



SPEECH NOTES

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SPEECH NOTES FOR INFECTIOUS DISEASES CONFERENCE 2/5/05

PANDEMIC PREPAREDNESS

On February 4 last year, I read an urgent brief from the Chief Medical Officer. Ministers receive all sorts of urgent departmental documents, usually to do with cabinet, legislative or regulatory deadlines. This one made the stuff of daily politics and routine administration seem utterly trivial. It advised of a possible re-run of the Spanish Flu outbreak of 1919. Since then, a significant part of Australia's health policy establishment has been considering how to deal with a far-from-merely-speculative influenza emergency which could dwarf the health consequences of a conventional terrorist attack.

Compared with World War One, the Spanish Flu epidemic made very little impact on Australia's consciousness, despite the large number of deaths it caused. AB Facey devotes just one paragraph of "A Fortunate Life" to the flu pandemic, noting that "Western Australia had an outbreak of a very severe kind of flu in 1920. It was called bubonic influenza and it killed dozens of people. I got it, but only in a mild form, and we were quarantined for three weeks. I was away from work for a month and it was many months before I felt well again".

Manning Clark's History of Australia reports that in January 1919, theatres, picture shows, pubs, race meetings and schools were closed until further notice and that people were advised to wear masks over their faces in public. He also reports that people made light of the restrictions with one commentator lamenting: "all I can do during my enforced holiday is to stay at home and grow whiskers".

Perhaps 12,000 deaths in hospital made comparatively little impact alongside the 61,000 deaths in battle that the young nation had just suffered, even though 60 per cent of flu victims were aged between 20 and 45. Perhaps the reporting restrictions placed by many countries (but not Australia) limited people's awareness of the worst disease outbreak since the Black Death had killed up to a quarter of the world's population in the 14th century.

World wide, Spanish Flu killed an estimated 40 million people (compared with about 15 million killed in the Great War). Because Australia delayed the repatriation of the First AIF, in part to avoid the flu pandemic, the virus had lost some of its potency by the time it struck here. In the United States, though, where it struck early, it's estimated that the virus severely affected 25 per cent of the then population of 105 million with 650,000 deaths.

Subsequently, there have been two further flu pandemics: Asian Flu in 1957 and Hong Kong Flu in 1968. Both were much milder than the Spanish Flu outbreak with less than 500 Australian deaths in each case, mostly among children and people over 65.

Since late 2003, bird flu has been raging through the domestic poultry stocks of South East Asia. As of April 29, 44 people have acquired the disease, nearly all of them living in close daily contact with domestic birds, and 19 have died. So far, there have only been a handful of possible human-to-human transmissions, usually between family members in close contact with someone infected.

The risk is that bird flu, deadly and easily spread among chickens and deadly but very hard to spread among people, could mutate into a lethal new strain of highly infectious human flu with impact akin to the pandemic of 1918-19. Earlier this year, the World Health Organization's Western Pacific Regional Director warned that the world was "now in the gravest possible danger of a pandemic".

A Commonwealth Government report published last year estimated that a major flu pandemic could lead to 2.6 million Australians seeking medical attention, 58,000 hospitalisations and 13,000 deaths. This is a significantly lower mortality rate than in 1919. Health care is immeasurably improved and Australia is considerably better prepared. On the other hand, much greater mobility means that any new pandemic strain is likely to reach Australia at an earlier and possibly more virulent stage.

A "worst case" scenario taken from a US draft pandemic plan, republished in version 1 of the 1999 Framework for an Australian Influenza Pandemic Plan, traces the possible course of a pandemic from initial outbreak in a small village in Asia:

"Over the next two months, outbreaks begin to appear in Hong Kong, Singapore, South Korea and Japan. Although cases are reported in all age groups, young adults appear to be the most severely affected and case fatality rates approach 5 per cent. Widespread panic begins because vaccine is not yet available and supplies of anti-viral drugs are severely limited...

"A few more weeks pass and focal outbreaks begin to be reported throughout the United States. Rates of absenteeism in schools and businesses begin to rise...Exaggerated accounts of illness are reported by the media. Citizens begin to clamour for vaccine but only 10 per cent of the estimated need is available...Hospitals and outpatient clinics become severely short-staffed when the majority of physicians, nurses and other health care workers become ill...Intensive care units at local hospitals become overwhelmed and soon there are widespread shortages of mechanical ventilators for treatment of patients with pneumonia...Family members become distraught and outraged when loved ones die within a matter of a few days. Looting becomes a serious problem in major metropolitan areas due to shortages of police officers...Further deterioration in health and other essential community services occurs over the next 6-8 weeks as illness sweeps across the country..."

