



Influenza Immunization Challenge: Onwards and Upwards

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Outline

- Background and definitions of the Influenza Immunization Challenge
- Overall summary
- LTC facilities results
- Hospitals results
- Summary of results
- Review of 2013-2014 Influenza Season

MOHLTC rates vs. IIC rates

- All Long-Term Care facilities and Hospitals in Ontario are required to report to the province (via health units) the seasonal influenza vaccine coverage of all staff as of December 15 each year.
- For the purpose of the SMDHU Influenza Immunization Challenge (IIC), facilities are allowed to update their numbers by January 15 to account for any changes in staffing numbers or immunization status.
- If facilities provided updated data, this was used for the IIC; otherwise, the numbers previously reported to province were used to assess staff immunization status.

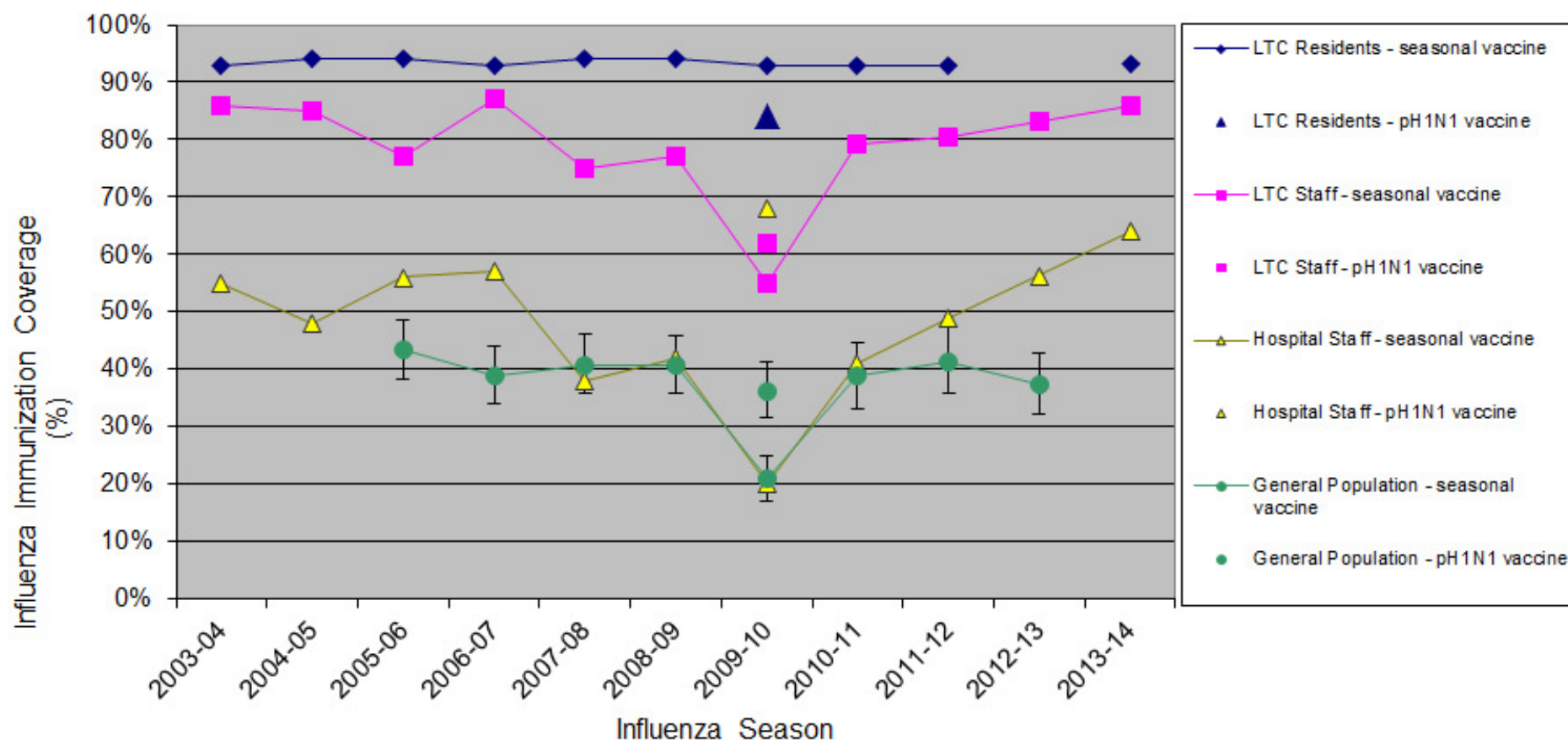
Definitions of Staff

- Hospital (since 2010/11) = payroll staff + independent practitioners + all volunteers
 - In 2013/14, four hospitals (CGMH, OSMH, MAH and SMH) excluded snowbirds in their volunteer rates (which was the same as 2012/13).
- Long-Term Care (since 2012/13) = payroll staff + independent practitioners
 - Analysis of 2012/13 data shows that this has slightly increased the overall rate; however, the impact at the individual facility level is quite variable (range: -2%, +21%) .

Definitions for IIC Awards

- **Gold** = 90% or more of staff received seasonal influenza immunization for the current flu season
- **Silver** = 80% < 90% of staff received seasonal influenza immunization for the current flu season
- **Bronze** = 70% < 80% of staff received seasonal influenza immunization for the current flu season
- Honourable Mention = staff seasonal influenza immunization rate in the current flu season is at least 10% higher (in absolute terms) than the previous year

Median Influenza Immunization Coverage Rates, Simcoe Muskoka Facilities, 2003/04 - 2013/14



Data Sources: SMDHU facility immunization records* 2003/04-13/14; Rapid Risk Factor Surveillance system (RRFSS), Jan-Apr, 2006-2013, Collected by the Institute for Social Research (ISR) at York University on behalf of SMDHU (RRFSS), Jan-Apr, 2006-12

*Immunization rates from 2010/11 - present are reported as of January. Note that these rates may not be directly comparable to previous years when rate were reported as of Nov 15. Also note that in 2010/11 , hospital staff= MD's, payroll staff + all volunteers. From 2012/13 onward, three hospitals (OSMH, CGMH, MAH, SMH), excluded volunteers who are not present for influenza season (ie. snowbirds). The definition of staff in previous years varied by hospital. LTC Resident seasonal vaccine median rates was not available for 2012/13.

LTC Facility IIC Award Summary, 2012/13 & 2013/14 Influenza Seasons

LTC Facilities IIC Awards		
Awards	2012-13	2013-14
Gold	10	9
Silver	10	13
Bronze	5	4
None	4	3
Total	29	29

