



## THE 2009 INFLUENZA PANDEMIC

No. 25, 2009

On 11 June 2009, the World Health Organisation (WHO) declared that the world had entered the initial phases of the 2009 pandemic with the novel influenza virus A (H1N1), see [www.who.int](http://www.who.int).

### Development of the pandemic

The first confirmed cases of the novel influenza virus A (H1N1) presented with symptoms by the middle of March in Mexico. Subsequently, the virus has spread across the American continent, where its presence is currently considered extensive. Spreading to the other continents has so far primarily been characterised by travel-related cases, particularly associated with the American continent. Recently, Japan and Australia have reported multiple cases and in Australia the virus has spread widely in some regions.

Globally, a total of nearly 40,000 cases and 168 deaths have been reported, the majority in Mexico (108) and the USA (45).

In Europe, a total of 2,574 cases have been reported, including one death in Great Britain.

The current Danish status quo is available at [www.ssi.dk](http://www.ssi.dk) (Danish language), and the international situation at [www.ecdc.europa.eu](http://www.ecdc.europa.eu) and [www.who.int](http://www.who.int).

### Symptoms and risk groups

Classical influenza-like symptoms including respiratory symptoms and fever are predominant. Particularly children and adults up to their mid fifties seem to be susceptible to infection. It is assumed that many elderly persons have previously become immune after encountering a similar virus. Risk of serious disease and admission to hospital is present for the normal seasonal influenza risk groups, including children and pregnant women, EPI-NEWS 39/08. In the USA, children < 2 years have had a higher risk of admission in connection with infection.

An analysis of 1,128 laboratory-confirmed cases in Europe showed an M:F distribution of 1:1 and a median age of 23 years (8 months to 73 years). The most frequent symptoms were respiratory symptoms (79%), fever (78%) and gastrointestinal symptoms. A total of 24 patients had underlying conditions such as pulmonary, cardiac or renal diseases or HIV infection. No patients were pregnant. Further information at [www.eurosurveillance.org](http://www.eurosurveillance.org).

An analysis of 109 deaths in Mexico

showed an M:F distribution of 1:1.5. A total of 71% of the deaths occurred in patients aged 20-54 years. The majority had underlying conditions such as obesity and diabetes (37%), cardiovascular disease (19%) and respiratory diseases (8%).

### Commentary

The novel influenza virus A (H1N1) has not become more severe, and the current assessment of the influenza situation is only characterised as moderately serious.

The Danish pandemic preparedness plan is active and ready for further developments, including widespread infection in the Danish population. Further sporadic cases are expected in Denmark and an overall increase in the occurrence of the infection in the Danish population is considered probable during the autumn of 2009. A pandemic vaccine covering the novel influenza virus A (H1N1) will be subject of a future EPI-NEWS. (S. Glismann, Dept. of Epidemiology)

### INFLUENZA SEASON 2008-2009

Sentinel surveillance of the influenza season was active from week 40 of 2008 to week 20 of 2009. An average of 116 GPs reported weekly. Due to the 2009 influenza pandemic, sentinel surveillance continues beyond the normal influenza season, EPI-NEWS 21/09.

We take this opportunity to express our gratitude for the efforts made by the participating physicians. The influenza activity in Denmark remained low in the majority of the season, and peaked around week 3. In the 2008-2009 season, the samples submitted by sentinel physicians led to the diagnosis of 106 cases of influenza A (H3N2) of the A/Brisbane/10/2007(H3N2)-like subtype and seven influenza A (H1N1) virus of the A/Brisbane/59/2007(H1N1)-like subtype. One influenza A could not be subtyped. Furthermore, six cases were diagnosed with influenza B, all of the B/Victoria/2/87 subtype.

### Vaccination coverage

In the 2008-2009 season, SSI sold 733,841 doses of influenza vaccine. The offer of free influenza vaccination to persons above 65 years, chronically ill following medical assessment and early retirement pensioners started on 1 October 2008. No report on the free vaccination offer is currently available, but results are expected to mirror the results from the previous season.

### Seasonal influenza vaccine 2009-2010

On the basis of the strains in circulation, the WHO recommends that the vaccine composition for the next (2009-2010) season be changed to the following:

- A/Brisbane/59/2007 (H1N1)-like virus
- A/Brisbane/10/2007 (H3N2)-like virus
- B/Brisbane/60/2008-like virus.

Such vaccine does not provide protection against the novel influenza virus A (H1N1).

(S. Glismann, A.H. Christiansen, Dept. of Epidemiology, L.P. Nielsen, Influenza Laboratory)

### INFLUENZA VACCINE EFFICACY 2008-2009

During the 2008-2009 influenza season and in cooperation with 40 GPs from the sentinel surveillance, the SSI performed a pilot project on the influenza vaccine's efficacy. Fifty-three patients  $\geq$  64 years with influenza-like illness (ILI) participated. The influenza vaccine's efficiency was 75% (95% CI: 13-93) after adjustment for underlying chronic disease, which is in line with expectations.

Vaccination coverage among participants was 64%, which exceeds the average coverage in the corresponding age-group of the Danish population. This may be explained by the fact that persons who see their GP with ILI are generally in more frequent contact with the healthcare system than others and thus receive influenza vaccination more frequently.

A total of 24 of the patients had laboratory-confirmed influenza. Generally, these patients saw their GP earlier in the disease course than the remaining patients; three days and four days after disease onset, respectively.

