Influenza in Manitoba

1999/2000 SEASON

COMMUNICABLE DISEASE CONTROL

Manitoba
Health
Public Health

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Acknowledgements

This report demonstrates the Communicable Disease Control (CDC) Unit's commitment to working in collaboration with its partners to implement enhanced and targeted strategies, further improving coverage and tracking of influenza immunization.

The purpose of this report is to assist in planning, analyzing and implementing influenza prevention programs to progress towards meeting regional, provincial and national goals.

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- The executive and staff of Manitoba's Regional Health Authorities
- Non-governmental health agencies and the medical community
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- Cadham Provincial Laboratory – Doug Milley, Brian Klisko and staff from the clinical virology section

The successes of this year's influenza program could not have been accomplished without the effort of all involved. I sincerely thank you.

Jackie Habing
Influenza Prevention Coordinator
October 2000

Influenza in Manitoba

1999/2000 Season

1. Background

Influenza is a viral illness characterized by an abrupt onset of fever, myalgia, sore throat and productive cough. Unlike other common respiratory illnesses, influenza can cause severe malaise lasting several days. Complications include pneumonia and exacerbation of underlying chronic illnesses which can lead to hospitalization and death. During influenza epidemics, high attack rates of acute illness result in both increased numbers of visits to physicians' offices, walk-in clinics, emergency rooms and increased hospitalizations for management of lower respiratory tract complications. Elderly persons and persons with underlying health conditions are at increased risk for complications of influenza.

Research conducted by the Manitoba Centre for Health Policy and Evaluation in 1997/98 demonstrated that there were predictable weeks in the winter, when there was a 10% increase in admissions related to illnesses associated with influenza, especially in elderly persons over the age of 75 years. During this time period, there were 327 hospitalizations and 14,274 physician visits related to influenza. For the 1999/2000 influenza season, numerous suspected and confirmed influenza outbreaks were reported in Manitoba's personal care homes and chronic care facilities. In total, 245 lab-confirmed cases of Influenza A were reported (as of March 31, 2000) across the province with much of the activity occurring in mid to late December. Influenza-like illness peaked during this same time.

An effective influenza vaccine is available to prevent the spread of the influenza A and B virus, and is offered at no charge to selected high-risk groups each year in the fall. Influenza vaccination has been shown to prevent illness in approximately 70% of healthy children and adults when the vaccine antigens closely match the circulating influenza virus strains. Further, the vaccine has been shown to be 30-40% effective in preventing illness, 50-60% effective in preventing hospitalization and pneumonia, and up to 85% effective in preventing death when used among elderly persons residing in personal care homes. Influenza vaccination may also reduce the risk of outbreaks in nursing home settings.

Influenza viruses undergo constant antigenic change. The antigenic characteristics of current and emerging influenza virus strains provide the basis for selecting the strains included in each year's vaccine. Vaccine effectiveness depends on antigenic similarity between vaccine strains and circulating viruses. Therefore, one or two of the three vaccine component strains typically are updated each year. Annual immunization is required because of the change in vaccine component strains as well as a decline in immunity in the year following vaccination. For the 1999/2000 influenza season, the trivalent vaccine contained A/Sydney/5/97 (H3N2)-like strain, A/Bejing/262/95 (H1N1)-like strain, and B/Yamanashi/166/98-like strain as recommended by the World Health Organization and the Canadian National Advisory Committee on Immunization (NACI).

NACI recommends annual influenza immunization as the most effective way to reduce the impact of influenza. In 1998, NACI recommended that public health influenza immunization programs: 1.) continue to focus on those at high risk for influenza-related complications, 2.) expand to include individuals capable of transmitting influenza to the high-risk populations, such as health care workers and others who have significant contact with high-risk individuals, and those who provide essential community services.

To facilitate increased immunization among health care workers, Manitoba Health announced a policy change in the mid 1990s, to provide free flu vaccine to health care workers who have contact with people in high-risk groups.

The Communicable Disease Control (CDC) Unit, Public Health Branch, Manitoba Health, updates the influenza immunization program annually according to NACI's recommendations. For the 1999/2000 influenza season, the CDC Unit recommended the following high-risk individuals receive influenza vaccine at no cost:

- Adults and children with chronic cardiac and pulmonary disorders (including bronchopulmonary dysplasia, cystic fibrosis and asthma) severe enough to require regular medical follow-up or hospital care

- People of any age who are residents of personal care homes or other chronic care facilities (excludes prisons)
- People ≥ 65 years of age
- Adults and children with chronic conditions, such as diabetes mellitus and other metabolic disease, cancer, immunodeficiency, immunosuppression (due to underlying disease and/or therapy), renal disease, anemia, hemoglobinopathy, inflammatory bowel disease, celiac disease, multiple sclerosis, rheumatoid arthritis, lupus, alcoholism, etc.
- Children and adolescents (ages 6 months to 18 years) with conditions treated for long periods with acetylsalicylic acid
- Persons infected with HIV
- People with risk factors described above, embarking on travel to destinations where influenza is likely to be circulating
- People capable of transmitting influenza to those at high risk:
  - Health care workers and other personnel in settings where care is provided for those at high risk (as noted above). Examples include hospital employees, physician office and outpatient clinic employees, personal care home employees, seniors recreation centre employees, home care employees, volunteers, etc.
  - Household contacts (including children) of people at high risk who either cannot be vaccinated or may respond inadequately to vaccination. This category also includes family, relatives or friends of persons in chronic care institutions who visit frequently.

Approximately 260,000 persons in Manitoba are at increased risk of influenza complications. In 1998/1999, 170,000 doses of influenza vaccine were distributed and an estimated 165,000 individuals immunized. This means an estimated 95,000 eligible persons at increased risk of complications were not immunized.

To reach these individuals in 1999/2000, the CDC Unit implemented an enhanced provincial influenza immunization campaign with the goal of further decreasing influenza-related morbidity and mortality among high-risk citizens in Manitoba. The CDC Unit worked with key stakeholders to achieve the following objectives:

- To increase influenza immunization rates by 20% overall, to approximately 190,000 individuals, from an estimated 165,000 individuals immunized in the previous year.
- To further increase the immunization rates of institutionalized elderly in nursing homes (to at least 92% from 87%).
- To achieve an immunization rate of 75% for adults and children with chronic medical conditions as well as for individuals ≥ 65 years.
- To improve immunization rates of health care workers, including those working in hospitals, personal care homes and in home care settings. This was to minimize the risk of transmission of flu to those at greatest risk, as well as to protect health care workers and their families.

Overview

This report summarizes the influenza immunization activities funded by the CDC Unit for the 1999/2000 season. Enhanced initiatives implemented within the Regional Health Authorities are summarized and key observations highlighted. As well, data on virus detection and influenza-like illness for the same period are reviewed. Direct costs of the influenza immunization program are reported; recommendations are proposed to enhance vaccine coverage of targeted populations.

2. Enhanced Initiatives for Influenza Immunization

Manitoba maintains a strong base of annual influenza immunization, accomplished by immunization of institutionalized elderly in nursing homes, physician-based immunization programs of at-risk individuals and community-based immunization programs of population groups most susceptible to complications from influenza.

To increase coverage rates for targeted groups, the CDC Unit invited the Regional Health Authorities (RHAs) to submit innovative projects to enhance influenza immunization to targeted populations for the 1999/2000 influenza season. Twenty-two written proposals were received from across the province. Most projects included initiatives comprising enhanced education, improved access to immunization and staff incentives. In addition, two proposals requested funding for specific tracking mechanisms to evaluate uptake of influenza vaccination. Table 1 summarizes key components of each proposal along with the total funding allocated by the CDC Unit.

Following completion of the enhanced influenza immunization initiatives, reports were prepared and forwarded by the RHAs to the CDC Unit. These reports summarized initiatives implemented (e.g., target population), numbers of individuals immunized and recommendations for subsequent years.

Table 1. Summary of Enhanced Influenza Immunization Initiatives

Regional Health Authority	Component
Brandon	• Increased community and facility-based clinics • Enhanced education and promotion to community and health care staff
Burntwood	• Improved access to high-risk populations • Enhanced awareness to public
Central	• Marketing incorporating a social marketing approach • Improved access for targeted groups
Interlake	• Enhanced marketing and education to high-risk individuals and care providers
Marquette	• Enhanced education and promotion to public and health care staff • Increased community and facility-based clinics
Norman	• Improved education and advertising techniques to all target groups • Extended hours of public and staff influenza immunization clinics • Improved service delivery
North Eastman	• Education to residents and health care workers • Improved access through availability of various sites and extended clinic hours
Parkland	• Targeted education of health care workers • Promotion and planning for staff influenza immunization • Enhanced education to community • Improved access for health care workers
Portage District Hospital (Central Regional Health Authority)	• Enhanced influenza information and education • Improved access • Marketing
South Eastman	• Enhanced community access to influenza immunization • Enhanced community education and information • Tracking of RHA influenza immunization delivery • Influenza immunization coordination
South Westman	• Enhanced awareness across all target groups • Enhanced coordinated regional approach to the program • Improved access to target groups
Winnipeg Health Region	
Concordia Hospital	• Educational awareness sessions to health care workers
Deer Lodge	• Research project to determine if enhanced marketing, education and increased availability of influenza vaccine made a significant difference in health care workers' uptake of influenza vaccine
Grace General Hospital	• Enhanced education and awareness campaign to staff
Health Science Centre	• Coordinated and conducted influenza immunization program to health care workers and volunteers
Misericordia Health Centre	• Enhanced marketing to health care workers and high-risk groups
Riverview Health Centre	• Enhanced education, information and marketing for staff
Seven Oaks Hospital	• Influenza immunization blitz for health care workers
St. Amant Centre	• Enhanced marketing to staff
Victoria	• Enhanced marketing, education and improved access for staff
Winnipeg Community and Long Term Care Authority	• Enhanced public awareness of influenza through marketing strategies • Development of a staff educational package • Implemented a comprehensive, coordinated immunization campaign • Enhanced the effectiveness of the influenza outbreak management • Improved access for target groups • Research proposal
TOTAL COST	**$287,804.33**

In preparation for the upcoming 2000/2001 influenza season, the CDC Unit hosted a planning session on May 10, 2000. Representatives from all of the RHAs (including chronic care facilities, hospitals, public health), non-governmental health agencies and the medical community met to review best practices and to collaborate in developing new and innovative influenza immunization strategies.

