

Swine influenza: how much of a global threat?



On April 27, WHO raised its pandemic alert level from phase 3 to phase 4 after human cases of a novel H1N1 swine influenza A virus spread quickly around the world from its origin in Mexico. Concern over the virus—a hybrid of human, pig, and avian influenza—started mounting internationally last week following outbreaks of influenza-like illnesses in Mexico and other countries. As of April 28, according to WHO, Mexico had 26 laboratory confirmed human cases of swine influenza A (H1N1) with seven confirmed deaths. The USA had 40 confirmed cases with no deaths. Elsewhere, there were confirmed cases in Canada, UK, Spain, New Zealand, and Israel.

Swine influenza is a porcine respiratory disease that rarely infects humans. From December, 2005 to February, 2009, the USA had 12 cases of human infection with swine influenza. The outbreak in Mexico might have started as early as March 18, when authorities began detecting a surge in influenza-like illnesses in the country. Health officials initially thought they were seeing cases of seasonal influenza. But, on April 21, the US Centers for Disease Control and Prevention reported two isolated cases of a novel swine influenza in California. On April 24, Mexico announced that the same virus had been detected in the country's outbreak of influenza-like illness.

The Mexican Government has been swift to implement public health measures to try to contain the outbreak. On April 24, schools, museums, libraries, and theatres were closed in the capital. 6 million face masks were distributed to the public along with health advice to prevent the spread of infection. Public events were cancelled. Meanwhile, the USA declared a public health emergency and prepared for 12 million doses of oseltamivir to be delivered to states from federal stockpiles (the new virus has tested sensitive to oseltamivir and zanamivir). At the global level, WHO activated its 24 h emergency response room on April 24, which allows the agency to be in contact simultaneously with countries, institutions, partners, and relevant health authorities around the world to coordinate the response. The agency also convened an emergency committee to advise the Director-General on the outbreak.

The second meeting of that committee recommended raising the influenza pandemic alert level after the epidemiological pattern of the outbreak suggested that human-to-human transmission was occurring with the

ability to cause community-level outbreaks. The world has moved closer towards a pandemic, but it is not yet inevitable. Crucially, containment of the outbreak is no longer feasible and countries should now be preparing to mitigate the effects of the virus on their populations.

Over the past 5 years, the international community has been preparing for an influenza pandemic in response to the threat posed by H5N1 avian influenza. National and regional responses to this threat have been variable. Transparency and continued communication between WHO, governments, health officials, the public, and the media, will be critical as the situation with swine influenza evolves.

Some countries are more prepared for this task than others. Of particular concern is the ability of low-income and middle-income countries to detect and mitigate the effects of this new virus on their populations. History has shown that developing countries are disproportionately affected by an influenza pandemic. In *The Lancet* in 2006, for example, Christopher Murray and colleagues used data from the 1918–20 Spanish influenza pandemic to predict that the next global influenza pandemic would kill 62 million people, with 96% of those deaths occurring in low-income and middle-income settings. Displaced populations, such as refugees, are especially at risk.

The public should expect further deaths from this swine influenza outbreak. *The Lancet* certainly expects the number of those infected to increase and the spread of infection to expand. Therefore, all recommendations made so far should be seen as provisional. We are passing through an unstable period in this outbreak's evolution. Every member of the public has a part to play in limiting the risk of a full-blown pandemic. Vigilance, and not alarm, is needed, with readiness to self-isolate oneself at home if an influenza-like illness develops. Such home isolation, combined with other measures of social distancing, are most likely to stop the spread of swine influenza. These actions could buy the necessary time to boost stockpiles of antivirals and develop a vaccine against this virus, which will inevitably take months rather than weeks to prepare and distribute. So far, the rapid responses by governments and international agencies have triggered effective mechanisms to protect the public. But the vital role and responsibility of the individual should not be ignored. ■ *The Lancet*



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For WHO's updates on human cases of swine influenza see <http://www.who.int/csr/disease/swineflu/en/index.html>

For the paper by Chris Murray and colleagues see *Articles Lancet* 2006; 368: 2211–18

Emergency and comprehensive care for stroke needed



Disturbing failures and inequalities in stroke care services in the UK were revealed in a report published on April 23 by the Clinical Effectiveness and Evaluation Unit of the Royal College of Physicians, London. The National Sentinel Stroke Audit, which examined data from 11369 patients with stroke admitted between April 1 and June 30, 2008, to 216 hospitals in England, Wales, and Northern Ireland, found that as many as a quarter of patients had no access to the best available treatment—admission to a dedicated comprehensive stroke unit.

