This month edition contains an account of clusters of H5N1 infection in humans in Azerbaijan [1]. The account is doubly rare: it describes the first occasion where the source is seemingly wild birds. Reading what happened is reassuring as the people infected had probably killed and defeathered infected swans. I.e. this was not casual exposure to wild birds but rather qualitatively similar to when humans are intimately exposed to sick domestic poultry, which remains the most potent risk factor (one recent analytic study came up with an odds ratio of 29 [2]).

The account is also rare as a peer-reviewed investigation of a cluster of human H5N1 infections. Since reporting began in 2004 there have been 218 confirmed cases in ten countries, mostly in small clusters and WHO has published some details of nearly every one [3,4]. However the number of underpinning analytic investigative reports are embarrassingly small: Consequently little more is known now than in 1997 about an infection that seemingly remains hard for humans to acquire, but is highly lethal when they do (48 of the 74 cases in 2006 died) (3–5). The only multi-country review has very little information on how transmissions take place and what are the risks, apart from getting too close to sick domestic poultry [6]. For example we still do not really know the reality or rate of asymptomatic and mild human cases around these clusters. While it is stated that there is no evidence that such cases have occurred, a more accurate statement would be that there are hardly any relevant serological data, but what little exists is consistent with few such cases, though equally there are epidemiological data that suggest the opposite [5,6,7]. Equally we are probably underestimating the extent of person to person transmission, which does not matter too much since what must be spotted is whether transmission is becoming more efficient, i.e. when clusters are enlarging in size or duration. Seemingly they are not – yet [4,6].

None of this should be seen as a criticism of any individuals, national health authorities or any single organisation. It is a collective failure but one that must be overcome. Investigations of emerging zoonoses are difficult anywhere. They require simultaneous and coordinated investigations of human and animal cases by joint teams, plus environmental sampling which is difficult even in well-resourced countries [8]. Poor affected communities can be reluctant to be open with officials and investigators as they fear punishment or adverse economic consequences (culling without adequate compensation) [1]. Usually there are multiple confounding exposures which need careful analysis (was the infection from a chicken, poultry products, the environment or another human?). Considerable stamina may be needed as sometimes there are good plans for investigation but they are not implemented after the drama of the outbreak passes. Serological testing of those exposed is incorrectly regarded as a possible research procedure to be done later rather than an important and urgent investigation, consequently it is almost never completed. The academic process does not always help. It can encourage investigators to hold on to data rather than forward them to WHO and the rare anecdote will be published while the tedious reality will not. Reports that H5N1 could be acquired from eating uncooked duck blood or bathing in canals in Viet Nam are memorable [6,9]. But there have been no analytic studies of these cases taking into account the frequency of these exposures in the population [5]. Unfortunately most of the countries where the first cases have occurred do not have traditions of analytic field investigation and the high profile of ‘bird flu’ does not encourage governments to allow immediate openness. Usually the problem is not that countries are reluctant to forward information, but rather that the required field investigations are not being done to generate the data in the first place. Having a practical guide to investigations would help and WHO and its Regions are now developing one while ECDC is doing the same for the European Union. Universal use of these and forwarding the results would then allow WHO to populate a global dataset, at least for newly identified clusters.

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**HUMAN H5N1 INFECTIONS:**
**SO MANY CASES – WHY SO LITTLE KNOWLEDGE?**

Angus Nicoll
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Is the above complaint important or simply one public health person wanting things to be done properly? It is important. This month, the World Health Assembly (16-25 May, Geneva) agreed that implementation of the new International Health Regulations be brought forward. This step was driven by the pandemic threat and the need for early detection and prompt and competent investigation of the first pandemic cases. This is not just to isolate the pandemic strain but also so that WHO’s Rapid Response and Containment tactic could be deployed to stamp out or reduce transmission. Modelling suggests there would only be a short window of opportunity for this tactic, a few weeks [10]. If that opportunity is missed – and realistically that is the most likely scenario – then for most of the world damage limitation, not containment will be the key preventive strategy, using public health measures and anti-virals.

If existing public health measures and anti-virals are to be most effective, countries will need to have fast answers to some important questions from field investigations. How and where is the virus transmitting? Is it behaving like seasonal influenza or is it different (as SARS was)? Is it transmitting mostly in schools, workplaces, homes or the community (i.e. might selective school closures be justified)? Are antivirals working as prophylaxis or treatment for the first cases? What is the effectiveness of any pre-pandemic vaccine?

Early competent investigations around a transmitting pandemic strain, be it based on H5 or another type, will be crucial and the information generated will save lives. Doing better at investigating H5N1 clusters should be a model for this.

Note: Angus Nicoll is responsible for coordination of influenza activities at the European Centre for Disease Prevention and Control.

References


EDITORIAL

LISTERIA IN EUROPE: THE NEED FOR A EUROPEAN SURVEILLANCE NETWORK IS GROWING

Craig Hedberg1,2

Four years ago, de Valk and colleagues determined both the need for and feasibility of a European network on Listeria infections in humans [1]. The network was envisioned as a way to strengthen surveillance in individual countries by harmonising microbiological methods and providing epidemiologic tools for investigations. The results of their survey were clear: respondents felt that such a network would aid in the detection and investigation of outbreaks, and that it could be based on existing national surveillance systems [1]. There has been considerable institutional support for developing a European Listeria network, and in response to planning efforts, Listeria surveillance has improved in several countries [2]. However, the network has yet to be realised.

This issue contains a series of articles that, along with earlier reports from the Netherlands and England and Wales, highlights the current status of Listeria surveillance in Europe, documents trends in the occurrence of the disease, and illustrates the growing need for a European surveillance network.

In 2002, reported incidence of listeriosis in Europe ranged from 0 to 7.5 cases per million inhabitants [1]. The highest rates were reported from countries that had statutory notification of Listeria infections and surveillance through a national reference laboratory. The relationship between public health investment in surveillance and increased yield in reported cases was subsequently demonstrated in the Netherlands. Although listeriosis is not a notifiable disease in the Netherlands, implementation of more active surveillance in January 2005 has resulted in a 43% increase in the reported incidence of listeriosis [2].

Three papers in this issue report a full spectrum of trends from national surveillance data. In France, the incidence of listeriosis declined from 4.5 cases per million inhabitants in 1999-2000, to 3.5 cases per million inhabitants during the period from 2001-2003 [3]. In Finland, the number of reported cases varied markedly by year from 1995-2004, but there was no clear trend and the mean annual incidence was 7 cases per million inhabitants [4]. In Germany, incidence increased from 2.6 cases per million inhabitants in 2001 to 6.2 cases per million inhabitants in 2005,