Table 2 summarizes the key observations. The participants identified whether they considered the enhanced influenza immunization initiative to be "effective" or "ineffective" during 1999/2000. For a summary of recommendations regarding new and innovative immunization strategies, refer to Appendix A.

Table 2. Enhanced Influenza Immunization Initiatives: Key Observations

Effective	Ineffective
Educational forums for health care worker (HCW)	Media campaign too late
Social marketing	Lack of support from acute care physicians
Development of logo/slogan	Manitoba Health campaign too late
Improved access – immunizing at the site, flexible timing, drop-in clinics	Large group presentations to HCW rather than small group approach
Accessible and expanded clinic hours	Lack of planning time
Support from unions	Perceived side effects of flu vaccine
Support of high profile doctors	Anti-vaccination groups
Earlier media campaign	Incorrect information from doctors
Staff incentives	Physician resistance
Early immunization	No support from firemen/paramedics
Dissemination of statistics – data showing flu vaccine results in decreased sick time, complications rates from disease, etc.	Start planning earlier – plan to have this session as a yearly event
Availability of HCW promotional materials in other appropriate languages	Adverse events – reports of staff reactions are detrimental to increasing immunization of HCW
Involvement of physicians and nurse educators	Physicians billing clients
Support from College of Physicians and Surgeons, Medical Directors and Medical Officers of Health	No mechanism to collect money from community members who are not eligible for free vaccination
Engage diabetic resource educators	Clarification of criteria
Target pharmacies to promote flu vaccine	Outreach expensive
Acquisition of additional teams of nurses to immunize	Myths
Early availability of promotional materials	Needle fear
Statistical feedback	Improve promotion of clinics
Effective support system	Acquisition of nurses hired too late
Partnering to increase competition for staff immunization among agencies	Flexibility needed to immunize staff on night shift
Standing orders in personal care homes	Missing opportunity to immunize at time of discharge from hospital
Involvement of key contacts (e.g., Kinsmen, Legion, Rotary, Lions, etc.)	Public visitors to hospitals and personal care homes are infecting staff, patients and residents
Funding for enhanced influenza immunization	Infringement of personal rights
Availability of video for health care workers to increase immunization rates	Difficulty defining roles/organization of public health VS homecare coordinator
Advertisement of clinic dates and specific clinic information	Need to advertise incentives prior to clinic

Based on these observations, the CDC Unit will continue to work with the RHAs to build on the successes of the 1999/2000 influenza season while addressing, where possible, concerns identified during the May 10, 2000 planning session (e.g., timelines regarding availability of provincial promotional materials).

On May 29, 2000, the CDC Unit requested proposals from the RHAs to further enhance influenza immunization coverage rates and tracking of influenza immunization for the 2000/2001 season.

3. Influenza Immunization Surveillance

To facilitate evaluation of the provincial program and measure vaccine coverage, the CDC Unit developed an influenza immunization surveillance form designed to capture case-by-case information on clients receiving vaccinations. Prior to this, there was no formal tracking mechanism in place to systematically capture adult immunization data. Vaccine coverage was estimated using the number of doses distributed/given or was based on population estimates from national studies such as the National Population Health Survey.

In addition to data elements such as gender and date of birth, distinct categories were designed to capture information on reason for immunization (e.g., ≥65 years, health care worker, etc.). Surveillance forms were customized according to provider-type: public health, chronic care facility and hospital (see Appendix B).

The request for surveillance was proposed to the Provincial Health Programs and Services Executive Network on October 7, 1999. While support and cooperation were expressed, several RHAs opted to proceed using existing tracking mechanisms given the timing of provincial data collection.[1] For those Regional Health Authorities participating, surveillance forms were distributed accordingly. Line-listed data were subsequently forwarded to the CDC Unit following completion of immunization clinics with an end date of January 31, 2000.

A user-friendly menu-driven computer application was developed (using Microsoft Access 97) at the CDC Unit to enter and summarize immunization data. This program included not only a data-entry screen but also standardized reports to summarize information. A data entry clerk was hired for a six-week period to complete data entry. During this time, several observations were made regarding completion of the form. Described in Table 3, these observations provide opportunity to improve data collection and analysis for the 2000/2001 influenza season.

Table 3. Data Collection/Management: Key Observations

	Observation
1	Use of various surveillance forms instead of the standardized form developed by Manitoba Health resulting in inconsistencies in the definition of data elements (e.g., reason for immunization)
2	Missing data elements (e.g., PHIN, gender, date of birth)
3	Entry of MHSC number instead of PHIN
4	Surname/Given Name illegible
5	Geographic location of immunization clinic not provided or unclear
6	Multiple reasons for immunizations were provided or the reason for immunization was unclear (see Appendix C for additional detail)
7	In some cases, immunizations were provided by physicians working on salary and these data were captured using Manitoba Health surveillance forms (see Appendix C for additional detail)

In total, 18,279 records representing case-by-case data were entered for the 1999/2000 season. Table 4 reports that more than 80% of all immunizations recorded were provided by public health (15,011 clients). The most common reason for immunization stated "individuals 65 years or older" (7,602 individuals or 42%). In just over 10% of cases, the reason for immunization was "other" (1,043) or "unknown" (1,122). This finding indicates that clarification is required for this particular category for the 2000/2001 campaign.

Table 4. Number of Individuals Immunized by Provider Type and Reason for Immunization – 1999/2000 Influenza Season

Provider-Type	≥65 Years	<65+ Chronic	Health Care Staff	Other/ Unknown	Total
Public Health	6,449	4,061	2,700	1,801	15,011
Hospital	274	188	602	37	1,101
Chronic Care	879	417	544	327	2,167
Total	**7,602**	**4,666**	**3,846**	**2,165**	**18,279**

1 South Eastman, Brandon, South Westman, Marquette and Central Regional Health Authorities.

Limitations

There were several limitations to data collection that are important to consider when reviewing vaccine coverage for the 1999/2000 season:

- Surveillance was initiated late in the campaign; several immunization clinics had already taken place before the program was officially endorsed by the RHA management.
- There was no formal mechanism in place to track receipt of surveillance forms. Specifically, the responsibility to collect and forward immunization data to the CDC Unit was the responsibility of each RHA. Under-reporting is known to have occurred as surveillance forms were received as recently as June 2000. Several hospitals and personal care homes commented that they were unaware of the surveillance initiative. Further, roughly 1,750 records of immunizations provided by the Victoria Order of Nurses (VON) were not captured. In addition, reporting across residential care facilities managed by Manitoba Family Services and Housing was incomplete.
- Information submitted by several of the Regional Health Authorities was in summary form rather than line-listed.

The information insert enclosed in this report shows the number of individuals immunized by RHA, and reason for immunization for health care jurisdictions in which data were submitted to the CDC Unit in line-listed format. Further, information describing the number of immunizations by fee-for-service physicians is included. The information insert is specific and restricted to the RHA to which this report is directed.

Despite data limitations, the introduction of province-wide surveillance for influenza immunization provided the CDC Unit with the first opportunity to evaluate the provincial influenza immunization program. Ultimately, it is the expectation of the CDC Unit that systematic collection of same data will allow for tabulation of vaccine coverage rates so that comparisons over time and with provincial and national goals can be made. In this regard, several recommendations regarding surveillance are proposed and included in Section 6.

Province-wide surveillance has further emphasized the importance of making available an adult version of the Manitoba Immunization Monitoring System (MIMS) to systematically capture immunization data. Effective August 2000, MIMS was expanded to include all immunizations provided to Manitobans, regardless of age. Efforts to further enhance MIMS are ongoing. The CDC Unit has developed an adult immunization record card and personal care home immunization sticker for client files. These resources will become increasingly important given implementation of additional adult immunization programs (e.g., pneumococcal immunization).

4. Virus Detection and Influenza-Like Illness

For 1999/2000, the annual influenza surveillance program was *expanded* to include additional components, specifically:

- Virus Detection
- Strain Characterization
- Reports of Outbreaks
- Influenza-Like Illness
- Assessment of Influenza Activity Level
- Deaths
- Routine Dissemination of Information

Virus Detection – Laboratory-Confirmed Reports of Influenza

Reports of culture isolations from the Cadham Provincial Laboratory (CPL) were forwarded to the CDC Unit daily. The number of positive cultures was 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.

