

# H1N1 Flu in Manitoba

MANITOBA'S RESPONSE

LESSONS LEARNED

FALL 2010



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## H1N1 Report – Fall 2010

On June 11, 2009, the World Health Organization (WHO) declared the novel H1N1 influenza virus a pandemic flu and went to phase six, the highest possible pandemic influenza alert level. The discovery of a new flu virus began in mid-March when Mexico reported cases of influenza-like illnesses, which turned out to be H1N1 flu.

The first Canadian cases were reported in British Columbia and Nova Scotia on April 26, 2009. Manitoba's first confirmed case was reported on May 3, 2009. On May 6, Alberta reported the first Canadian death linked to the H1N1 virus. Manitoba's first death linked to the virus was reported on June 16.

The WHO declared the pandemic over and began a post-pandemic phase on August 6, 2010.

The Manitoba government invested \$83 million to respond to the H1N1 flu pandemic. The effort the health care system put into working together to plan and respond demonstrated the commitment and professionalism of those working within the system and set the groundwork for further planning that will benefit all Manitobans.

Two waves of the disease affected Manitoba — the first in the spring of 2009 and, again, in the fall of 2009. Over the course of two waves of the disease, Manitoba had:

- 2,674 lab-confirmed cases
- 383 hospitalizations
- 71 patients admitted to intensive care units (ICU)
- 11 deaths linked to H1N1 flu

There were more H1N1 flu cases reported in Manitoba during the second wave in the fall. However, during the first wave in the spring, there were more cases of serious disease, with more people hospitalized and admitted to intensive care (ICU), although fewer overall cases. In the first wave, northern Manitoba experienced more disease, while southern Manitoba had a high number of cases during the second wave. Overall, females had higher rates of infection, hospitalization and ICU admission, compared to males. And, compared to seasonal flu, those of a relatively young age were more severely affected by the H1N1 flu.

In response to the H1N1 flu, the Manitoba government:

- implemented pandemic response plans
- adopted an incident command system to co-ordinate the response
- invested in additional equipment, anti-viral drugs and vaccine
- supported and guided the health care system and health care professionals in delivering care and vaccine to Manitobans

Preparations for the second wave of disease saw plans revisited, refined and sharpened, including the announcement of a \$47 million, five-point plan.

Across the country, Canada's Pandemic Influenza Plan helped guide the response to this new flu. These national plans were developed with input from all provinces, including Manitoba, to address issues such as vaccines, the use of anti-virals and infection control guidelines. The Public Health Agency of Canada (PHAC) was the lead federal department.

Manitoba's comprehensive, flexible and adaptable pandemic plan and the individual plans of Manitoba's regional health authorities (RHAs) guided the province's overall pandemic flu response. The response included close collaboration between RHAs and other health care organizations, First Nations and Metis groups, and federal partners. The province used an incident command system led by the deputy minister to manage the daily demands and long-term responses required by the H1N1 flu.

This pandemic flu was not as severe as some had initially feared, based on the preliminary information about the disease. However, the H1N1 flu did cause serious illness and deaths across the country and in Manitoba. H1N1 flu also focused public attention on the potential impact of a new disease in our daily lives. It helped remind Manitobans of basic infection control practices, such as regular hand washing and covering coughs and sneezes.

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## H1N1 Flu in Manitoba

Of the 2,674 lab-confirmed H1N1 flu cases in Manitoba, 1,384 affected females and 1,290 affected males. Lab-confirmed cases do not reflect the actual number of people infected with the H1N1 virus, nor do the numbers indicate the seriousness of illness any individual may experience. In addition, during the second wave of H1N1 flu, laboratory testing focused on severe cases to conserve lab resources. It is probable that many more Manitobans became ill with H1N1 flu but managed their own symptoms and recovered at home. However, the number of lab-reported cases does help guide an assessment of the impact of H1N1 flu in Manitoba.

