

COUNTRY REPORT FOR PANDEMIC FLU CONFERENCE, OTTAWA 25/10/05  
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## BRACING FOR THE WORST

Since the formation of the National Influenza Pandemic Action Committee and the publication of the first draft management plan in 1999, Australia has been increasing its preparations for a possible pandemic to the extent that these are now complex, practical and well-resourced.

Some important issues have yet to be decided such as the relative merits of mobile triage and treatment teams versus fever clinics. Other important issues are under constant review such as the extent to which anti-viral drugs should be used for treatment or prophylaxis. There's an evolutionary quality to all pandemic planning given that the precise nature of any new outbreak cannot be known in advance. Still, the more unpredictable the threat, the more important it is to plan and prepare so that countries are not caught off-guard materially, mentally and psychologically.

In preparing to respond to deadly but uncertain contingencies, perhaps the most important challenge is to keep the general public informed and to resist the official temptation to avoid discussion for which there may be no reassuring answers. An effective response to a new pandemic will depend, in large part, on the public's reaction because doctors, nurses, ambulance officers, police, utility technicians and journalists are human beings not robots, citizens as well as professionals with a job to do come what may.

The Australian Government has used nearly every stage in the development of pandemic preparedness as an opportunity to make a media statement, usually supported by a news conference and interviews. These have frequently been ignored and sometimes misinterpreted but they have at least alerted people to the issue and have now created a strong public sense that the Government takes this threat seriously.

On February 11 last year, the former Chief Medical Officer of Australia, Professor Richard Smallwood, gave a carefully scripted speech to a Parliament House news conference:

"For more than seven years" he said, "Australia has been refining its influenza pandemic plans... Should the world be hit by a new influenza virus, we will undoubtedly see...deaths on a scale not experienced since the turn of the last century... Every emergency service will be stretched to capacity - police, ambulance services, hospitals, laboratories, vaccine manufacturers...the defence forces, customs and quarantine agencies, state and territory health departments, along with morgues and undertakers will be under huge pressure to cope and to keep the public calm and informed".

At the same press conference, it was pointed out that a health incident team had already begun monitoring the bird flu epidemic in Asia because of the heightened risk that a new human virus could develop. As it happened, almost every journalist's question concerned changes to the parliamentary superannuation scheme and there was just one subsequent newspaper report, "Diseases put Aussies at risk", on page six of the Canberra Times.

On May 2 this year, an infectious disease conference in Sydney was told that a major flu pandemic could lead to 2.6 million Australians seeking medical attention, 58,000 hospitalisations and 13,000 deaths. Despite a lengthy ministerial news conference and a widely distributed scripted speech, this information generated just one newspaper report at the time, "Abbott warns on flu drug shortage", on page three of The Australian. That speech warned:

"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.... The competing temptations are 'it won't happen here' complacency, 'there's nothing we can do' fatalism or 'no precaution is too great' alarmism".

Over the past few weeks, as awareness of the possibility of a very severe pandemic has finally seeped into Australians' collective consciousness, complacency has given way to intense media interest and some public alarm. Six months ago, the challenge was to alert people to a frightening possibility. Now, the challenge is to reassure them that a severe pandemic remains just a possibility, not a certainty, nor even a probability in the next few years, and that health authorities are doing everything they reasonably can to guard against the risk. Then, the public needed to know that infectious disease had not entirely lost its capacity to kill. Now, what's needed is a sense of proportion, even for worst case scenarios.

No one knows how bad any new flu pandemic will be. The Asian Flu pandemic of the late 1950s and the Hong Kong Flu pandemic of the late 1960s each killed about a million people around the world, mostly the very old, very young and pregnant women, including about 500 in Australia. By contrast, the Spanish Flu pandemic of 1918-19 killed up to 50 million people around the world, mostly in the prime of life. America lost 650,000 people from a then population of just over 100 million. Australia lost 12,000 people from a then population of just over 4 million. Notwithstanding that it killed about three times as many people worldwide, Spanish Flu has always been overshadowed by the Great War in the folk memories of the west. Still, it shows how serious a really bad outbreak could be.

As told by John Barry in his recent book, *The Great Influenza*, in October 1918, Spanish Flu broke with little warning on American cities. In many, it attacked up to 50 per cent and killed up to 2 per cent of the population, overwhelming hospitals and paralysing industry with fear and panic. The Spanish Flu pandemic led one of America's leading research doctors to declare: "Never again...say that medical science is on the verge of conquering disease".