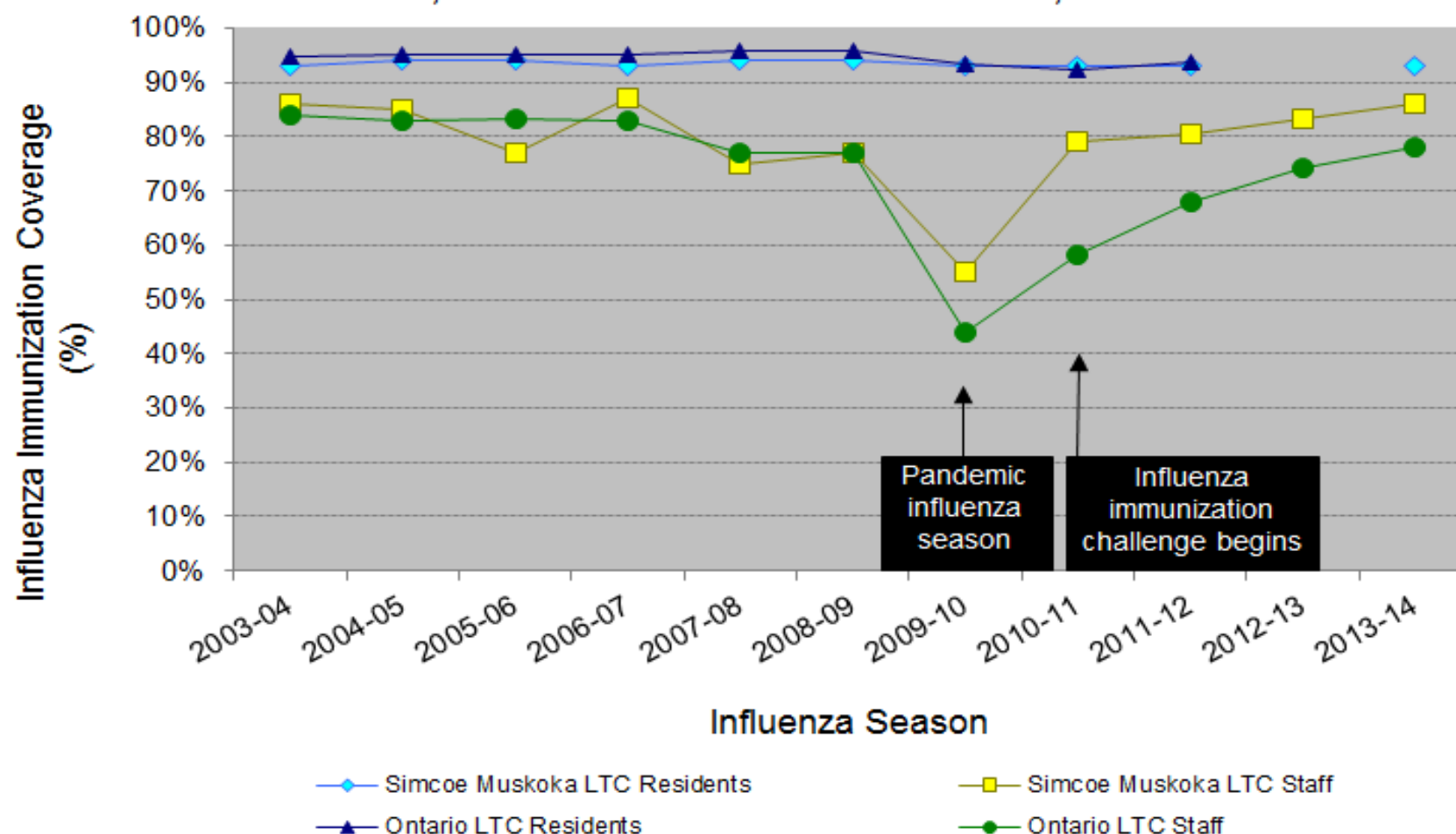
Data Source: MOHLTC Hospital and Long Term Care Reporting Forms submitted to SMDHU
by facilities

- 8 improved in their award ranking
- 6 dropped in their award ranking
- 15 remained the same (including 7 gold awards)

Special Congratulations

The IOOF Seniors Home in Barrie
achieved 100% staff immunization rate.

Median Influenza Immunization Coverage* in Long-Term Care Facilities, Simcoe Muskoka and Ontario, 2003/04 - 2013/14



Data Sources: SMDHU immunization records; Public Health Ontario 2012/2013 Ontario Respiratory Virus Bulletin # 11

*Immunization rates in 2010/11 - present are reported as of January 15. Note that these rates may not be directly comparable to previous years when rates were reported as of November 15.

LTC Resident seasonal vaccine median rates was not available for 2012/13..

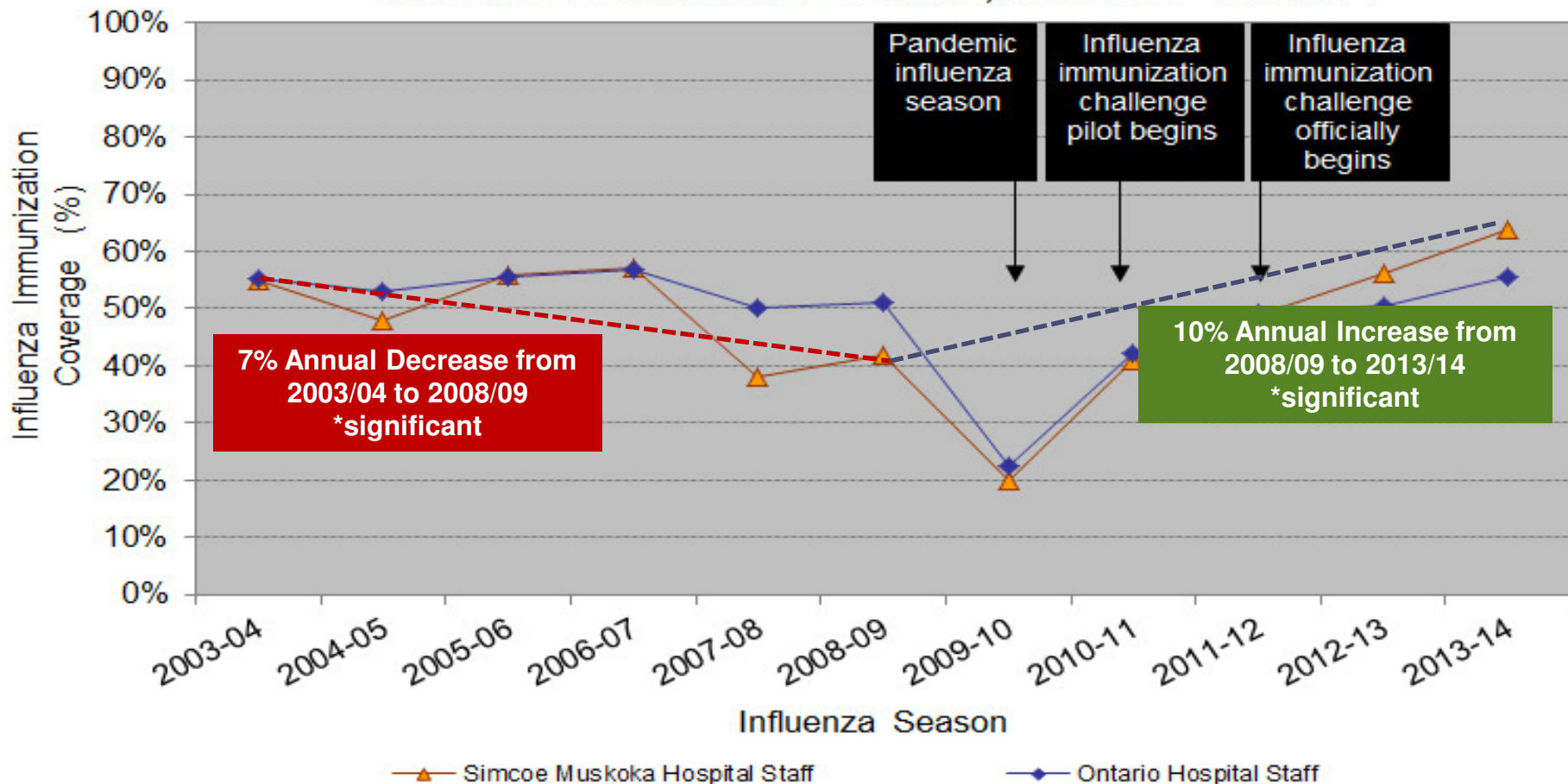
Hospital IIC Award Summary, 2012/13 & 2013/14 Influenza Seasons

Awards	Hospital IIC Awards	
	2012-13	2013-14
Gold	0	0
Silver	0	1
Bronze	1	0
Honourable Mention	2	2
None	4	4
Total	7	7

**Data Source: MOHLTC Hospital and Long Term Care Reporting
Forms submitted to SMDHU by facilities**

NB: 2 Hospitals improved their coverage rates in 2013/14 by more than 10%; including Georgian Bay that improved by 18% and RVH that improved by 11%.

