

Influenza Immunization Rates of Healthcare Workers in Toronto Healthcare Facilities

Date:	May 26, 2011
To:	Board of Health
From:	Medical Officer of Health
Wards:	All
Reference Number:	

SUMMARY

This is the second of three annual reports on influenza immunization coverage rates among healthcare workers (HCWs) in Toronto healthcare facilities.

Influenza is a highly contagious acute viral infection of the respiratory tract which causes annual outbreaks and periodic worldwide epidemics. Annual immunization of persons at high risk, HCWs and others who are capable of transmitting influenza to those at high risk, is the most effective measure for reducing the impact of influenza. Annual influenza immunization of HCWs is recommended by a number of organizations including the National Advisory Committee on Immunization.ⁱ

In order for immunization programs to be successful, high rates of coverage are required. However, influenza immunization coverage rates among HCWs in Toronto and Ontario remain low despite targeted efforts to increase rates.

A review of this season's influenza immunization coverage rates reveals that median coverage rates continue to remain low among HCWs in Toronto acute care facilities, complex continuing care facilities, and long-term care homes (LTCHs). Overall, LTCHs achieved the highest rate. The coverage rates in Toronto acute care and complex continuing care facilities are below Ontario rates, while the LTCH rates are comparable to Ontario rates.

Financial Impact

There are no financial implications arising from this report.

DECISION HISTORY

At the meeting of the Board of Health on October 19, 2009, the Medical Officer of Health reported on influenza immunization rates of HCWs in Toronto healthcare facilities for the 2008/2009 flu season. These rates were identified as generally low and therefore recommendations were made for a concerted effort to improve them.

The Board of Health requested the Medical Officer of Health to provide annual updates on influenza immunization coverage rates among HCWs in Toronto healthcare facilities for the next three years. This is the second of these three annual reports.

The Board of Health urged the CEOs of acute care hospitals, complex continuing care hospitals, LTCHs and nursing agencies to provide a comprehensive program to promote annual influenza immunization of HCWs.

The Board of Health also made recommendations to the Ontario Minister of Health and Long- Term Care to include annual institutional HCWs influenza immunization rates as an indicator within the publicly reported Ontario Patient Safety Initiatives, and to explore options to make annual influenza immunization mandatory for HCWs if coverage rates for healthcare facilities do not improve over the next three years.

At the meeting of the Board of Health on May 17, 2010, the Medical Officer of Health reported on influenza immunization rates of HCWs in Toronto healthcare facilities for the 2009/2010 flu season. The 2009/2010 flu season was a "different" flu season, with both a seasonal influenza vaccine and a separate pH1N1 vaccine. The uptake of the pH1N1 influenza vaccine among HCWs in acute care and complex continuing care remained generally low and was comparable to rates reported for seasonal flu vaccine in previous seasons; uptake was even lower in LTCHs. Coverage rates for the seasonal flu vaccine, which was offered later in the season, were much lower than reported in previous flu seasons.

The Board of Health requested the Ontario Minister of Health and Long-Term Care take proactive measures to increase influenza immunization coverage rates for healthcare institutions; and, if coverage rates do not improve significantly, to consider other measures, including mandatory immunization for some categories of HCWs. In addition, the Board made a recommendation for consultation with the stakeholders in the healthcare sector, particularly the long-term care sector, including the unions in the sector.

ISSUE BACKGROUND

Influenza is a highly contagious acute viral infection of the respiratory tract which causes annual seasonal outbreaks and periodic worldwide pandemics. Influenza transmission and outbreaks in hospitals^{ii,iii,iv,v,vi} and LTCHs^{vii,viii,ix} are well documented and can result in significant patient, resident and staff morbidity and mortality. In Toronto, an average of 36 (ranging from 3 to 103) seasonal influenza outbreaks are reported each year from acute care hospitals, complex continuing care hospitals, and LTCHs. The increased risk of influenza to residents and patients in these facilities is related not only to advanced age and underlying health problems, but also related to the setting, in which residents and

patients are cared for in close proximity and have close contact with a range of HCWs. HCWs can acquire influenza from patients and readily transmit infection to other patients, other HCWs, and their family members.

