

Influenza Pandemic Preparedness Update

HPA Pandemic Influenza Office

August 2010 Issue 2



Breaking News Reports

10 August 2010 - WHO announces the world is now in the post-pandemic period

World Health Organization announced that the world was over the H1N1 (2009) flu pandemic following a meeting of the WHO Emergency Committee at which the global epidemiological data was reviewed. The indications are that the H1N1 (2009) virus, worldwide, is transitioning towards seasonal flu characteristics and patterns of transmission in most countries. Although, some parts of the southern hemisphere are experiencing outbreaks of H1N1 (2009) influenza, this is as part of their winter flu season. In particular, India and New Zealand have reported flu epidemics, largely caused by H1N1 (2009) virus.

It is therefore likely that we will continue to see sporadic cases and outbreaks in the UK, given the background circulation of H1N1 (2009) in the UK and the well established travel links with India and Australasia. While most cases are expected to be mild, there remains the potential for the occasional case of more serious illness, particularly those with underlying severe disease, which could result in hospitalisation and possibly admission to intensive care.

The HPA will continue to carry out surveillance of cases of flu-like illness, and outbreaks in the community, and to report on this every week.

Link to advice for health professionals:

<http://www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/SwineInfluenza/SIProfessional/>

Link to the WHO:

http://www.who.int/mediacentre/news/statements/2010/h1n1_vpc_20100810/en/index.html

The review of the government response to the 2009 H1N1 pandemic published

Earlier this year, the government announced an independent review of the national UK response to the 2009 pandemic. During the spring, the group, chaired by Dame Deirdre Hine heard, and evaluated, expert evidence and published a report on their findings at the beginning of July. The report was broadly positive about the work done during the pandemic, and made several recommendations for future practice. More detail page 5.

The WHO review of the functioning of the International Health Regulations (2005) in relation to the 2009 (H1N1) Pandemic-second meeting

The international committee that is reviewing the way that the WHO responded to the 2009 influenza pandemic and determine lessons learned for future planning, held its second meeting 30th June- 2nd July. The committee heard evidence from widely divergent groups including health officials, the pharmaceutical industry and the media. The committee chairman, Dr Harvey Fineburg stressed that proceedings are still at the information-gathering stage, but that the group will endeavour to use its findings to offer constructive guidance for future pandemic planning.

One emergent theme is for the group to develop a risk assessment severity index for future pandemic response, which can be used to determine scaled levels of severity during different phases of the pandemic and in different areas of the world.

Notes to the meeting can be accessed at: <http://www.who.int/en/>. The next meeting is in September 2010.

HPA International conference on pandemic influenza - London 21-22 June 2010

The two day meeting, convened by the Health Protection Agency, considered how the scientific knowledge gained from the unprecedented global effort can be used in preparing for future pandemic response. Topics addressed by the experts included; what we learned about the behaviour of this novel virus and how we might predict its role in future influenza seasons? The role of real-time modelling in helping to inform our response during a pandemic? The role and benefit of anti-virals and vaccine. The part these measures played in slowing the eventual spread of the virus? The extent to which variations amongst country responses altered the course of the pandemic. What surveillance told us about the clinical impact of H1N1.

Slide sets of presentations given on the day are available at: www.hpa-events.org.uk/H1N1

International Conference on Emerging Infectious Diseases conference in the US

Dr Keiji Fukuda, chief advisor to the Director General of WHO, said that reviews of the 2009 pandemic response have shown the vital role of preparedness in responding to future pandemics. Preparedness activities should range from diagnostic testing to stockpiling of antiviral medications and include groups outside healthcare, such as transportation and private sector organisations. Dr Fukuda proposed that future preparedness activities should be regularly reviewed, taking into consideration disease threat and service capacity and that the gap should be closed between seasonal and pandemic preparedness.

WHO official rates global pandemic response

The WHO European regional director, Zsuzsanna Jakab has recently stated that public health officials generally responded well to the 2009 H1N1 pandemic. Dr Jacob suggested that future response needs to improve in 3 areas: flexibility to scale activity to pandemic severity, integrated communication and better WHO coordination of antiviral and vaccine efforts.

