# INFLUENZA IN MANITOBA – 2008/2009 SEASON Wednesday, July 1, 2009

The following report details influenza activity in Manitoba from the start of the 2008/2009 flu season. The Communicable Diseases Control Branch of Manitoba Health received its first laboratory-confirmed positive case of influenza for the season during the week of January 11<sup>th</sup>, 2009 to January 17<sup>th</sup>, 2009. This flu season, there have been **889** lab-confirmed cases of Influenza A, of which **803** were lab-confirmed cases of Influenza A novel (pandemic) H1N1, and **38** lab-confirmed cases of Influenza B in Manitoba.

#### SUMMARY OF 2008/2009 INFLUENZA SEASON

With the exception of the novel H1N1 Influenza A virus, Manitoba has experienced a comparatively typical influenza season in 2008/2009. Excluding novel (pandemic) H1N1, there was a slight increase in the number of Influenza A cases reported (n = 86) compared to the 2007/2008 season (n = 79). The number of Influenza B cases reported remained almost unchanged between 2007/2008 (n = 39) and 2008/2009 (n = 38). There were more lab-confirmed influenza outbreaks reported in 2008/2009 (n = 15) than in 2007/2008 (n = 11); however, there were more lab-confirmed Influenza B outbreaks reported in 2007/2008 (n = 5) than in 2008/2009 (n = 1).

The novel (pandemic) H1N1 Influenza A pandemic has greatly increased the typical number of influenza cases reported in a given season, particularly during the summer months when the number of cases reported is expected to be very low or nil. Inclusive of novel H1N1, the total number Influenza A cases reported in June 2009 was 722, which is roughly 7.5 times greater than the highest monthly total previously recorded in Manitoba since 2002/2003 (96 cases in November, 2003). The number of novel H1N1 cases reported peaked during the week of June 7-13<sup>th</sup>, when there were 252 cases reported in Manitoba. Subsequently, there was an observed decline in the number of novel H1N1 Influenza A cases reported. In terms of the burden of disease by age group, typically, case counts for Influenza A excluding novel H1N1 tend to be highest among the oldest age groups. However, Influenza A novel H1N1 has shown a different case distribution by age group, with 5-19 year-olds experiencing the highest number of cases (31.5%) in 2008/2009, followed by 30-59 year-olds (31.4%). Finally, it is also interesting to note that, excluding novel H1N1 Influenza A, there were cases of Influenza A reported in May (n = 24) and June (n = 9) 2009, a trend that is not typical of other influenza seasons in Manitoba.

Influenza in Manitoba - 2008/2009 Season

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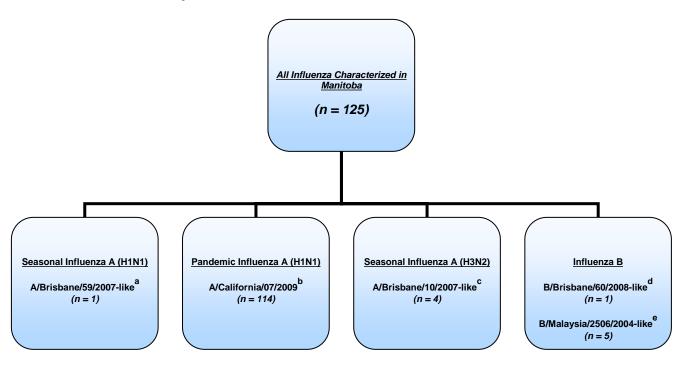
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#### STRAIN CHARACTERIZATION COMPLETED ON INFLUENZA ISOLATES

Since September 1, 2008, National Microbiology Laboratory (NML) reports that it has antigenically characterized **1306** influenza viruses that were received from Canadian provincial and hospital laboratories: **262** seasonal influenza A (H1N1), **172** seasonal influenza A (H3N2), **570** seasonal influenza B, and **302** pandemic influenza A (H1N1) viruses. NML has antigenically characterized **125** influenza viruses in Manitoba, which are classified below.

