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Commentary

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Background

The 2009 H1N1 influenza pandemic did not turn into the global killer that all had feared, but it did lay bare a gaping hole in global health security.

Global preparedness for pandemics requires cooperation among governments, laboratories, doctors and nurses, civil society, aid organizations and the industries that produce life-saving vaccines and medicines. In order to know what dangers exist and for scientists and industries to be able to produce effective medicines and vaccines, the world needs a reliable system to detect viruses and share them among specialized laboratories for risk assessment and development of vaccines or medicines to counter them. At the same time, a global system is needed to ensure that access to vaccines or medicines during a pandemic is not based on purchasing power alone, but on equity: rich and poor countries alike should have access at the same time to life-saving products when they become available.

International virus sharing

In the early 1950s, several countries that remembered the devastation caused by the 1918 influenza pandemic formed an international influenza surveillance network; they believed that sharing information and viruses was essential to learn more about the disease and to stay ahead of the next pandemic. This international network, coordinated by the World Health Organization (WHO), grew over the decades to include more than 140 laboratories in over 110 countries. To this day, the best scientists in the world continue to collaborate on a daily basis in their quest to learn more about the influenza virus.

In 1997, a new, highly virulent H5N1 virus emerged in Hong Kong, raising alarm throughout the world; would this virus be the cause of another devastating pandemic, killing millions? Through rapid action the outbreak was contained. However, some years later the same virus re-emerged, this time killing scores more and decimating poultry farms in several countries in south-east Asia. Virus specimens were shared and analysed through WHO's system, and industry began to develop a vaccine.

It was then that doubts about the influenza virus sharing system began to surface. While virus sharing was working efficiently, developing countries realized that they would not be able to afford the expensive vaccines that were being developed through the very system with which they had shared their viruses. Some countries went so far as to stop sharing their H5N1 viruses altogether (1).

Strengthing the virus sharing system

To avoid a complete breakdown of the system, in 2007 the 194 member countries of WHO embarked on an intergovernmental negotiation process to review and develop mechanisms to strengthen WHO's international influenza system in order to make it more equitable and fair.

The 2009 H1N1 crisis unfolded against this backdrop. It exposed the limitations of WHO's global system, particularly when vaccines became available and developing countries had very limited access, and well after richer countries.

Following the pandemic, WHO Director-General Dr Margaret Chan commissioned an international committee headed by Dr Harvey Fineberg, President of the US Institute of Medicine, to conduct a candid review of WHO's performance during the H1N1 pandemic and the functioning of the newly revised 2005 International Health Regulations (2), an international public health law, binding on all WHO Member States and intended to help the international community prevent and respond to acute public health risks.

The committee identified some positive elements in the world's response. However, their overall conclusion gave cause for grave concern, stating that: "The world is ill prepared to respond to a severe influenza pandemic or to any similarly global, sustained and threatening public-health emergency"(3).

Among its many recommendations, it urged WHO and its Member States to persevere and complete the negotiations to overhaul WHO's international influenza system. The world did not sit on its hands.

Working through WHO, all countries renewed their resolve to work closely together, and with industry and civil society, to finish the task they had started in 2007. The result was an innovative, ambitious and daring approach to address the threat of pandemic influenza.

On 24 May 2011, WHO's 194 Member States unanimously adopted a framework of action – the Pandemic Influenza Preparedness Framework for the Sharing of Influenza Viruses and Access to Vaccines and other Benefits (4). At its core, the Pandemic Influenza Preparedness (PIP) Framework aims to make the world response to pandemic influenza more equitable and effective. Under the PIP Framework:

all WHO Member States have committed to share with the WHO global network of influenza laboratories their influenza viruses that could potentially cause a pandemic;

influenza vaccine and antiviral manufacturers that have received materials from WHO's influenza virus sharing system will provide WHO with specific quantities of vaccines and antivirals, so that developing countries in need have access to these life-saving products at the same time as richer countries; and

manufacturers that also benefit from the WHO system will contribute funds annually to WHO in order to allow it to intensify actions to strengthen pandemic preparedness capacities – such as laboratory skills and surveillance systems – in nations where they are weakest.

The PIP Framework was heralded as a landmark achievement for public health and global health security. WHO, entrusted with its implementation, heard the call to action and immediately went to work (1).

Since that time, WHO Member States have resumed virus sharing and industry has taken unprecedented steps to cooperate and participate. At the time of writing, industry has committed nearly 350 million doses of vaccine and 15 million treatment courses of antiviral medicines, and contributed upwards of US$ 90 million to WHO (5). With these funds, WHO has initiated capacity-building projects, working with over 50 countries.

Implementing PIP partnership contribution funds in EMR

In the Eastern Mediterranean Region (EMR), one of the six WHO Regions, support under the PIP Framework partnership contribution has played a critical role since 2014 in strengthening health systems for the next influenza pandemic. The financial and technical support extended to seven priority Member States – Afghanistan, Djibouti, Egypt, Jordan, Lebanon, Morocco and Yemen – has been a catalyst for enhancing surveillance, detection and response capacities in public health laboratories and increasing the knowledge of the burden of influenza. Indeed, influenza burden studies have been conducted in several EMR countries, National Influenza Centres have been revitalized, a regional web-based electronic influenza surveillance platform has been created and national pandemic planning is being revised in light of post H1N1 evidence and new global health security realities. PIP partnership contribution funds in EMR have offered collateral benefits for IHR implementation and preparedness and response to other infectious disease threats in an otherwise resource constrained environment in the Region. However, on-going conflict and emergency conditions in the Region compromise effective use of PIP partnership contribution as well as the sustainability of gains made so far. Efforts are needed in the Region to closely align the investments in preparedness with the realities posed by large refugee populations and unstable health systems.

Building on achievements

In October 2015, Member States and WHO started a comprehensive review of the PIP Framework (6). Industry and civil society are playing a key role in the review. Together we will take stock of what has been achieved and consider how to build on this broad international collaboration.

There is still much more to be done. However, WHO Member States have restored mutual trust and moved ahead together. As we have learned from pandemic influenza, MERS-CoV and Ebola virus, when it comes to health emergencies, we are all in this together.

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