Spanish Flu sickness and mortality rates are the foundation for official estimates of the possible consequences in Australia of any new pandemic. The Australian Health Department's "high estimate" of 44,000 deaths, 148,000 hospitalisations and 7.5 million people seeking medical attention in the first three months of a pandemic is based on Centre for Disease Control modelling. These scary figures don't take into account the greater organisational capacity and preparedness of modern government, much better general health and more sophisticated treatments against secondary infection as well as the use of anti-virals, and possibly vaccines, to slow and treat the disease.

Still, something like a 120 per cent increase in the population death rate, 8 per cent increase in the overall hospitalisation rate and 28 per cent increase in the demand for medical attention over a three month period is a daunting prospect, even if the chance of it occurring in any one year is only 10 per cent. Given the close proximity of people and poultry in South East Asia, millions must have been exposed to the H5N1 bird flu virus yet only about 120 people have developed the disease and there is still no sign of easy human-to-human transmission. On the other hand, the influenza virus is remarkably adaptable, greater mobility means that any new disease is likely to spread much faster round the world, there are far more immune-suppressed people such as those undergoing cancer treatment, and the world is arguably overdue for another pandemic.

Any non-negligible risk of a public health disaster on this scale requires the most strenuous preparations. Responsible governments have no option but to take reasonable, practical and proportionate precautions against all credible threats even at the risk, in hindsight, of seeming to have over-reacted. In the absence of a pandemic, almost any preparation will smack of alarmism. If a pandemic does break out, nothing that's been done will be enough, even the very extensive precautions, costing some \$180 million, which the Australian Government has so far taken.

From February last year, the Australian Government began to build up an anti-viral stockpile. Highly Pathogenic Avian Influenza was declared a notifiable illness under the Quarantine Act requiring that any cases be reported to public health authorities. In April last year, the Government ordered enough Tamiflu to treat nearly 20 per cent of the Australian population (an order which virtually cornered the world anti-viral market for 12 months). In last year's budget, the Government announced upgraded surveillance and laboratory capacity. The Government has also negotiated contracts with CSL and Sanofi Pasteur for vaccine supply in the event of a pandemic.

In May this year, the Government ordered 50 million syringes, 40 million surgical masks and 303 ventilator machines for public hospitals. In this year's budget, the Government committed \$24 million to rebuild the World Health Organisation collaborating influenza laboratory in Melbourne. In June, the Government publicly released a draft Management Plan for Pandemic Influenza and distributed pandemic influenza kits to some 30,000 doctors. In August, the Government gave the Australian-based vaccine manufacturer, CSL, nearly \$5 million to expedite live trials of a candidate pandemic vaccine based on the H5N1 virus.

A few weeks ago, the Government committed \$7.5 million to urgent research directed to pandemic flu testing, containment, prevention and treatment. The Government is currently negotiating with the UK-based pharmaceutical company, GSK, to purchase enough Relenza from its reopened plant in Melbourne to bring the anti-viral stockpile up to the World Health Organisation recommended level of treatment for a quarter of the population.

Since early last year, the Australian Government has committed nearly \$30 million to assist the agricultural surveillance and laboratory testing capacity of the countries in South East and East Asia where poultry farming methods make the genetic shift from bird flu to a new human flu most likely. Australia is assisting the WHO to place

epidemiologists in China, Vietnam and Indonesia. For at least 18 months, Australian officials, epidemiologists and researchers have been in the closest possible contact with their counterparts in the region and also with experts in the US, UK and Canada.

The only sure protection against a new flu strain is an effective vaccine - which is why the Government is so focussed on candidate vaccine trials. If expert assessment indicates that a candidate vaccine is likely to be effective against mutant bird flu, the Government will expedite its registration with the Therapeutic Goods Administration. If the TGA is confident that a candidate vaccine is safe, the Government will consider urgent mass production. Finally, if the best expert advice is that a pandemic is imminent, the Government will consider mass vaccination using the infrastructure developed under the National Immunisation Programme.

Of course, the next pandemic virus may bear little resemblance to H5N1. It's impossible to be certain that any candidate vaccine will be effective against a virus that does not yet exist. All our pandemic defences could turn into the biological version of the Maginot Line. Even so, given the immense potential damage of a pandemic, it would be a dereliction of duty for a government to neglect prudent precautions just because they might not always work. It would be like abolishing the army because it might not always win.

It's hard to keep a sense of proportion in the discussion of Australia's response to a potential health disaster on this scale. Inevitably, people's thoughts and fears leap ahead of what's certain or even likely. In some media reports last week, the mere possibility of a mass vaccination campaign became, first, a near-certainty and, later, a clear case of government badly jumping the gun. The difficulty of even discussing such a disaster helps to illustrate the challenge of managing any actual pandemic. Still, the Government is confident that the public would cope better if it had been discussed and explained beforehand, notwithstanding the risk of public alarm.