As of March 31, 2000, 245 cases of Influenza A were reported (based on specimen date). The first case was reported in October in Southwest Manitoba, and cases peaked at 154 cases in December (Figure 1). Much of the activity occurred between December 12 and Dec. 31 (Figure 2). More than half of all cases were reported from the Winnipeg Regional Health Authority (65.3%) (Table 5) and nearly 42% of cases were reported in individuals 80 years or older (Table 6).

Of most importance is not the number of positives associated with the peak but the time of the peak activity and the particular strain of influenza circulating. As illustrated in Figure 1, peak activity occurred in December 1999, one month earlier than the 1998/99 season and two months earlier than the 1997/98 season. Once the first case of lab-confirmed influenza is identified, a peak in activity (as defined by lab-confirmation, influenza-like illness and hospitalizations) may be expected within 4-8 weeks.

Strain Characterization

In Manitoba this past season, the predominant strain of influenza circulating was H3N2. This particular strain is known to be more virulent than H1N1 or Influenza B.

Outbreaks

Reports of influenza outbreaks were wide-spread across Manitoba and occurred primarily in personal care homes and chronic care facilities. Approximately 30 suspected and confirmed outbreaks were reported.

Influenza-Like Illness

Manitoba participated in the national Flu Watch Program coordinated by the Laboratory Centre for Disease Control (LCDC), Health Canada and the College of Family Physicians of Canada. As part of this program, sentinel physicians selected one clinic day per week and recorded the total number of patient visits (denominator) as well as number of patients meeting a pre-established case-definition of influenza-like illness (ILI)[2] (numerator). This information was subsequently forwarded to Health Canada where ILI rates were calculated.

Sentinel physicians were recruited directly by the College. However, this past season a cover letter was prepared by two physicians in Manitoba supporting the importance of influenza surveillance. Recruitment was population-based by the RHA. Recruitment for 1999/2000 more than doubled from the previous year. In total, 23 physicians were recruited, with 18 reporting consistently for the majority of the season as compared to 9 sentinel physicians in 1998/1999.

As illustrated in Figure 2, the rate of influenza-like illness (ILI) peaked at 217 per 1,000 during the week of December 26 to January 1. For the most part, peak activity in ILI corresponded with that of laboratory-confirmed activity for Influenza A.

Assessment of Influenza Activity Level

As part of the National FluWatch program, the influenza activity level for each RHA was assigned weekly at the CDC Unit. Activity levels[3] were defined as: (1) no activity; (2) sporadic activity; (3) localized activity; and, (4) widespread activity. Assessment was based on laboratory-confirmation of influenza in the prior four weeks, reports of influenza-like illness, and outbreaks.

Assigned activity levels were forwarded weekly to Health Canada. Maps were subsequently prepared to illustrate the influenza activity level by province.

Deaths

While reports of deaths attributable to influenza are known to be incomplete, 12 deaths were reported to the CDC Unit from Medical Officers of Health and from the Chief Examiners Office.

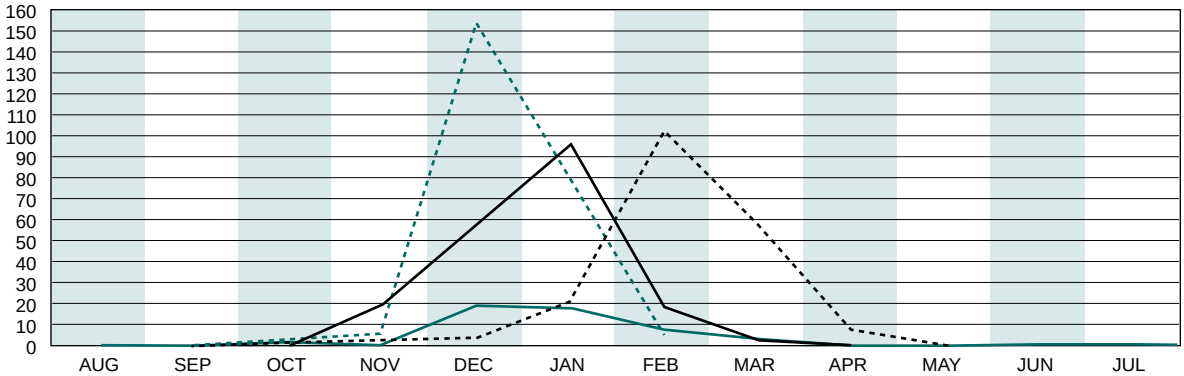
Dissemination of Information

Information summarizing regional, provincial and national influenza activity during 1999/2000 was routinely prepared and distributed to Regional Health Authorities and Health Canada. Examples include:

- Daily report of influenza activity in Manitoba (Appendix D)
- Weekly report of influenza activity in Manitoba (Table 5 – routine reports also included Influenza B and Parainfluenza)
- Weekly report of influenza-like illness rates (Figure 4)
- Weekly reports of influenza activity in Canada (Appendix E)

Figure 1. Influenza A: Number of Laboratory-confirmed Cases, 1996/1997 – 1999/2000*

*** Based on specimen date (cases reported to Mar. 31, 2000)**



	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL
1996/1997			2	0	18	17	7	1	0	0	0	0
1997/1998	0	0	1	1	5	20	103	58	6	0	1	1
1998/1999	0	0	0	20	60	96	20	3	2	0	0	0
1999/2000	0	0	3	7	154	75	6					

2 Influenza-Like illness: acute onset of respiratory illness with fever and/or cough and with one or more of the following – sore throat, arthralgia, myalgia or prostration – which could be due to influenza virus.

3 See Appendix E for a definition of each activity level.

Figure 2. Influenza-Like Illness (ILI) and Number of Laboratory-confirmed Cases of Influenza A by Report Week, Manitoba, 1999/2000 Season*

*** Number of lab-confirmed cases based on specimen date (reported to Mar. 31, 2000): ILI Rates available to March 18, 2000**

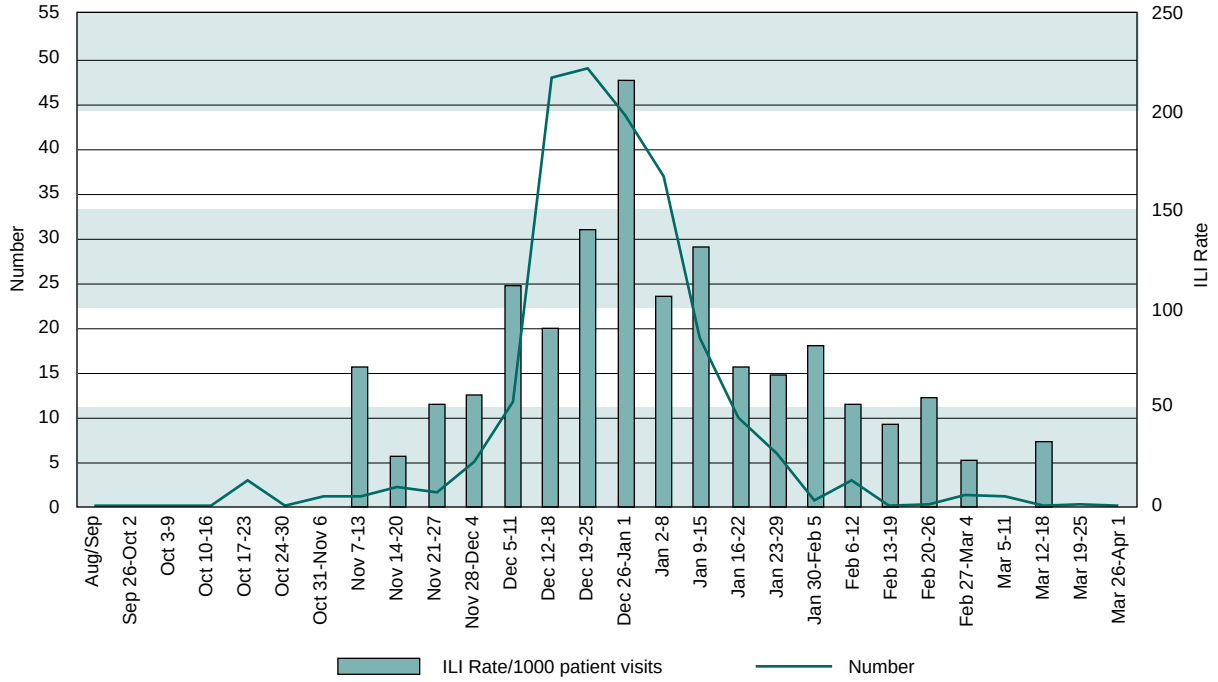


Table 5. Influenza A – Number of Laboratory-confirmed Cases by Regional Health Authority (RHA) and Week