Figure 1. Influenza Viruses Characterized in Manitoba by National Microbiology Laboratory, 2008/2009



<sup>&</sup>lt;sup>a</sup> A/Brisbane/59/2007-like virus is an antigenic variant of A/Solomon Islands/03/2006-like virus and is the recommended H1N1component for the 2008/2009 influenza vaccine.

<sup>&</sup>lt;sup>b</sup> A/California/07/2009 (H1N1) is the variant reference virus selected by WHO as a potential candidate for a novel influenza A (H1N1) vaccine.

<sup>&</sup>lt;sup>c</sup> A/Brisbane/10/2007-like virus is an antigenic variant of A/Wisconsin/67/2005-like virus and is the recommended H3N2 component for the 2008/2009 influenza vaccine.

<sup>&</sup>lt;sup>d</sup> B/Brisbane/60/2008-like virus which belongs to the B/Victoria/02/87 lineage is the recommended influenza B component for the 2009/2010 influenza vaccine.

<sup>&</sup>lt;sup>e</sup> B/Malaysia/2506/2004-like virus which belongs to the B/Victoria/02/87 lineage was the recommended influenza B component for the 2007/2008 influenza vaccine.

#### LABORATORY-CONFIRMED INFLUENZA

- Reports of culture isolations and EIA detections from Cadham Provincial Laboratory (CPL) are forwarded to the Communicable Disease Control (CDC) Branch weekly. The number of positive cultures is an underestimate of the total number of cases, since not all persons with influenza seek medical attention, and of those that do, not all are cultured for the virus. While EIA detections and culture isolations comprise the largest number of reports from CPL, seroconversions are similarly forwarded to the CDC Branch weekly. Information contained within this update is based on positive lab reports received at the CDC Branch as of August 31<sup>st</sup>, 2009.
- The specimen date (acute specimen date for seroconversions) is used to:
  - (a) extract cases; and,
  - (b) assign cases to the appropriate week/month

## Influenza A (Excluding Novel H1N1)

- > There have been 86 cases of Influenza A (excluding novel H1N1) reported this season in Manitoba.
- Refer to Table 1 for a summary of cases by Regional Health Authority (RHA) and week of specimen collection.
- > Refer to Figure 3 and 4 for an illustration of the Epidemic Curve by specimen collection date.
- > Refer to **Table 2 and Figure 5** for a summary of cases by age group.
- Refer to **Figure 8** for a summary of cases by RHA.
- Refer to **Figure 11** for an illustration of the number of lab-confirmed cases by month and year in Manitoba, 2002/2003 to 2008/2009.

#### Influenza A Novel H1N1

- ➤ There have been **803** cases of Influenza A novel H1N1 reported this season in Manitoba.
- Refer to Table 1 for a summary of cases by Regional Health Authority (RHA) and week of specimen collection.
- > Refer to Figure 4 for an illustration of the Epidemic Curve by specimen collection date.
- Refer to **Table 2 and Figure 6** for a summary of cases by age group.
- Refer to Figure 9 for a summary of cases by RHA.