Since late 2003, the Health Incident Room in the Health Department in Canberra has been monitoring bird flu outbreaks, particularly human cases of bird flu, looking for evidence of the genetic shift to a new pandemic strain of human flu. The Health Incident Room is staffed round the clock and prepares daily reports, based on human intelligence, media monitoring and, where credible, internet chatter, for distribution to senior officials.

If there was strong evidence anywhere in the world of unusually large numbers of people reporting to hospital with flu-like symptoms, the Chief Medical Officer would immediately convene a meeting of the Expert Advisory Group, comprising epidemiologists, clinicians and scientists, which would consider whether a pandemic outbreak had occurred or was imminent. Australia would liaise closely with the WHO before activating its pandemic plans.

If, on expert advice, the Chief Medical Officer was confident that a pandemic was imminent, the Deputy Secretary of the Department of Health and Ageing would immediately convene an organising Committee (the Australian Health Disaster Management Policy Committee), comprising representatives of the states and territories, key federal departments and Emergency Management Australia. This Committee would provide the Government with advice about the imposition of border

controls and the possible evacuation of Australians abroad and subsequently about the operational aspects of pandemic management.

Once a pandemic was declared, the captains of all incoming aircraft would have to declare whether any of their passengers had flu-like symptoms. Passengers with symptoms would be isolated and other passengers quarantined. The Government has purchased thermal screeners which could be operating at international airports within hours. The Government has also pre-prepared equipment and supplies for six quarantine and isolation centres each capable of handling 500 people for a week. The Government is liaising with Qantas about possible arrangements for repatriating Australians who wish to return home in the event of a pandemic but this could be extremely complicated given possible disruption to flights. Issues that the Government would have to consider are whether to close borders and the adequacy and possible enforcement of home or hotel quarantine for people with exposure to disease.

The Australian Management Plan for Pandemic Influenza envisages two phases in dealing with it. During the containment phase, quarantine and border protection officials and the health staff dealing with possible pandemic flu cases would be protected with anti-virals. Symptomatic patients and those exposed to them would be treated with anti-virals. During this phase of the pandemic, the effectiveness of anti-virals as treatment would be urgently evaluated.

At present, the anti-virals Tamiflu and Relenza are thought to be more effective at prevention than cure. On current evidence, it seems that taking anti-virals can prevent people becoming infected. Anti-virals can reduce the severity and shorten the duration of illness if taken early but more research is needed into their effect on mortality for those who are already symptomatic. The draft Management Plan earmarks 10 per cent of the anti-viral stockpile for treatment and reserves 90 per for prophylaxis but this would be reconsidered on the basis of clinical effectiveness dealing with any pandemic flu strain. While pandemic flu was present in Australia in isolated places only, the Government would have to consider whether to impose internal quarantine restrictions. Any such decision would turn on an expert assessment of the likely value of quarantine based on the infectiousness of the disease and the speed with which it might lose virulence.

The second phase in the handling of pandemic influenza, once it was clear that it was widely present in Australia, would focus on the maintenance of essential services. During the essential services phase, people with high exposure to disease would, as far as possible, be protected with anti-virals. This would include most doctors and nurses and some other health professionals. Police and emergency service workers; water, sewerage, power and distribution workers; and key officials dealing with the pandemic outbreak could also receive anti-virals if they had been exposed to disease.

Even though it's the world's largest stockpile on a per capita basis, the current supply of anti-virals is sufficient to protect Australia's estimated one million essential service workers for about six weeks only, not the likely six months duration of any pandemic. In addition, anti-virals are not recommended for use in prophylaxis for longer than six weeks at a time. In the absence of an effective candidate vaccine or much larger

stockpiles of long-acting anti-virals, large numbers of essential service workers are likely to be unprotected for much of the pandemic along with the general public.

The Chief Medical Officer, in consultation with the Health Disaster Management Committee, would advise government on when and to whom anti-virals should be released. The Government has asked the states and territories to consider how many staff would be necessary to keep essential services going at any one time so that notional allocations from the anti-viral stockpile can be made. The senior management of the organisations involved would then be responsible for ensuring that enough staff members were protected to keep services going.

Once a pandemic took hold, there would be a serious risk of panic. A scenario from a US draft pandemic plan runs:

"....Outbreaks begin to be reported throughout the United States.... 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...health care workers become ill.... 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...due to shortages of police.... Further deterioration in health and other essential community services occurs over the next 6-8 weeks as illness sweeps across the country... "

Except for the looting, this is not dissimilar to what actually happened at the height of the Spanish Flu pandemic in America.

