Analysis and comment

Avian influenza

Preparing for the pandemic

No one can predict whether influenza A (H5N1) will cause the next human flu pandemic and there is a wide range of opinion about how we should prepare. Hilary Pickles argues that the UK government's contingency plans don't go far enough and we need to learn from experience with other zoonotic diseases. David Salisbury from the UK government responds on p 784. However, Bonneux and Van Damme question whether the focus on one virus is right. We also asked a microbiologist, a general practitioner, and an intensive care specialist for their perspectives

Using lessons from the past to plan for pandemic flu

Hilary Pickles

Plans for pandemic flu in the United Kingdom are said to be among the best in the developed world.^{1 2} Could they be even better if we learnt all the important lessons from the past? The Canadians have said of their handling of SARS (severe acute respiratory syndrome), "There was much to learn—in part because too many earlier lessons were ignored."³ The responses to AIDS, bovine spongiform encephalopathy (BSE), foot and mouth disease, and SARS provide examples of mistakes to be avoided and good practice to follow. This paper outlines some lessons that are yet to be incorporated into current UK planning for pandemic flu, as judged by what has been made public to date, but many more examples exist.

Pandemic flu

The influenza pandemic in 1918-9 killed about 40-50 million people worldwide.⁴ Disruption was widespread, and civilised society broke down in some communities. The world population is now much bigger, and domestic and international travel is more extensive. Although modern medicine may prepare us better for the medical consequences of pandemic flu, the socioeconomic consequences could be even more devastating this time. Pandemic flu could be the biggest disruptive challenge that society will face. This makes it more important that we learn all we can from the past.

Government departmental lead

One of the key lessons from foot and mouth disease was that the wider implications of an epidemic must be considered early and appropriately.⁵ Foot and mouth disease proved too big for the Ministry of Agriculture, Fisheries, and Food to manage, and pandemic flu might be too big for the health departments. The UK national plan focuses on the health response, with the

Department of Health as lead department.¹ The government submission to the recent House of Lords committee, written by the Department of Health, pays little attention to the wider aspects. As the report of that committee states, "All departments of government need to work together in preparing for a possible pandemic, but we do not believe the Department of Health can provide strong enough leadership to achieve this."² As now explained by the government's response,⁶ a cross government committee (MISC32) has recently been formed, albeit under a health lead, and that is welcome. However, one of the important lessons learnt from AIDS was the benefit of a senior cabinet committee chaired from outside health, in that case the deputy prime minister.

Hillingdon Primary Care Trust, West Drayton, Middlesex UB7 7HJ

Hilary Pickles
director of public health

hilarypickles@hillingdon.nhs.uk

BMJ 2006;332:783-6

Preparing for the worst

However severe the epidemic, most people who are affected will manage with self help at home. A minority

Dancing with death?

VINCENT YU/ALAMY

will make greater demands on health services, and health planning concentrates on these people. A general lesson from the past is to prepare for the worst and hope for the best. It is then surprising that planning for pandemic flu in the UK is based on the death rate seen in the modest 1957 pandemic (0.37% of those affected), rather than the more severe 1918 pandemic, when mortality may have been 2.5% and even higher in some subgroups, such as pregnant women. The need to plan across the range is recognised, and in London the NHS is now planning for this higher death rate. However, the draft national clinical guidelines may only be practicable at the lower mortality rate,⁷ when it should still be possible to use normal civilian ethics of priority for people in the greatest clinical need. The recommended scoring system gives priority to people over 65 as the most vulnerable group at any particular severity of symptoms. But at the higher rate of severity and mortality, considerable rationing of resources such as ventilators would have to take place, and a more military style of triage might be needed. This would give priority to those most able to benefit. These are the sort of difficult decisions for which advance preparation and national plans would ease the burden for health workers at the front line.