Pregnant women, young children and people of any age with certain chronic lung or other medical conditions appeared to be at higher risk of more complicated or severe illness. Approximately 14 per cent of the lab-confirmed H1N1 flu cases required hospitalization.

The first wave of H1N1 began in Manitoba on May 3, 2009 and the second wave began on October 6, 2009.

- In the first wave, 905 lab-confirmed cases were reported.
- In the second wave, 1,769 lab-confirmed cases were reported.
- Over both waves, the majority of the cases were not hospitalized or admitted to ICU.

Overall the rates of infection and hospitalization were higher in females than males, and more females were admitted to ICUs than males in both waves.

- Over the first wave, 24 per cent of lab-confirmed cases were hospitalized and 5.2 per cent admitted to ICU.
- In the second wave, 9.2 per cent of lab-confirmed cases were hospitalized and 1.4 per cent were admitted to ICU.

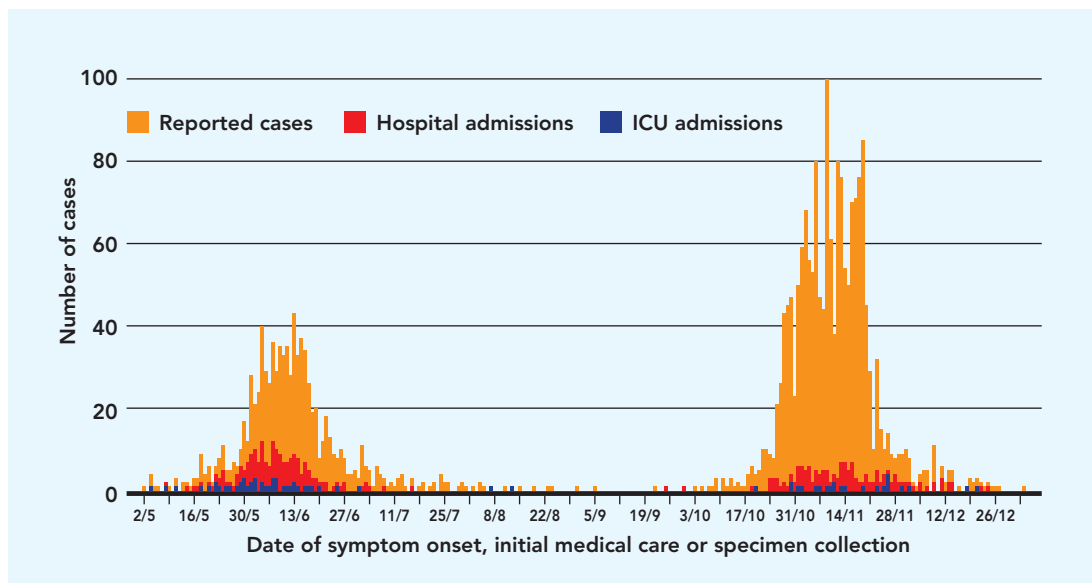
OCCURRENCE OF CONFIRMED H1N1 FLU CASES PER WAVE, GENDER, AND LEVEL OF CARE

	Manitoba Population	All Cases		Hospitalized Cases			ICU-Admitted Cases			
	Count <sup>4</sup>	Count	Rate <sup>2</sup>	Count	% <sup>1</sup>	Rate <sup>2</sup>	Count	% <sup>1</sup>	Rate <sup>2</sup>	% <sup>3</sup>
<b>First Wave</b>										
Females	607,938	465	76.5	119	25.6	19.6	32	6.9	5.3	26.9
Males	591,047	440	74.4	102	23.2	17.3	15	3.4	2.5	14.7
Total	1,198,981	905	75.5	221	24.4	18.4	47	5.2	3.9	21.3
<b>Second Wave</b>										
Females	607,938	919	151.2	97	10.6	16.0	16	1.7	2.6	16.5
Males	591,047	850	143.8	65	7.6	11.0	8	0.9	1.4	12.3
Total	1,198,981	1769	147.5	162	9.2	13.5	24	1.4	2.0	14.8
<b>BOTH WAVES</b>										
Females	607,938	1384	227.7	216	15.6	35.5	48	3.5	7.9	22.2
Males	591,047	1290	218.3	168	13.0	28.3	23	1.8	3.9	13.7
Total	1,198,981	2674	223.0	383	14.3	31.9	71	2.7	5.9	18.5