The Danish project continues during the next influenza season in 2009-2010. To achieve more reliable results, Danish data will be pooled with data from similar projects in Portugal, Romania, Spain and Hungary. Another purpose of such international cooperation is to achieve results already during the influenza season.

GPs who would like to participate in the project are invited to contact us at [epi@ssi.dk](mailto:epi@ssi.dk).

(K. Widgren, A. Mazick, Dept. of Epidemiology)

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## Individually notifiable diseases

Number of notifications received in the Department of Epidemiology, SSI (2009 figures are preliminary)

Table 1	Week 24 2009	Cum. 2009 <sup>1)</sup>	Cum. 2008 <sup>1)</sup>
AIDS	0	14	15
Anthrax	0	0	0
Botulism	0	0	0
Cholera	0	0	0
Creutzfeldt-Jakob	0	6	1
Diphtheria	0	0	0
Food-borne diseases	12	187	195
of these, infected abroad	0	29	37
Gonorrhoea	0	237	148
Haemorrhagic fever	0	0	0
Hepatitis A	0	11	20
of these, infected abroad	0	6	9
Hepatitis B (acute)	0	13	7
Hepatitis B (chronic)	0	74	77
Hepatitis C (acute)	0	0	6
Hepatitis C (chronic)	8	145	145
HIV	0	86	111
Legionella pneumonia	6	61	49
of these, infected abroad	0	6	18
Leprosy	0	0	0
Leptospirosis	0	0	2
Measles	0	9	6
Meningococcal disease	0	34	35
of these, group B	0	17	16
of these, group C	0	13	9
of these, unspec. + other	0	4	10
Mumps	0	8	19
Neuroborreliosis	0	4	21
Ornithosis	0	2	1
Pertussis (children < 2 years)	2	54	48
Plague	0	0	0
Polio	0	0	0
Purulent meningitis			
Haemophilus influenzae	0	3	2
Listeria monocytogenes	0	3	1
Streptococcus pneumoniae	0	44	55
Other aethiology	0	7	15
Unknown aethiology	0	6	14
Under registration	4	23	-
Rabies	0	0	0
Rubella (congenital)	0	0	1
Rubella (during pregnancy)	0	0	0
Shigellosis	2	45	34
of these, infected abroad	0	31	28
Syphilis	0	118	38
Tetanus	0	0	0
Tuberculosis	5	180	183
Typhoid/paratyphoid fever	0	8	14
of these, infected abroad	0	5	12
Typhus exanthematicus	0	0	0
VTEC/HUS	3	49	60
of these, infected abroad	0	9	22

<sup>1)</sup> Cumulative number 2009 and in corresponding period 2008

## Selected laboratory diagnosed infections

Number of specimens, isolates, and/or notifications received in SSI laboratories

Table 2	Week 24 2009	Cum. 2009 <sup>2)</sup>	Cum. 2008 <sup>2)</sup>
Bordetella pertussis (all ages)	3	82	74
Gonococci	11	201	165
of these, females	5	48	31
of these, males	6	153	134
Listeria monocytogenes	0	34	19
Mycoplasma pneumoniae			
Resp. specimens <sup>3)</sup>	3	53	45
Serum specimens <sup>4)</sup>	1	63	55
Streptococci <sup>5)</sup>			
Group A streptococci	5	91	87
Group B streptococci	6	56	57
Group C streptococci	1	15	7
Group G streptococci	5	79	57
S. pneumoniae	18	659	578
Table 3	Week 22 2009	Cum. 2009 <sup>2)</sup>	Cum. 2008 <sup>2)</sup>
MRSA	30	301	236
Pathogenic int. bacteria <sup>6)</sup>			
Campylobacter	46	786	773
S. Enteritidis	16	144	113
S. Typhimurium	13	393	439
Other zoon. salmonella	7	277	363
Yersinia enterocolitica	2	108	146
Verocytotoxin- producing E. coli	1	48	50
Enteropathogenic E. coli	3	58	37
Enterotoxigenic E. coli	8	107	122

<sup>2)</sup> Cumulative number 2009 and in corresponding period 2008

<sup>3)</sup> Resp. specimens with positive PCR

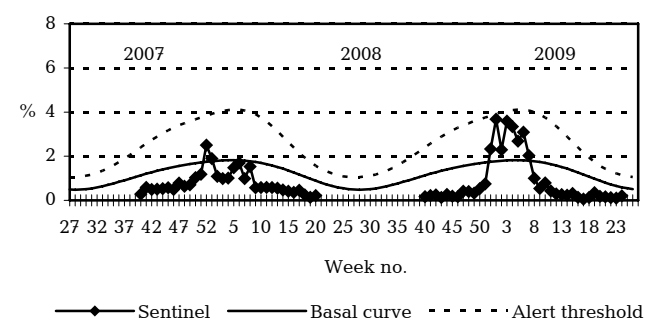
<sup>4)</sup> Serum specimens with pos. complement fixation test

<sup>5)</sup> Isolated in blood or spinal fluid

<sup>6)</sup> See also [www.germ.dk](http://www.germ.dk)

## Sentinel surveillance of the influenza activity

Weekly percentage of consultations, 2007/2008/2009



Sentinel: Influenza consultations (as percentage of total consultations)

Basal curve: Expected frequency of consultations under non-epidemic conditions

Alert threshold: Possible incipient epidemic

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