With a good match between influenza strains in the vaccine and circulating strains, influenza vaccination has been shown to prevent influenza illness in approximately 70% to 90% of healthy children and adults and by about half in the elderly.^x Serious adverse reactions associated with the influenza vaccine are rare.^{xi} Annual influenza immunization of HCWs is recommended by the National Advisory Committee on Immunization.^x In the Mandatory Health Programs and Service Guidelines, the Ontario Ministry of Health and Long-Term Care (MOHLTC) had suggested a target annual facility-wide influenza immunization coverage rate of 70% for HCWs in facilities. In 2009, these guidelines were replaced by the Ontario Public Health Standards which do not provide a specific influenza immunization target for HCWs.

More recently, there has been a growing trend among many American organizations and regulatory agencies recommending that influenza immunization be made a condition of employment for healthcare personnel (HCP). The Society for Healthcare Epidemiology of America (SHEA) has recently published an updated position paper on this topic and noted "Voluntary vaccination programs have been in place for decades with little evidence for an overall increase in HCP vaccination rates. Furthermore, multifaceted mandatory vaccination programs have been tried and tested and have been found to be the single most effective strategy to increase HCP vaccination rates, with multiple facilities and systems achieving vaccination coverage of more than 95%."^{xii} Further, the authors of the SHEA position paper state "therefore, for the safety of both patients and HCP, SHEA endorses a policy in which annual influenza vaccination is a condition of both initial and continued HCP employment and/or professional privileges."^{xii}

Influenza vaccine is provided to the staff of hospitals and LTCHs in Ontario through the Universal Influenza Immunization Program. Under provincial protocols, influenza vaccine coverage rates from LTCHs and public hospitals as of November 15th are to be reported to the local Medical Officer of Health by December 1st of each year. The rates are then reported to the MOHLTC by local health units.

2010-2011 Influenza Season

The 2010/2011 Northern Hemisphere influenza vaccine contained the following strains recommended by both the World Health Organization and the National Advisory Committee on Immunization: A/California/7/2009 (H1N1)-like, A/Perth/16/2009 (H3N2)-like and B/Brisbane/60/2008 (Victoria lineage)-like antigens.ⁱ

Between September 1, 2010 and May 7, 2011, the National Microbiology Laboratory (NML) tested 904 influenza viruses that were received from provincial laboratories across the country and found that there was a good match between this season's influenza vaccine and the circulating influenza viruses in Canada.^{xiii}

Compared to the previous nine years of influenza activity tracked through surveillance data (2000/2001 to 2009/10), the 2010/2011 season had high influenza activity and an earlier than usual peak in activity. Specifically, the case fatality rate (2.8%) and hospitalization rate (32%) were higher than any of the nine previous years. Only the first wave of the pandemic (2008/2009 season) had higher numbers of reported lab-confirmed cases (2 597 cases) than the 2010/2011 season (1 561 cases). The 75 institutional influenza outbreaks detected during the current season was only exceeded in the 2004/2005 season, when there were 103 influenza outbreaks detected.

COMMENTS

Influenza Vaccine Availability and Distribution for Toronto Healthcare Facilities

For the 2010/2011 season, influenza vaccine became available at the end of September 2010, and the initial shipment to Toronto occurred during the first week of October.

Each year TPH staff offer influenza immunization education sessions and materials for HCWs to all acute care and complex continuing care facilities as well as LTCHs.

In order to promote influenza immunization, some healthcare facilities have had some success with the use of multi-faceted immunization campaigns, including strategies such as incentives, stickers for staff ID badges to indicate receipt of vaccine, mobile flu vaccination carts, evening and weekend access to immunization, and strong support/championing by senior leadership.

Influenza Immunization Coverage Rates in Toronto Healthcare Facilities

Healthcare worker influenza immunization rates continue to remain low at Toronto healthcare facilities.

In 2010/2011, the median influenza immunization coverage rate among HCWs in Toronto was 37% (ranging from 14% to 65%) for acute care facilities, 38% (ranging from 17% to 80%) for complex continuing care facilities, and 58% (ranging from 8% to 98%) among LTCHs (Tables 1a, 1b and 1c).

