

# Sharing influenza virus samples and influenza vaccine benefits

Update July 2010

Since 2007 there has been a significant threat to the long-established WHO-supervised global system of influenza virus sharing. The system is essential to the global influenza surveillance network and hence the public health response to influenza. The issues underlying this threat are unresolved and this situation has put at risk global influenza surveillance, rapid risk assessment and response and the development, production and supply of influenza vaccines. The emergence of the 2009 pandemic virus, its immediate sharing and analysis, the development and distribution of diagnostic kits and the commencement of vaccine development demonstrated the importance of early and open virus sharing for Europe, and the rest of the world.

The threat to universal sharing came in early 2007 (see accompanying time-line) when one country suspended sharing of avian influenza viruses and timely reporting of data from human cases. This revealed underlying problems in the system, including that some less well resourced countries did not feel they were receiving sufficient benefits in return for sharing what they considered 'their' viruses. There is sympathy for the view that less well resourced countries should be getting more out of the virus-sharing system, so called 'benefit-sharing' and even linking virus-sharing with benefit-sharing. However, there are fundamental disagreements over whether that link should be formal (legally enforceable) or informal.

To resolve the situation there has been a protracted series of large and expensive meetings organised by WHO. These included working group meetings at the last three meetings of the World Health Assembly (WHA) and four Intergovernmental Meetings. It is intended that these issues be resolved by the WHA in May 2011. Expectations have risen that more benefits will flow to poorer counties and that the WHO-managed surveillance system will be more closely supervised in the future. However, the negotiations have drawn in political considerations which have made them harder to resolve. Negotiations from 2007 to 2010 made slow but steady progress.

The current system of free and timely global virus sharing is complex but central to global health security against influenza. It supports several important processes, some but not all of which functioned well during the 2009 pandemic crisis. Collectively these promote health and protect humans against influenza. It is central to the timely development and production of test kits and vaccines against influenzas, which undertakings themselves are a complex mix of public and commercial processes. Crucially, in the event of any cluster of suspicious respiratory infections which could be the start of a pandemic, timely reporting and sharing of viruses is essential. Failure to report and promptly share with the international community would in many countries' view put a country in breach of the 2005 International Health Regulations. Certainly it would make it impossible to investigate clusters and implement a rapid containment strategy which is the one chance for containing and stamping out a pandemic at source.

The crisis has led to the appreciation that the whole virus surveillance and sharing system needed reform. At the direction of the World Health Assembly, WHO, Member States and partners have made considerable progress. Achievements included:

- convening an interdisciplinary working group which has successfully reviewed and revised the terms of reference of the tiers of laboratories involved, practices for sharing viruses and sequence data for producing vaccines;
- formulating mechanisms and guidelines for fairer distribution of pandemic influenza vaccines at affordable prices;

- moving towards establishing an international stockpile of human avian influenza (pre-pandemic) vaccines for use by poorer countries;
- mobilising financial, technical and other support to implement mechanisms increasing equitable sharing of benefits from seasonal vaccines – the ‘WHO Global Action Plan’;
- commissioning and publishing an expert report on the patent issues involved;
- establishing a tracing system for A(H5N1) viruses within the WHO system.

The need for progress is great but some of the expectations raised (that poor countries will receive substantial supplies of human A(H5N1) and pandemic vaccines) are going to be difficult or impossible to deliver in the short term. This was highlighted during the 2009 pandemic when, despite early delivery of test kits to poorer countries, vaccine delivery to those countries lagged behind delivery to the countries with advance purchase agreements.

The system of sharing has grown up informally over time on a basis of custom and practice. It contains a number of perceived inequities, but it works. It needs more rules and structure and these have been developed in draft by WHO-convened groups. However, there are risks that excessive formalisation will overly constrain the system. One necessary development is that the vaccine producers (commercial and publically owned) be more involved in the resolution of the issues.

Use of seasonal vaccine is concentrated in countries which have the highest proportion of their populations at high risk from human seasonal influenza (older people and those with chronic illnesses). These are also better resourced countries and vaccine production is further concentrated in only a few of them. Vaccine use is sub-optimal in Europe as is the capacity for vaccine production. The vaccine is rarely used in moderate and low-resourced countries where the burden from seasonal influenza is as yet poorly described and consequently governments and donors are often reluctant to invest in influenza vaccines. These are also generally more highly priced than most vaccines used in poorer countries. However, under the Global Action Plan that situation is starting to change and all countries will be affected by a more severe pandemics and need pandemic vaccines.

In 2006 WHO established a Global Action Plan for increasing use and production of influenza vaccines. Under this, vaccine production has been increasing but still only around 410 million doses of trivalent vaccine were distributed in 2007, while a severe pandemic could give rise to a global need of 6 billion or more doses of a monovalent vaccine. As was seen in 2009, production cannot be increased quickly. Hence increasing the annual production capacity of seasonal vaccine is key to improving global preparedness. Over the coming decades ‘at risk’ populations such as older people will steadily increase in all countries including those with moderate and poor resources. Hence the benefits for all countries using seasonal vaccines will rise.

The programme of benefit-sharing gathered momentum in 2009 with twelve medium or low resource countries receiving donor monies to start developing influenza vaccine production capacity. Technical developments such as adjuvants mean that future vaccines, including pandemic vaccines, will be much more efficient and effective. This is leading to increased global capacity and hopefully more engagement from poorer countries in the virus sharing system. However, the Global Action Plan is no quick fix. Any expectation raised for equitable distribution of a pandemic vaccine was not met during the 2009 pandemic.