Week of / RHA	Aug/Sep	Sep 26-Oct 2	Oct 3-9	Oct 10-16	Oct 17-23	Oct 24-30	Oct 31-Nov 6	Nov 7-13	Nov 14-20	Nov 21-27	Nov 28-Dec 4	Dec 5-11	Dec 12-18	Dec 19-25	Dec 26-Jan 1	Jan 2-8	Jan 9-15	Jan 16-22	Jan 23-29	Jan 30-Feb 5	Feb 6-12	Feb 13-19	Feb 20-26	Feb 27-Mar 4	Mar 5-11	Mar 12-18	Mar 19-25	Mar 26-Apr 1	Total
Brandon	0	0	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	0	1
Burntwood	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	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	2	2	4	1	5	1	1	0	0	0	1	0	0	0	0	0	17
Churchill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Interlake	0	0	0	0	0	0	0	0	0	0	0	0	2	4	3	1	2	1	0	0	1	0	0	0	0	0	0	0	14
Marquette	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	2	0	1	0	0	0	0	0	0	0	0	0	0	7
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	0	0	0
North Eastman	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	5
Parkland	0	0	0	0	0	0	0	0	0	0	0	0	2	4	0	6	0	0	0	0	0	0	0	0	0	0	0	0	12
South Eastman	0	0	0	0	0	0	0	0	0	0	0	0	2	1	2	3	1	1	0	0	0	0	0	0	0	0	0	0	11
South Westman	0	0	0	0	2	0	0	1	0	0	0	0	0	0	3	2	1	1	1	0	1	0	0	1	0	0	0	0	12
Winnipeg	0	0	0	0	0	0	1	0	2	2	4	12	38	35	29	20	10	4	0	1	0	0	0	0	0	0	0	0	160
UK/Non-resident	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	3	0	1	1	2	2	5	12	48	49	44	37	19	10	6	1	3	0	1	1	0	0	0	0	245

NOTE: Weeks are defined as Sunday to Saturday and are based on specimen date.

Table 6. Influenza A: Number (%) of Laboratory-confirmed Cases by Age-group

Age-group	Number	%
<1	27	11.0
1-14	13	5.3
15-19	3	1.2
20-29	14	5.7
30-39	12	4.9
40-49	9	3.7
50-59	22	9.0
60-69	18	7.3
70-79	25	10.2
80+	102	41.6
All	**245**	**100**

5. Provincial Program Funding

In total, $740,739.13 was expended for the 1999/2000 provincial influenza immunization program. Costs included purchase of vaccine, promotional materials, media campaign, enhanced influenza immunization initiatives and clerical support for data entry (Table 7).

Table 7. Enhanced Influenza Immunization Expenditures 1999/2000

Expenditures	Actual Costs Year to Date
Vaccine	$372,031.23
Regional Health Authorities' Administration Costs:	
Regular Permanent Pay and Benefits	$278,399.98
Data entry clerk	$2,610.00
TOTAL ADMINISTRATION COSTS:	$281,009.98
RHA's Operation Costs:	
Transportation	$4,064.73
Telephone	1,582.54
Postal Services	205.70
Messenger/Courier	1,113.65
Operating Supplies	20,202.44
Food/Beverage/Meals	3,082.13
Advertising	11,096.73
Meetings	150.00
TOTAL OPERATING COSTS:	$41,497.92
Public Health Branch Promotion Costs:	
Posters	$1,150.00
Brochures	$2,800.00
Media Campaign (radio/newspaper)	$40,000.00
Fact Sheets	2,250.00
TOTAL PROMOTION COSTS:	$46,200.00
TOTAL	$740,739.13

6. Recommendations

With the experience of the 1999/2000 enhanced influenza immunization initiatives, the following recommendations are proposed for the upcoming season:

1. Continue to support targeted Influenza Immunization Initiatives during the 2000-2001 season, in collaboration with the RHAs, with the goal of increasing influenza immunization rates. Correspondence soliciting targeted influenza immunization initiatives was distributed May 29, 2000. A summary of key items includes:
   - A single submission for targeted initiatives per RHA (this may include multiple projects) received by the CDC Unit by June 30, 2000.
   - Each RHA will identify a single contact person for their targeted influenza immunization initiative.
   - The RHA will submit one financial invoice for the targeted influenza immunization initiative on a monthly basis. The deadline for final submission of invoices will be February 28, 2001. The invoice template was included with the letter of acceptance.
   - The RHA will submit a report summarizing influenza immunization rates as well as information pertaining to targeted population, overall goals, activities implemented to meet these goals and recommendations for the 2001/2002 influenza season by March 15, 2001. The RHA will coordinate return of data from all service providers within their region.
2. Improve surveillance of influenza immunizations:
   - MIMS needs to be expanded to include all immunizations provided to Manitobans regardless of clients' age.
   - Initiate surveillance of influenza immunizations in advance of the annual campaign and make use of a standard CDC Unit-defined form.

- Request regional coordination of surveillance forms to improve completeness across settings (e.g., hospitals, personal care homes, etc.).
- Foster collaboration with non-governmental health care organizations (e.g., VON) as well as government departments such as Family Services, to promote immunization and ensure that all immunization data are captured.
- Ensure completion of all data elements.
- Consistently assign a single reason for immunization based on pre-defined hierarchy.
- More precisely define residents within personal care homes.
- Support localized and/or regional data entry into MIMS to improve timeliness of analysis and evaluation.
- Each RHA will be responsible for entering influenza immunization data into MIMS within their jurisdiction. To facilitate data entry, additional funding will be allocated to the RHAs.
- Each RHA will identify denominators for the targeted populations in order to measure progress towards our provincial and national goals.
- Availability of, and access to MIMS will be expanded with remote dial-in access in a variety of health care settings across the province.
- Five years of physician claims data will be incorporated into MIMS to populate the "adult" component of the registry.
- A MIMS Coordinator will be hired to ensure operational and functional issues related to MIMS are addressed.

3. To increase the immunization rates of staff who provide health care to those at risk of influenza (home care staff, personal care home staff, hospital staff, etc.) This is to minimize the risk of transmission of flu to those at greatest risk, as well as to protect health care workers and their families.

The CDC Unit of Manitoba Health strongly recommends that health care workers who care for those at risk of complications of influenza infections be immunized annually. This recommendation should be promoted by RHAs, facilities and professional organizations. This recommendation falls short of mandatory immunization policies of health care workers in Ontario and British Columbia. It is supported by inquest findings in a personal care home outbreak in Ontario, "Inquest into an Outbreak of Influenza A in a Nursing Home in Kitchener, Ontario, Jury Recommendations," September 22, 1999. Scientific evidence also supports this recommendation, as immunized health care workers protect themselves and reduce influenza rates in institutions.

4. The RHAs will promote education of health care workers, to gain support and improve uptake of influenza immunization among health care industry staff.
5. At the request of the RHAs, the CDC Unit will develop a policy regarding documentation of informed consent for immunizations. As recommended by professional bodies and NACI, informed consent must be obtained before a vaccine is administered. To document this process, the revised "Influenza/Pneumococcal Vaccine Surveillance" form will include a check box which indicates that informed consent has been obtained, as well as a line for the immunizing nurse or physician to sign.
6. To increase the available supply of influenza vaccine from 225,000 doses up to 235,000 doses for the 2000/2001 influenza season. This will be done through the Federal/Provincial/Territorial vaccine purchase program.
7. Continue to disseminate annually updated information on influenza immunization recommendations.
8. Regular teleconferencing between the provincial and regional immunization coordinators was highly effective means of collaborating and problem solving. This method should be continued for the influenza immunization program and should be a component of similar new initiatives.

9. Maintain payments to physicians for immunization of health care workers (initiated in 1998).
10. In conjunction with Medical Officers of Health and RHA staff in the regions, the CDC Unit will continue to support investigations of influenza epidemics in facilities and communities.
11. In partnership with schools, public health nurses, sentinel physicians, other provinces and Health Canada, the CDC Unit will continue to conduct influenza surveillance, including virus detection and strain typing at the Cadham Provincial Public Health Laboratory (CPL).
12. Collaboration with key stakeholders at First Nations and Inuit Health Branch and the Manitoba Tribal Councils is necessary to establish a partnership for programs such as the influenza immunization program.
13. An influenza prevention coordinator based in the Communicable Disease Control Unit of the Public Health Branch will continue to work with Regional Immunization Coordinators to help promote, monitor and provide advice on influenza immunization programs.
14. In order to evaluate best practices and plan for the 2001/2002 influenza and pneumococcal immunization programs, a influenza/pneumococcal symposium will be held in May 2001.
15. Funding to the RHAs for the influenza immunization program should move from reimbursement for actual expenses incurred to the RHAs' base budget for the 2002-2003 fiscal year. This time frame will ensure sufficient financial data to determine accurate costs of implementing the regional influenza immunization program.
16. CDC Unit will continue to provide funding for immunization coordinators to each RHA, with the exception of Churchill. The immunization coordinator is responsible for the coordination of all immunization programs including influenza, hepatitis B, pneumococcal, etc.
    - The number of immunization coordinators per RHA should be based on population within the RHA and consider specific RHA demographics such as number of physicians immunizing and geographic isolation.
    - Funding of immunization coordinators should be moved to the RHA's base budget in the 2002/2003 fiscal year.
17. To build our health system capacity as part of preparations for pandemic influenza planning and response.
18. Distribute influenza immunization promotional materials in early September as recommended by the RHAs.
19. RHAs to advertise influenza clinics well in advance of clinic dates.
20. Consideration must be given to developing strategies to meet the needs of individuals whose first language is not English or French, e.g., alternate language fact sheets.
21. Coordination of influenza immunization promotional campaigns will occur at national, provincial and local levels to ensure that the annual campaign is launched early in October each year.