Of course, it's impossible to say if, when and how a pandemic might develop. The next pandemic might be comparatively mild like the flu outbreaks of the late 50s and 60s. But it could also be a worldwide biological version of the Indian Ocean Tsunami. There are obvious limits to how much governments can invest in preparations for hypothetical events, however

serious. Still, responsible governments should make extensive preparations for reasonably foreseeable contingencies. In this respect, the WHO has recently said that Australia is as well prepared for a flu pandemic as any country in the world.

Australia began preparing for a possible flu pandemic after several people died in a 1997 outbreak of bird flu in Hong Kong. All the key recommendations of the 1999 Framework for an Australian Influenza Pandemic Plan (most notably for a national influenza surveillance network and the development of national and state pandemic contingency plans) have been acted upon - except those for availability on the PBS of anti-viral drugs because of fears that regular, long-term use of anti-virals could help develop resistant virus strains.

In 2002, after the Bali bombing, the Government established a National Incident Room to help monitor and co-ordinate the response to potential health disasters. Also in 2002, the Government established a National Medicines Stockpile, mostly to deal with a potential terrorist incident but also to cope with natural disasters. The Incident Room was activated during the SARS epidemic and has been carefully monitoring the outbreaks of bird flu in Asia.

The SARS epidemic demonstrated the capacity of national health systems, the WHO, and co-operative neighbouring countries to monitor, treat and control the spread of a deadly (but not especially infectious) disease. Through the sharing of information, laboratory analyses and expert personnel, Australia was part of an international effort to help Asian countries contain the SARS virus with relatively minor disruption to international travel and trade and the domestic life of the countries most affected. Even so, it's estimated that SARS cost the economies of South East and East Asia a collective \$15 billion (or 0.3 per cent loss to GDP) as well as 770 deaths.

From March last year, once it became clear that controlled culling would not readily stop bird flu from becoming endemic in Asia, the Government began to build up a much larger anti-viral stockpile. Anti-virals can protect people exposed to a virus for which no vaccine is currently available. Australia has one of the world's four WHO collaborating influenza laboratories and CSL (formerly the Commonwealth Serum Laboratories) is one of the world's largest vaccine manufacturers. Still, producing a vaccine against a new pandemic flu strain could take at least six months because of the difficulty of producing a candidate vaccine virus which is effective and safe.

In last year's budget, on the advice of the Chief Medical Officer after consultation with the National Influenza Pandemic Action Committee, the Government committed \$114 million to purchase 3.3 million courses of oseltamivir (marketed as Tamiflu). Now that this order has been filled, after Finland, on a per capita basis, Australia has the world's largest anti-viral stockpile - on shore and ready for use.

As part of the annual inter-pandemic flu vaccine contract, the Government has negotiated with CSL and Sanofi-Pasteur to supply 50 million doses of pandemic flu vaccine should it become available. In addition, the Government is adding to the Stockpile 50 million syringes, 40 million surgical masks, pre-prepared equipment for six quarantine centres for 500 people for five days, along with extra ventilators and negative pressure units for hospital isolation rooms.

The Government will shortly release the draft Australian Management Plan for Pandemic Influenza. This sets out in detail the steps to be taken by health authorities in the event of a pandemic flu outbreak.

In any new pandemic, the critical moment would be the point at which the bird flu virus mutates into a new form of human flu. The first indicator that this had happened is most likely to be large numbers of people with flu-like symptoms reporting to hospital in a particular town or city. Because people can be infectious for about 24 hours before the onset of flu symptoms (and for up to seven days thereafter) the virus is likely to have spread well beyond the point of first outbreak before quarantine measures could be taken.

According to an official summary of an April 22 report in Science: "WHO officials are suggesting a change in the H5N1 virus towards greater infectivity. Together with a decrease in the case fatality rate, cases are now occurring across all ages and in larger clusters. The officials emphasise, though, that the results may be the result of better surveillance and that no human-to-human transmission has yet been observed".

Although the WHO would formally declare that any new pandemic had broken out, it may be prudent for Australia to commence border security measures beforehand. The National Influenza Pandemic Action Committee is chaired by the Commonwealth Chief Medical Officer and comprises Australia's leading epidemiologists and infectious disease physicians. The Australian Health Disaster Management Policy Committee, is chaired by the Deputy Secretary of the Department of Health and Ageing and comprises the state chief health officers plus senior officers from Emergency Management Australia and the state disaster agencies. The Influenza Pandemic Committee, on advice from the observation and surveillance staff in the National Incident Room, would advise the Government that a pandemic was imminent. The Health Disaster Committee would then advise the Government on steps to be taken to prevent, if possible, the spread of influenza to Australia and to manage any outbreaks here.