Amendments to the UK influenza immunisation programme for the 2010/11 influenza season

An erratum to the influenza immunisation programme letter for 2010/11 has been issued (23/6/10). The error relates to the age below which children that have not previously received a seasonal influenza vaccine should receive two doses of vaccine. The advice set out in the JCVI statement and the professional letter is for those under 12 years of age but the previous influenza Green Book chapter indicates below 13 years of age (as in previous years).

http://www.dh.gov.uk/en/Publicationsandstatistics/Lettersandcirculars/Professionalletters/Chiefmedicalofficeletters/DH_116507

New group of LaRs leads for pandemic influenza preparedness established and work plan agreed

A new group of LaRs leads for pandemic influenza preparedness has been established to review the activities during the pandemic and draw up new plans in view of lessons learned to prepare services to respond effectively to future pandemic threats. The group met for the first time on 25th June in Birmingham to identify the most and least effective aspects of the pandemic response in 2009, to develop a template for local operational response and established sub-groups to develop future response in the areas of Port Health, HP Zone, Avian flu preparedness and Respiratory illness and care homes.

Influenza news

Global influenza situation

- Global influenza activity remains low with most transmission activity in parts of South Asia and in limited areas of tropical South and Central America. In the southern hemisphere temperate zone overall seasonal and pandemic activity remains low except in South Africa where peak wintertime transmission may have recently occurred due to seasonal influenza viruses H3N2 and type B. In the temperate regions of the northern hemisphere, pandemic and seasonal influenza viruses have been detected only sporadically or at very low levels during the past month.
- Chile, Australia and New Zealand have all recently detected low levels of predominantly pandemic influenza virus, with clusters of cases reported in the Australian Northern territories. In Australia and New Zealand although there has been a sustained upward trend in the rates of ILI in recent weeks overall rates remain well below those observed during the same period in 2009 during the first pandemic wave in the southern hemisphere. In Asia, the most active areas of pandemic influenza virus transmission currently are in parts of India, and to a much lesser extent, in parts of Nepal and Bhutan.
- Seasonal influenza H3N2 viruses continue to circulate at varying levels across parts of the Americas, Africa and Southeast Asia.
- As of 6 August, worldwide more than 214 countries and overseas territories or communities have reported laboratory confirmed cases of pandemic influenza H1N1 2009, including over 18,449 deaths
- For further information see the [WHO website](#).

UK influenza situation

- Pandemic influenza activity is very low and stable across the UK and the ILI remained below baseline levels for all surveillance data.
- Forty-five of 6,379 pandemic viruses tested have been confirmed to carry a mutation which confers resistance to the antiviral drug oseltamivir; 15 of the 45 viruses have been tested and confirmed to be phenotypically resistant to the drug but retain sensitivity to zanamivir.
- There have been a small number of hospitalised cases of pandemic influenza reported recently; several with links to affected areas. Since the beginning of the pandemic, there have been 474 deaths reported due to pandemic (H1N1) 2009 in the UK; 359 in England, 69 in Scotland, 28 in Wales and 18 in Northern Ireland. Several acute respiratory disease outbreaks were reported in care homes in May and June 2010, none have been confirmed as

due to influenza. Latest updates can be accessed at: http://www.hpa.org.uk/web/HPAwebFile/HPAweb_C/1279888776230

- The UK pandemic influenza vaccination programme continues in people at high risk of severe disease. For further information see the [Department of Health website](#). For information on the 2010/11 annual influenza immunisation programme see the [CMO letter](#).

Avian influenza - WHO update on human cases

29 July 2010. The Ministry of Health of Egypt announced a new human case of A(H5N1) avian influenza infection. The case is a 20 year-old female from Shobra Elkhima district, Qliubia Governorate. She was admitted to hospital on 21 July, placed on a ventilator, and received oseltamivir treatment. She died on 27 July. Investigations into the source of infection indicated that the case had exposure to sick and dead poultry. The case was confirmed by the Egyptian Central Public Health Laboratories, a National Influenza Center of the WHO Global Influenza Surveillance Network (GISN). Of the 110 laboratory confirmed cases of avian influenza A(H5N1) reported in Egypt, 35 have been fatal.