Being open with the public

The main message from the inquiry on BSE was the importance of being honest with the public about uncertainty.⁸ The Food Standards Agency was set up as part of the response, and it has many lay members on its board and regular meetings in public, with open disclosure of papers. The UK National Influenza Pandemic Committee, however, has many civil servants as regular members and scientists and advisers as observers or people who have been co-opted. The need for input from relevant charities, non-governmental organisations, or patients' organisations has received only minor recognition. The scientific advisory group that will act as a subcommittee has no lay members. Neither of these committees is expected to meet in public. The Health Protection Agency, which has a key role in formulating advice on pandemic flu, has no members of the public on its board and has few public meetings. When it formulated advice on SARS, its SARS subcommittee met in private. History shows that the credibility of public health messages depends on a more open approach.

A recommendation from experience with foot and mouth disease was that an independent "senatorial group," not involved in the emergency response, should independently inform the prime minister and

UK government response to Hilary Pickles

David Salisbury

After national and international consultation, the Department of Health relaunched its pandemic plan in late 2005. It provided additional information, particularly on the expected burdens on the NHS, and outlined the actions the government and authorities are taking to ensure that the United Kingdom is as prepared as possible.¹ Its key objectives are to maintain a strong surveillance and alert system, reduce illness and deaths, develop preparedness in the NHS, ensure the continuation of essential services, and ensure the availability of comprehensive information.

Cross government work

Managing the impact of an influenza pandemic will require a coordinated response across government. The Department of Health is coordinating the work as the lead department with the help of the Cabinet Office Civil Contingencies Secretariat. Since 2005, Patricia Hewitt, secretary of state for health, has chaired a cabinet committee on pandemic influenza planning.

Cross government work has made good progress in enhancing preparedness on non-health issues including social interventions (such as travel screening and school closures), maintaining essential services, dealing with deaths, ensuring business continuity, and advice for British nationals overseas. The Cabinet Office, for example, recently published guidance for local authorities and regional resilience planners on preparing for a pandemic. In addition, regional workshops on business continuity have been held with delegates drawn from local authorities, health, and other sectors.

Preparedness in the NHS

The Department of Health issued specific guidance in May 2005 to help NHS organisations prepare contingency plans to respond to pandemic influenza. A recent audit confirmed that local plans are in place and preparedness has been strengthened. Most primary care and NHS trusts reported that they now consider they have resilient and sustainable contingency measures in place.

The results are being shared with NHS organisations through strategic health authorities. The audit is being analysed to

identify where further work is required and if revised guidance would be helpful.

Communications

Public communication is one of the essential elements in dealing with an influenza pandemic. Much work has already been done to investigate the public understanding of pandemic influenza, as opposed to seasonal and avian influenza, and to share communications materials with the public during the materials' development. Information materials have been developed that reflect each stage of the World Health Organization levels of alert, up to and including phase 6, the pandemic period. These materials include leaflets, posters, radio material, television advertisements, and arrangements for a mail drop to all households, giving information on antiviral drugs and managing illness. Public involvement has helped to inform and shape the advertising campaign that is being developed for a pandemic.

International cooperation

The government has been working closely with our international partners, including the G7 and G8 countries, WHO, and the European Union, to enhance international cooperation and compare national plans. International exercises have been run to test the different stages of evolution of a pandemic and communications between countries.

Continual review

Our pandemic planning is reviewed as new information becomes available. Action is taken as necessary to improve our preparedness so that any effects on the ability of the NHS to cope are minimised and business and essential services can be sustained.

Competing interests: None declared.

David Salisbury (David.Salisbury@dh.gsi.gov.uk) *director of immunisation*, Department of Health, London SW1

1 Department of Health. *UK health departments' influenza pandemic contingency plan (October 2005 edition)*. www.dh.gov.uk (search for 4615).

cabinet on the handling of the crisis.⁵ Setting up the potential for challenge may be uncomfortable for those giving mainstream advice, but it provides a potential safeguard for the public.