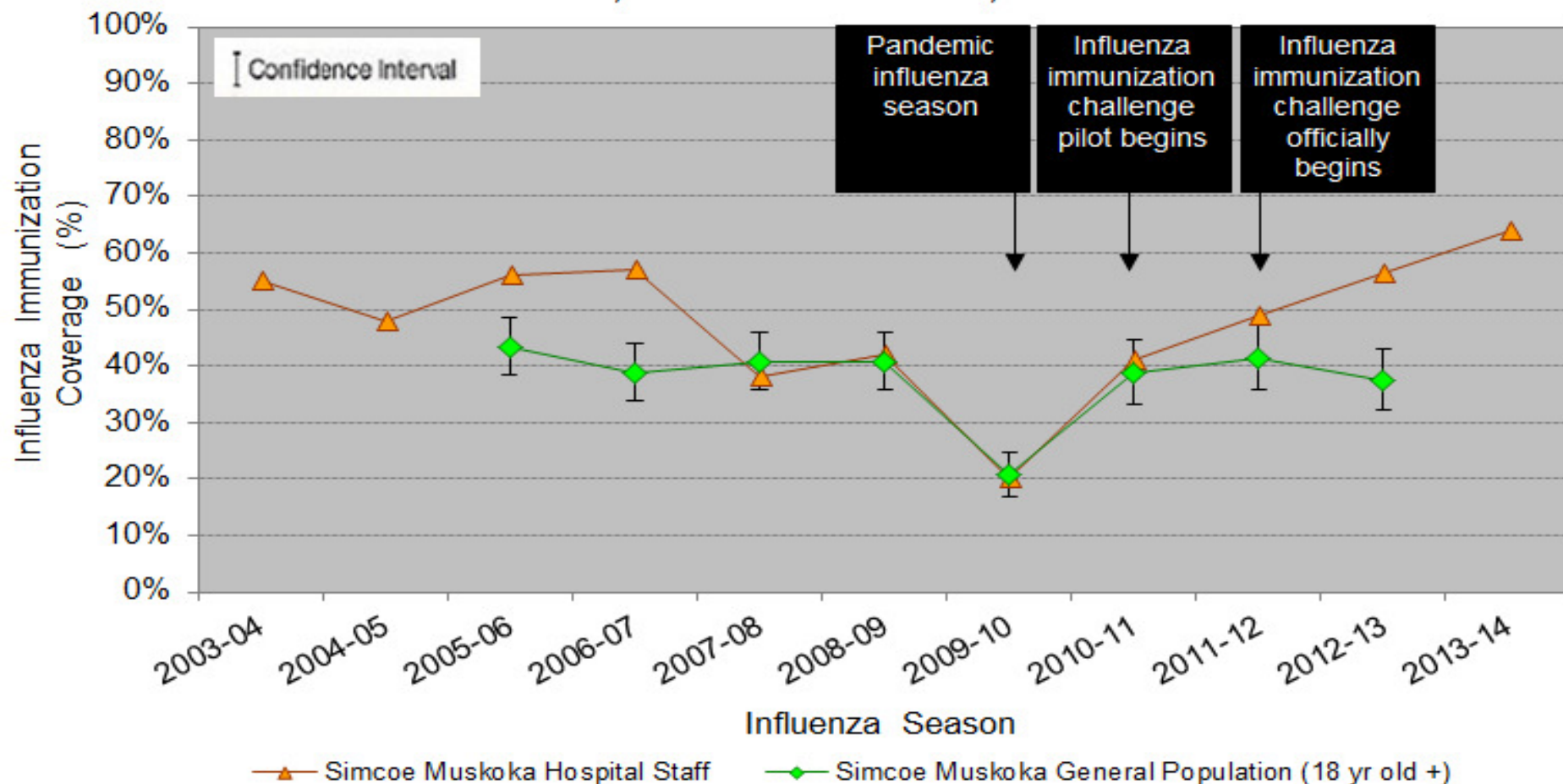
Median Influenza Immunization Coverage* in Hospitals, Simcoe Muskoka and Ontario, 2003/04 - 2013/14



Data Sources: SMDHU immunization records; Public Health Ontario 2012/2013 Ontario Respiratory Virus Bulletin # 11

*Immunization rates in 2010/11 - present are reported as of January 15. Note that these rates may not be directly comparable to previous years when rates were reported as of November 15. Also note that starting in 2010/11, hospital staff= MD's, payroll staff + all volunteers. In 2012/13 & 2013/14, four hospitals (OSMH, CGMH, MAH, SMH) excluded volunteers who are not present for influenza season (ie. snowbirds). The definition of staff in previous years varied by hospital.

Median Influenza Immunization Coverage* in Hospitals and General Public, Simcoe Muskoka, 2003/04 - 2013/14



Data Sources: SMDHU immunization records, Rapid Risk Factor Surveillance system (RRFSS), Jan-Apr, 2006-2013, Collected by the Institute for Social Research (ISR) at York University on behalf of SMDHU

*Hospital immunization rates in 2010/11 - present are reported as of January 15. Note that these rates may not be directly comparable to previous years when rates were reported as of November 15. Also note that starting in 2010/11, hospital staff= MD's, payroll staff + all volunteers. In 2012/13 & 2013/14, four hospitals (OSMH, CGMH, MAH, SMH) excluded volunteers who are not present for influenza season (ie. snowbirds). The definition of staff in previous years varied by

Summary / Highlights

- Influenza Immunization coverage among staff in LTC facilities continues to be substantially higher than in hospitals (among staff and volunteers). The IOOF in Barrie achieved 100% rate.
- No significant improvement in staff coverage in LTC facilities; however rates continue to remain relatively high (>80%).
- Significant improvement in staff/volunteer coverage in hospitals since the pandemic year. This trend continues for 2013/14; however, still room for improvement (64%).
- Median SMDHU LTC Facility and Hospital rates remain above the overall provincial median.