For acute care hospitals, the 2010/2011 coverage rate is consistently lower than the rates for the previous three years, and is lower than the 2010/2011 median rate for all Ontario hospitals. The 2010/2011 Ontario coverage rate, including Toronto, is lower than the 2007/2008 season.

For complex continuing care hospitals, the 2010/2011 coverage rate is comparable to the 2007/2008 rate and lower than the 2010/2011 median rate for Ontario.

The median rate for Toronto LTCHs is also lower than in previous years, with the exception of the 2009/2010 pH1N1 vaccine season (it has been speculated that low rates from that year were due to uncertainty regarding the risk of pH1N1 in the older population served or to the somewhat later availability of the vaccine for HCWs in smaller LTCHs). Although lower than in the recent past, the 2010/2011 median coverage rate for Toronto

LTCHs is comparable to the median rate for all Ontario LTCHs. In general, Ontario LTCH coverage rates, including Toronto, have decreased since the 2006/2007 season.

Table 1a: Healthcare Worker Influenza Immunization Coverage Rates by Flu Season and Vaccine Type, Toronto and Ontario, 2007/2008 - 2010/2011 - Acute Care Hospitals

Flu Season and Vaccine Type	Toronto		Ontario
	N	Median Rate (Range)	Median Rate
2007/2008 Seasonal	17	40% (17% to 62%)	50%
2008/2009 Seasonal	18	42% (24% to 63%)	51%
2009/2010 pH1N1	18	58% (40% to 99%)	65%
2010/2011 Seasonal	18	37% (14% to 65%)	42%

Table 1b: Health Care Worker Influenza Immunization Coverage Rates by Flu Season and Vaccine Type, Toronto and Ontario, 2007/2008 - 2010/2011 - Complex Continuing Care Hospitals

Flu Season and Vaccine Type	Toronto		Ontario
	N	Median Rate (Range)	Median Rate
2007/2008 Seasonal	17	38% (23% to 80%)	50%
2008/2009 Seasonal	16	55% (20% to 80%)	51%
2009/2010 pH1N1	16	59% (37% to 85%)	65%
2010/2011 Seasonal	16	38% (17% to 80%)	42%

Table 1c: Healthcare Worker Influenza Immunization Coverage Rates by Flu Season and Vaccine Type, Toronto and Ontario, 2007/2008 – 2010/2011 - Long-Term Care Homes

Flu Season and Vaccine Type	Toronto		Ontario
	N	Median Rate (Range)	Median Rate
2007/2008 Seasonal	77	66% (19% to 98%)	77%
2008/2009 Seasonal	84	70% (19% to 98%)	77%
2009/2010 pH1N1	85	38% (0% to 97%)	51%
2010/2011 Seasonal	81	58% (8% to 98%)	58%

Specific immunization coverage rates for each of Toronto's acute care and complex continuing care hospitals and LTCHs are presented in Tables 2a-2c below.

Table 2a: Healthcare Worker Influenza Immunization Coverage Rates by Acute Care Hospital, Toronto, 2010/2011

Acute Care Hospital	Total Staff	# Staff Immunized	Staff Coverage Rate (%)
University Health Network – Toronto Western Hospital	2584	1667	65
University Health Network – Toronto General Hospital	6698	3994	60
University Health Network – Princess Margaret Hospital	2946	1714	58
The Scarborough Hospital – Grace Division	1335	615	46
The Scarborough Hospital – General Division	2447	1099	45
Trillium Health Centre	3200	1360	43
St. Michael's Hospital	5130	2090	41
The Hospital for Sick Children	6249	2489	40
North York General Hospital – Branson Division	241	91	38
Women's College Hospital	726	263	36
North York General Hospital – General Division	2581	931	36
Toronto East General Hospital	2423	843	35
Mount Sinai Hospital	5255	1825	35

Table 2a: Healthcare Worker Influenza Immunization Coverage Rates by Acute Care Hospital, Toronto, 2010/2011 (cont'd from previous page)

Acute Care Hospital	Total Staff	# Staff Immunized	Staff Coverage Rate (%)
Sunnybrook Health Sciences Centre	6570	2276	35
St. Joseph's Health Centre	2835	804	28
Humber River Regional Hospital	2965	718	24
William Osler Health Centre, Etobicoke General Hospital	1427	281	20
Rouge Valley Centenary Hospital	2756	389	14