Communications

All inquiries into infection outbreaks highlight problems with communications. Appropriate actions are delayed because people with first hand knowledge do not pass the information on, sometimes because they are unsure who should be informed.⁹ Clear messages from the government will be important during a pandemic, for the general public as well as for public sector responders. Much work has been done with focus groups to ensure the central messages are properly understood.¹ However, the public will be able to access messages from around the world, and pick up any discrepancies from official sources, as well as all the false prophets the internet will bring. One lesson from the past is that the response of the media will be crucial. Another key message is that a free press will do its own thing.

Accountability

"Emergencies such as communicable disease outbreaks will often highlight not only deficiencies in communication, but also weaknesses in organisational arrangements."³ All inquiries into disease outbreaks report confusion about who was in charge, and an inquiry into an outbreak of pandemic flu would probably be the same.^{3 5 8-10} The system of command and control within health protection has been unclear to many for some time.¹¹ Personal contacts and existing relationships have often made things work in the past, hence the rationale for emergency planning exercises across many sectors of the health service. When the most recent health system reforms are put in place, some of the established routes through strategic health authorities and primary care trusts will change, and new relationships (for example, with foundation trusts) will need to be forged.¹² There have been warnings of risks during organisational change, in a system where accountability lines are unclear.^{11 13 14}

Science versus politics

In an ideal world, official actions would follow from careful assessments of the policy options, backed by clear scientific advice. Dealing with risk is especially difficult.¹⁵ The past provides many examples where ministers had to deal with the conflicting demands of straight science and practical politics. With SARS, for example, many countries concentrated more on screening to stop infected people entering the country than on the exit screening recommended by the World Health Organization.¹⁶ The same could happen with pandemic flu: the strict advice is that screening for entry into the UK would have no value.¹⁷ Practical politics may mean that something will have to be "seen to be done."

In the mid-1980s, when the media became interested in AIDS, the potential for anxiety about casual spread was widespread.¹⁸ Many emergency workers, prison warders, mortuary attendants, health-care workers, and others worried that they could be at risk in their daily work. When testing became available,

Summary points

Contingency plans for pandemic flu should build on past experience

Important lessons can be learnt from the experience with AIDS, BSE, foot and mouth disease, and SARS

Some lessons from the past have been missed in the latest UK plans

Plans are needed not just for medical issues but for socioeconomic issues also

More attention should be given to openness on difficult risk assessments and understanding population behaviour

Clear and appropriate accountability and communications are needed

there were calls for all prisoners, dead bodies, and patients to be screened, so workers could know when to take extra precautions. The current universal precautions emerged from a difficult and prolonged debate. But this anxiety took at least a year to defuse, with frequent setbacks as various managements gave in to pressure from their staff, regardless of the potential consequences for others. "Holding the line" will be even more difficult and important with pandemic flu.

Face masks will cause a problem: UK scientific advice is that they should be limited to certain health-care workers, such as those tending people known to be infected, and possibly also to ill patients.¹⁹ The public may feel differently, as it did with SARS, where face masks were often worn even though WHO said that they were not needed.^{3 10} If other nations make them generally available, in a situation where advice from WHO is permissive but not prescriptive, UK ministers may find the pressure too great, whatever the science.²⁰ As with the debate on MMR (measles, mumps, and rubella) vaccination, some scientists may give credence to the unofficial view. In the circumstances, it might be better to invite the public to join the debate.

Population behaviour

The public response is not always in the best interest of the population as a whole. As panic buying when fuel supplies are threatened causes fuel shortages, panic buying of food during a pandemic might enhance food shortages, and the government has been advised to pay more attention to the food supply chain.² Health service planning needs to reflect these other potential disruptions.

The biggest economic impact of SARS did not come from death or sickness, but from people's attempts to avoid infection.²¹ Oseltamivir may not prove as effective as hoped or supplies may be insufficient (or both), which might cause unrest.²² People may need to take comfort from other steps available to all, such as hand washing, but advocating hand washing may not work on its own. As was found with promoting condoms to combat AIDS, people may need to be shown the correct technique. Factors like these explain why the behavioural sciences need representation on UK advisory committees for pandemic flu; currently they are missing.