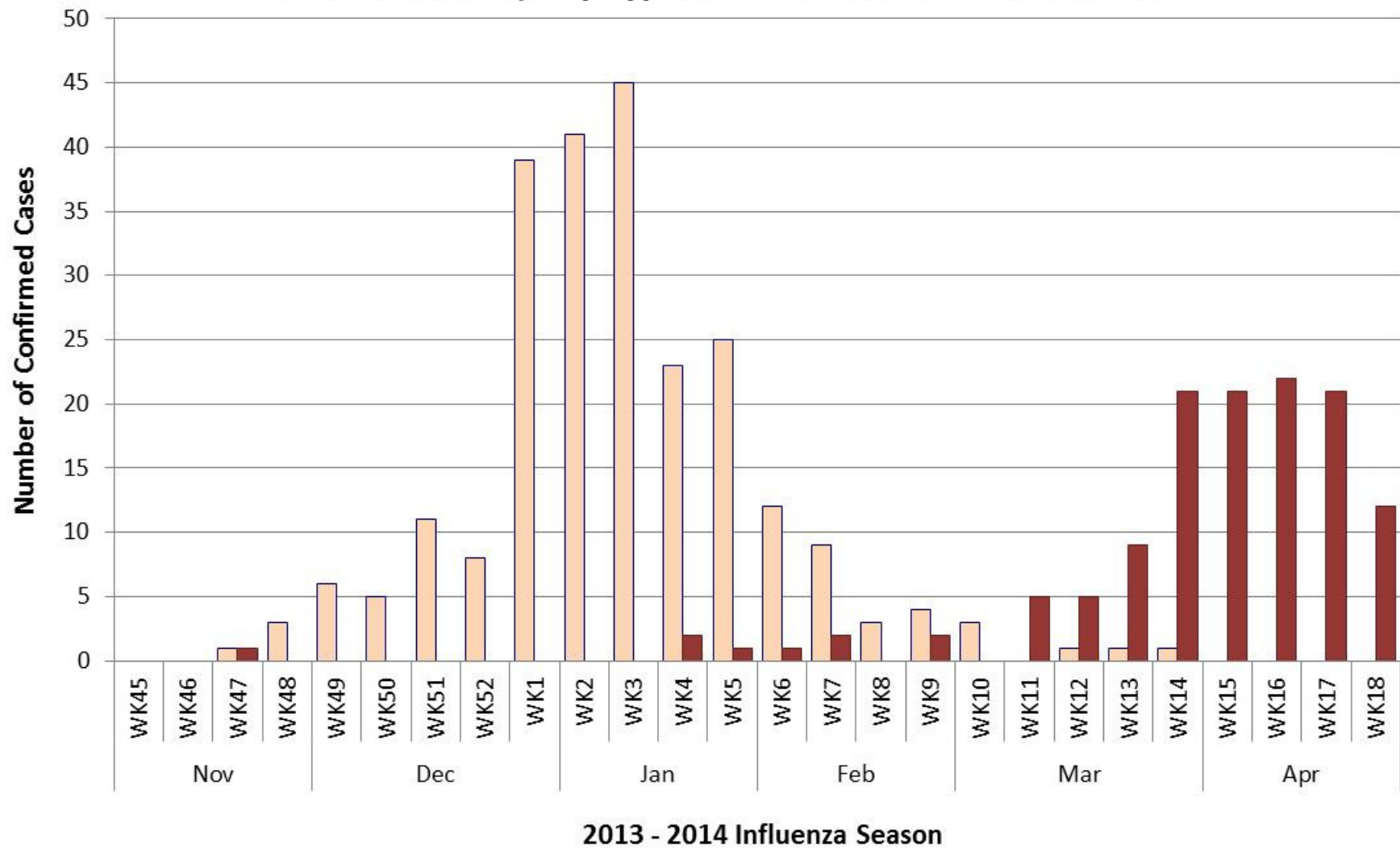
simcoemuskoka

Review of 2013-2014 Influenza Season in Simcoe-Muskoka

Summary

- In terms of how widespread and number of lab-confirmed influenza cases, it was an average year, less than the previous year which was a heavier than usual season
- There was 1 influenza A wave and 1 influenza B wave that peaked in January and April respectively, which is not unusual
- There were more than usual deaths associated with influenza A (similar to the previous season)
- The median age of death associated with influenza infection mirrored that of the pandemic year which was much lower than usual. (≈ 60 vs. ≈ 90 years of age)

Weekly Number of Simcoe Muskoka Influenza Cases (Sporadic and Outbreak-Related), by Type of Influenza, 2013-2014 Season

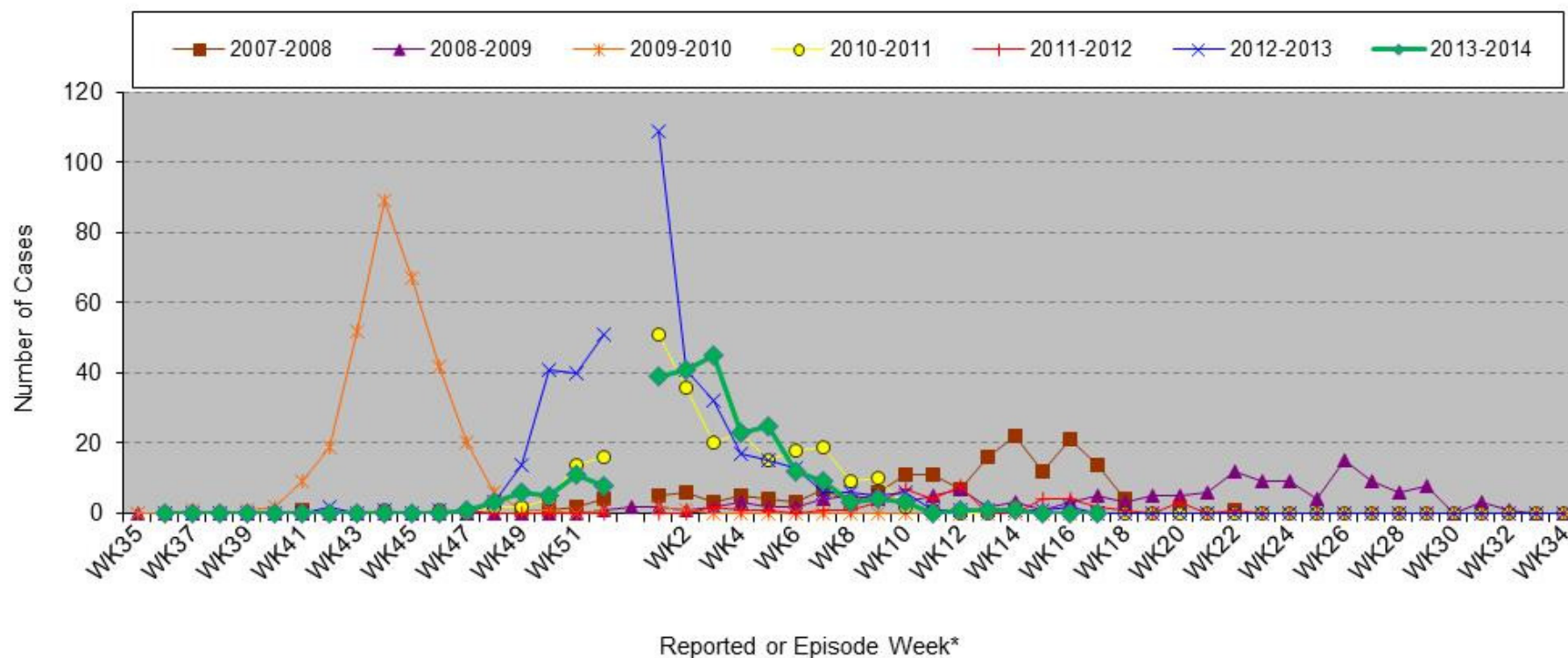


Data Source: iPHIS, Simcoe Muskoka District Health Unit

□ Influenza A ■ Influenza B

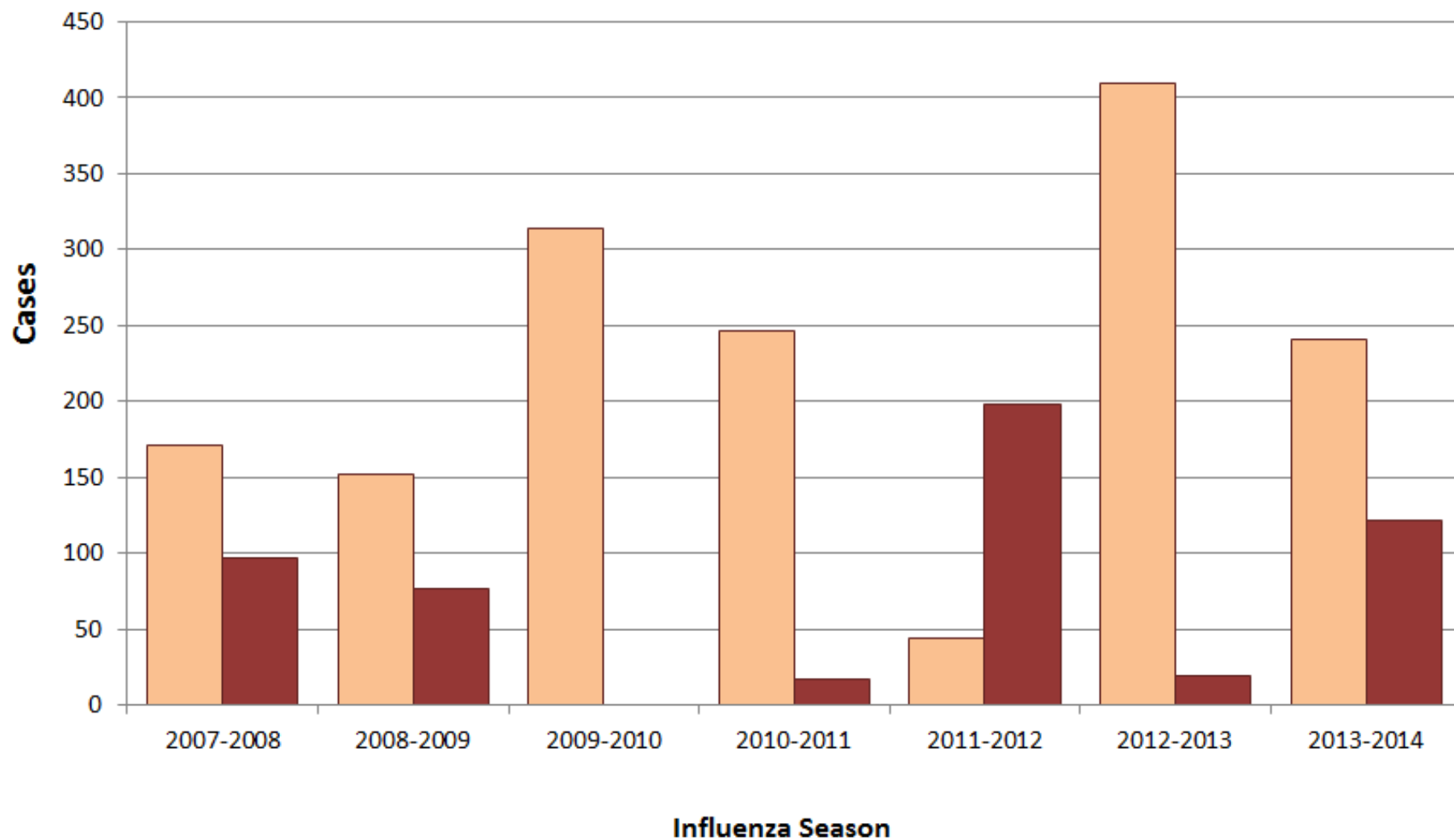
Simcoe Muskoka Influenza Cases (Sporadic and Outbreak-Related): Type A, 2007-2014

