

COMMUNICABLE DISEASE REPORT

Quarterly Report

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FOCUS: Influenza Vaccination

Influenza, also known as “the flu”, is a prevalent communicable disease that affects an estimated 10% to 20% of Canadians each year (NACI, 2016). While being infected with the flu virus generally has minor symptoms in healthy populations, it can lead to more severe outcomes for certain groups of individuals, such as those who are elderly or immunocompromised (NACI, 2016). Those in hospital and long-term care settings are of greater risk to develop influenza-related complications (NACI, 2016). The influenza vaccine remains one of the best methods to prevent the spread of the virus. In 2015, the Department of Health and Community Services provided all regions of Newfoundland and Labrador (NL) with influenza vaccines for individuals 6 months of age and older. This year the public seasonal influenza vaccine campaign will begin on October 31st.

This report aims to capture the flu activity and immunization coverage for the 2015/2016 season across all regional health authorities (RHAs). All of the flu activity data is based on laboratory confirmed diagnosis of influenza. As such, it is important to note that it is likely an underrepresentation of the flu activity in the entire population.

We hope to continue to improve on our vaccination uptake for the future to better control the spread of influenza in Newfoundland and Labrador.

Preparing for the upcoming 2016/17 season

While the Newfoundland and Labrador annual influenza immunization program recommends and provides influenza vaccine for all persons 6 months of age and older; influenza vaccine is strongly recommended for people who are at risk of developing complications from influenza. It is also important to immunize people who are able to spread influenza to those who are at higher risk of influenza-related complications such as health care providers and other caregivers. This year, NL will provide the quadrivalent vaccine for general public and the adjuvant vaccine for those in long term care and personal care homes settings. By continuing vaccination efforts to increase the coverage rate, it is possible to reduce the disease burden and complications caused by influenza. Please contact your local regional health authority for more information about the influenza vaccine.

Influenza vaccine match 2015-2016

The National Microbiology Laboratory (NML) antigenically characterized viruses that were received from Canadian laboratories during the 2015/2016 influenza season. Analysis completed by the NML indicated that all A(H1N1) viruses characterized were antigenically similar to the A(H1N1) component of the vaccine. Of the A(H3N2) viruses tested by the NML, most were antigenically related to the A(H3N2) component of the vaccine. All B viruses characterized were antigenically similar to one of the two vaccine components in the quadrivalent influenza vaccine. The quadrivalent influenza vaccine was available in this province.

Influenza vaccine coverage

Influenza vaccinations are a publicly funded initiative to prevent the spread of the flu. The percent uptake from the total population, health care workers (HCW) within the RHAs, and individuals in long-term care (LTC) are summarized in the tables below. For the 2015/2016 season, the main supply of influenza vaccine was the quadrivalent inactivated vaccine (QIV), containing two type A strains and two type B strains. Additionally, the adjuvanted trivalent inactivated influenza vaccine (TIV) was used for residents of Long Term Care and Personal Care Home settings who are 65 years of age and older. For children aged 2 to 17 years of age, the live attenuated influenza vaccine (*Flumist*[®]) was offered. These percentages should be interpreted with caution as it may not capture all of the vaccinations that took place.

Total population

The provincial vaccination estimated coverage for influenza was 20.7% in 2015/2016 as 108,681 vaccines were administered. Overall, the regions had similar rates of vaccination as coverage estimates range from 19.1% in Eastern Health to 23.8% in Western Health. Nationally, the Adult Immunization Coverage (ANIC) survey estimated that 37% of the general population had an influenza vaccination in 2012 (ANIC, 2014).

Table 2: Vaccination uptake across total population, by RHA, 2015/2016

Overall	Doses administered	Vaccinated (%)
Eastern	60,597	19.1%
Central	21,627	23.4%
Western	18,388	23.8%
Lab-Grenfell	8,069	21.7%
NL	108,681	20.7%

Long Term Care

In long-term care facilities within Newfoundland and Labrador, an estimated 85.1% of residents were given the influenza vaccine. There was variation in coverage rates across the regions as the coverage rates were 65.2% in Labrador-Grenfell Health and 86.4% in Eastern Health.