3 August 2010. The Ministry of Health of Indonesia announced a new case of human infection of H5N1 avian influenza. A 34-year-old female from Tangerang District, Banten Province developed symptoms on 2 July, was hospitalized on 4 July and died on 7 July. Laboratory tests were positive for H5N1 virus infection. Investigations into the source of her infection are ongoing. Of the 168 cases confirmed to date in Indonesia, 139 have been fatal. For further information access: http://www.who.int/csr/disease/avian_influenza/en/

Cumulative Number of Confirmed Human Cases of Avian Influenza A(H5N1) Reported to WHO as of 3rd August 2010

Country	2003-2005		2006		2007		2008		2009		2010		Total	
	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths
Azerbaijan	0	0	8	5	0	0	0	0	0	0	0	0	8	5
Bangladesh	0	0	0	0	0	0	1	0	0	0	0	0	1	0
Cambodia	4	4	2	2	1	1	1	0	1	0	1	1	10	8
China	9	6	13	8	5	3	4	4	7	4	1	1	39	26
Djibouti	0	0	1	0	0	0	0	0	0	0	0	0	1	0
Egypt	0	0	18	10	25	9	8	4	39	4	20	8	110	35
Indonesia	20	13	55	45	42	37	24	20	21	19	6	5	168	139
Iraq	0	0	3	2	0	0	0	0	0	0	0	0	3	2
Lao PDR	0	0	0	0	2	2	0	0	0	0	0	0	2	2
Myanmar	0	0	0	0	1	0	0	0	0	0	0	0	1	0
Nigeria	0	0	0	0	1	1	0	0	0	0	0	0	1	1
Pakistan	0	0	0	0	3	1	0	0	0	0	0	0	3	1
Thailand	22	14	3	3	0	0	0	0	0	0	0	0	25	17
Turkey	0	0	12	4	0	0	0	0	0	0	0	0	12	4
Viet Nam	93	42	0	0	8	5	6	5	5	5	7	2	119	59
Total	148	79	115	79	88	59	44	33	73	32	35	17	503	299

Total number of cases includes number of deaths. WHO reports only laboratory-confirmed cases. All dates refer to onset of illness. Indonesia numbers indicate cumulative total of sporadic cases and deaths which occurred during 2009. PDR: People's Democratic Republic

Influenza and Respiratory Virus Programme Board (IRVPB) meeting, 15th June 2010

IRVPB work plan - update

The first draft of the work plan 2010/11 for the Influenza programme has been produced.

The DH has created a National Institute for Health Research Centre for Health Protection Research. Anna Cichowska is the interim lead for R & D for the IRVPB and will collate the R & D activities of the group.

The HPA will be contributing to the revised version of the *National Framework for Pandemic Influenza*, now due to be delivered by February 2011. The Agency will be submitting scientific reviews to inform the *National Framework* on: facemasks, anti-virals, school closures and mass gatherings and travel.

Surveillance

The current surveillance systems and those introduced for enhanced surveillance during the pandemic are under review by the DH and HPA. The DH and HPA are considering extending the use of some of the surveillance systems set up during the pandemic, such as the hospital surveillance system, into the next flu season.

The final report of the Chief Medical Officer's statistical legacy group to review the modelling work that was undertaken during the 2009 pandemic will be available in the autumn..

Update on swine flu reflections work in the emergency response development group (ERDG)

The ERDG presented a paper on lessons learned from 'swine influenza' to the HPA Executive Group at the July meeting after the publication of the Hine report. Comments were requested on the paper from the Executive Group.

Maintaining a state of readiness for avian influenza

The ability of laboratory services to rapidly produce test results on Avian Influenza samples is currently being reviewed in the light of resource pressures. It was agreed that there should be a risk assessment on capacity to process influenza samples and arrangements for this would be discussed at further meetings.

Preparations for the next seasonal influenza vaccination campaign

Feedback from the field suggests that the vaccine recommendations for the forth coming flu season are felt to be confusing, particularly in relation to risk groups. It is hoped that the revised chapter of the Green Book and supporting clinical algorithms due to be available in mid August 2010 may help.

Risk register

A subgroup of the IRVPB was formed to review the programme's risk register, once the work plan has been updated.

EU-wide assessment of first few months of H1N1 pandemic

The outcomes of the EU-side review of H1N1, undertaken up to August 2009, were presented to the group. Lessons identified, included the need to establish a structured work plan, methodology and schedule and ensure effective communication across the evaluation team. The review is due to be made public after it has been presented at the July meeting of the European Council Conference chaired by the Belgium presidency.

International surveillance-lessons identified

The outcomes of this paper were presented and it was noted that:

- The surveillance function needs to be clearly defined for 'peace time' and during a pandemic
- That there needs to be greater coordination of surveillance in future.
- That data surveillance arrangements need to be better coordinated between internal HPA departments and expanded between governmental divisions.