Data Source: Cases 2010-present = CD Intake Databases
All other cases = iPHIS database



*Cases for the current (2013-2014) and most recent (2011-2013) flu season are based on reported date and cases for previous years are based on episode date (a hierarchy of onset, collection, lab test and reported date). Reported date is on average 7-10 days after onset date thus the number of cases in a given week in the current year may be more comparable to 1 week previous in previous years.

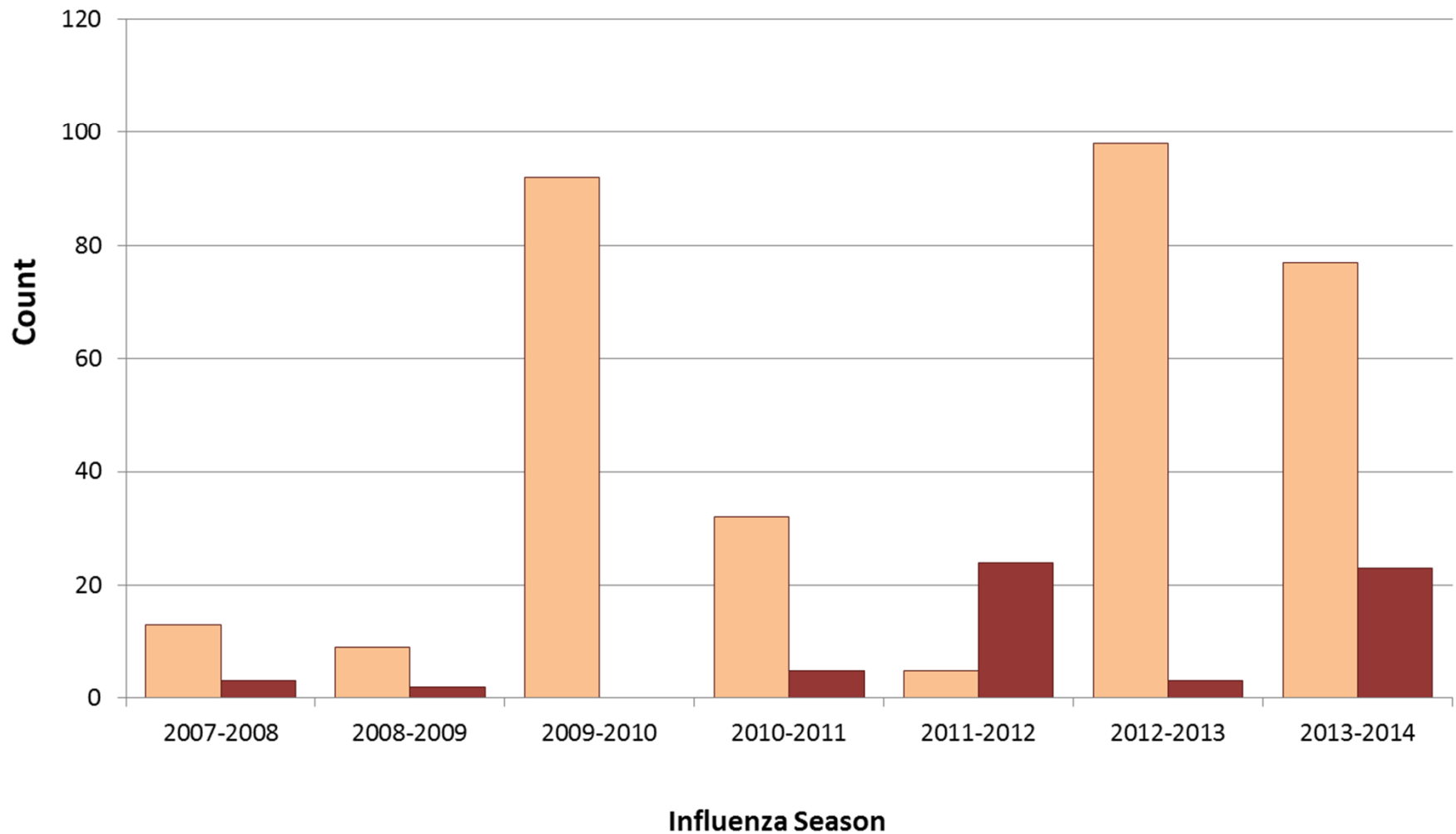
Number of Simcoe Muskoka Influenza Cases (Sporadic & Outbreak), by Type of Influenza, 2007-2008 to 2013-2014 Influenza Seasons