Fear of disease and death could be compounded by resentment towards people receiving anti-viral protection. Essential service workers simply have to be protected, particularly if they are heavily exposed to disease, otherwise many simply wouldn't turn up. Still, in any pandemic it would be vital to counter the inevitable accusations of favouritism and the corrosive suspicion that "I'm suffering while others are not". In any general crisis, people need to feel that leaders are sharing the public's dangers and privations. That's why it was so reassuring when the King and Queen remained at Buckingham Palace during the London Blitz.

After much thought, my conclusion is that Australian health ministers have no irreplaceable technical knowledge nor indispensable role in treating the sick, so I have decided to decline any protection that is not available to everyone. A one in three chance of developing the disease and a one in 500 risk of death (based on the official "high estimate") is not too big a risk to bear if it helps people to feel that "we're all in it together".

In any pandemic, there are two questions people would ask: "how do I avoid becoming sick"; and "what do I do if I become sick?" The Australian Government has already established a national influenza website and hotline. This could swiftly expand to handle hundreds of thousands of calls a day by mobilising other call centres.

At various times during the Spanish Flu pandemic, Australia's state governments ordered the closure of schools, hotels and places of public gathering plus the cancellation of large sporting events. New South Wales, despite the most restrictions, actually had the highest mortality rate. By contrast, Tasmania, which kept rigid quarantine restrictions in place until late 1919, had the lowest death rate of any Spanish Flu-afflicted jurisdiction. All the subsequent analysis suggests that strict isolation was the only effective way to prevent infection and reduce deaths, yet it's almost impossible to isolate everyone. In the absence of an effective vaccine, banning large gatherings and closing schools could prevent pandemic flu from becoming well established, at least for a time. On the other hand, a large number of normal human interactions will have to continue if only to maintain basic services. In any severe pandemic, it will be important not to minimise the risks of business as usual. It might be necessary to rely on volunteers to preserve much of the social infrastructure, especially at any pandemic's height.

John Barry says that San Francisco survived the 1918 pandemic better than any other big US city because it had confronted the threat "honestly and efficiently". The city's public health director:

"mobilised the entire city in advance recruiting hundreds of drivers and volunteers and dividing the city into districts, each with its own medical personnel, phones, transport and supply, and emergency hospitals in schools and churches. He closed public places. And far from the usual assurances... (he) declared, in a full page newspaper ad, 'wear a mask and save your life'... In San Francisco, people had a sense of control. Instead of the paralysing fear found in too many other communities... citizens behaved with heroism, anxious and fearful but accepting their duty".

Although initial cooperation between the Australian Government and the states broke down in a welter of border closures and recriminations once the pandemic struck, Barry says that Australia escaped comparatively unscathed because of very strict quarantine measures and candid, even if often exaggerated, press discussion of the risks the public faced and the precautions they could take.

The Australian states and territories are currently considering how they can best keep their health systems running for other life-threatening illnesses while dealing with a possible flood of suspected flu cases. Many people presenting to hospitals and surgeries might turn out not to have pandemic flu. Most people with the disease, including many requiring medical supervision, might be best treated at home. Only a small percentage of cases would be likely to require hospitalisation and intensive care.

The issues the states and territories are currently considering include: how best to triage potential flu cases; how best to treat people in their homes and how to staff and deploy mobile triage and treatment teams; whether to set up designated fever clinics and how to ensure that people who are merely worried aren't infected by people who are actually ill; and whether to designate special flu hospitals. The Australian Government is working closely with the states and territories and with the medical profession to try to ensure that provisional treatment plans, with staffing strategies, are in place by the end of the year.

Any decisions taken in advance of a pandemic might have to be revised in the light of practical experience and on-going public consultation. Still, people need to know that

all the key issues have been considered and that detailed (if constantly evolving) plans are in place, if they are to remain confident in the face of danger.

While any new pandemic could disrupt lives and damage economies in ways people still find hard to imagine, even under a biological doomsday scenario the vast majority would live through it to resume normal life. People need to be aware of the potential threat but not to become too apocalyptic in their thinking about it. If it happens, a serious pandemic outbreak will test Australians' reserves of character and stoicism in ways unknown for half a century. Keeping troubles in perspective, accepting risk, acknowledging that much won't work out as planned, and facing the prospect of untimely death have not normally been required of modern Australians. Under such circumstances, to maintain the optimism and generosity of spirit that characterises Australians at their best would be a formidable challenge.

Perhaps the world will be spared this cup of suffering. Perhaps the contemplation of epic disasters might help Australians deal better with everyday problems. Almost certainly, preparing thoroughly for disasters which don't eventuate will help prepare for those which do.