Table 2b: Healthcare Worker Influenza Immunization Coverage Rates by Complex and Continuing Care Hospital, Toronto, 2010/2011

Complex and Continuing Care Hospital	Total Staff	# Staff Immunized	Staff Coverage Rate (%)
McCall Centre for Continuing Care	142	113	80
West Park Healthcare Centre	863	587	68
Bridgepoint Hospital	963	587	61
Runnymede Healthcare Centre	233	139	60
Holland Bloorview Kids Rehab Hospital	1030	591	57
Baycrest Hospital C.C.C.	1107	592	53
St. John's Rehabilitation Hospital	463	189	41
Providence Healthcare Hospital	897	355	40
Centre for Addiction and Mental Health – College & Russell Site	983	357	36
Toronto Rehabilitation Institute – Hillcrest Centre	194	68	35
Toronto Rehabilitation Institute – Bickle Centre (Queen Elizabeth Centre)	497	171	34
Toronto Rehabilitation Institute – University Centre	683	234	34
Toronto Rehabilitation Institute – Rumsey Centre	117	36	31
Salvation Army Toronto Grace Health Centre	250	74	30
Toronto Rehabilitation Institute – Lyndhurst Centre	292	83	28
Centre for Addiction and Mental Health – Queen St.	1826	311	17

Table 2c: Healthcare Worker Influenza Immunization Coverage Rates by Long-Term Care Home, Toronto, 2010/2011

Long Term Care Home	Total Staff	# Staff Immunized	Staff Coverage Rate (%)
Mon Sheong Scarborough Long Term Care Centre	180	177	98
Yee Hong Centre for Geriatric Care – McNiccoll Site	216	210	97
Yee Hong Centre for Geriatric Care – Scarborough Finch Site	244	236	97
Garden Court Nursing Home	43	41	95
Ehatare Nursing Home	32	30	94
Elm Grove Living Centre Inc.	125	117	94
Leisureworld Caregiving Centre – Ellesmere	255	229	90
Castleview Wychwood Towers	427	378	89
Norwood Nursing Home	67	59	88
Mon Sheong Home for the Aged (Downtown)	120	104	87
Seven Oaks	286	247	86
Christie Gardens Apartments and Care	213	183	86
Leisureworld Caregiving Centre – St.George	235	199	85
Fudger House	263	221	84
The Wexford	223	186	83
Leisureworld Caregiving Centre – Cheltenham	174	144	83
Hellenic Home for the Aged – Scarborough	110	90	82
Extendicare – Scarborough	174	142	82
Ina Grafton- Gage Home	166	135	81
Kensington Gardens	390	311	80
Lakeshore Lodge	199	157	79
Dom Lipa Nursing Home – Etobicoke	91	71	78
Belmont House	200	155	78
Cedarvale Terrace Long Term Care Home	249	192	77
Cummer Lodge	455	332	73
Carefree Lodge	161	117	73
Leisureworld Caregiving Centre Altamont	180	129	72
True Davidson Acres	241	172	71

Table 2c: Healthcare Worker Influenza Immunization Coverage Rates by Long-Term Care Home, Toronto, 2010/2011 (cont'd from previous page)

Long Term Care Home	Total Staff	# Staff Immunized	Staff Coverage Rate (%)
Tony Stacey Centre for Veteran's Care Home for the Aged	120	85	71
Wesburn Manor	209	148	71
Bendale Acres	323	228	71
Thompson House	122	86	70
Chester Village	244	160	66
Extendicare – Rouge Valley Nursing Home	235	153	65
St. Clair O'Connor Community Nursing Home	48	31	65
Craiglee Nursing Home – Scarborough	183	118	64
Leisureworld Caregiving Centre O'Connor Court	172	105	61
The Heritage Nursing Home	220	131	60
Maynard Nursing Home	95	56	59
Villa Colombo	450	262	58
Isabel & Arthur Meighen Health Centre	220	128	58
Lakeside Long Term Care Centre	160	93	58
Leisureworld Caregiving Centre – Rockcliffe	220	124	56
Suomi Koti Nurisng Home Toronto	71	40	56
North York General Hospital – Senior's Health Centre	213	115	54
Tendercare Living Centre – Scarborough	312	166	53
Leisureworld Caregiving Centre – Norfinch	196	104	53
Kennedy Lodge Nursing Home	314	166	53
Sunnybrook Veterans Centre	673	353	52
Vermont Square	159	81	51
Shepherd Lodge Nursing Home	310	153	49
Leisureworld Caregiving Centre – O'Connor Gate	180	87	48
Kipling Acres	419	196	47
Extendicare – Guildwood	180	84	47
Leisureworld Caregiving Centre – Scarborough	337	157	47
Baycrest Hospital - Apotex Centre (LTCH)	1233	540	44
Hellenic Home Care for the Aged – Toronto	80	35	44