Table 3: Vaccination uptake in long-term care facilities, by RHA, 2015/2016

Overall	Doses administered	Vaccinated (%)
Eastern	1,444	86.4%
Central	432	85.9%
Western	414	84.5%
Lab-Grenfell	75	65.2%
NL	2,365	85.1%

Health Care Workers

Among Health Care Workers (HCWs) employed by the RHAs throughout the province, an estimated 44% had an influenza immunization during the 2015/2016 season. This coverage varied from 40.0% in Eastern Health to 53.8% in Western Health. The National Advisory Committee on Immunization (NACI) recommends that HCWs are vaccinated because of the potential contact with patients.

Table 4: Vaccination uptake across health care workers, by RHA, 2015/2016

HCWs	Doses administered	Vaccinated (%)
Eastern	5,229	40.0%
Central	1,547	49.9%
Western	1,582	53.8%
Lab-Grenfell	688	46.9%
NL	9,046	44.0%

Antiviral Susceptibility

The National Microbiology Laboratory (NML) had tested influenza specimens from NL for antiviral susceptibility. Of note, all of the influenza viruses were susceptible to antiviral substances except for a single case of Influenza A(H1N1) that had a resistance to Amantadine.

Table 5: Antiviral susceptibility of NL influenza cases by NML

Antiviral substance	Susceptible	Resistant
Amantadine	55	1
Oseltamivir	59	0
Zanamivir	59	0

Flu Activity

Case Descriptions

Provincially, there were 521 laboratory confirmed cases of influenza which resulted in 218 hospitalizations, 49 intensive care unit admissions and 8 deaths. During the season, the peak of cases occurred, uncharacteristically, in the middle of March. As demonstrated by Figure 1, the three previous flu seasons peaked around January.

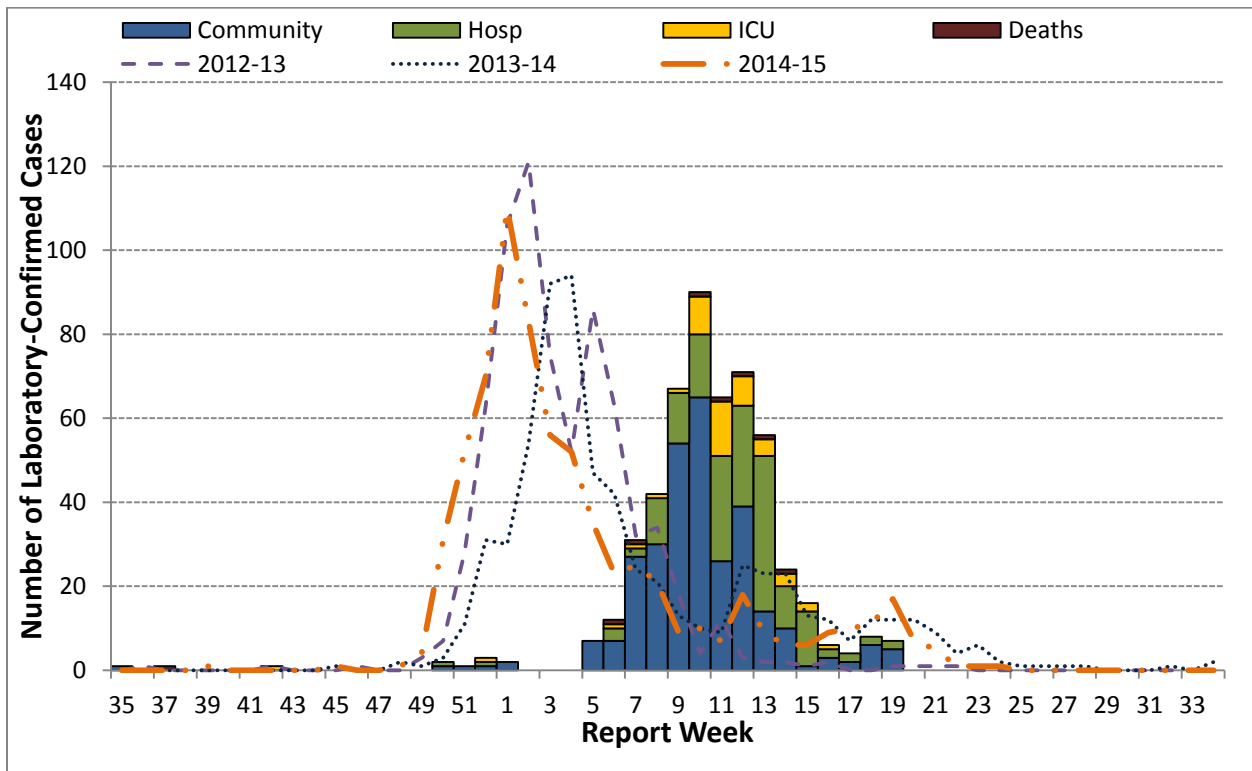


Figure 1: Number of cases, hospitalizations, ICU admissions and deaths, by week virus identified, 2015/2016

In terms of age distribution across the provinces, cases are relatively evenly split through the age groups 20-44 (21%) and 65+ (23%). Individuals under 19 years of age (28%) and 45-64 (28%) comprised a large proportion of the laboratory confirmed influenza cases.