European populations use more seasonal vaccines than most and EU-based producers account for nearly two thirds of all vaccines worldwide. Hence this is an important issue for Europe, though the solution will have to be led by WHO.

A fuller and referenced version of this Summary is available from ECDC by emailing [influenza@ecdc.europa.eu](mailto:influenza@ecdc.europa.eu). This Summary will be updated when necessary with an announcement in ECDC’s Weekly Influenza Digest.

Comments on this briefing are welcome and should be sent to [influenza@ecdc.europa.eu](mailto:influenza@ecdc.europa.eu) with the subject title Virus Sharing Briefing July 2010.

## Pandemic influenza preparedness process and virus sharing Chronology of major events to July 2010

2006 and earlier	<a href="#">World Health Assembly (WHA) Resolution 58.5</a> WHO launches <a href="#">the Global Action Plan to increase global influenza vaccine use and production</a>
January 2007	Decision by Indonesian Ministry of Health to cease sharing A(H5N1) viruses until the WHO <a href="#">Global Influenza Surveillance Network (GISN)</a> is more transparent and benefits derived from GISN are fairly and equitably shared
March 2007	High-level technical meeting organised by WHO (26–27 March ) followed by high-level meeting (28 March) organised by the Indonesian authorities – adoption of the Jakarta Declaration
May 2007	World Health Assembly passes Resolution <a href="#">WHA 60.28</a> in which it:  Tasked WHO and its Director General to develop: <ul style="list-style-type: none"> <li>• benefit-sharing frameworks and mechanisms</li> <li>• an international stockpile of A(H5N1) vaccine</li> <li>• guidance for distribution of pandemic vaccine</li> </ul> Established an Interdisciplinary Working Group (IDWG)  Requested an intergovernmental meeting mandated to review outcome of the IDWG
July–August 2007	Interdisciplinary Working Group of 24 countries met in Singapore to: revise the terms of reference of WHO Collaborating Centres and other laboratories; devise an oversight mechanism; formulate draft terms and conditions for sharing viruses between originating countries and WHO Collaborating Centres, and between the latter and third parties.
November 2007	<a href="#">Intergovernmental meeting</a> considered text from IDWG and individual countries and adopted <i>Interim Statement</i> calling on DG to establish a traceability mechanism and an Advisory Group.
January 2008	WHO launches interim virus traceability mechanism
April 2008	<a href="#">Open-ended working group of the intergovernmental meeting</a> , Geneva. Requests the development of a Chair's Text.
May 2008	IGM bureau meets during WHA to discuss Chair's Text.
Mid-2008	Decision by Indonesia to stop reporting individual cases of human A(H5N1) infections but instead to report them in batches.
September 2008	<a href="#">Chair's Text issued.</a>
December 2008	<a href="#">Resumed intergovernmental meeting</a> , Geneva – limited progress. Requests WHO to provide 4 documents for the next IGM in May 2009.
March–April 2009	Member State informal meeting, Montreux, Switzerland – makes some progress on the definition of materials bound by SMTA.
April 2009 onwards to August 2010	<a href="#">2009 Pandemic of A(H1N1)</a> – viruses were shared immediately. With large volume of specimens and viruses needing to move around, traceability system could not be used. Benefits: diagnostic kits developed and well distributed globally, vaccines developed and produced more slowly and availability very uneven.
May 15–16 2009	Resumption of <a href="#">intergovernmental meeting</a> –WHO provides 4 documents: 1) further development of the traceability mechanism; 2) detailed terms of reference for WHO Collaborating Centres and other related laboratories; 3) Draft Standard Material Transfer Agreement (SMTA); and 4) a report identifying the needs and priorities for each of the benefits listed in section 6 of the Intergovernmental Meeting text, in particular concerning the vaccine stockpile, as well as options for their financing.
May 17–27 2009	World Health Assembly publication of a version of the Framework Document <a href="#">Core Document May 2009 A62/5</a>

October 19–20 2009	Director-General's Consultation with Member States; Geneva ref: Director-General's Proposals (HSE/GIP/PIP/2009.1)
January 2010	Executive Board agrees to an Open-ended working group before WHA 63
April 2010	First meeting of the IHR Review Committee reviewing the application of the 2005 International Health Regulations and Management of the 2009 pandemic <a href="http://www.who.int/csr/disease/swineflu/en/index.html">http://www.who.int/csr/disease/swineflu/en/index.html</a> and specifically <a href="http://www.who.int/ihr/review_committee/en/index.html">http://www.who.int/ihr/review_committee/en/index.html</a>
May 10–12 2010	Pandemic Open-ended Working Group Geneva – made slow progress on detail of the SMTA
May 17–21 2010	63rd World Health Assembly – Geneva Receipt of <a href="#">a secretariat report</a> and adoption <u>of a resolution</u> to carry forward the work ahead of the 128th Executive Board
<i>December/ January 2011</i>	<i>Resumed Open Ended Working Group (dates to be determined)</i>
<i>May 2011</i>	<i>64th World Health Assembly – Geneva – Executive Board to report on outcome of open-ended working group</i>