

Rapid communications

EPIDEMIOLOGY OF NEW INFLUENZA A(H1N1) IN THE UNITED KINGDOM, APRIL – MAY 2009

Health Protection Agency and Health Protection Scotland new influenza A(H1N1) investigation teams^{*1,2}

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Following importations of cases from Mexico and the United States, by 11 May, United Kingdom surveillance activities had detected a total of 65 individuals with confirmed infections caused by the new influenza A(H1N1) virus. The infections were mainly in young people and younger adults and they spread within households and within schools. The illness in the United Kingdom is similar in severity to seasonal influenza and to date, besides one case of bacterial pneumonia, no clinically serious cases have occurred.

On 23 April, several cases of severe respiratory illness were confirmed as a new swine-lineage influenza A(H1N1) virus infection in the United States [1]. Genetic analysis of these viruses indicated that they were novel viruses, not detected previously in either the swine or human population in North America [2]. Coincidentally, in March and April 2009, Mexico experienced outbreaks of respiratory illness in several parts of the country. Analysis of viral isolates from affected cases in Mexico indicated that illness was associated with a novel then called "swine virus" similar to that identified in sporadic cases in the US [3]. This novel virus has since been identified in humans in Canada, Europe and elsewhere [4].

On 27 April, the first two confirmed United Kingdom cases of new influenza A(H1N1) virus infection were reported in Scotland, in a couple returning from travel to Mexico.

In response to the detection of confirmed cases of new influenza A(H1N1) in the United Kingdom, the Health Protection Agency (HPA) and the Devolved Administrations strengthened national surveillance of respiratory illness amongst travellers returning from affected areas. As part of case finding, a possible case was defined as any person with a history of acute respiratory illness and recent travel to an affected area or contact with a confirmed or probable case; a probable case was defined as a person who was a possible case and had tested positive for influenza A which was non-subtypeable and a confirmed case was an individual that tested positive for the new influenza A(H1N1) virus by specific-RT-PCR confirmed by sequence analysis.

During the period 27 April to 11 May, a total of 65 confirmed cases were detected. From the first reported cases on 27 April, initial cases were amongst travellers returning from Mexico, and then the United States, with a peak on 1 May. The first indigenously acquired infections in the United Kingdom were reported on 1 May and the proportion and number that are indigenously acquired has been reasonably stable since May 7

Cases of new influenza A(H1N1) have been identified in England (60) and Scotland (5). Of the English cases, 34 have been identified in London; six in North West and South East England; five in East of England; three in each of South West and West Midlands; two in East of Midlands and one each in North East and South East.

Of the 65 confirmed cases, 29 (45%) are female (Figure 2). Cases range in age from 5 to 73 years – with 58% of patients falling into the age range 10–29 years (Figure 2). The age distribution of indigenous cases is predominately in the 10–19 year age group (Figure 2b).

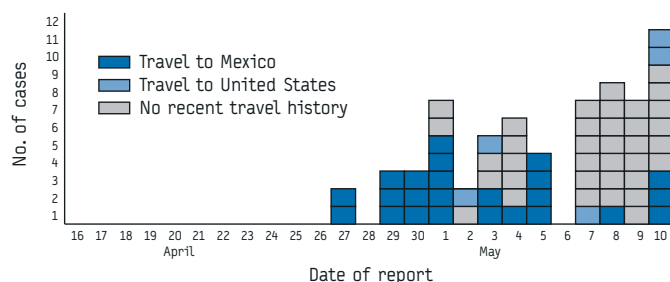
Travel history

Of the 65 cases, twenty-four reported a history of recent travel from Mexico and five from the US (one from each of California, Florida, Texas and two from New York).

The remaining 36 (56%) cases report no recent overseas travel and acquired their infection through secondary transmission in the United Kingdom. All but one of these can be linked to cases who travelled from affected areas. These indigenous cases are mainly affecting 10–19 year olds at present (Figure 2b). Of these cases, a number of secondary cases are linked to transmission in different household/close contact settings. Transmission has also occurred in two school settings in London. An in-depth field epidemiology investigation of the school cluster is presently underway.