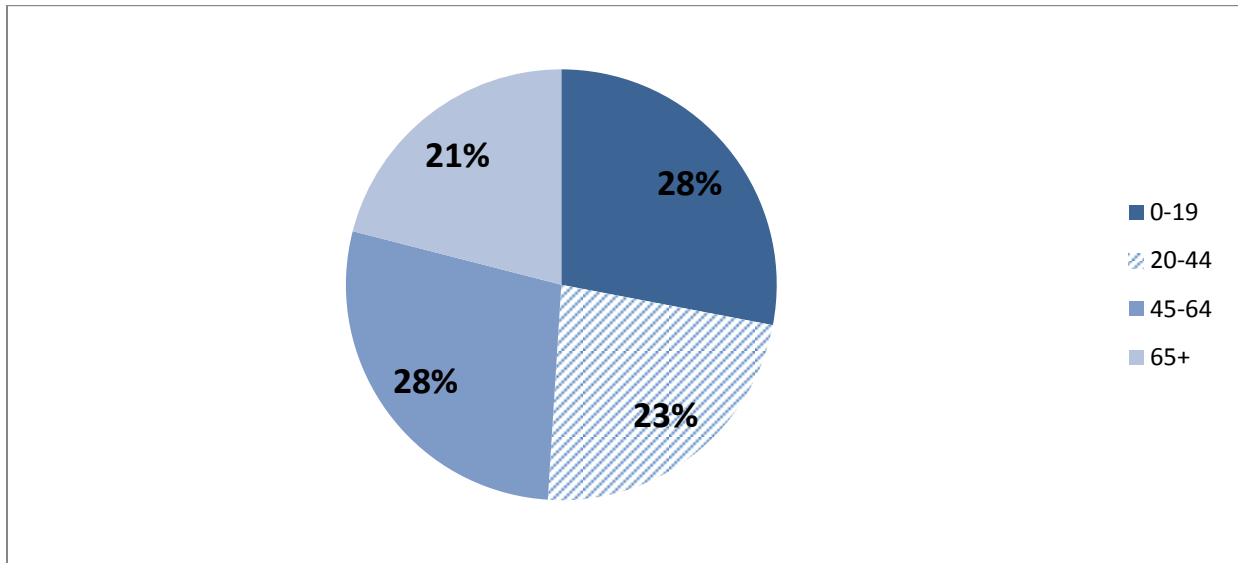


Figure 2: Laboratory-confirmed influenza cases by age-group, 2015/2016

Type of Influenza

The most common influenza type in the 2015/2016 season was A accounting for a total of 93.4% of laboratory confirmed cases. The majority of these cases were caused by the A(H1N1) strain. Testing of the antigens confirmed that the vaccine had similar antigens to the circulating A(H1N1) strain. This meant that those who were vaccinated had some protection against the influenza over the 2015/2016 season.