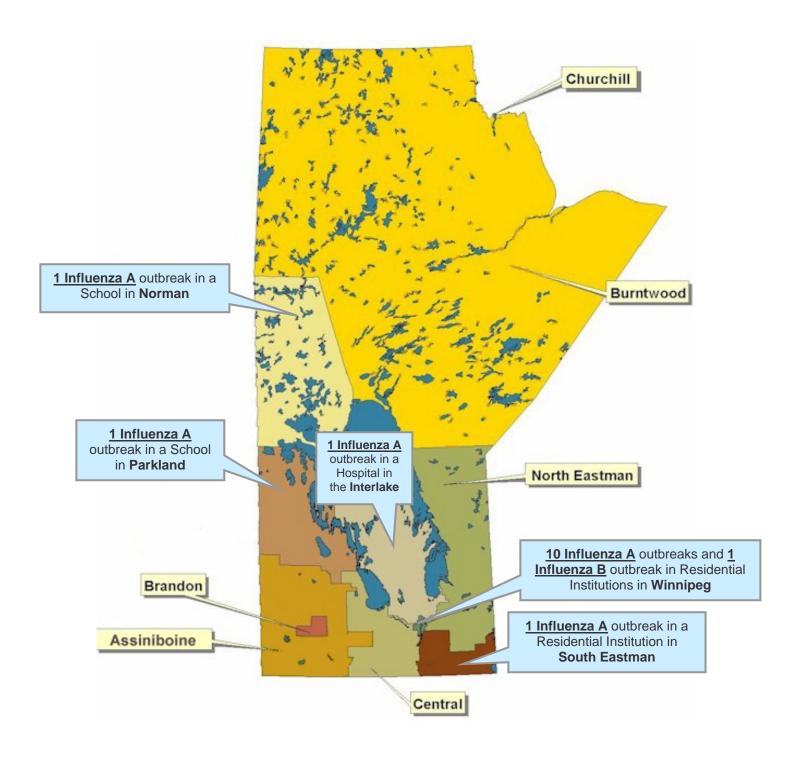
## Influenza B

- There have been **38** cases of Influenza B reported this season in Manitoba.
- Refer to Table 1 for a summary of cases by Regional Health Authority (RHA) and week of specimen collection.
- > Refer to **Figure 3** for an illustration of the Epidemic Curve by specimen collection date.
- Refer to **Table 2 and Figure 7** for a summary of cases by age group.
- > Refer to **Figure 10** for a summary of cases by RHA.
- Refer to **Figure 12** for an illustration of the number of lab-confirmed cases by month and year in Manitoba, 2002/2003 to 2008/2009.

## SUSPECTED/CONFIRMED REPORTS OF INFLUENZA OUTBREAKS

- > Reports of suspected/confirmed influenza outbreaks are directed to the CDC Branch by:
  - (a) a phone call/email from public health staff within a RHA;
  - (b) a phone call/email from CPL advising of the assignment of an outbreak code;
  - (c) completion and submission of an outbreak form
- As of **August 31**<sup>st</sup>, **2009** there have been **14** lab-confirmed outbreaks of Influenza A and **1** lab-confirmed outbreak of Influenza B reported to the CDC Branch since the beginning of the 2008/2009 flu season:

Figure 2. Distribution of Influenza Outbreaks in Manitoba by Regional Health Authority, 2008/2009



#### NATIONAL FLU WATCH PROGRAM

- Manitoba Health participates in the National Flu Watch Program co-ordinated by the Public Health Agency of Canada and the College of Family Physicians of Canada. In addition to lab-confirmation of influenza, this program relies on weekly reports of influenza-like illness (ILI) as reported by 15 sentinel physicians reflecting 9 health authorities: North Eastman, South Eastman, Central, Parkland, Winnipeg, Assiniboine, Burntwood, Brandon, and Interlake. The CDC Branch receives weekly reports from the Public Health Agency of Canada presenting the provincial ILI rate and the specific data for each of the participating sentinel physicians.
- For the **2008/2009** season, ILI in the general population is defined as:

  Acute onset of respiratory illness with fever and cough and with one or more of the following sore throat, arthralgia, myalgia, or prostration which could be due to influenza virus. In children under 5, gastrointestinal symptoms may also be present. In patients under 5 or 65 and older, fever may not be prominent.
- Refer to Figure 13 for an illustration of the ILI rate as it relates to the number of lab-confirmed cases of influenza.