Other lessons

Other general lessons from the past are likely to apply to pandemic flu. Many people at the front line will probably act with selfless heroism, including putting themselves at unnecessary risk.^{3 10} The experience with AIDS, variant Creutzfeldt-Jakob disease, and foot and mouth disease highlights the need for caution in handling predictions from certain modellers. On a more positive note, lessons that appear to be learnt include the need for better forward planning and the benefits of strong international collaboration.^{3 5 8 10} In 1990 the House of Commons Agriculture Select Committee endorsed the government's actions on BSE, but these actions were criticised by a subsequent inquiry.^{8 23} Thus, although the praise of the House of Lords Science and Technology Committee may be comforting,² parliamentary committees can get it wrong too.

Contributors and sources: HP was involved in AIDS and bovine spongiform encephalopathy when working at the Department of Health, and was a key witness for the department in the inquiry on BSE. This explains her interest in maximising learning from past events.

Funding: None

Competing interests: None declared.

- 1 Department of Health. *UK health departments' influenza pandemic contingency plan*. October 2005. www.dh.gov.uk/assetRoot/04/12/17/44/04121744.pdf (accessed 10 March 2006).
- 2 House of Lords Science and Technology Committee. *Pandemic influenza*. Fourth report of session 2005-6. London: Stationery Office, 2005. www.publications.parliament.uk/pa/ld200506/ldselect/ldstech/88/8802.htm (accessed 7 Mar 2006).
- 3 National Advisory Committee on SARS and Public Health. *Learning from SARS. Renewal of public health in Canada*. Ottawa: Public Health Agency of Canada, 2003. www.phac-aspc.gc.ca/publicat/sars-sras/naylor/ (accessed 27 Feb 2006).
- 4 World Health Organization. *Ten things you need to know about pandemic influenza*. 2005. www.who.int/csr/disease/influenza/pandemic10things/en (accessed 10 Mar 2006).
- 5 The Cabinet Office. *Foot and mouth disease 2001: lessons to be learned inquiry report*. London: Stationery Office, 2002. www.archive.cabinetoffice.gov.uk/fmd/ (accessed 27 Feb 2006).

