected countries, and more than USD 500 million across the rest of the African continent. Studies estimating the cost of future health security threats suggest that drug resistant infections could cost USD 100 trillion between now and 2050, with the annual death toll reaching 10 million over that period.

AMR poses an increasingly formidable threat to global health security, too. Common infections are becoming resistant to antimicrobial medicines, causing an estimated 700,000 deaths each year. In 2016, 490,000 new cases of multi-drug resistant tuberculosis emerged, and AMR is starting to complicate the fights against HIV and malaria. Without efforts to tackle misuse of antimicrobials in people and animals, and improve infection control and sanitation, superbugs have the potential to reverse the gains made from modern medicine.

HOW CAN HEALTH SYSTEMS BECOME AGILE AND READY TO RESPOND WHEN HEATH SECURITY THREATS ARISE?

There are emerging opportunities in programs and partnerships being piloted right now.

→ The **2014-15 Ebola outbreak** uniquely united actors including Gavi and MSD to fast-track projects that would otherwise take decades, although development has recently slowed as the outbreak and its associated urgency wanes.

→ The **Coalition for Epidemic Preparedness Innovations**, a public-private consortium developed in the wake of the Ebola crisis aims to take a more proactive approach to avoid potential epidemics by accelerating development of safe and affordable vaccines.

→ The **Global Supply Network for Pandemic Preparedness and Response** focuses on supply chain and logistics improvements to help the world's ability to effectively respond to pandemics.

→ Partnerships such as the **AMR Industry Alliance**, including different life science sectors including R&D-based pharmaceutical companies, diagnostics, generics, and SME/biotechnology companies, will be crucial to curbing antimicrobial resistance.