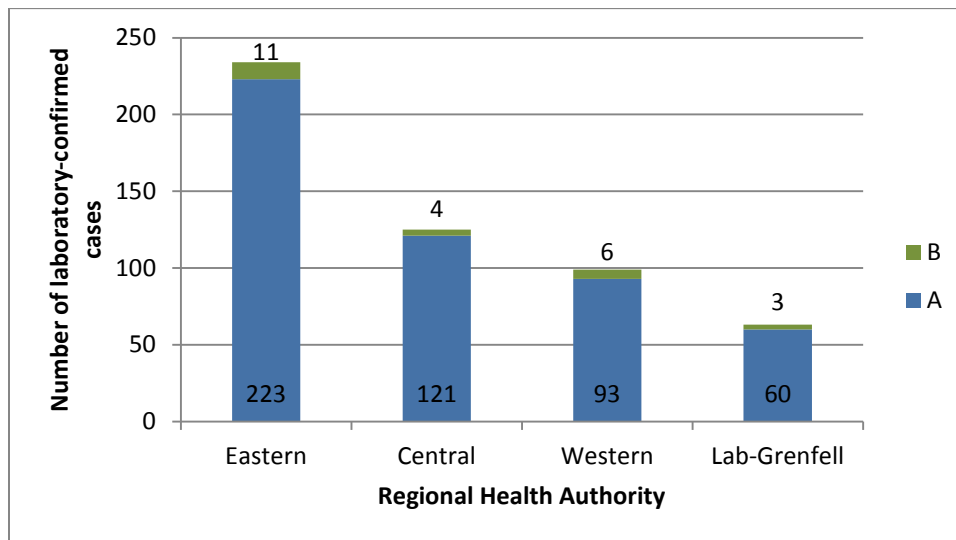


Figure 3: Laboratory-confirmed influenza cases by type, RHA, 2015/2016

Outbreaks

Of the 53 respiratory outbreaks in the 2015/2016 season, ten were confirmed influenza. Comparatively, the 2014/2015 season had 60 confirmed influenza outbreaks across the province. Six out of the ten outbreaks had taken place in March, when the highest flu activity was experienced overall.

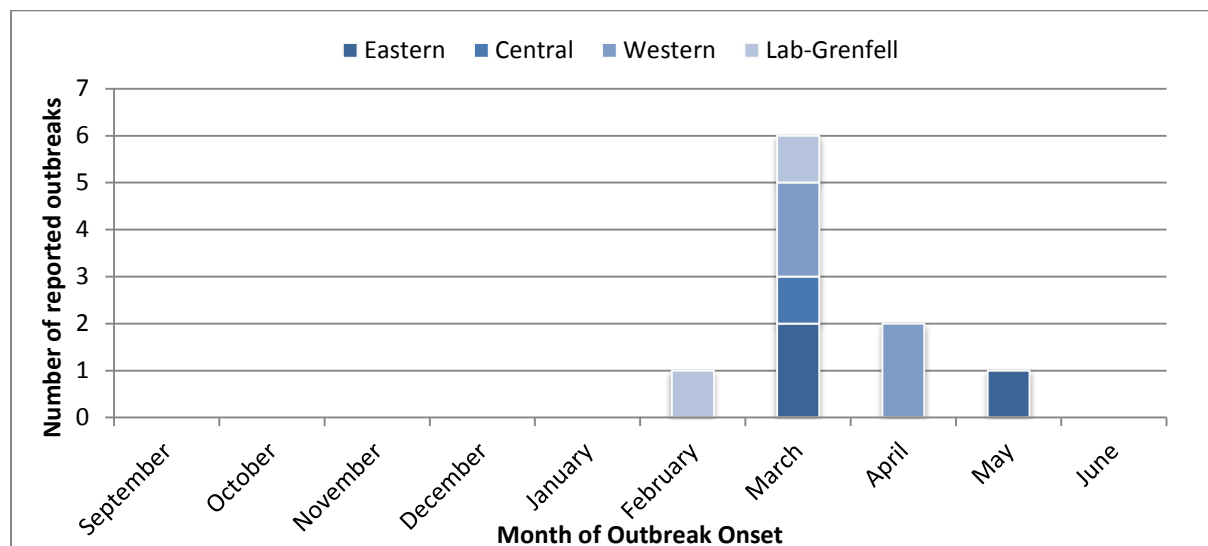


Figure 4: Reported laboratory-confirmed influenza outbreaks by RHA, 2015/2016

Table 6: Number and setting of lab-confirmed and influenza-like-illness (ILI) outbreaks in NL, 2013/14-2015/16

Outbreak Setting	2013/14		2014/15		2015/16	
	Lab-confirmed	ILI	Lab-confirmed	ILI	Lab-confirmed	ILI
Hospital	2	1	8	2	1	0
Long Term Care	10	5	28 ¹	4	7	6
Personal Care	3	13	24	29	2	14
Total	15	19	60	35	10	20

Source: Compiled from Canadian Network for Public Health Intelligence (CNPHI) outbreak summaries

¹Includes 2 outbreaks at a combined hospital/long term care facility

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Source: <http://immunize.ca>