- 6 Government response to the House of Lords Science and Technology Committee's fourth report of session 2005-6 on pandemic influenza. February 2006. Cm 6738. www.dh.gov.uk/PublicationsAndStatistics/Publications/GovernmentResponse/fs/en?CONTENT_ID=4122401&chk=JoBgYf (accessed 10 Mar 2006).
- 7 British Thoracic Society, British Infection Society, Health Protection Agency. *Clinical guidelines for patients with an influenza like illness during an influenza pandemic*. London: BTS, BIS, HPA, Oct 2005. www.dh.gov.uk/assetRoot/04/12/17/55/04121755.pdf (accessed 10 Mar 2006).
- 8 Lord Phillips, chair. *The BSE inquiry*. London: Stationery Office, 2000. www.bseinquiry.gov.uk/ (accessed 27 Feb 2006).
- 9 Huggill J, chair. *Report of the committee of inquiry into an outbreak of food poisoning at Stanley Royd Hospital*. London: HMSO, 1986.
- 10 SARS Expert Committee. *SARS in Hong Kong: from experience to action*. 2003. www.sars-expertcom.gov.hk (accessed 10 Mar 2006).
- 11 House of Lords Science and Technology Committee. 4th report 2002-2003. *Fighting infection*. 2003. www.publications.parliament.uk/pa/ld200203/ldselect/ldstech/138/13801.htm (accessed 27 Feb 2006).
- 12 Department of Health. *Health reform in England: update and next steps*. London: DoH, 13 Dec 2005. Gateway ref 5894. www.dh.gov.uk/PublicationsAndStatistics/Publications/PublicationsPolicyAndGuidance/PublicationsPolicyAndGuidanceArticle/fs/en?CONTENT_ID=4124723&chk=y2qlXE (accessed 27 Feb 2006).
- 13 National Audit Office. House of Lords Science and Technology Committee. 4th report. *Fighting infection*. Oral evidence and written evidence from 18 February 2003:367-76. www.publications.parliament.uk/pa/ld200203/ldselect/ldstech/138/138w10.htm (accessed 7 Mar 2006).
- 14 Pickles H. Accountability for health protection in England: how this has been affected by the establishment of the Health Protection Agency. *Commun Dis Public Health* 2004;7:241-4.
- 15 Cabinet Office Strategy Unit. 2002. *Risk: improving government's capability to handle risk and uncertainty*. www.strategy.gov.uk (accessed 10 Mar 2006).
- 16 Pickles H. Screening of international travellers in China for SARS. *Commun Dis Public Health* 2003;6:216-20.
- 17 Pitman R J, Cooper BS, Trotter CL, Gay NJ, Edmunds WJ. Entry screening for severe acute respiratory syndrome (SARS) or influenza: policy evaluation. *BMJ* 2005;331:1242-3.
- 18 Berridge V. *AIDS in the UK. The making of policy 1981-1994*. Oxford: Oxford University Press, 1996.
- 19 Department of Health, Health Protection Agency. *Guidelines for pandemic influenza: infection control in hospitals and primary care settings*. 2005. www.dh.gov.uk/assetRoot/04/12/17/54/04121754.pdf (accessed 27 Feb 2006).
- 20 World Health Organization. Nonpharmaceutical interventions for pandemic influenza, national and community measures. *Emerg Infect Dis* 2006;12:988-94.
- 21 Brahmabhatt M. *Avian and human pandemic influenza—economic and social impacts*. 2005. www.who.int/mediacentre/events/2005/World_Bank_Milan_Brahmbhattv2.pdf (accessed 10 Mar 2006).
- 22 Pickles H, Tailor V. Might oseltamivir be a mixed blessing? *Pharm J* 2006;276:11.
- 23 House of Commons. Agriculture Committee 1990. *Bovine spongiform encephalopathy (BSE)*. London: HMSO, 1990. (Accepted 3 February 2006)

An iatrogenic pandemic of panic

Luc Bonneux, Wim Van Damme

B-2530 Boechout, Belgium

Luc Bonneux
epidemiologist

Department of
Public Health,
Institute of Tropical
Medicine, B-2000,
Antwerp, Belgium
Wim Van Damme
professor

Correspondence to:
W Van Damme
wvdamme@itg.be

BMJ 2006;332:786-8

Nine decades after the disappearance of the infamous Spanish flu, its ghost is threatening again. In many countries, panicking citizens are buying drugs from uncertain sources through the internet for a disease that does not yet exist.¹ In September 2005, Dr Nabarro, the World Health Organization's public health expert coordinating the response to avian influenza, told the Associated Press that a global avian influenza pandemic could kill 150 million people worldwide.² What are the risks of a pandemic and is stockpiling antiviral drugs the best response?

How real is the risk of pandemic?

A new pandemic with a highly pathogenic influenza strain is obviously possible. But other infectious agents present similar risks—for example, an Ebola epidemic with airborne transmission, an AIDS epidemic with a much more virulent strain of HIV (superbug), or mas-

sive food poisoning such as the dioxin crisis. Airborne transmission of the extremely lethal Ebola Zaire virus might cause a devastating epidemic and is popular in both fiction and (alleged) non-fiction. The HIV superbug appeared in February 2005 in New York as a virus with multiple mutations, multiple drug resistance, and a rapid course of infection, but in only one person. The case served to rekindle the US public's fear after interest in AIDS had been waning because of Iraq.

In the Belgian dioxin crisis, dioxins got mixed up in the food chain, causing levels of exposure to dioxins similar to those in the 1980s.³ The crisis fell conveniently (for the political opposition) just before an election. Competitors in the highly regulated European food market saw their chance to increase market shares. Seven million chicken and 60 000 pigs were slaughtered. Not one person has been detected with any observable consequence of dioxin poisoning.