Data Source: iPHIS, Simcoe Muskoka District Health Unit

■ Influenza A ■ Influenza B

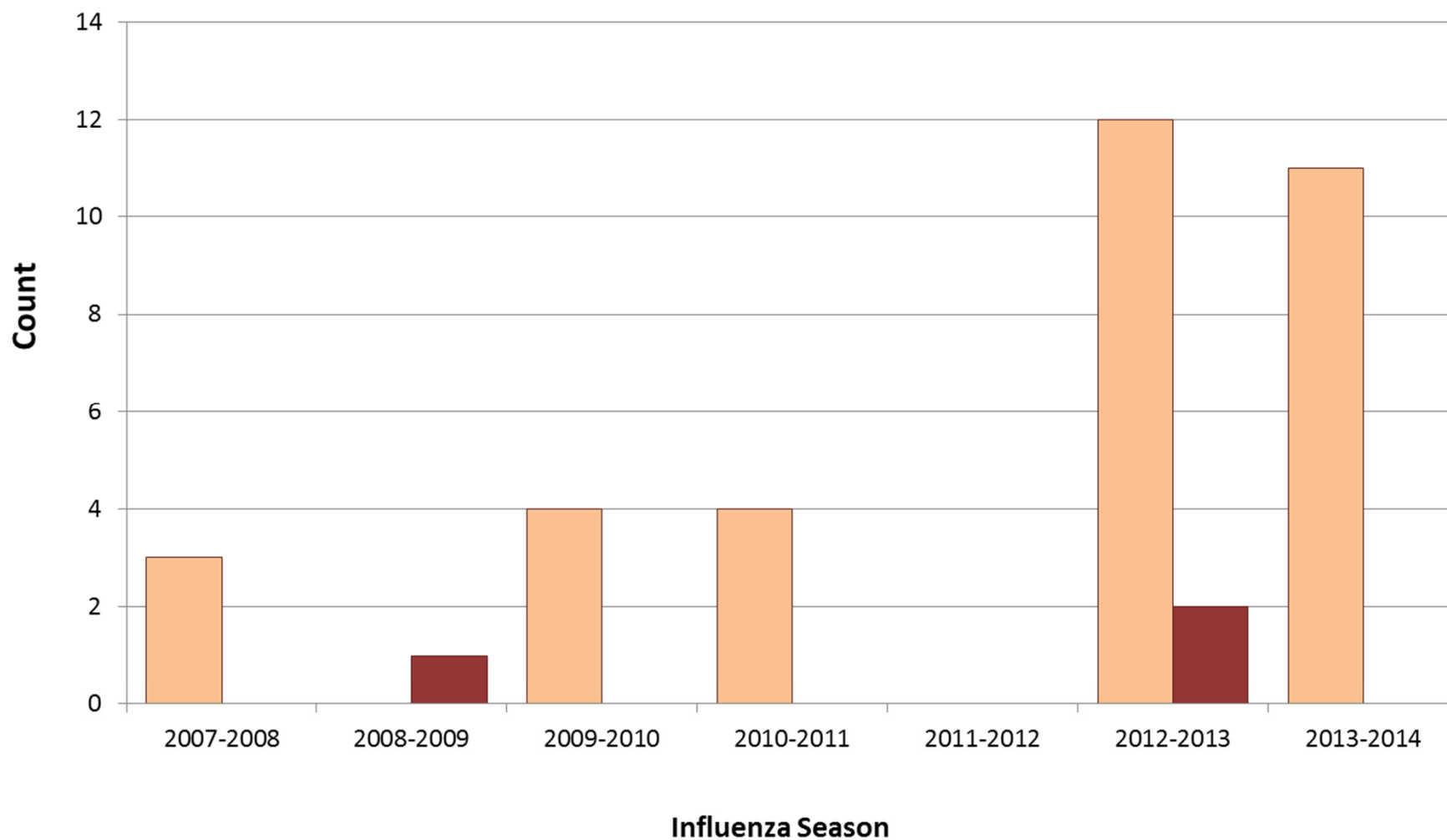
Number of Reported Influenza Hospitalizations, by Type of Influenza, 2007-2008 to 2013-2014 Influenza Seasons



Data Source: iPHIS, Simcoe Muskoka District Health Unit

■ Influenza A ■ Influenza B

Number of Reported Influenza Deaths, by Type of Influenza, 2007-2008 to 2013-2014 Influenza Seasons



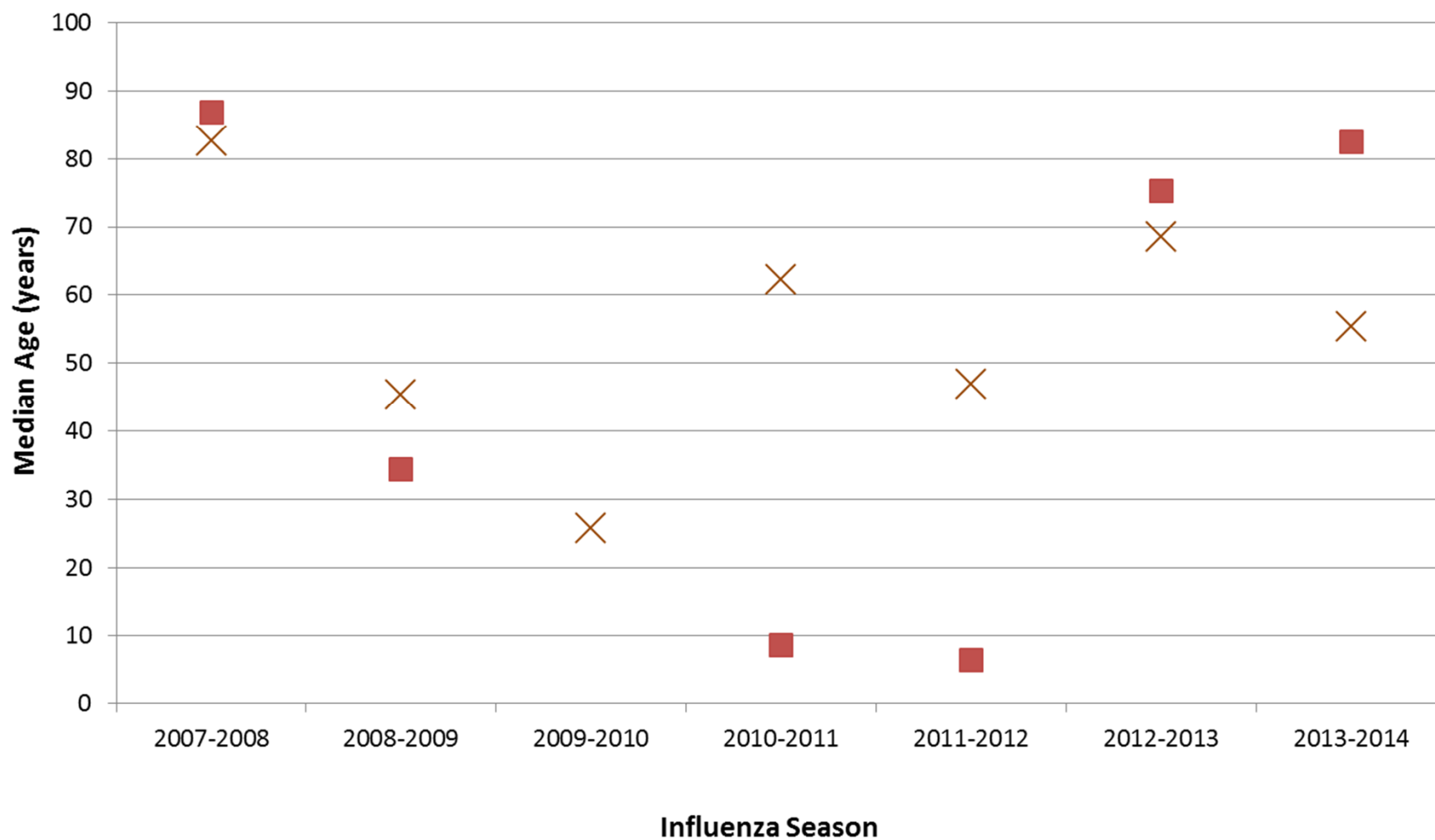
Data Source: iPHIS, Simcoe Muskoka District Health Unit

■ Influenza A ■ Influenza B

Influenza A

- H1N1 strain (2009 pandemic strain) was the predominant influenza A strain
- Similar to the pandemic year, younger and middle-aged adults seemed to have been disproportionately affected, as evidenced by the lower than usual median age of influenza-associated deaths. The reason is likely multifactorial: less protective immunity from cross-protection from previous influenza infections and lower influenza immunization rates vs high-risk groups.