1. Percentages calculated using the overall number of confirmed H1N1 cases as denominator.
2. Rate per 100,000 people (gender specific).
3. Percentage calculated using the number of hospitalized cases as denominator.
4. Population data in this section are based on records of residents registered with Manitoba Health as of June 1, 2008.

Manitoba’s northern regions (Nor-Man, Burntwood, Churchill and North Eastman RHAs) were more affected during the first wave than the second. A total of 40.3 per cent of all hospitalized cases were residents of northern Manitoba during the first wave. During the second wave, this percentage dropped to 9.3 per cent.

EPIDEMIC CURVE OF WAVE 1 AND 2 OF H1N1 FLU



Of the 383 hospitalized cases during both waves, 56 per cent were female and 44 per cent were male. There were more hospitalized cases in the first wave (221), compared to the second wave (162).

- Fewer children under the age of five were hospitalized during the first wave, compared to the second wave.
- People aged 46 to 65 were more frequently hospitalized during the second wave than the first.
- First Nations populations were more severely affected in the first wave than the second.

Of the 71 cases admitted to ICU during both waves, 68 per cent were female and 32 per cent were male. There was more severe infection, based on hospitalizations and ICU admissions, during the first wave compared to the second wave. There were fewer ICU admissions for First Nations people in the second wave, compared to the first wave.

During the first wave, the highest rate of disease was among children under age one. The number of children under age one admitted to ICU was also highest in the first wave.

Manitoba reported 11 deaths during both waves – six female and five male.

AGE	H1N1 INFLUENZA DEATHS
0 - 6 months	0
6 months - 3 years	1
3-9 years	0
10-19 years	0
20-29 years	1
30-39 years	2
40-49 years	4
50-59 years	1
60+	2
<b>Totals</b>	<b>11</b>

DISTRIBUTION OF PH1N1-RELATED DEATHS BY AGE GROUP

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## Manitoba's Response

Based on emerging international, national and local surveillance from the first wave of the pandemic flu, the Manitoba government set out a five-point, \$47 million response plan in fall 2009 for the next wave, focusing on prevention, treatment and care:

1. Protecting Manitobans – Prevention: more than \$21.8 million to purchase, store and distribute vaccine for pandemic H1N1 influenza
2. Caring for Manitobans: more than \$5.7 million to increase intensive care and surgical capacity by hiring staff; purchase more equipment and supplies and for additional supplies of antivirals
3. Supporting the Front Lines: more than \$16.8 million to purchase additional masks, gloves, gowns and other protective equipment for health care providers
4. Working for Manitobans: more than \$3.1 million for laboratory testing equipment, additional public health staff and to provide information to the public about the pandemic and personal precautions
5. Keeping Manitobans moving: from home flu kits and workplace preparations, to provide Manitobans with information about the H1N1 pandemic flu

### Protecting Manitobans

#### *Immunization*

Manitoba's mass immunization effort for H1N1 flu reached 37 per cent of the population, meaning 451,000 people received the H1N1 vaccine. This was the largest immunization effort in Manitoba's history. Overall, Canada had some of the highest immunization rates in the world. Manitoba chose to focus on those most at risk of serious disease, successfully immunizing high proportions of people in the priority risk groups.

The \$21.8 million represents Manitoba's share of the vaccine purchase. The federal government also funded a portion of the vaccine purchased by all provinces.