Strengthening European Union Preparedness on Pandemic influenza

The IRVPB will be coordinating the HPA response to a survey issued by the EU of how the European Union can strengthen their response in the next pandemic.

Oral history research project

Members announced that a project has been commissioned to collect oral accounts of staff involved with the Influenza A (H1N1) pandemic response, by HPA and London School of Hygiene and Tropical Medicine. This aims to give a historical account of pandemic response for future reference.

The next IRVPB meeting will be held on the 22nd September.

Reviews

'The Hine report': The 2009 Influenza pandemic - An independent review of the UK response to the 2009 influenza pandemic. Published July 1 2010:

The report of the independent review committee of strategic response to 2009 H1N1 pandemic, led by Dame Deidre Hine, was published in early July. The committee reviewed documentation and reports of work carried out by the HPA, the NHS, the DH and other agencies, both in the preparation for the pandemic and the response throughout the course of the pandemic in order to determine the effectiveness of strategies that were utilised and whether lessons can be learned for the future.

The committee concluded that: 'Overall, the UK response was highly satisfactory. The planning for a pandemic was well developed; the personnel involved were fully prepared'. The committee found that the four UK governments and all agencies involved had demonstrated that they could work together effectively and that the planning had been effective and the personnel involved were well prepared. The report praised the dedication and professionalism of the health protection staff and acknowledged the significant contribution they had made of the UK pandemic plan and the response during the initial stages of the pandemic response when the first cases were identified. The report found that scientific staff acted rapidly to provide expert virological, surveillance, modelling and epidemiological information on which to base operations, initially and throughout the course of the outbreak.

The main criticisms of the response related to inflexibility of vaccine contracts certain aspects of communication, in particular the use of language such as 'containment' and 'reasonable worst case'; an over-reliance on modelling and an unrealistic expectations of what it could deliver; and finally the need for greater clarity and understanding of the triggers for action so that a more flexible and regional approach could be adopted. The report is available at: <http://www.cabinetoffice.gov.uk/media/416533/the2009influenzapandemic-review.pdf>

Recent publications

Mclean E, Pebody RG, Campbell C, et al. Pandemic (H1N1) 2009 influenza in the UK: clinical and epidemiological findings from the first few hundred (FF100) cases. *Epidemiology and Infection* 2010; doi:10.1017/S0950268810001366

The UK was one of few European countries to document a substantial wave of pandemic (H1N1) 2009 influenza in summer 2009. The First Few Hundred (FF100) project ran from April–June 2009 gathering information on early laboratory-confirmed cases across the UK. In total, 392 confirmed cases were followed up. Children were predominantly affected (median age 15 years, IQR 10–27). Symptoms were mild and similar to seasonal influenza, with the exception of diarrhoea, which was reported by 27%. Eleven per cent of all cases had an underlying medical condition, similar to the general population. The majority (92%) were treated with antiviral drugs with 12% reporting adverse effects, mainly nausea and other gastrointestinal complaints. Duration of illness was significantly shorter when antivirals were given within 48 h of onset (median 5 vs. 9 days, $P=0.01$). No patients died, although 14 were hospitalized, of whom three required mechanical ventilation. The FF100 identified key clinical and epidemiological characteristics of infection with this novel virus in near real-time.

<http://journals.cambridge.org/action/displayFulltext?type=1&pdfType=1&fid=7828774&jid=HYG&volumeId=-1&issueId=-1&aid=7828772>

Kelly H, Mercer G, Fielding J. Pandemic (H1N1) 2009 influenza community transmission was established in one Australian state when the virus was first identified in North America. *PLoS ONE* 2010 5(6): e11341. doi:10.1371/journal.pone.0011341. Published: June 28, 2010

The Australian government has reviewed records prior to the first announcements of outbreaks of 2009 H1N1 influenza infections in North America, and has concluded that the reason for the apparently rapid transmission of the virus in Australia was that it was already established in Australasia at the time when it was first discovered in America.

<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0011341>

Nguyen-Van-Tam JS, Openshaw P, Hashim A, et al. Risk factors for hospitalisation and poor outcome in pandemic A/H1N1 influenza: United Kingdom first wave. *Thorax* 2010;65:645-651 doi:10.1136/thx.2010.135210 631 cases from 55 hospitals were investigated. 13% required high dependency or intensive care and 5% died. 59% of all in hospital deaths occurred in previously healthy people. 45% of patients had at least one underlying condition. 29% of documented x-rays showed signs of pneumonia, but bacterial infection was uncommon.