## INFLUENZA-RELATED HOSPITALIZATIONS AND ICU ADMISSIONS

- This influenza season, there were **213 (26.5%)** confirmed Influenza A Novel H1N1-related hospitalizations and **43 (5.4%)** intensive care unit (ICU) admissions in Manitoba. Excluding confirmed Novel H1N1 cases, there were no confirmed Influenza A-related hospitalizations or ICU admissions in Manitoba this season. The same was true for confirmed Influenza B cases.
- Refer to **Figure 14** for an illustration of the number confirmed Influenza A Novel H1N1-related hospitalizations and ICU admissions as it relates to the week of specimen collection.

### **INFLUENZA-RELATED DEATHS**

- Reporting of influenza-related deaths is likely incomplete. Reports are based on notification by:
  - (a) Chief Medical Examiner;
  - (b) Medical Officers of Health in the Regional Health Authorities
  - (c) Infection Control Practitioners in long term care facilities
- There have been **7** suspected influenza-related deaths reported as individual cases this season in Manitoba, all of which were associated with the Novel H1N1 Influenza A virus. Please note that of these 7 deaths, 2 cases became ill during the 2008/2009 season (up to June 30) but later died during the 2009/2010 season (July 1 onward).
- There have been 2 outbreak-related influenza deaths confirmed attributable to the outbreak (one each in two residential institutions in WRHA) and 1 outbreak-related influenza death unconfirmed attributable to the outbreak (one residential institution in WRHA) reported this season.

Table 1. Number of Cases of Influenza A and B by Regional Health Authority and Week of Specimen Collection, Manitoba 2008/2009

Influenza A (Ex	clu	ding	y No	vel	H1	N1)	- N	umk	oer (	of C	ase	s b	y R	НА	(bas	sed	on	spe	cim	en	coll	ect	ion	dat	e)	
Week	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
RHA	11/01-17/01	18/01-24/01	25/01-31/01	01/02-07/02	08/02-14/02	15/02-21/02	22/02-28/02	01/03-07/03	08/03-14/03	15/03-21/03	22/03-28/03	29/03-04/04	05/04-11/04	12/04-18/04	19/04-25/04	26/04-02/05	03/02-03/02	10/05-16/05	17/05-23/05	24/05-30/05	31/05-06/06	07/06-13/06	14/06-20/06	21/06-27/06	28/06-30/06*	Total
Winnipeg	0	0	0	1	5	0	7	1	1	2	11	0	2	1	2	9	6	5	1	4	4	0	1	0	0	63
Brandon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
North Eastman	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
South Eastman	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	4
Interlake	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	4
Central	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
Assiniboine	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Parkland	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2
Norman	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2
Burntwood/Churchill	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	1	2	0	0	0	1	0	7
MANITOBA	0	0	1	1	6	0	7	3	3	3	13	2	3	1	2	10	8	6	2	6	6	1	1	1	0	86

<sup>\*</sup> Includes cases from June 28-30 only – partial week.

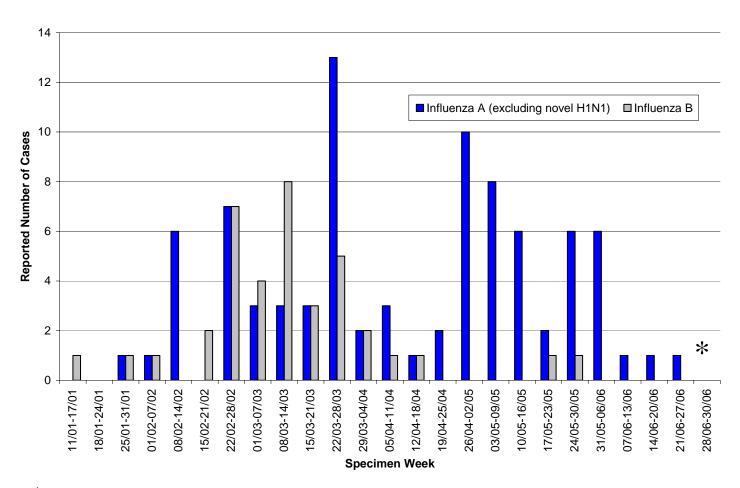
Influenza A Nov	Influenza A Novel H1N1 Only - Number of Cases by RHA (based on specimen collection date)																									
Week	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
RHA	11/01-17/01	18/01-24/01	25/01-31/01	01/02-07/02	08/02-14/02	15/02-21/02	22/02-28/02	01/03-07/03	08/03-14/03	15/03-21/03	22/03-28/03	29/03-04/04	05/04-11/04	12/04-18/04	19/04-25/04	26/04-02/05	03/02-09/02	10/05-16/05	17/05-23/05	24/05-30/05	31/05-06/06	07/06-13/06	14/06-20/06	21/06-27/06	28/06-30/06*	Total
Winnipeg	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	3	15	21	51	123	95	39	14	364
Brandon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	2	1	3	8	6	10	0	34
North Eastman	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	18	24	11	0	56
South Eastman	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	2	7	1	0	13
Interlake	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	16	18	11	1	49
Central	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5	12	0	1	20
Assiniboine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	4	8	5	0	20
Parkland	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	7	3	1	0	17
Norman	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2	10	23	12	4	2	56
Burntwood/Churchill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	18	41	46	37	26	1	174
MANITOBA	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	5	4	25	44	121	252	222	108	19	803