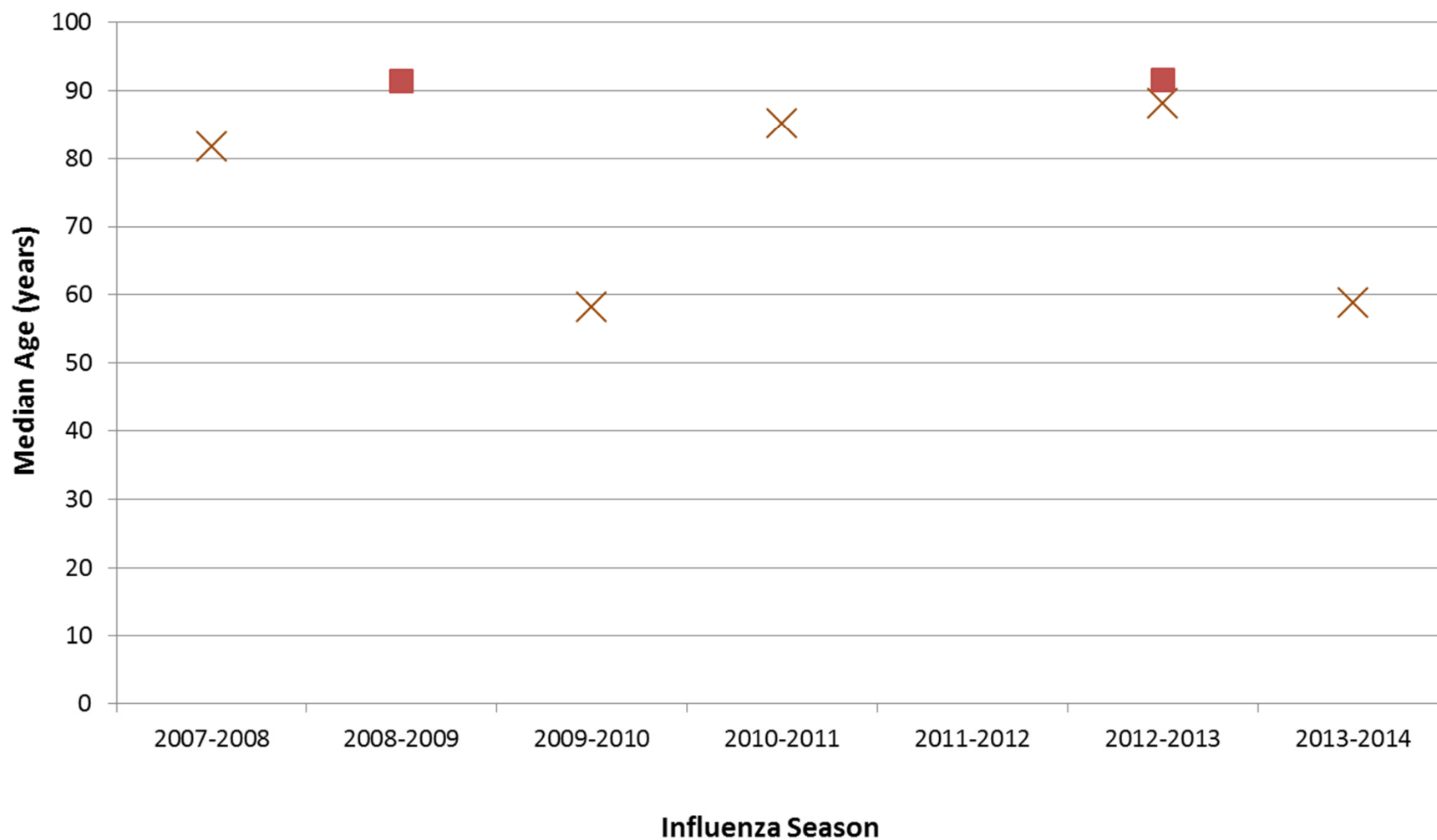
Median Age for Reported Influenza Hospitalizations, by Type of Influenza, 2007-2008 to 2013-2014 Influenza Seasons



Data Source: iPHIS, Simcoe Muskoka District Health Unit

× Influenza A ■ Influenza B

Median Age for Reported Influenza Deaths, by Type of Influenza, 2007-2008 to 2013-2014 Influenza Seasons



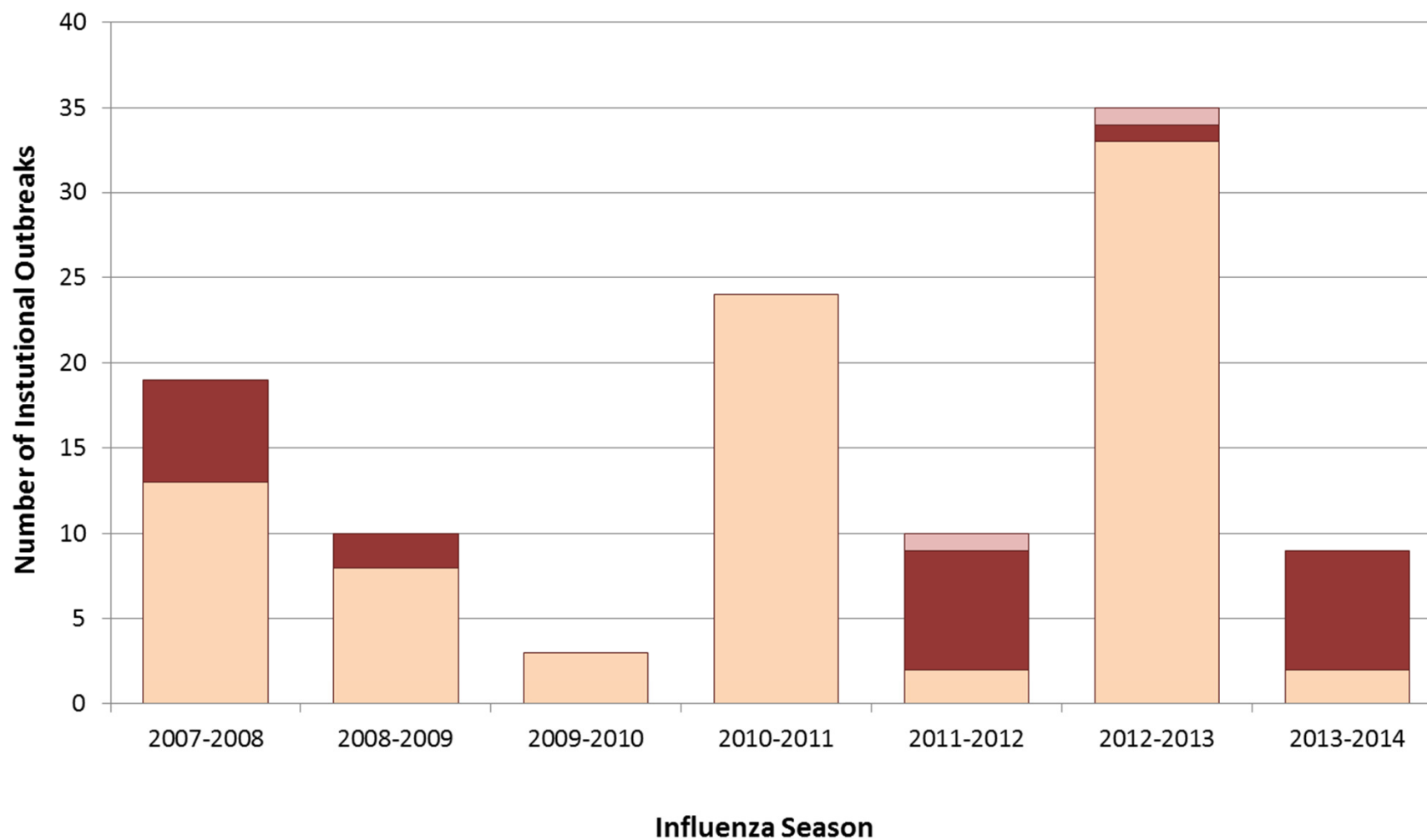
Data Source: iPHIS, Simcoe Muskoka District Health Unit

× Influenza A ■ Influenza B

Influenza A

- Older adults who traditionally are most at risk seemed to have been less affected as evidenced by the much lower number of influenza A institutional outbreaks. They were likely more protected which was likely provided by cross-reactive immunity to pH1N1 caused by prior infection with antigenically-related viruses. As well, this older population are more likely to be immunized.