Once a decision to impose border security measures had been made, every incoming passenger would be required to make a health declaration, thermal scanners would operate at international airports to detect possible flu cases on entry and quarantine isolation areas would be established. Influenza surveillance networks would be activated immediately and detection and treatment information would be sent to every GP and other health professionals such as pharmacists. Today I am releasing a pandemic influenza awareness kit which will be sent to every GP in the next few weeks.

In a severe outbreak, health authorities would have two objectives: first, containment to try to prevent the spread of disease; and second, once a lethal flu strain was generally established, maintenance of essential services. In the early stages of a severe outbreak, the highest priority for the provision of anti-virals would be people who had been exposed to the virus or who worked in areas of high risk of exposure such as health care workers and quarantine officers. Although anti-virals are regarded as effective prophylactics against infection, their effectiveness in treating people who are already ill is uncertain. Anti-virals would be used to treat the most severe cases as long as there was a reasonable chance that they might help save lives. In later stages, if a pandemic outbreak clearly could no longer be contained, the highest priority for anti-viral treatment would be health and other essential service workers and emergency personnel.

No country in the world has enough anti-virals to protect essential service personnel for the likely six months duration of a flu pandemic, let alone to protect the general public. Even with a much larger per-capita stockpile than countries such as Britain, America and France, Australia could protect our one million essential service and emergency personnel for about six weeks.

For the past year, the Government has been investigating ways to increase the availability of anti-virals and to reduce the lead times for the preparation of pandemic flu vaccine. Last year's Australian anti-viral order took over six months to deliver (and largely cornered the world market) because of the technical complexity of anti-viral manufacture. Despite almost unlimited potential demand, it seems that anti-viral manufacturers have been unable significantly to expand or accelerate their production. At current prices, anti-virals to protect one million people for a month would cost about \$90 million, if they could be obtained. With current technology and manufacturing processes, obtaining enough anti-virals to protect 20 million people for six months would be almost impossible at any price.

All the world's vaccine manufacturers (including CSL) are virtually round-the-clock investigating the production of candidate vaccines for a potential pandemic virus. Vaccine manufacture (which involves isolating a virus, creating an anti-virus, culturing it in sufficient quantities, and ensuring that people can be inoculated safely and effectively) is always a painstaking process but is particularly uncertain for an as yet unknown and highly mutant virus. Still, the Government is constantly talking to CSL about what might be done to make this process swifter and more reliable.

Once pandemic flu was present in the Australian community, depending on its severity, the Government would have to decide whether to discourage or ban large gatherings and close schools. Any such measures would have serious economic consequences but they could slow the spread of disease and allow more people to be protected by any vaccine that's ultimately developed. Once pandemic flu had spread beyond designated quarantine areas, the Government would also have to decide whether to rely on home quarantine of flu cases with mobile medical teams treating most patients and designated hospitals dealing only with the most serious cases.

Not since World War Two have Australians had to cope with very large numbers of premature deaths. Australians are unused to contemplating the possibility of death on a massive scale, especially from "natural causes". The competing temptations are "it won't happen here" complacency, "there's nothing we can do" fatalism, or "no precaution is too great" alarmism.

All these grave scenarios come from material already published and in the public domain. Even so, it's hard to discuss potential disasters outside people's ordinary experience without generating the sort of lurid headlines which make some scoff and others panic. It's important not to over-react to potential threats. On the other hand, people and their governments need to take credible threats seriously and take reasonable and proportionate precautions against them. If a deadly flu pandemic ever seems imminent, no preparations will be enough. But if the current bird flu outbreaks in Asia gradually subside, the Government's investment in a stockpile likely to be time-expired in five years will be the health equivalent of a redundant weapons system.

Since 1998, and with much greater urgency since late 2003, all Australian governments have been preparing for a flu outbreak that might, if not prepared for, overwhelm the health system and paralyse normal society for months. Those preparations are far from complete. It's clear that we cannot guard against all contingencies and that a severe outbreak would test our national capacity in ways unknown for half a century. Even so, much work has been done and it's important that experts and policy makers take the Australian public into their confidence lest people one day say they had never been warned.

Frequent (and frequently exaggerated) public controversy notwithstanding, Australia has a very good health system with generally advanced equipment and infrastructure and highly professional and dedicated health staff. Our "have a go" culture means that we can usually improvise to meet the unexpected or the daunting. Precisely because it is a good system, people have very high expectations that it will cope under any circumstances.

At every level, the officials and experts involved in pandemic preparedness have been fully alive to the urgency of the task and determined to get things done. So far, they've well and truly confounded the stereotypes of government by committee. On the record so far, Australia's health security is in good hands. This should be some consolation to those tempted to dwell on the fear and confusion which would inevitably accompany a deadly scourge.