<sup>\*</sup> Includes cases from June 28-30 only – partial week.

Influenza B - Nu	Influenza B - Number of Cases by RHA (based on specimen collection date)																									
Week	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
RHA	11/01-17/01	18/01-24/01	25/01-31/01	01/02-07/02	08/02-14/02	15/02-21/02	22/02-28/02	01/03-07/03	08/03-14/03	15/03-21/03	22/03-28/03	29/03-04/04	05/04-11/04	12/04-18/04	19/04-25/04	26/04-02/05	03/02-09/02	10/05-16/05	17/05-23/05	24/05-30/05	31/05-06/06	07/06-13/06	14/06-20/06	21/06-27/06	28/06-30/06*	Total
Winnipeg	0	0	0	1	0	1	1	1	0	3	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	9
Brandon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
North Eastman	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
South Eastman	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Interlake	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Central	1	0	1	0	0	0	5	2	3	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	15
Assiniboine	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Parkland	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Norman	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Burntwood/Churchill	0	0	0	0	0	0	0	0	2	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	5
MANITOBA	1	0	1	1	0	2	7	4	8	3	5	2	1	1	0	0	0	0	1	1	0	0	0	0	0	38

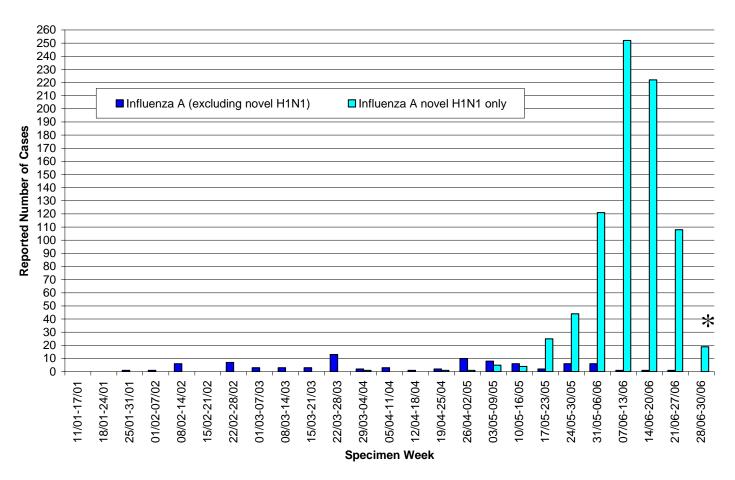
<sup>\*</sup> Includes cases from June 28-30 only – partial week.

Figure 3. Epidemic Curve for Influenza A (Excluding Novel H1N1) and Influenza B by Specimen Collection Date, Manitoba 2008/2009



<sup>\*</sup> Includes cases from June 28-30 only - partial week.