In practice, no stroke unit care means that almost 3000 patients with a stroke in this sample had less chance of receiving known key indicators of good stroke management (90% of stay in a stroke unit, rapid screening for swallowing difficulties, a brain scan within 24 h, aspirin, assessment by a physiotherapist and an occupational therapist, being weighed, mood assessment, and rehabilitation goals agreed by a multidisciplinary team). Rapid initial assessment, caring for patients in the acute stages of stroke, thrombolysis if appropriate, rehabilitation with the aid of a multidisciplinary team of therapists, and supported discharge are key to aiding recovery. But only 17% of the total sample was admitted to an acute stroke unit within 4 h of hospital admission. As few as 21% had a brain scan within 3 h. And although an estimated 15% of patients were eligible for thrombolysis, only 1% received it.

These are shocking findings. Stroke services in England, Wales, and Northern Ireland are offering not only unequal care, but also care that falls below the standards set out in the National Stroke Strategy. The strategy, which was introduced in 2007, has helped to stimulate efforts to improve services. Encouragingly, since the last Sentinel Stroke Audit in 2006, there have been some improvements in care. In 2006, for example, only 62% were admitted to a stroke unit, and 16% had a brain scan within 3 h. But clearly there is a long way to go before all patients with suspected stroke receive prompt access to a high-quality stroke unit with a multidisciplinary team of therapists, rapid imaging, and thrombolysis when appropriate—the ideal standards set out in the National Stroke Strategy.

Stroke services in the UK suffer from inadequate staff numbers. One survey published last month in *Clinical Medicine* estimated that more than 2000 extra full-time nurses, physiotherapists, occupational therapists, and speech therapists are needed to provide an optimum service in England alone.

But it is not just a question of resources, although stroke must be given higher priority in resource allocation to ensure that patients receive the highest standards of care possible. Increasing public awareness of the symptoms and signs of stroke and transient ischaemic attack is crucial. “Time is brain” and “brain attack” are slogans that have worked well in the USA to symbolise the importance of thrombolysis and rapid treatment, analogous to those well established in cardiology. In the build up to May 12, Stroke Awareness Day, a series of television advertisements in the UK, which portray people with signs of a stroke or transient ischaemic attack, may help to develop the sense of urgency that needs to be triggered with stroke, as it is with heart attack.

Increased use of FAST (one or more of facial weakness, arm and leg weakness, speech problems, then time to call an emergency ambulance) to diagnose stroke and therefore take patients directly to an acute stroke unit would enable rapid admission to the appropriate place. At present, many in the UK end up in general admissions units in hospitals where access to scanning, thrombolysis, and care by appropriate therapists is delayed. Increasing the priority with which ambulances respond to calls for suspected stroke would also help.

Stroke is a medical emergency. Despite almost two decades of research that has proven the benefits of stroke units, thrombolysis, and aspirin in reducing mortality and disability, stroke still lies in the shadow of its big sister, heart attack. Stroke physicians rarely have the status or power of cardiologists. The proportion of research funds for stroke is paltry in comparison with that for myocardial infarction. Yet stroke-related disability is expected to substantially increase as populations age. In view of the worldwide shortage of health-care professionals and other resources to implement the strategies that work for stroke care, never has “time is brain” seemed more appropriate. ■ *The Lancet*

For National Sentinel Stroke Audit, see <http://www.rcplondon.ac.uk>

For National Stroke Strategy, see http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_080062

For staff numbers survey, see *Clinical Medicine*, www.rcplondon.ac.uk

For Seminar on stroke, see *Lancet* 2008; 372: 1652–23

Mexico City has been the epicentre of the A (H1N1) outbreak, but across the country, as of 0600 h GMT on May 4, there were 590 confirmed cases of infection, including 25 deaths, according to WHO.

