

PUBLIC HEALTH AGENCY *of* CANADA
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Update on Canadian H1N1 Pandemic

Severe H1N1 Disease: Preventing Cases, Reducing Mortality
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Objective

- Review current epidemiology of H1N1 in Canada
- Discuss plans for second wave

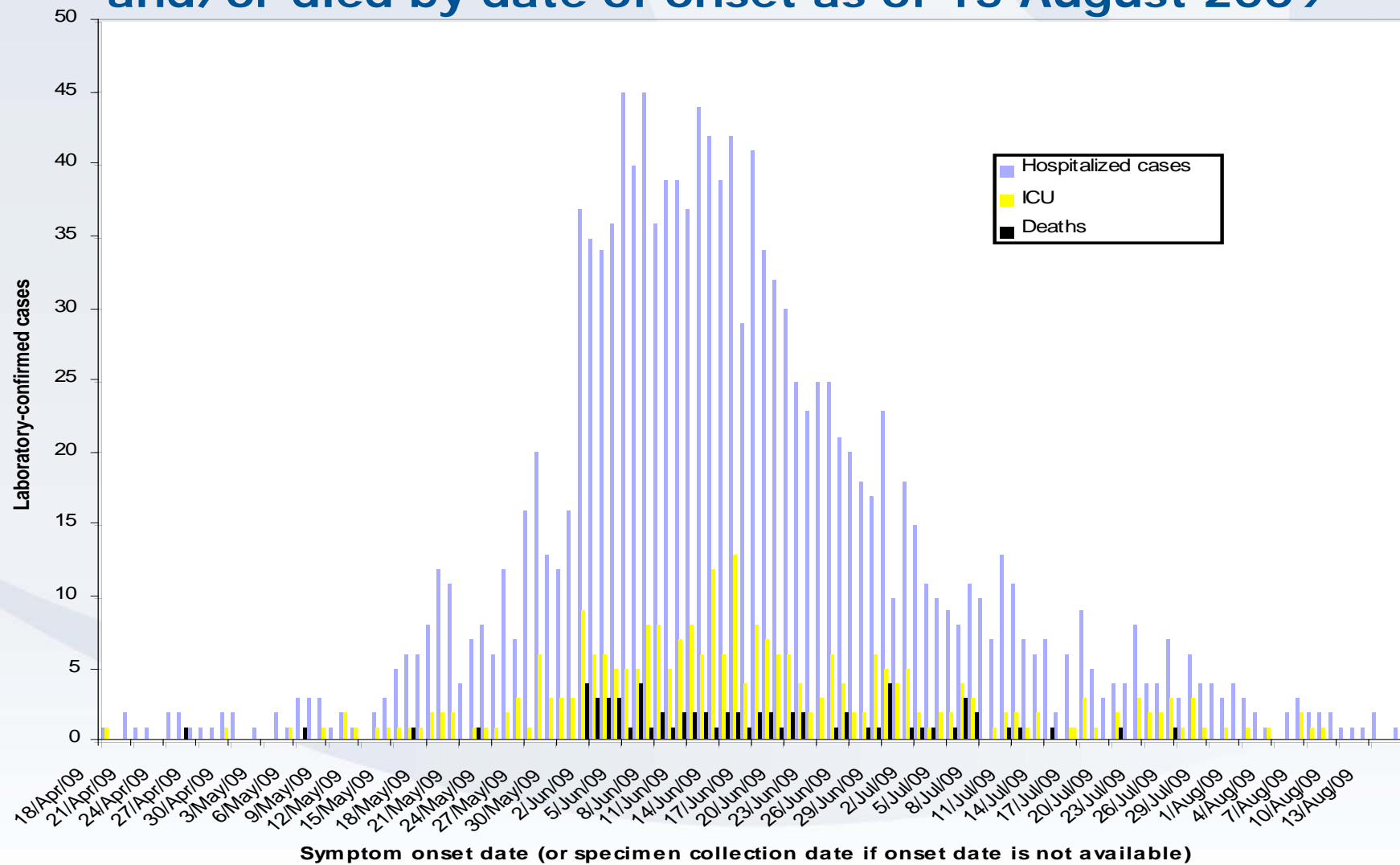
Pandemic (H1N1) 2009: Canada

- 17 April 2009 – PHAC aware of illness in Mexico and USA
- 22 May – 805 cases reported from 9 provinces and 1 territory:
 - 25 (3%) hospitalized
 - 1 (0.1%) death
 - Median age 21 years
 - Travel history
 - 52% with onset between 12 April – 3 May
 - 4% with onset between 4-16 May
 - ILI symptoms – 46% met Canadian surveillance case definition