Number of Influenza Institutional Outbreaks, by Type of Influenza, 2007-2008 to 2013-2014 Influenza Seasons



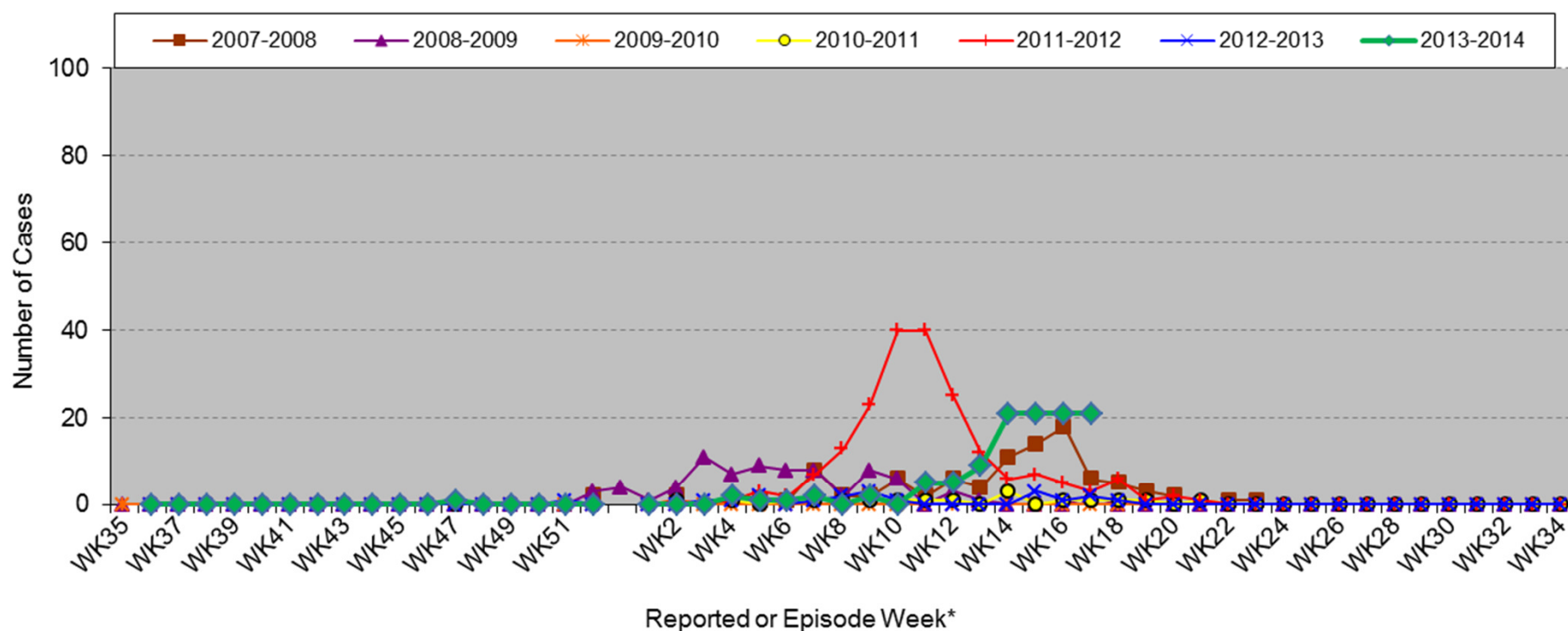
Data Source: CD Outbreak Log, Simcoe Muskoka District Health Unit

■ Influenza A ■ Influenza B ■ Influenza A & B

Simcoe Muskoka Influenza Cases (Sporadic and Outbreak-related): Type B, 2007-2014

Data Source: Cases 2010-present = CD Intake Databases

All other cases = iPHIS database



*Cases for the current (2013-2014) and most recent (2011-2013) flu seasons are based on reported date and cases for previous years are based on episode date (a hierarchy of onset, collection, lab test and reported date). Reported date is on average 7-10 days after onset date thus the number of cases in a given week in the current year may be more comparable to 1 week previous in previous years.

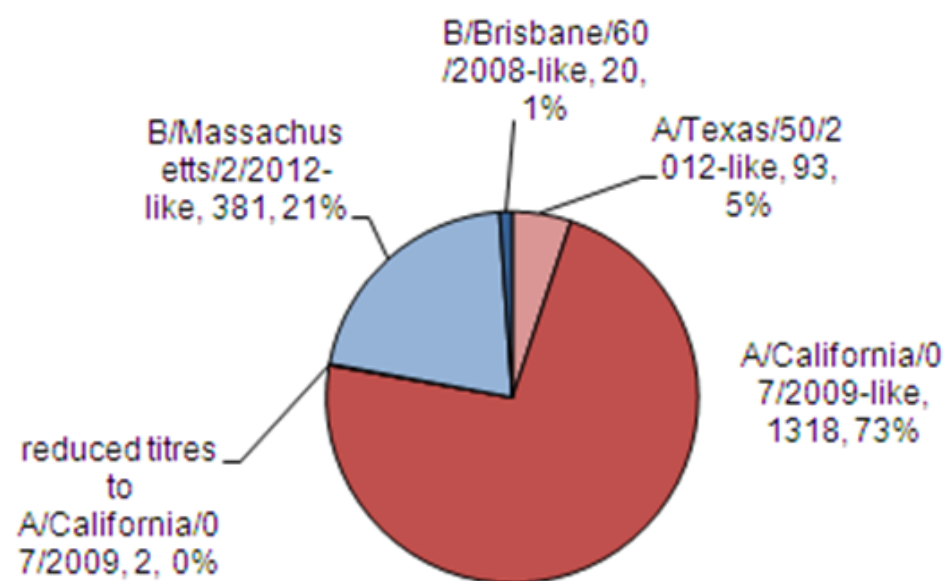
Influenza B

- Influenza B wave peaked in April
- Responsible for most of the influenza institutional outbreaks this season
- Although influenza B is historically thought to be less severe than influenza A, it is not a benign illness. It can still cause serious illness and death.

Vaccine Match

- Vaccine this past season was an excellent match with most circulating flu A and B matching the vaccine (over 98%).
- CDC estimated that at mid-season, vaccine effectiveness (VE) for influenza A was 61% for all age groups (95% confidence interval: 5% to 68%) against having to go to the doctor because of flu illness. This VE estimate means that getting a flu vaccine this season reduced the vaccinated population's risk of having to go to the doctor because of the flu by 60% for both children and adults.
- CDC's mid-season VE estimates for people 65 and older against flu A and B in the United States this season was estimated at 52% (95% CI: 2-76)

Figure 4. Influenza strain characterizations, Canada, 2013-2014, N = 1814



The NML receives a proportion of the number of influenza positive specimens from provincial laboratories for strain characterization and antiviral resistance testing. Characterization data reflect the results of haemagglutination inhibition (HAI) testing compared to the reference influenza strains recommended by [WHO](#).

The recommended components for the 2013-2014 northern hemisphere trivalent influenza vaccine include: an A/California/7/2009 (H1N1)pdm09-like virus, an A(H3N2) virus antigenically like the cell-propagated prototype virus A/Victoria/361/2011b (e.g. A/Texas/50/2012), and a B/Massachusetts/2/2012-like virus (Yamagata lineage).

Source: Public Health Agency of Canada Flu Watch Report April 13 to 19 (Week 16)

http://www.phac-aspc.gc.ca/fluwatch/13-14/w16_14/index-eng.php

Looking forward to the 2014/15 influenza season

- Vaccine recommended for 2014/15 season provides protection against identical strains to this season. We all still need to be re-immunized even if we were immunized this season.
- Influenza season as evidenced by this season can last till May with the current influenza B wave now in its tail end, and so, best to get immunized as early as possible (October/November) to get the biggest bang for your shot, but not too late, even in the early months of the new year.
- Need to encourage more of our younger friends, family members and colleagues to be immunized, given this year's H1N1 ability and preponderance to cause serious illness in the healthier, less-immunized younger population.



QUESTIONS?

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