Pandemic H1N1 causes disease requiring hospitalisation of previously fit individuals as well as those with underlying conditions. The data backs up the government policy of prioritising pregnant women, the under 5s, and those with chronic lung disease for vaccination against swine flu. The data were collected as part of the government's Influenza Clinical Information (FLU-CIN). <http://thorax.bmj.com/content/65/7/645.full.pdf>

Van Boven M, Donker T, Van der Lubben M. Transmission of Novel Influenza A (H1N1) in Households with Post-Exposure Antiviral Prophylaxis. *PLoS ONE* 2010; 5(7): e11442. doi:10.1371/journal.pone.0011442. Published online July 7, 2010.

This study found that households using antiviral drugs for pandemic flu lowered overall transmission rates even though levels of adult to child transmission remained relatively high. Dutch researchers studied 47 households early in the pandemic where the index case and all household contacts took oseltamivir within 24 hours after detection of the index case. The overall secondary attack rate was low (0.075) but the secondary attack rate from an adult to a child under 12 was much higher (0.35).

<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0011442>

Falagas ME, Cholevas NV, Kapaskelis KM, et al. Epidemiological aspects of 2009 H1N1 influenza: the accumulating experience from the Northern Hemisphere. *European Journal of Clinical Microbiology & Infectious Diseases* 2010; 10.1007/s10096-010-1002-3. Published online:13/7/2010.

A meta-analysis of available published literature describing the epidemiological features of the pandemic was performed. Thirty five studies on the H1N1 pandemic in the Northern Hemisphere (Europe, USA, Mexico and Canada) were included. Considerably high hospitalization (93.8%), intensive care (ICU) admission (36.4%), and fatality rates (38.5%) were reported across the studies. Young and middle-aged adults constituted the majority of the evaluated pandemic cases, with different disease severity (as indicated by the level of care and outcome). Substantial percentages of elderly individuals were reported among more severely afflicted cases. Otherwise healthy patients constituted substantial percentages among evaluated cases with different disease severity. Pregnant women, obese, and morbidly obese patients also constituted substantial percentages of the cases involved in the included studies.

Rubin G, Potts H and Michie S. The impact of communications about swine flu(influenza A H1N1v) on public responses to the outbreak: results from 36 national telephone surveys in the UK. *Health Technology Assessment* 2010; Vol 14: No. 34. Published July 2010. DOI:10.3310/hta 14340-03.

During the swine flu outbreak, uptake rates for protective behaviours and likely acceptance rates for vaccination were low. This study suggests that UK public service ads and media coverage of the H1N1 pandemic helped alleviate public concern and improved protection measures like using hand sanitizer. Telephone surveys of more than 38,000 people between May 2009 and January 2010 found the levels of those who were very or fairly worried varied between 10% and 33%, with those exposed to media messages less likely to worry. Among protection steps, 33% reporting carrying tissues with them and 10% bought sanitizer. <http://eprints.ucl.ac.uk/19914/>

Forth coming influenza related conferences

Options for the control of influenza VII, 3-7 Sept 2010, Hong Kong SAR, China.

This conference will provide comprehensive scientific guidance for all disciplines involved in influenza prevention, control and treatment, including seasonal and pandemic planning. There are presentations from international experts and workshops over the 5 days. <http://www.controlinfluenza.com/home/index.cfm>

HPA conference 2010 14th-15th September Warwick

<http://www.healthprotectionconference.org.uk/>

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HPA Pandemic Flu Office News

We welcome Jonathan Crofts to the Pandemic Office. Jonathan started with us on the 9th August and will be coordinating various activities related to pandemic influenza. He will also be developing slide sets on pandemic and avian influenza and a library of HPA flu publications. Jonathan can be contacted at jonathan.crofts@hpa.org.uk Tel: 020 8327 7649

There are opportunities for HPA employees to take a short or long term secondment with the Pandemic Flu Office. Back fill costs, subsistence and travel related costs will be re-imbursed. If you are interested please contact Dr Nick Phin in the first instance, 0208 327 6661, ensuring you have the support of your line manager. This opportunity is not limited to CCDCs, we will consider anyone who can join the team and work with us to deliver our goals.

Questions – Comments – Suggestions

We always look forward to receiving comments and suggestions. We endeavour to answer queries as soon as possible.

Please contact Maureen Carroll in the first instance who will direct your query to the most appropriate member of the team. E-mail address Maureen.Carroll@hpa.org.uk

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