FIGURE 1

Cases of laboratory confirmed new influenza A(H1N1) by day of report and travel history, United Kingdom, 10 May 2009* (n=65)



Clinical picture

The First Few Hundred (FF100 project) aims to collect information about a limited number of the earliest laboratory confirmed cases of new influenza A(H1N1) and their close contacts [5]. This is to gain an early understanding of some of the key clinical, epidemiological, and virological parameters of the new influenza A(H1N1) virus and to facilitate real-time modelling efforts to make predictions of the future course of the United Kingdom epidemic. By 11 May, of the total of 65 confirmed cases, 53 had been reported and entered into the First Few-100 database. Cases generally presented with the most common symptoms typical of influenza – with fever (94%), sore throat (82%), headache (81%), chills (80%) and malaise (80%). Diarrhoea (28%) and arthralgia (56%) were moderately frequently reported. Five cases reported epistaxis and one a seizure. Children were more likely to have dry cough (83% vs. 55% OR = 5.7 95% CI: 0.97-34.2), malaise (89% vs. 69% OR = 8.1 95% CI 0.78-85.0) and epistaxis (24% vs. 6% OR = 4.9 95% CI: 0.46-52.4) than adults. Females were more likely to vomit than males (40% vs. 11%, OR=6.7; 95% CI: 1.1-41.1) and have diarrhoea (39% vs. 14%, OR = 4.0 95% CI: 0.8-19.8).

No case in the United Kingdom, to date has died. Amongst those patients with detailed information, three have been hospitalised – one with secondary pneumonia and two for clinical investigation. None of the cases were reported to have underlying risk factors for severe influenza or to have been vaccinated with either seasonal influenza or pneumococcal vaccine.

All of the cases except one had been treated with oseltamivir once diagnosed. Contacts are currently being actively followed up to provide information to enable estimations of epidemiological parameters such as secondary attack rate, serial interval and reproductive rate.

Conclusions

In summary, the United Kingdom continues to observe sporadic importations of new influenza A(H1N1) virus from affected areas predominately Mexico, but also now from the United States. As sustained transmission becomes established in other countries,

importations from other parts of the globe to the United Kingdom will be observed. At this stage, healthy young adults and children are being proportionately more affected than other parts of the population. Based on the limited United Kingdom case series to date; the clinical presentation of cases continues to be relatively mild. Further work is on-going to describe more fully the emerging epidemiological, virological and clinical characteristics of this new influenza A(H1N1).

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*Authors' correction

In Figure 1 the date was corrected from 11 to 10 May. In the contributors' list the name of B. Carmen was added. These corrections were made upon the request of the authors on 18 May

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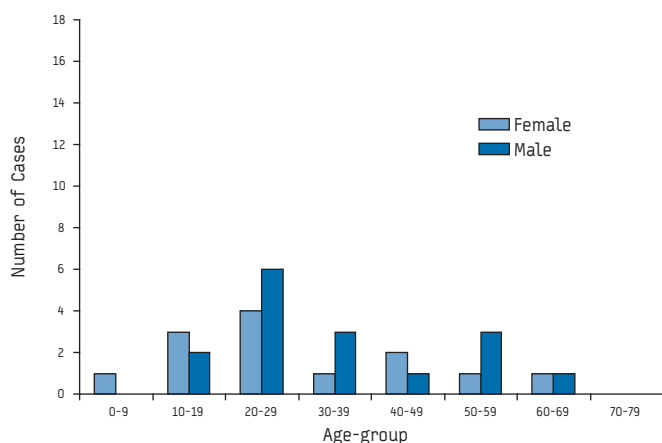
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FIGURE 2

Cases of laboratory confirmed new influenza A(H1N1) by age-group and sex, United Kingdom, 11 May 2009 (n=65)

2a. Imported cases (n=29)



2b. Indigenous cases (n=36)