7. Summary

The Communicable Disease Control Unit looks forward to building on the successes and challenges of the 1999/2000 influenza campaign. In collaboration with the Regional Health Authorities, the CDC Unit will work towards implementing targeted strategies to further improve coverage and tracking of influenza immunizations. In this way, evidence-based information will be made available to evaluate the effectiveness of the program and progress towards meeting regional, provincial and national goals.

The CDC Unit will continue with its commitment to maintaining and improving the annual influenza immunization program to promote optimal health of its citizens and efficient use of health care resources.

Appendix A

Influenza and Pneumococcal Forum

May 10, 2000

Summary of Recommendations Regarding New and Innovative Immunization Strategies
Summary Notes from Group Work Session 2

2000-2001 Influenza Immunization Programs

The working groups met to list possible initiatives/strategies for increasing coverage in their identified target group.

Target Groups: Group A - Health care workers
Group B - Healthy and high risk ≥ 65 years
Group C - Personal care home residents
Group D - High risk individuals < 65 years

The working groups subsequently described barriers, issues and key contacts for each strategy and made a recommendation regarding the initiative, with intended implemention for the 2000/2001 influenza season.

The following summary identifies recommendations made by target group.

Group A – Health Care Workers

Strategy:

Introducing a policy that has annual influenza vaccination as a condition of employment.

Discussions:

1. Stakeholders needed are unions, RHAs, Manitoba Health and physician groups.
2. A directive from Manitoba Health is needed that is supported financially.
3. Barriers will be the backlash against the punitive aspects of mandatory policies (vaccine controversy/anti immunization groups).
4. RHAs are the employers and are responsible for staff health. The resources to do this are varied and sometimes non-existent.
5. The occupational health programs need to be expanded so that influenza is one component of an overall program and not the program by itself.
6. Need to go further upstream, e.g., Faculties of Nursing, etc., so that they know the expectations of the workplace.
7. Strategies to increase coverage – graphs that show the percentage of staff on each ward that are vaccinated.
8. Perhaps phase this in over 2-3 years. Focus on the very positive features (adequately staffing this) then as the coverage rates are increasing, the thought of vaccination will be "normalized" and mandatory vaccination will not be difficult to implement (fewer backlashes).
9. It is important to have staff clinics that are accessible and convenient and that staff are given enough time to attend the clinic. This stresses the RHA support of occupational health programs.

Recommendations:

The initial work needs to be done by Manitoba Health.

1. That a directive be established and linked to support (both financial and human resources).
2. The RHAs (who are the employers and have the responsibility of occupational health) need to have a high commitment to this program and link it to a better-developed occupational health program.
3. Focus on the positive features of the influenza program and try to downplay the "mandatory" aspects (and avoid backlash).

Recommendation from second group addressing strategies to increase coverage among health care workers:

Be Proactive:

Strategies to improve vaccine uptake of health care provider:

1. Immunize major decision makers, within Health care facilities, as an example.
2. Address "myths" with health care providers prior to discussing the benefits of the vaccine.
3. Needle "fear" discuss this.
4. Incentives/prizes – mixture of feelings whether it works or not.
5. Survey "needs" assessment of health care workers. Why the flu vaccine is not accepted – or focus group with selected health care workers and facilitator.
6. Small group presentations to health care workers rather than large group approach.
7. Targeting pharmacists to promote flu vaccine to health care workers.
8. Social marketing.
9. Demonstrate data showing reduction in sick time with uptake of flu vaccine.
10. Encourage health care workers to be an integral part in planning flu clinics.
11. Targeting family doctors who do not promote flu vaccine.
12. Notes, or verbal reminders of when flu clinics occur.
13. Issue of confidentiality – in some cases health care workers do not want their coworkers or employers to know whether or not they got a flu shot. They should have the option to go to their own health care providers. Multiple site options where health care workers can get a flu shot.
14. Health care workers require a second language to get information out to patients who do not speak english.
15. Develop video for health care worker.

Group B – Increasing Coverage with Healthy and High Risk ≥ 65 years

Overall Plan – target subsets within this group to improve their awareness and increase vaccine access opportunities

1. Target: mental health clients

Strategies – network with care providers to identify and access opportunities/locations.

Barriers – Time!! Record keeping, informed consent.

Key contacts – Mental Health and Family Services workers.

Sites to include: soup kitchens, church drop-in centres, program sites.

2. Target: elderly "shut-ins"

Strategies – Offer home visit for immunization; use church newsletters, community papers, local TV (free) air time, flyers with Meals on Wheels and delivered prescriptions to promote the vaccine and advertise clinic/nurse visit dates. Use volunteers to offer rides to clinics or to call and remind patients (like election day!).

Barriers – requires advance planning.

Key contacts – contact home care workers/diabetes educators to identify clients; existing community volunteers (e.g., Kinsmen, Legion, Rotary, Lions Club).

3. Other key contacts

Other key contacts to increase communication opportunities (e.g., for clinic dates or nurse visiting with vaccine or benefits of flu vaccine): Manitoba Metis Federation, senior's "drop-in" centres, flyer through pharmacist, posters up at bingo halls/churches/local grocery, flyer with security cheque, MTS or hydro bill.

Barriers – cost to produce materials; language, cultural issues.

4. Target: Physicians/nurses/medical directors

Strategy – Increase physicians/nurses awareness of importance of influenza vaccine for their clients so they help promote or offer the vaccine.

Barriers – time!!! Need provincial plan.

Key contacts – College of Physicians and Surgeons, MARN, Manitoba Health.

5. Target: skeptical about immunization group

Strategy – develop education materials addressing key myths about flu shots, needle fear, benefits of vaccination, "personal stories" to counter anti-immunization message. Use local papers and TV plus local "experts" to promote. Increase availability of vaccine by offering at pharmacies/grocery stores.

Key contacts – local papers/radio/TV stations; pharmacists, grocery stores.

6. Target: family members of PCH residents

Strategy – offer flu shots to family members as a part of PCH immunization days.

Barriers – who pays for the vaccine?

Group C – 2000-01 Recommendations for Personal Care Home Residents

- ***Strategy:*** Have physicians support immunization.
  Barriers, Issues, Contacts: Physicians may not have enough information or have misconceptions. Where there is more than one physician at a personal care home, a variety of decisions are possible. A consensus on the part of all physicians or a medical director's decision for the entire facility would probably increase immunization rates.
  Recommendation: Increase education by local Medical Officers of Health and Province. Encourage personal care home physicians to act as a unit with respect to influenza immunization decision-making. Support all personal care homes having a medical director.

- ***Strategy:*** Improved clarity of guidelines as to when vaccine should be given, number of doses, and who is eligible, will promote increased uptake.
  Barrier, Issues, Contacts: Province publishes guidelines each fall.
  Recommendation: Province to improve clarity of guidelines.

- ***Strategy:*** Generate more support from families for immunization.
  Barriers, Issues, Contacts: More education of families required.
  Recommendations: Target educational materials to families and generate public awareness of need to immunize.

- ***Strategy:*** Increase consent rates for those with power-of-attorney.
  Barrier, Issues, Contacts: Whose role is it to obtain consent in this situation?
  Recommendation: Province to clarify route for obtaining consent.

- ***Strategy:*** Make it clear as to whether incoming residents have already been immunized or not.
  Barriers, Issues, Contacts: No adult MIMS.
  Recommendation: Put a sticker on each chart which indicates whether or not immunization has occurred this year.

- ***Strategy:*** Obtain consent for immunization at the time of admission or several weeks in advance of planned immunization.
  Barriers, Issues, Contacts: Conditions may change, making the original consent invalid.
  Recommendation: Province to give guideline as to how long consent might be good for.

- ***Strategy:*** Increase support for immunization from infection control and staff.
  Barriers, Issues, Contacts: Many personal care homes do not have infection control staff with adequate training. Many staff remain skeptical about vaccine.
  Recommendation: Support the presence of infection control positions in personal care homes. Improve staff knowledge about vaccine by targeted education and increasing general public awareness about vaccine.

- ***Strategy:*** Share successes amongst different RHAs.
  Barriers, Issues, Contacts: Contacts are immunization coordinators, public health nurses.
  Recommendation: Improve communication in and amongst RHAs.

- ***Strategy:*** Promote Influenza and Pneumococcal immunization simultaneously.
  Barriers, Issues, Contacts: Confusion about the two vaccines and how often they are required must be avoided. Two consents will be required this year.
  Recommendation: Fact sheets on both vaccines could be given out simultaneously and public announcements could mention both vaccines.

- ***Strategy:*** Plan immunization activities in advance.
  Barriers, Issues, Contacts: Lack of staff impedes planning. Progress of implementation/planning should be monitored.
  Recommendation: Support increasing staff numbers in personal care homes.

- ***Strategy:*** Make guidelines for consent clearer, e.g., written vs. oral and how it should be obtained.
  Barriers, Issues, Contacts: Written documentation is time-consuming as is obtaining consent yearly.
  Recommendation: Province to clarify guidelines.

