

Letter from Glasgow

'SWINE FLU' HITS SCOTLAND

The phone call on the Saturday night was that we may have a couple of people in the Infectious Disease Unit of our local hospital who had flu-like symptoms and had been in Mexico and could this be 'swine flu'? Only the previous day I had been reading about the 'swine fever' or 'swine flu' which was affecting Mexico but not in the area where the two people had been. Of course, it was a few days before it began to make the media in a big way.¹ Subsequently, on 27 April 2009 it was confirmed that the two people admitted to our local hospital were the first 2 patients of swine flu (or more correctly influenza A [H1N1]) in the UK.² As the situation developed, there was evidence of person-to-person spread of influenza A (H1N1) in the UK, and indeed in other countries beyond Mexico.

Just to remind readers, influenza A (H1N1) is a new influenza virus. It is spread directly to another person by large droplets when a person infected with it coughs or sneezes, or by contact with commonly touched surfaces that have been contaminated. The usual personal hygiene rules apply of sneezing into a tissue and disposing it, washing hands frequently, and cleaning surfaces that may be contaminated.

The virus originates from swine flu but is also thought to contain elements of flu viruses affecting birds and humans. A paper from the Health Protection Agency and Health Protection Scotland offers some early insights into the epidemiology of influenza A (H1N1).³ Obviously, the virus has adapted to spread in humans. It apparently originated in Mexico and produces the usual symptoms in people associated with seasonal influenza including fever, cough, sore throat, runny nose, limb/joint pain and headache. In addition, in North America some patients have had vomiting and diarrhoea. It appears to affect young people disproportionately. Being a new virus means that people will not have immunity to it and, if it spreads easily from person-to-person in many different countries, the elements of an influenza pandemic are in place. *Stedman's Concise Medical Dictionary* defines a pandemic as 'denoting a disease affecting or attacking the population of an extensive region, country, continent'.⁴ In the context of influenza the pandemic is global.

At the end of April 2009, WHO twice increased its pandemic alert phase—first from phase 3 to phase 4, and then to phase 5. For those unfamiliar with the terminology, the WHO alert phases are:

- Phase 1: No new influenza viruses detected in humans although they may be present in animals.
- Phase 2: No new influenza viruses detected in humans. However, a circulating animal influenza virus poses a significant risk of human disease.
- Phase 3: Human infections with a new virus, but no person-to-person spread.
- Phase 4: Small clusters with limited person-to-person transmission but spread is highly localized.
- Phase 5: Large clusters but person-to-person spread is still localized. There is a significant pandemic risk.
- Phase 6: Pandemic phase: Transmission of the virus in the general population in many countries.

The UK also has its own alert levels which reflect the fact that

there have been extensive preparations for pandemic flu in the UK,⁵ Scotland⁶ and at local⁷ levels.

At the present time, the strategy in Scotland (and the UK) is of 'containment', that is, to identify those who are possible, probable and confirmed cases, and investigate and treat them appropriately. In addition, contacts of probable and confirmed cases are given prophylactic antiviral drugs. The definitions of cases being used in Scotland are:

- Possible case: a person with a history of flu-like symptoms and recent travel to an affected area (Mexico or the USA) or contact with a probable or confirmed case.
- Probable case: a person with a history of flu-like symptoms and recent travel to an affected area (Mexico or the USA) or contact with a probable or confirmed case and with laboratory confirmation of influenza A.
- Confirmed case: a person with laboratory confirmation of the new influenza A (H1N1).

It is fortunate that, certainly in Europe, the symptoms appear to be milder than seasonal influenza. The virus is also sensitive to the antiviral drugs oseltamivir (Tamiflu®) and zanamivir (Relenza®). Hence, the treatment of cases and the use of prophylaxis for contacts is with these antiviral drugs. There have long been plans to develop a vaccine for any new pandemic influenza virus but the vaccine will take several months to develop.

As the situation has developed, so has there been intense activity at all levels—UK, Scotland and local. Within Lanarkshire we have been following up possible cases but also working in hospitals and primary care to ensure that all parts of the health service are prepared for a possible pandemic. We have been working at a strategic level with other agencies such as local government and the police, in a multi-agency group to prepare for a possible pandemic. The issues which have come up are varied and complex including antiviral supply and distribution, prioritization of health and social services in a pandemic, communication to the public and health staff, use of personal protective equipment such as face masks, and how the whole population can be vaccinated against the new influenza A (H1N1). The UK Government has decided to vaccinate the whole population against the new virus. The reasoning is to protect the population from the anticipated second wave later in the year which may be more severe than the first one. This was the case with the Spanish influenza pandemic in 1918–19.

The emergence of influenza A (H1N1) has meant a huge increase in work in Scotland for public health, the National Health Service (NHS) and other agencies. And that work is ongoing as we prepare for a possible second and subsequent waves. It has meant that we have had to pull out our Pandemic Influenza Plans and develop many of the details, some of which were mere outlines. All this work will be worthwhile—even if the pandemic is less severe than envisaged—in ensuring that robust and reliable arrangements have been developed. In addition, at the local level, organizations and individuals will be working closely together and be much better prepared to meet the challenges ahead.