Once the Mexican authorities declared a health alert on April 23, a flurry of measures primarily aimed at preventing people congregating in crowded spaces in Mexico City, were introduced over several days. Thousands of free face masks were handed out to the public. Crèches, schools, and universities were told to close their doors until May 6. Public events were cancelled and football matches played before empty stands. The city's 25 000 eateries were banned from serving all food apart from takeaways, and cinemas, gyms, bars, conference centres, and tourist sites were closed, in an attempt to curb the spread of the virus. Information booths and call centres were set up and screening rooms installed at Mexico City's international airport.

Government public awareness campaigns on the radio and television advise people with flu-like symptoms to stay at home and wash their hands well. This seems to be paying off. A local opinion poll said that 87% of Mexicans knew about the preventive measures implemented by the government, and that 84% believed the government has provided clear and sufficient information about the epidemic. Mexico City's

20 million residents have been taking government measures seriously. "While people have been complaining, they've been obeying the government's instructions", said Julio Sotelo, commissioner of the National Institute of Health in Mexico City. "I would say there's fear but not public panic."

As WHO raised its threat alert to level 5 on April 29, the mayor of Mexico City further stepped up measures. Local and federal government offices and private businesses "not fundamental" to the economy were ordered to suspend work for 5 days until May 5. Labour Secretary, Javier Lozano, urged employers to monitor their workers health and said they should isolate anyone showing up for work with signs of the influenza. Only essential businesses such as supermarkets, hospitals, and chemists were allowed to remain open.

Over the bank holiday weekend, Mexico City ground to a halt. Most citizens heeded President Calderon's advice. "Stay at home with your families. There is no safer place to avoid getting infected than in your own home", he said during his first nationwide televised address on April 29 since the public health crisis erupted. The capital's normally gridlocked and smog filled avenues were traffic free and eerily silent. The last time Mexico City came to such a standstill was in the aftermath of the 1985 earthquake.

The Mexican Government is boosting its stockpile of antivirals. "We've been accumulating our stockpiles for the last 6 years, and while there's enough Tamiflu to go around, more is being imported", explained Sotelo.

So far, the exact source of the outbreak remains a mystery. Unconfirmed rumours point to La Gloria, a dusty town in the southern Mexican state of Veracruz, where it is believed that 5-year-old Edgar Hernández became infected with the A (H1N1) virus in late March. Some local

residents in La Gloria have blamed the nearby US-owned industrial pig farms for the outbreak of the disease. "This is just speculation", said Sotelo. "We're working hard to find out the source of the outbreak."

In Mexico City, the outbreak may be smaller than first feared. As testing continues, the number of confirmed cases has turned out to be far less than the 2500 suspected cases initially reported. "Apparently the rate of infection is not as widespread as we might have thought", said Córdova on May 1.

So far, 26 people have died from laboratory confirmed cases of the A (H1N1) virus, including a child in the USA. WHO believes a pandemic is "imminent" and says the focus is now on "minimizing the impact of the virus...rather than on stopping its spread internationally". As of 0600 h GMT May 4, according to WHO, 20 countries have officially reported 985 cases of A (H1N1) influenza, including ten European countries, the USA (226 cases), and Canada (85 cases). Apart from Mexico, so far, four other countries have reported confirmed laboratory case of A (H1N1) infection in Latin America.

In the USA the epicentre of the outbreak is in New York, but across the country hundreds of schools have closed. Schools with pupils who have suspected or confirmed cases of influenza A are being recommended to close for 14 days. "I do believe we'll see an escalation of cases in the US", said Paul Jarris, director of the US Association of State and Territorial Health Officials.

Melvin Kramer, president of EHA Consulting Group—a public health consultancy in Maryland—emphasises that the outbreak must be seen in context. "It's scary, it's bad but I think we've been hyped", said Kramer, "35 000 to 37 000 people in the US die every single year from seasonal flu."

Anastasia Moloney



A member of the Mexican Navy hands out surgical face masks to the public, April 26

US Senate confirms new health secretary

The new US health secretary has a lot to tackle, including an influenza A outbreak and a massive overhaul of the country's health-care system. Is she up to the task? Samuel Loewenberg reports.