The groups also raised the following issues about influenza in personal care homes in general:

- Elderly persons housing complexes are similar to personal care homes and increased immunization could occur in these settings but a lack of resources limits this.
- Outbreak control could be improved by:
  - Defining exactly what is an outbreak and when to report to public health
  - Developing a communication strategy to respond to the media
  - Enhanced case-finding and agreeing on a uniform definition of influenza
  - All personal care homes having an outbreak protocol
  - Inservicing staff on vaccines and anti-virals
- Preventing staff from working while they are ill.
- Excluding un-immunized staff, but this could lead to staff shortages.
- Stocking amantadine.
- Having creatinine clearances calculated in advance.
- Increasing the number of infection control nurses in personal care homes.
- Taking swabs early-on.
- Having all the required forms in one place would be helpful.
- Data submission requirements increases workload on staff; more staff/resources are required.
- Labs not charge for creatinine.

Group D – High Risk Under 65

Initiatives/Strategies:

- Access, educate and partner with managers, continuing care, MDs, DER, Occupational Therapists, Physiotherapists, pharmacists.
- Target physicians with information which clarifies eligibility, benefits of vaccine.
- Access schools, outpatient clinics, daycares.
- Access Child and Family Services, Children's Special Services, "chronic illness" agencies, MCCA.
- Increase networking/referral process to PHN.
- Provide information/mailouts to above departments.
- Establish influenza "hotline", enhance public awareness campaign.
- Develop a database of clients that are considered high risk through societies registries; supply notices through payroll stubs, unemployment/ social assistant cheques.
- Change policy to allow for free vaccination of healthy contacts of the high risk, under 65 age group.
- Change policy to allow for free vaccination of those 50 years and up.
- Change hospital policy to incorporate vaccination of high risk on discharge, vaccination in Emergency rooms and Urgent Care Centres.
- Hold clinics for this high risk group at Public Health offices, schools, pharmacies, malls, i.e., flexible community based clinics at multiple sites.
- Advertise through newsletters, community newspapers, coffee news newsletter at coffee shops, non-profit organization newsletters, i.e., Diabetes, Kidney Foundation, Manitoba Lung Association, church newsletters, inserts to go in the bag with prescriptions.

Recommendations for 2000-2001:

- Have information session for care providers early in the season.
- Update and improve MIMS programs and database to include adult immunization.
- Increase educational material and support from drug companies.
- Partner with community based pharmacies.
- Increase referral networking, in particular to public health.

Barriers:

- Insufficient staffing for Health Links, money, money, money.

Appendix B

Influenza Immunization Surveillance Forms

Influenza Immunization Surveillance – 1999/2000 Season

Manitoba
Health
Public Health Branch

Public Health Clinic: ______________________________

City/Town/Municipality: ______________________________

Contact: ______________________________ Phone: ____________

Last Name (please print)	Given Name (please print)	PHIN (9 digits)	Date of Birth (YYYY/MM/DD)	Gender	Reason for Immunization				Date of Immunization (YYYY/MM/DD)
					Individual ≥65 Years	Individual <65 Years with Chronic Condition	Health Care Staff	Other	
				☐ M ☐ F	☐	☐	☐	☐	
				☐ M ☐ F	☐	☐	☐	☐	
				☐ M ☐ F	☐	☐	☐	☐	
				☐ M ☐ F	☐	☐	☐	☐	
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				☐ M ☐ F	☐	☐	☐	☐	
				☐ M ☐ F	☐	☐	☐	☐	
				☐ M ☐ F	☐	☐	☐	☐	

For program-specific questions, contact Jackie Habing, Influenza Prevention Coordinator at (204) 788-6725. For questions specific to the surveillance of influenza immunization, contact Debbie Nowicki, Public Health Epidemiologist at (204) 788-6786.

PLEASE RETURN COMPLETED FORMS TO DEBBIE NOWICKI, 4060-300 CARLTON STREET, WINNIPEG, MB R3B 3M9

Date Printed: 15/08/00

Appendix C

Influenza Immunization Surveillance – Data Collection/Management

- Multiple reasons for immunizations were provided or the reason for immunization was unclear.
  - Intentionally, when developing the surveillance form, categories established to assign the reason for immunization were defined to be mutually exclusive (e.g., >=65 years; <65 + chronic condition, health care staff, other). That is, only one category would be completed. However, in numerous cases, more than one reason for immunization was completed. As a result, a hierarchy was defined to assign a single category: (1) "health care worker"; (2) if not health care worker and age >= 65, ">=65 years"; (3) if not health care worker and age < 65 with chronic condition, "<65 years and chronic condition"; (4) "other"; (5) if no reason for immunization was provided, "unknown". Residents of personal care homes were defined if the provider type was "Chronic Care Facility" and the individual was greater than or equal to 65 years, less than 65 years with a chronic condition, other or unknown. We recognize that this definition is restrictive in that residents of personal care homes may be immunized while in hospital or by public health staff immunizing in clinics external to the care facility. For this reason, the numbers immunized for this risk group may be under-reported. This is one particular area that requires further consideration.
- In some cases, immunizations were provided by physicians working on salary and these data were captured using Manitoba Health surveillance forms.
  - As similar information was to be captured for fee-for-service physicians on an ad-hoc basis through physician claims data, there was uncertainty regarding how to assign the provider type for these vaccinations – Physician vs. Public Health. It was acknowledged that salaried doctors were affiliated with primary health clinics and these facilities fell within the jurisdiction of the Regional Health Authority. As a result, immunizations provided by salaried physicians were classified as "Public Health."

Appendix D

Daily Report of Influenza Activity in Manitoba 1999/2000

Daily Report of Influenza Activity in Manitoba – March 31, 2000

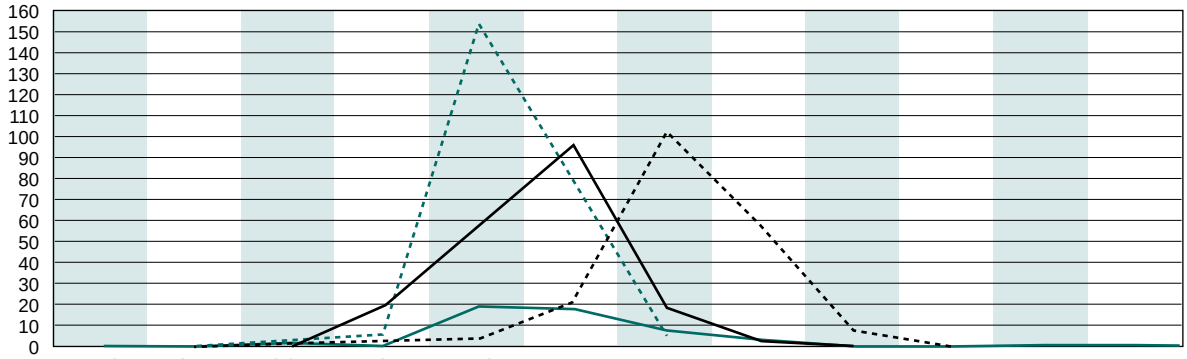
Laboratory-Confirmed Influenza

- NOTE: Reports of culture isolations from Cadham Provincial Laboratory (CPL) are forwarded to the CDC Unit daily. The number of positive cultures from CPL 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.
- Information contained within this update is based on positive lab reports received at the CDC Unit as of Mar 31, 2000
- The specimen date is used to (a) extract cases; and (b) assign cases to the appropriate week/month of interest
  - In total, 245 cases of Influenza A have been reported this season (1999/2000) with the first case reported in October
  - Of the 245 cases of Influenza A:
    - 160 cases have been reported from Winnipeg RHA
    - 17 cases have been reported from Central RHA
    - 14 cases have been reported from Interlake RHA
    - 12 cases have been reported from Parkland RHA
    - 12 cases have been reported from South Westman RHA
    - 11 cases have been reported from South Eastman RHA
    - 7 cases have been reported from Marquette RHA
    - 5 cases have been reported from North Eastman RHA
    - 4 cases have been reported from the Burntwood RHA
    - 1 case has been reported from Brandon RHA
    - 1 case has been reported from Churchill RHA
    - 1 case has been reported with unknown RHA or non-resident
  - Of the 245 cases of Influenza A, the age distribution is as follows:
    - <1 yrs 27 cases
    - 1-14 yrs 13 cases
    - 15-19 yrs 3 cases
    - 20-29 yrs 14 cases
    - 30-39 yrs 12 cases
    - 40-49 yrs 9 cases
    - 50-59 yrs 22 cases
    - 60-69 yrs 18 cases
    - 70-79 yrs 25 cases
    - 80+ yrs 102 cases (41.6%)

The chart below illustrates the number of laboratory-confirmed cases per month for each season beginning October 1996.

Influenza A: Number of Laboratory-confirmed Cases, 1996/1997 – 1999/2000*

*** Based on specimen date (cases reported to Mar. 31, 2000)**



	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL
1996/1997			2	0	18	17	7	1	0	0	0	0
1997/1998	0	0	1	1	5	20	103	58	6	0	1	1
1998/1999	0	0	0	20	60	96	20	3	2	0	0	0
1999/2000	0	0	3	7	154	75	6					

Suspected/Confirmed Influenza A Outbreaks in Personal Care Homes/Other Facilities

- NOTE: Reports of suspected/confirmed Influenza A outbreaks are directed to the CDC Unit via: (a) phone call from public health staff within a Regional Health Authority; (b) phone call from Cadham Provincial Laboratory advising of the assignment of an outbreak code; and/or, (c) completion of outbreak form.