Figure 4. Epidemic Curve for Influenza A (Excluding Novel H1N1) and Influenza A Novel H1N1 by Specimen Collection Date, Manitoba 2008/2009



<sup>\*</sup> Includes cases from June 28-30 only – partial week.

Table 2. Number of Cases of Influenza A and B by Age Group, Manitoba 2008/2009

Influenza A

	(Excluding I	Novel H1N1)	Influenza A	Novel H1N1	Influenza B					
Age Group	# of cases	% of total	# of cases	% of total	# of cases	% of total				
<1 yr	7	8.1%	50	6.2%	10	26.3%				
1-4 yrs	9	10.5%	82	10.2%	5	13.2%				
5-9 yrs	2	2.3%	97	12.1%	6	15.8%				
10-14 yrs	3	3.5%	86	10.7%	6	15.8%				
15-19 yrs	3	3.5%	70	8.7%	4	10.5%				
20-24 yrs	4	4.7%	76	9.5%	1	2.6%				
25-29 yrs	2	2.3%	58	7.2%	1	2.6%				
30-39 yrs	9	10.5%	92	11.5%	2	5.3%				
40-49 yrs	5	5.8%	90	11.2%	2	5.3%				
50-59 yrs	6	7.0%	70	8.7%	0	0.0%				
60-69 yrs	3	3.5%	22	2.7%	0	0.0%				
70-79 yrs	6	7.0%	6	0.7%	0	0.0%				
>79 yrs	27	31.4%	4	0.5%	1	2.6%				
missing	0	0.0%	0	0.0%	0	0.0%				
TOTAL	86	100.0%	803	100.0%	38	100.0%				

Figure 5. Age Distribution of Influenza A (Excluding Novel H1N1) Cases, Manitoba 2008/2009

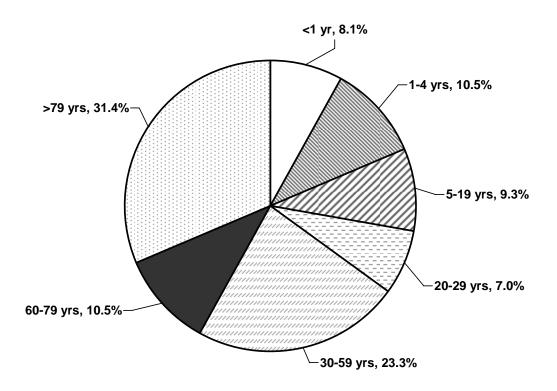


Figure 6. Age Distribution of Influenza A Novel H1N1 Cases, Manitoba 2008/2009

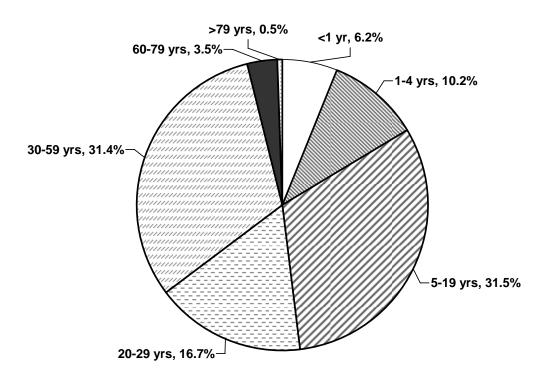


Figure 7. Age Distribution of Influenza B Cases, Manitoba 2008/2009

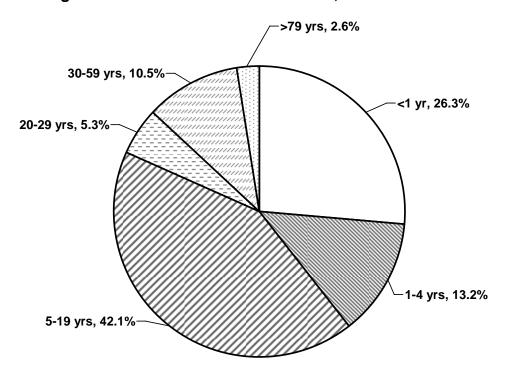


Figure 8. Distribution of Influenza A (Excluding Novel H1N1) by Regional Health Authority, Manitoba, 2008/2009