REFERENCES

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- 3 Health Protection Agency and Health Protection Scotland new influenza A (H1N1) investigation teams. Epidemiology of new influenza (H1N1) in the United Kingdom, April–May 2009. *Eurosurveillance* 14;19:1–3. (www.eurosurveillance.org).
- 4 Dirckx JH (ed). *Stedman's concise medical dictionary (Illustrated 4th edition)*. Baltimore:Lippincott, Williams and Wilkins; 2001.
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HARPREET S. KOHLI

NHS Lanarkshire
Division of Community Based Sciences—
Public Health and Health Policy
University of Glasgow
harpreet.kohli@lanarkshire.scot.nhs.uk

Letter from Australia

THE FLYING DOCTOR

Australia is a vast continent with huge arid areas supporting a sparse rural population. Providing medical services to everyone is a great challenge. The Royal Flying Doctor Service (RFDS) of Australia has been proudly providing excellent services to isolated communities in remote parts of Australia since 1928. Australian schoolchildren of my era were raised on dramatic stories about station-owners in the outback who, when faced with medical conditions or injuries requiring urgent assessment by a doctor, would call the RFDS by pedal-operated radio and be advised on what was necessary. Today, each remote cattle station or small community has not only a radio, but also a standardized medical chest and the advice might be about what medicine from the chest should be given. If a doctor is needed on the spot, he or she can arrive within hours, on a light plane that lands on the station's own airstrip, and retrieve the patient.

Young doctors at the level of resident or registrar in Australia are often called upon to travel on the air ambulance and escort very sick patients requiring urgent transfer from a regional hospital to a major centre for specialized care. I well remember my own experiences of doing this. The cramped conditions on a small aircraft, the noise and the needs of very sick patients made it an experience not easily forgotten. The air ambulance is part of the regular ambulance service, which is funded by the government and by subscriptions. In Victoria, where I live, the air ambulance has 4 aeroplanes, which provide not only a primary emergency response but also transfers of patients with particular needs to and from rural hospitals. It also runs 3 emergency helicopters. All major metropolitan hospitals have helipads. (The ear-shattering noise caused by a helicopter landing in the park next to my hospital can be guaranteed to disrupt every lunchtime clinical meeting.) We also have a Paediatric Emergency Transport System (PETS) and a Neonatal Emergency Transport System (NETS), which send either specially equipped fixed wing aircraft or helicopters, staffed by paediatric intensivists or neonatologists, to retrieve patients needing intensive care. All of these services operate 24 hours a day, 7 days a week.

As a frequent flyer myself, I am called into service as a doctor all too often. The call 'A passenger on this aircraft requires urgent medical attention. Is there a doctor on board?' usually causes me to sink down in my seat, hoping that some eager young person with vast intensive care or emergency department experience will

leap forth to the rescue and spare me the embarrassment of having to reveal my fast diminishing knowledge of emergency care. But such is not always the case and, I have on occasions, faced some interesting situations. Last year, 20 minutes into a flight from Melbourne to Singapore, the dreaded call came and I was the only doctor on board. The patient was, as it happened, a 40-year-old Indian gentleman who had had a grand mal seizure. His mother, sitting with him, quickly gave the history that he was an alcoholic who had been drinking very heavily up until the day of departure and that she was trying to get him back to South Africa where he was booked into a rehabilitation centre for alcoholics. One did not have to be Einstein to diagnose *delerium tremens*. My training as a paediatric endocrinologist did not equip me in an ideal way to deal with this situation and I probably did not do a very good job, but I had no choice. I ended up sitting next to the patient for the entire 7-hour trip, during which he hallucinated, clutched at my clothing in a terrified manner, and had 4 more seizures. Fortunately for the patient and for me, a nurse from the intensive care unit of a large hospital came to assist me, and the aircrew were most helpful. One of them was trained to use a pulse oximeter and was most keen to use it at every opportunity. The nurse and I were shown the two medical chests that were kept on board and were impressed with the range of equipment and medications they contained. We gave several doses of diazepam to the patient and these had a transient effect. I later learned that I could have trebled the doses I gave. The crew did offer to call in another doctor on the radio, but I declined this, thinking there was not much they could do to help me. I did request the airline to have emergency people waiting at the airport to receive the patient. By the time we started the descent into Singapore, the patient was extremely drowsy from the effects of diazepam and several grand mal fits, but the crew deemed it necessary to make him sit up and put on his seat belt. As the plane touched down (with a thump), our patient started fitting again. When we were able to come to a complete stop, the nurse and I bodily picked up this rather heavy man and carried him to the door of the aircraft. It opened, and there was not a soul in sight! No emergency workers, no one. We had no option but to continue carrying the unconscious patient up the passageway and into the airport, where, to the amazement of all passers-by, we laid him on a bench. After what seemed like an interminable time, a young airport doctor appeared and we were relieved of our duties. The man was admitted to a hospital in Singapore and what