Sentinel Physicians in Manitoba

- NOTE: Manitoba participates in the national Flu Watch Program coordinated by LCDC, Health Canada and the College of Family Physicians of Canada. In addition to laboratory-confirmation of influenza, the program relies on weekly reports of influenza-like illness (ILI) (as reported by sentinel physicians). The CDC Unit receives weekly reports from LCDC presenting the provincial ILI rate. In addition, these same data are available for each of the participating sentinel physicians. Using this information, ILI may be estimated for each RHA.
- The information contained within this update is based on reports as of Mar 18, 2000. Updates will be provided **weekly** upon receipt of data from LCDC.

Influenza-Like Illness

All Manitoba

Row #	Week	ILI (rate/1,000)	Total Patient Visits	# Confirmed Cases (Flu A)*	# Docs
1	Mar 12-Mar 18	60.1	416	0	17
2	Mar 5-Mar 11	14.6	343	0	14
3	Feb 27-Mar 4	23.4	256	1	7
4	Feb 20-Feb 26	54.1	407	1	16
5	Feb 13-Feb 19	41.8	311	0	14
6	Feb 6-Feb 12	51.9	443	3	17
7	Jan 30-Feb 5	80.6	459	1	17
8	Jan 23-Jan 29	66.8	404	6	17
9	Jan 16-Jan 22	69.8	387	10	13
10	Jan 9-Jan 15	131.7	448	19	18
11	Jan 2-Jan 8	106.6	347	37	15
12	Dec 26-Jan 1	217.2	221	44	10
13	Dec 19-Dec 25	140.6	384	49	15
14	Dec 12-Dec 18	90.7	463	48	18
15	Dec 5-Dec 11	111.6	466	12	18
16	Nov 28-Dec 4	56.8	264	5	12
17	Nov 21-Nov 27	52.1	480	2	15
18	Nov 14-Nov 20	26.3	266	2	10
19	Nov 7-Nov 13	70.9	155	1	9
				241	

* based on specimen date

Winnipeg Only

Row #	Week	ILI (rate/1,000)	Total Patient Visits	# Confirmed Cases (Flu A)*	# Docs
1	Mar 12-Mar 18	32.3	62	0	3
2	Mar 5-Mar 11	0.0	77	0	4
3	Feb 27-Mar 4	22.7	44	0	2
4	Feb 20-Feb 26	0.0	62	0	3
5	Feb 13-Feb 19	0.0	66	0	3
6	Feb 6-Feb 12	11.5	87	0	4
7	Jan 30-Feb 5	12.8	78	1	4
8	Jan 23-Jan 29	41.7	72	2	4
9	Jan 16-Jan 22	30.3	66	4	3
10	Jan 9-Jan 15	42.3	71	10	4
11	Jan 2-Jan 8	79.4	63	20	3
12	Dec 26-Jan 1	117.6	17	29	1
13	Dec 19-Dec 25	62.5	32	35	2
14	Dec 12-Dec 18	40.5	74	38	4
15	Dec 5-Dec 11	39.0	77	12	4
16	Nov 28-Dec 4	0.0	80	4	4
17	Nov 21-Nov 27	11.2	89	2	4
18	Nov 14-Nov 20	17.5	57	2	3
19	Nov 7-Nov 13	71.4	14	0	1
				159	

* based on specimen date

Influenza-Related Deaths

- NOTE: Reporting of influenza-related deaths is incomplete. Reports are based on notification by: (a) Chief Medical Examiner, or, (b) Medical Officer of Health.
- The information contained within this update is based on reports as of Jan 17, 2000. Updates will occur **weekly**.

Source of Report	RHA	# Deaths
Chief Medical Examiner	Central	2
Chief Medical Examiner	Wpg	3
Medical Officer of Health	Central	5
Medical Officer of Health	Parkland	1
Medical Officer of Health	Interlake	1

Contact Information:

- Surveillance: Debbie Nowicki (204) 788-6786
- Surveillance: Lynda Graham (204) 788-6739
- Program: Dr. Digby Horne (204) 788-6722
- Program: Jackie Habing (204) 788-6725

Appendix E

Flu Watch

April 2, 2000 to April 8, 2000 (Week 14)

(Reprinted with the permission of Health Canada)

Canada: During the week ending April 8, 2000, four regions reported sporadic activity and 37 regions reported no influenza-like activity (12 regions did not report) (see maps). During the same week, sentinel physicians reported 25 cases of influenza-like illness (ILI) per 1000 patient visits. Since September 1999, the Laboratory Centre for Disease Control (LCDC) has received 49,720 reports of laboratory tests for influenza viruses of which 6,991 (14%) were positive; 6,942 (99.3%) were confirmed as influenza A and 49 (0.7%) as influenza B (table).

United States: During the week ending April 1, 2000 (week 13), 17 states reported sporadic activity and 28 states reported no influenza activity (5 states did not report). Sentinel physician reports of ILI remain at baseline levels (0%-3%). The proportion of deaths due to pneumonia and influenza was 7.9%, remaining above the epidemic threshold for week 13. Since October 3, 1999, the US World Health Organization and National Respiratory and Enteric Virus Surveillance System Collaborating Laboratories have tested a total of 84,433 respiratory specimens of which 13,527 (16%) were positive; 13,472 (99.6%) were influenza type A and 55 (0.4%) were type B. Of the viruses that have been subtyped during March, influenza A (H1N1) viruses have been reported more frequently than influenza A (H3N2). Influenza A (H1N1) viruses have been reported by WHO and NREVSS laboratories from all regions except the New England region.

<http://www.cdc.gov/ncidod/diseases/flu/weekly.htm>

Reported number of influenza virus (FV) tests performed and influenza virus identifications by participating laboratories, Canada, 1999-2000

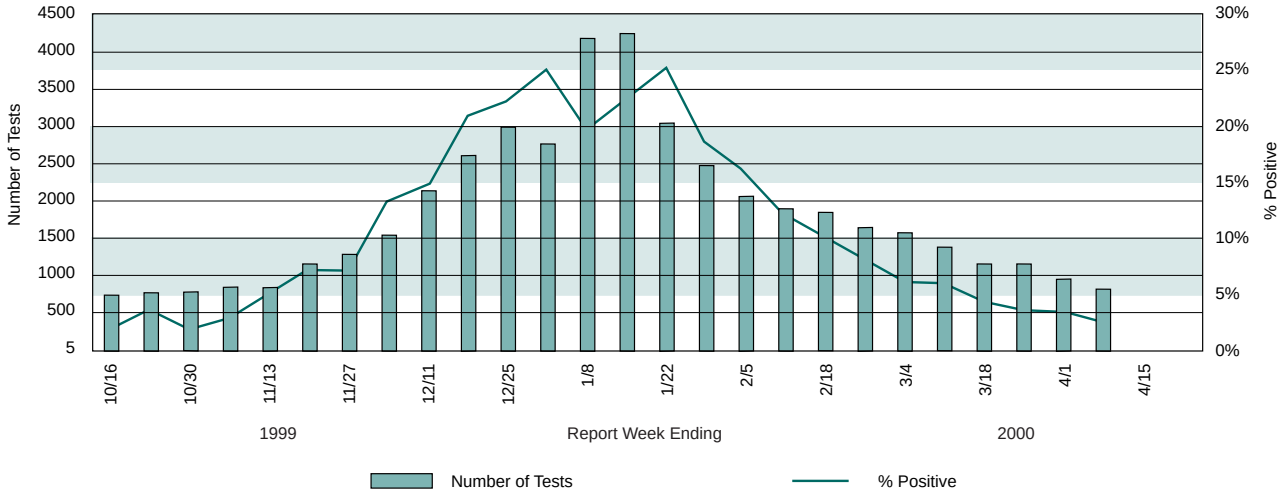
Reporting laboratories by province	April 2, 2000 - April 8, 2000					September 4, 1999 - April 8, 2000				
	Total FV tests	Influenza types and subtypes				Total FV tests	Influenza types and subtypes			
		A (H1N1)	A (H3N2)	A (not subtyped)	Type B		A (H1N1)	A (H3N2)	A (not subtyped)	Type B
NF	6	0	0	0	0	507	0	0	71	0
PE	5	0	0	0	0	74	0	0	14	0
NB	2	0	0	1	0	397	0	0	98	0
NS	0	0	0	0	0	977	0	0	188	0
QC	172	0	0	5	1	8,497	0	0	1,576	3
ON	297	0	0	8	1	19,714	0	4	2,865	12
MB	69	0	0	1	0	2,708	0	6	246	0
SK	91	0	0	0	0	4,224	1	34	393	3
AB	158	0	0	0	3	10,431	0	0	1,096	25
BC	41	0	0	1	1	2,191	0	0	350	6
Canada	841	0	0	16	6	49,720	1	44	6,897	49

Specimens from NT, YT, and NU are sent to reference laboratories in other provinces.