Pandemic (H1N1) 2009: Canada

- ***FluWatch*** (Week ending 22 August) identified 7,107 cases & 72 deaths
- Analysis as of 15 August - 7,083 cases with case information:
 - 1,422 (20%) hospitalized cases
 - 275 (4%) cases admitted to ICU
 - 70 (1%) deaths

Canadian laboratory-confirmed Pandemic (H1N1) 2009 cases who were hospitalized, admitted to ICU and/or died by date of onset as of 15 August 2009*



*Symptom onset/specimen collection date available for all deaths and 1,395/1,422 hospitalized cases

Pandemic (H1N1) 2009: Distribution by Jurisdiction

Number and specific rate per 100,000 population of hospitalizations and deaths by province and territory (n=1,422)

Province/ Territory	Number of hospitalizations	Hospitalization rate (per 100,000)	Number of deaths	Mortality rate (per 100,000)
British Columbia	39	0.8	4	0.09
Alberta	123	3.4	7	0.20
Saskatchewan	24	2.4	4	0.39
Manitoba	217	18.0	7	0.58
Ontario	346	2.7	21	0.16
Quebec	590	7.6	25	0.32
New Brunswick	2	0.3	0	0.00
Nova Scotia	17	1.8	1	0.11
Prince Edward Island	1	0.7	0	0.00
Newfoundland	3	0.6	0	0.00
Yukon	0	0.0	0	0.00
Northwest Territories	4	9.2	0	0.00
Nunavut	56	178.3	1	3.18
Total	1,422	4.3	70	0.21

Pandemic (H1N1) 2009: Distribution by Age

Number and age-specific rate per 100,000 population of hospitalizations and deaths (n=1,356)

Age group	Number of hospitalizations	Hospitalization rate (per 100,000)	Number of deaths	Mortality rate (per 100,000)
<1	79	21.3	1	0.27
1-4	147	10.3	0	0.00
5-14	286	7.5	5	0.13
15-24	166	3.6	6	0.13
25-44	269	2.9	13	0.14
45-64	296	3.2	25	0.27
≥65	113	2.5	19	0.41
Total	1,356	4.1	69	0.21

Pandemic (H1N1) 2009: Distribution by Demographics

Descriptive characteristics of cases overall, hospitalized cases, ICU-admitted cases and deaths reported to the PHAC as of August 15, 2009

	Overall cases reported (n=7,083)	Hospitalized cases (n=1, 422)	Cases admitted to ICU (n=275)	Deaths (n=70)*
Females (%)	51.9	51.4	56.7	60.0
Median age	18	25	40	51
Aboriginal status (%)	12.5	16.5	14.5	11.4
Underlying medical conditions ¹ (%)	36.4 (640/1,758)	54.2 (486/897)	65.3 (128/196)	75.5 (37/49)
Pregnancy ² (%)	4.1 (71/1,717)	22.4 (60/268)	15.7 (11 /70)	33.3 (4/12)

Note: Those with missing information have been removed from the calculations

*All hospitalized cases are included in the overall cases reported to PHAC. All cases admitted to ICU are included as well in the hospitalization count. However, this is not all the death cases that have been previously hospitalized.

¹ Among those for whom the information was provided excluding pregnancy.

² Among women aged between 15 and 44.