Kathleen Sebelius, who was confirmed by the US Senate as the new Secretary of Health and Human Services (HHS) on April 28, brings to the job an insiders knowledge not only of government but also of the labyrinthine ways of the US health insurance system. Sebelius' experience—she was previously governor of Kansas and before that served as the state's insurance commissioner—should prove to be especially valuable as the Obama administration attempts to overhaul health care, say observers.

"She brings a unique combination of experience and knowledge to the job", said Charles N Kahn III, the chief of the Federation of American Hospitals, the trade group representing the interests of privately owned hospital companies. "It is rare that somebody in that position would have that kind of experience of insurance markets", he said.

Many Washington observers expect health reform to pass in some form this year, although nobody knows how far it will go towards managing sky-high health costs and covering the nation's 46 million uninsured.

In any event, the onus of managing whatever new system does become law will fall on the Department of Health and Human Services. "Once the reform is done it is going to be the HHS Secretary who is going to have to do a hell of a lot of heavy lifting", said Kahn.

Even as she was being confirmed, Sebelius has had to deal with the influenza A (H1N1) outbreak. Calling it a "very dynamic situation", Sebelius told reporters that the government's response should be focused on "what the science tells us works...rather than doing a wide variety of things that may make people feel better but won't make people get better".

Even without the current influenza crisis, running the gargantuan agency

is no easy task. With a budget of US\$700 billion and 65 000 employees, the department oversees US public health, food and drug safety, and scientific research. The government-administered Medicare and Medicaid health insurance programmes—which cover 90 million Americans—account for most of the agency's spending.

"There is no governor in the country who knows more about health care than Kathleen Sebelius."

Sebelius' insider's knowledge of the arcane US health system should prove valuable. As governor she oversaw the state health-care programme Medicaid, and before that she served for 8 years as her state's insurance commissioner, during which time she also headed the national association of state insurance regulators. This mix of experience with both the minutiae of regulatory system and the way it works in practice will be an asset as she helps the Obama administration negotiate with Congress and the insurance and medical industries to pass a reform of the national health system.

As governor of Kansas, Sebelius attempted some ambitious health reforms, with mixed success. A scheme to provide health coverage in the state to the uninsured through raising tobacco taxes failed. Nonetheless, she was able to find a way to expand the state programmes to provide health coverage for tens of thousands of poor children.

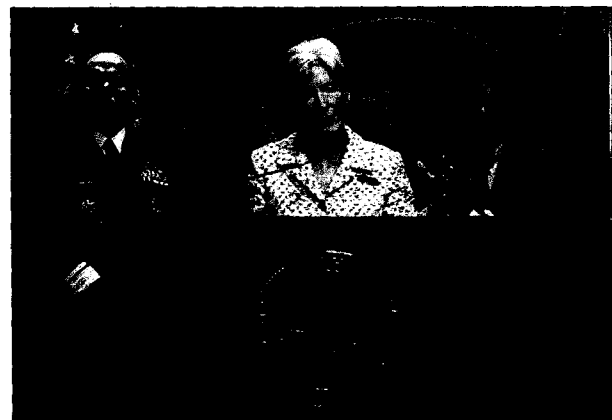
Although Sebelius earned plaudits for her willingness to work with Republicans as governor, she also made enemies with conservatives by regularly vetoing laws passed by the Kansas legislature that would have restricted abortion. Sebelius, a practising Catholic,

explained her opposition to a law that would have penalised doctors who did abortions: "A physician acting in good faith to save a pregnant woman's life, and using his or her best medical judgment, should not be subject to later criminal prosecution."

Although noting that she personally believes abortion is wrong, she said that outlawing it is not the answer. Rather, as governor she supported adoption and public health programmes. During her 6-year tenure the amount of abortions declined by 10%. Her positions earned her the enmity of conservative Catholic groups, one of which called her an "enemy of the unborn".

Patient advocates had high praise for the new health secretary. "There is no governor in the country who knows more about health care than Kathleen Sebelius", said Ron Pollack, the head of Families USA, a health consumers group. "She brings both substantive knowledge and political smarts, which I think will serve the Obama administration very well", he said. "She is the kind of person that won't need to be briefed on a lot of the health issues", said Kahn.

Samuel Loewenberg



Kathleen Sebelius speaks to the media about the influenza A outbreak on April 29