Table 2c: Healthcare Worker Influenza Immunization Coverage Rates by Long-Term Care Home, Toronto, 2010/2011 (cont'd from previous page)

Long Term Care Home	Total Staff	# Staff Immunized	Staff Coverage Rate (%)
Harold and Grace Baker Centre	234	100	43
West Park Long Term Care Centre	230	98	43
Drs. Paul and John Reikai Centre	125	53	42
Fairview Nursing Home	93	39	42
The Westbury	243	100	41
Casa Verde Health Centre	250	100	40
Nisbet Lodge	130	52	40
Leisureworld Caregiving Centre – Lawrence	232	90	39
Providence Long Term Care Home	274	104	38
Yorkview Lifecare Centre	230	87	38
Ivan Franko Home – Etobicoke	88	33	38
Leisureworld Caregiving Centre – Etobicoke	214	78	36
Versa Care Centre – Etobicoke (Now Humber Valley Terrace)	180	63	35
Highbourne Lifecare Centre – Etobicoke (Now Eatonville Care Centre)	284	92	32
Extendicare – Bayview	210	62	30
White Eagle Nursing Home	69	20	29
North Park Nursing Home	106	29	27
Trilogy Long Term Care Centre	254	66	26
Central Park Lodge Westside	250	56	22
Ukrainian Canadian Care Centre – North York	202	43	21
Labdara Lithuanian Nursing Home	130	26	20
The Village of Humber Heights	210	40	19
Valley View Residence	212	31	15
Copernicus Lodge	325	27	8

Table 2c: Healthcare Worker Influenza Immunization Coverage Rates by Long-Term Care Home, Toronto, 2010/2011 (cont'd from previous page)

Long Term Care Home	Total Staff	# Staff Immunized	Staff Coverage Rate (%)
†The Gibson Long Term Centre			
†The O'Neill Centre			
†Versa Care Centre – Main (Now Main Street Terrace)			
†Wellesley Central Place			

†Institution did not submit 2010/11 seasonal influenza data to Toronto Public Health

TPH staff immunization rates are routinely collected for staff who enter healthcare facilities as part of their work, including staff in the Dental and Oral Health Program, the Communicable Disease Liaison Unit, and the Control of Infectious Diseases and Infection Control programs. In the 2010/2011 influenza season, 54% of these staff received the seasonal influenza vaccine.

CONCLUSION

A review of this season's influenza immunization coverage rates reveals that median Toronto healthcare worker coverage continues to remain low among acute care facilities, complex continuing care facilities, and LTCH staff. Overall, LTCHs achieved the highest coverage rate. Comparison with Ontario median rates show that Toronto acute care and complex continuing care facilities are below Ontario rates, while LTCH rates are comparable to Ontario rates. Overall, Ontario rates for acute care and complex continuing care facilities and LTCHs, including Toronto, have decreased since the 2006/2007 season.

Given that there was a good match between the influenza vaccine and the circulating strains of influenza virus and the early availability of the vaccine, higher rates of vaccination among HCWs could have curbed the large number of healthcare facility outbreaks and high rates of hospitalization and death reported for the 2010/2011 influenza season.

A concerted effort to improve HCW immunization against influenza remains a public health priority. TPH will continue to track and report on HCW influenza immunization rates during the 2011/2012 influenza season and report to the Board of Health in the spring of 2012.

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