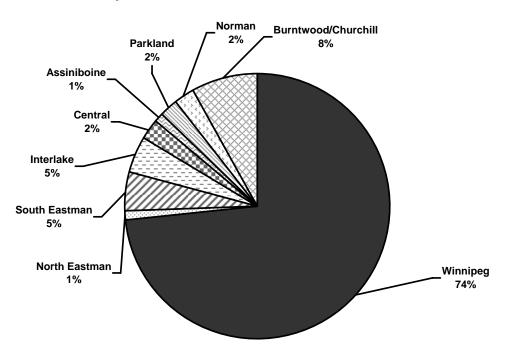


Figure 9: Distribution of Influenza A Novel H1N1 by Regional Health Authority, Manitoba, 2008/2009

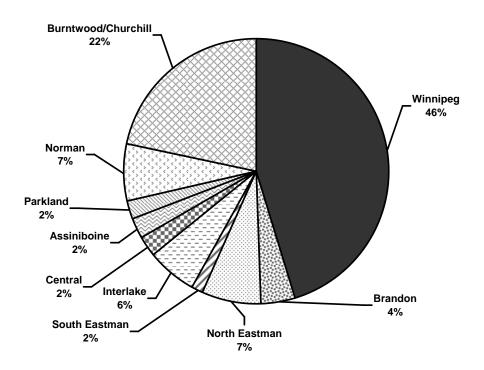


Figure 10: Distribution of Influenza B by Regional Health Authority, Manitoba, 2008/2009

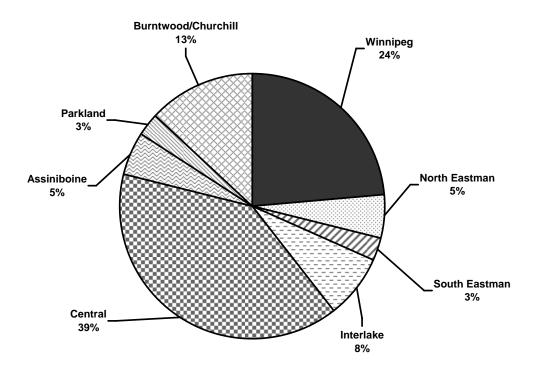


Figure 11. Influenza A (Excluding Novel H1N1): Number of Laboratory-Confirmed Cases, 2002/2003-2008/2009

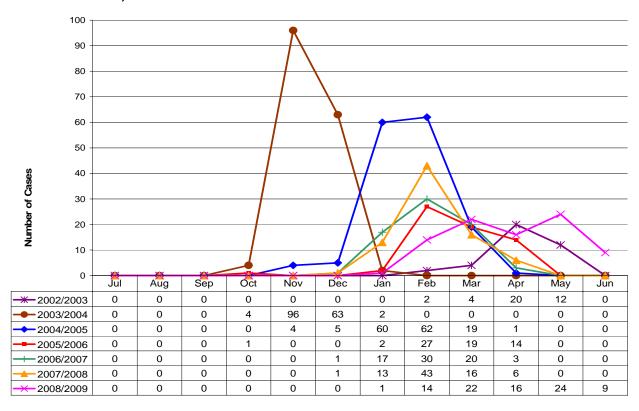


Figure 12. Influenza B: Number of Laboratory-Confirmed Cases, 2002/2003-2008/2009