Pandemic (H1N1) 2009: *Pregnant women*

- 71 (4%) of 1,717 women aged 15 to 44 were pregnant - median age 26 years (range 16 to 42 years)
 - 60/71 (85%) hospitalized vs 20% for non-pregnant women
 - 17 (24%) had at least one underlying medical condition; 14/17 (82%) were hospitalized
 - 11 (16%) admitted to ICU
 - 24/36 (67%) were in third trimester
- Four pregnant cases died; two were in 3rd trimester

Pandemic (H1N1) 2009: *Underlying conditions (1)*

Risk of ICU admission or death among those hospitalized and stratified by underlying conditions and age

Age Group	No Underlying Conditions OR (95%CI)	Underlying Conditions OR (95%CI)
5-14	Ref	Ref
<1	1.37 (0.4-4.5)	5.58 (1.6-19.3)*
2-4	1.9 (0.6- 5.7)	2.2 (0.5-11.1)
15-19	2.6 (0.9- 7.4)	2.1 (0.4-10.5)
20-29	3.8 (1.5- 9.5)*	5.3 (1.9-15.1)*
30-39	3.0 (1.1-8.2)*	5.0 (1.7-14.5)*
40-49	4.7 (1.9- 11.4)*	5.9 (2.1- 16.1)*
50-64	3.0 (1.1 – 8.1)*	6.0 (2.2-16.1)*
65+	3.8 (1.2- 11.9)*	3.1 (1.0-9.4)*

Pandemic (H1N1) 2009: *Underlying Conditions (2)*

Hospitalized women at greater risk for ICU admission or death compared to men when underlying conditions were present:

Women vs. men when neither have underlying conditions

- OR= 1.3 (0.8 – 1.8) n.s

Women vs. men when both have underlying conditions

- OR= 1.7 (1.1- 2.6) $p < 0.05$

Pandemic (H1N1) 2009: *Aboriginal Populations (1)*

- 885 cases (12.5%) were Aboriginal (ie. First Nations, Inuit or Metis)
- Of Aboriginal cases...
 - 568 (64.2%) were Inuit
 - 259 (29.3%) were First Nations
 - 50 (5.7%) were Metis
- The median age for Aboriginal cases was 15 years as compared to 19 years for the non-aboriginal cases

Pandemic (H1N1) 2009: *Aboriginal Populations (2)*

Characteristics of First Nations and Inuit (with Nunavut residents) cases, hospitalized cases, ICU-admitted cases and deaths with core information available, reported to PHAC as of 15 August, 2009

	Overall cases reported		Hospitalized cases		Cases admitted to ICU	
	FN (n=259)	Inuit (n=568)	FN (n=143)	Inuit (n=68)	FN (n=30)	Inuit (n=8)
Females (%)	49.4	56.9	53.9	62.7	63.3	75.0
Median age	12	10	20	4	32	11
Underlying Medical Conditions (%)	66.2 (88/133)	2.5 (14/567)	66.7 (62/93)	16.2 (11/68)	75.0 (18/24)	50.0 (4/8)

Pandemic (H1N1) 2009:

Delay in care

- 776 (55%) of 1420 hospitalized cases had a symptom onset or specimen collection date (epidemiological date) and a date of hospitalization
 - Mean difference between dates was 4.3 days (range: 1 to 61 days).
 - Cases over 65 years of age had a longer delay between the epidemiological date and date of hospitalization compared to cases between 1 and 64 years of age
- 57 (81%) cases had an epidemiological date and date of death
 - Mean difference between dates was 16.7 days (range: 1 to 72 days).
- The average number of days from the epidemiological date to hospital admission was longer for fatal cases than for hospitalized cases (4.4 vs. 7.1; $p=.003$)

Pandemic (H1N1) 2009: *Second wave preparations (1)*

- Surveillance enhancements
 - Hospitalized patients with influenza and its complications
 - Illness among pregnant women
 - Vaccine-associated adverse events
 - Illness in First Nations communities
- Vaccines and antivirals
 - Vaccine for those that need and want it
 - Early treatment of persons more likely to have severe disease

Pandemic (H1N1) 2009: *Second wave preparations (2)*

- Public messaging about the illness & how to prevent it
- Guidance documents
 - Health facility infection control measures
 - Community-based measures, including those for remote and isolated settings
 - Prevention and management of illness on conveyances
 - Measures for workplace settings
- Research

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