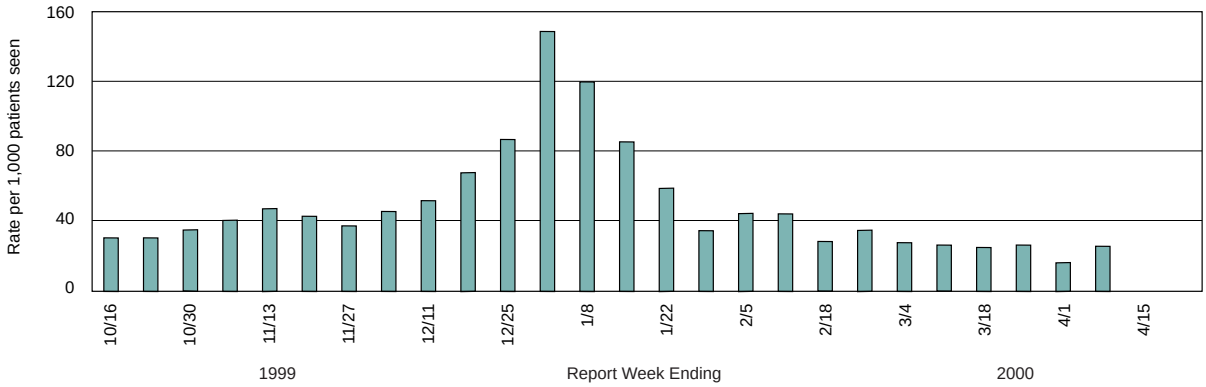
Abbreviations: Newfoundland/Labrador (NF), Prince Edward Island (PE), New Brunswick (NB), Nova Scotia (NS), Quebec (QC), Ontario (ON), Manitoba (MB), Saskatchewan (SK), Alberta (AB), British Columbia (BC), Yukon (YT), Northwest Territories (NT), Nunavut (NU)

Respiratory virus laboratory detections in Canada, by geographic region, are available weekly on the following website:
<http://www.hc-sc.gc.ca/hpb/lcdc/bid/dsd/rvdi/index.html>

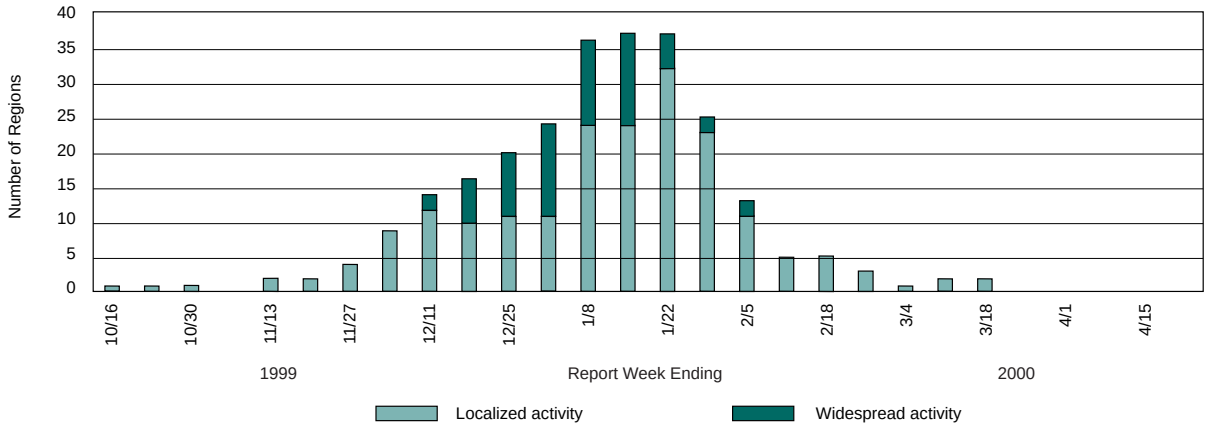
Influenza Tests Reported and Percentage of Tests Positive, Canada, by Report Week, 1999-2000



Influenza-Like Illness Reporting Rates, Canada, by Report Week, 1999-2000



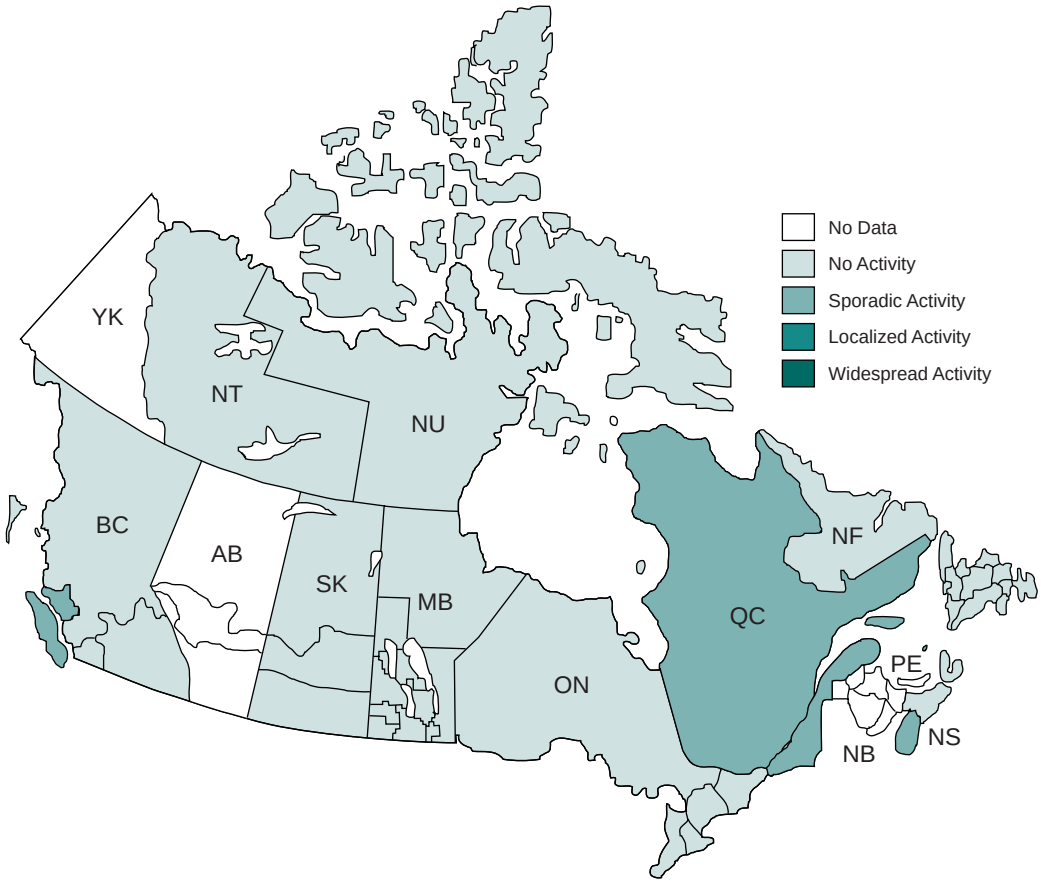
Number of Influenza Surveillance Regions† Reporting Widespread or Localized Influenza Activity, Canada, by Report Week, 1999-2000 (N=53)



† sub-regions within the province or territory as defined by the provincial/territorial epidemiologist.

Please note that the above graphs may change as late returns come in.

Influenza Activity Level by Influenza Surveillance Regions, Canada
April 2, 2000 to April 8, 2000 (Week 14)



FluWatch reports include data and information from four main sources: laboratory reports of positive influenza tests in Canada; sentinel physician reporting of influenza-like illness (ILI); provincial/territorial assessment of influenza activity based on various indicators, including laboratory surveillance, ILI reporting, school and work site absenteeism, and outbreaks; WHO and other international reports of influenza activity. The map shows influenza activity in the "influenza surveillance regions" † within each jurisdiction, as determined by the provincial/territorial epidemiologists.

ILI definitions for the 1999-2000 season

ILI in the general population: 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. (Presentations could vary in pediatric or geriatric populations.)

Definitions of ILI outbreaks for the 1999-2000 season

Schools and work sites: greater than 10% absenteeism on any day most likely due to ILI.

Residential institutions: two or more cases of ILI in a seven-day period. Institutional outbreaks should be reported within 24 hours of identification.

Activity levels are defined as:

1 = No activity reported

2 = Sporadic: sporadically occurring ILI and confirmed influenza* with no outbreaks detected within the influenza surveillance region†

3 = Localized: sporadically occurring ILI and confirmed influenza* and outbreaks of ILI in less than 50% of the influenza surveillance region(s)†

4 = Widespread: sporadically occurring ILI and confirmed influenza* and outbreaks of ILI in greater than or equal to 50% of the influenza surveillance region(s)†

* confirmation of influenza within the surveillance region at any time within the prior four weeks

† sub-regions within the province or territory as defined by the provincial/territorial epidemiologist

The main limitations are: 1.) specimen collection and submission to the national laboratory were subject to the individual practices of the attending physicians and the availability of the test within and between provinces/territories, 2.) the distribution of the sentinel physicians did not, in many instances, correlate with the population distribution, 3.) the activity level provided by the provincial/territorial epidemiologists, although based on many indicators, is somewhat subjective.