**Newfoundland and Labrador Communicable Disease Surveillance
Monthly Disease Report: June 2016**



DISEASE CLASS	DISEASE NAME	TOTAL			EASTERN			CENTRAL			WESTERN			LABRADOR GRENFELL		
		June	YTD 16	YTD 15	June	YTD 16	YTD 15	June	YTD 16	YTD 15	June	YTD 16	YTD 15	June	YTD 16	YTD 15
Enteric, Food and Waterborne	Amoebiasis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Botulism	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Campylobacteriosis	1	9	21	0	6	14	1	3	3	0	0	0	3	0	1
	Cryptosporidiosis	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0
	Cyclosporiasis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Cytomegalovirus	2	28	22	2	24	21	0	2	1	0	1	0	0	1	0
	Giardiasis	0	3	14	0	3	0	0	0	3	0	0	11	0	0	0
	Hepatitis A	0	1	2	0	1	0	0	0	2	0	0	0	0	0	0
	Listeriosis	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0
	Norovirus Infection	1	13	54	0	0	14	0	0	26	1	13	14	0	0	0
	Salmonellosis	4	25	39	3	13	14	0	8	11	1	2	10	0	2	4
	Shigellosis	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
	Typhoid/Paratyphoid Fever	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Verotoxigenic Escherichia coli	0	1	4	0	1	3	0	0	1	0	0	0	0	0	0
Yersiniosis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Diseases Transmitted by Direct Contact and Respiratory Route	Creutzfeldt-Jakob Disease (CJD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Group B Streptococcal Disease of Newborn	0	2	0	0	1	0	0	0	0	0	1	0	0	0	0
	Influenza Virus of a Novel Strain	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Invasive Group A Streptococcal Disease	0	2	9	0	0	7	0	0	0	0	2	2	0	0	0
	Invasive Haemophilus Influenza non-type B	0	3	0	0	1	0	0	0	0	0	2	0	0	0	0
	Invasive Meningococcal Disease (IMD), Conf	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Invasive Meningococcal Disease (IMD), Prob	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Invasive Pneumococcal Disease (IPD)	2	6	4	0	1	1	1	1	0	1	4	2	0	0	1
	Legionellosis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Meningitis, Bacterial (other than Hib, IMD or IPD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Meningitis, Viral	0	0	2	0	0	1	0	0	1	0	0	0	0	0	0
	Nontuberculosis Mycobacterial Disease	0	1	9	0	0	8	0	1	1	0	0	0	0	0	0
	Severe Respiratory Illness, unknown origin	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Tuberculosis, non-respiratory	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Tuberculosis, respiratory	1	7	20	0	0	2	0	0	0	0	0	0	1	7	18	
Sexually Transmitted and Bloodborne Pathogens	Chlamydia	66	495	503	43	306	342	9	46	41	7	72	58	7	71	62
	Gonorrhoea	1	13	25	1	9	22	0	1	1	0	2	0	0	1	2
	Hepatitis C	18	81	77	14	56	52	1	5	11	3	18	11	0	2	3
	HIV Infection	1	5	7	1	5	7	0	0	0	0	0	0	0	0	0
	Syphilis, infectious	1	12	29	1	10	27	0	2	1	0	0	1	0	0	0
	Syphilis, non-infectious	0	2	4	0	2	2	0	0	0	0	0	2	0	0	0
Vectorborne & Other Zoonotic Diseases	Lyme disease	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Malaria	0	1	5	0	1	5	0	0	0	0	0	0	0	0	0
	Q Fever	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Rabies	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Toxoplasmosis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Trichinellosis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	West Nile Virus Infection	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vaccine Preventable	Chickenpox	3	141	125	2	131	90	1	6	12	0	3	18	0	1	5
	Congenital Rubella Syndrome	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Hepatitis B	1	5	13	0	4	9	1	1	0	0	0	2	0	0	2
	Invasive Haemophilus Influenza type B (Hib)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Measles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Mumps	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
	Pertussis	1	2	0	0	1	0	1	1	0	0	0	0	0	0	0
	Rubella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tetanus	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	

Source: Communicable Disease Control System, Department of Health and Community Services, Government of Newfoundland and Labrador
 Disclaimer: Data are subject to continuous updates; small variations in numbers may occur.
 Note: Prior to January 2011, "Invasive Meningococcal Disease, Probable" was included under the heading "Invasive Meningococcal Disease"
 The majority of chickenpox cases meet the probable case 'definition'

Date verified: 28-Sep-2016

References

National Advisory Committee on Immunization (NACI). (2016) Statement on seasonal influenza vaccine for 2015—2016. Retrieved from <http://www.phac-aspc.gc.ca/naci-ccni/flu-2015-grippe-eng.php>