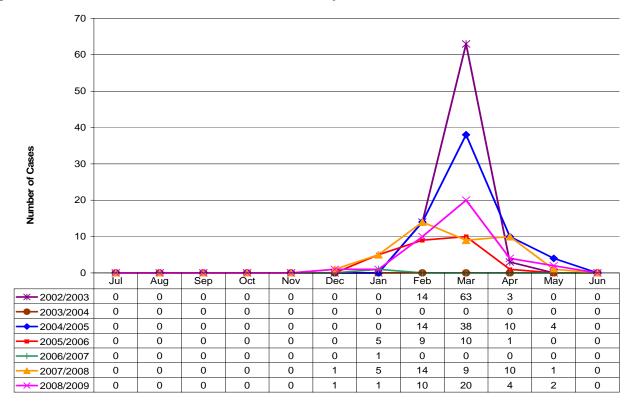
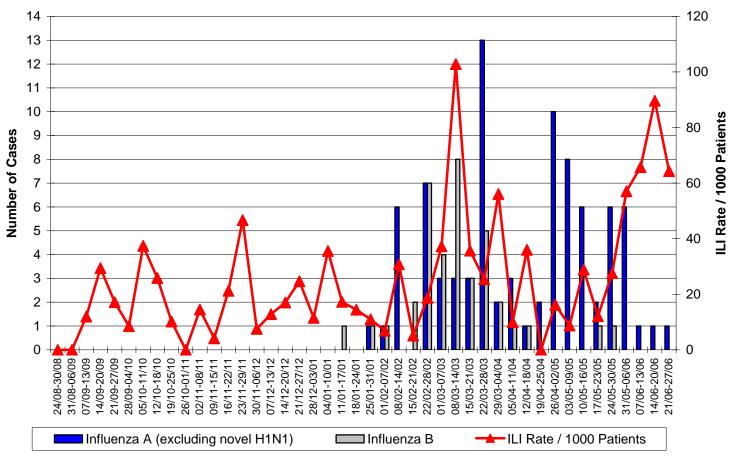
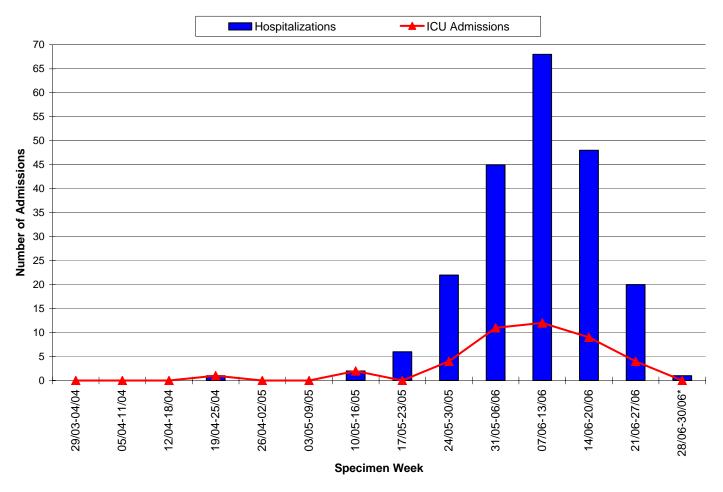


Figure 13. Influenza-Like-Illness (ILI) Rate\* and Number of Influenza A (Excluding Novel H1N1) and Influenza B Cases by Week of Specimen Collection, 2008/2009 Season



<sup>\*</sup> Most recent ILI Rate is based upon the reporting of 5 sentinel physicians in the province.

Figure 14. Number of Confirmed Influenza A Novel H1N1-Related Hospitalizations and ICU Admissions by Specimen Collection Date, Manitoba, 2008/2009



<sup>\*</sup> Includes cases from June 28-30 only - partial week.

For other CDC Branch reports, please view the Manitoba Health Internet Website:

<a href="http://www.gov.mb.ca/health/publichealth/cdc/surveillance/index.html">http://www.gov.mb.ca/health/publichealth/cdc/surveillance/index.html</a>

For national surveillance data, refer to:

<a href="http://www.phac-aspc.gc.ca/fluwatch/index.html">http://www.phac-aspc.gc.ca/fluwatch/index.html</a>