Vaccination is one of the most effective ways to protect the public from H1N1 flu. Influenza vaccine causes the body to produce antibodies to fight the flu virus, increasing immunity or protection from the virus. The vaccine contained inactive virus and could not cause the flu.

Planning for the H1N1 immunization program blended the seasonal flu program into the roll out of the H1N1 vaccine. The seasonal flu program started at the beginning of October 2009 while the province waited for delivery of the H1N1 vaccine. As in previous years, the seasonal flu program focused on those most at risk of complications from influenza.

For the H1N1 vaccine, the province identified three priority groups, based on national guidelines and Manitoba's experience with the disease during the first wave. The groups were identified to immunize people who were mostly likely to become seriously ill. Vaccine supply affected the implementation of the priority groups.



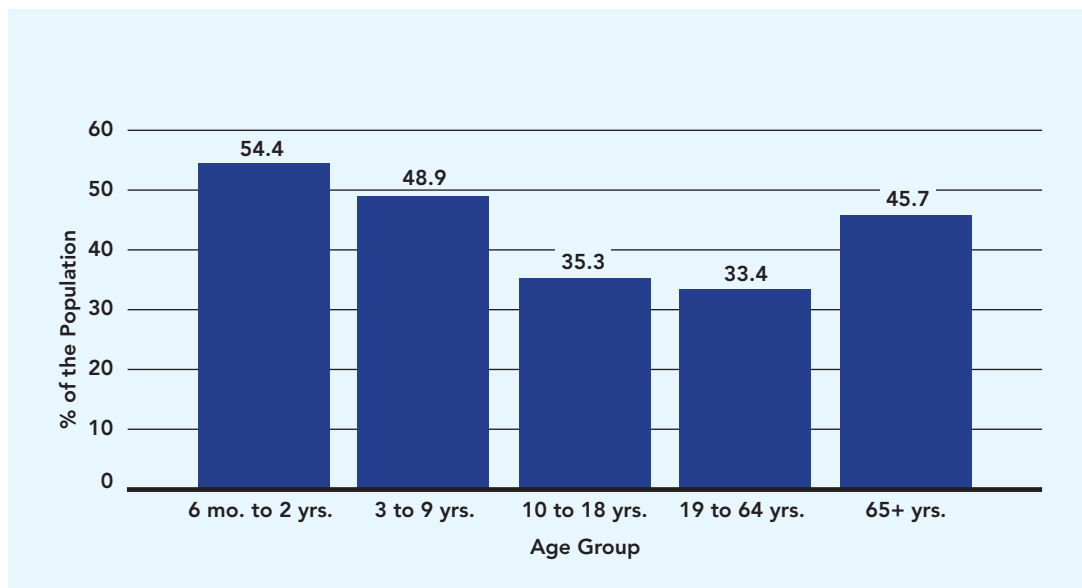
At the beginning of November 2009, priority group one was modified as follows:

- people with chronic conditions under the age of 55 years and other conditions including severe obesity, substance abuse, and alcoholism
- pregnant women
- children six months to under five years
- people residing in remote and isolated settings or communities
- people with Aboriginal ancestry (First Nations, Metis, Inuit)
- disadvantaged individuals (such as homeless)
- people who are immuno-compromised

On November 11, 2009, the list was expanded to children six months - under 18 years old and on November 18, 2009 the vaccine was made available to all Manitobans.

Each regional health authority vaccinated individuals based on these priorities. They took into account their own unique operational logistics such as availability of vaccine supply, human resources capacity, demographics and geographic/travel constraints.

Immunization rates were high in the north, which reflected a key priority group. The rate in the Burntwood RHA was 70 per cent, in Churchill it was 54 per cent and in Nor-Man, it was 51 per cent. Over half of Manitoba's First Nations population received the H1N1 flu vaccine with approximately 60 per cent being immunized. Some northern and isolated communities, specifically Fox Lake/Bird in the Burntwood RHA had a 100 per cent immunization rate.

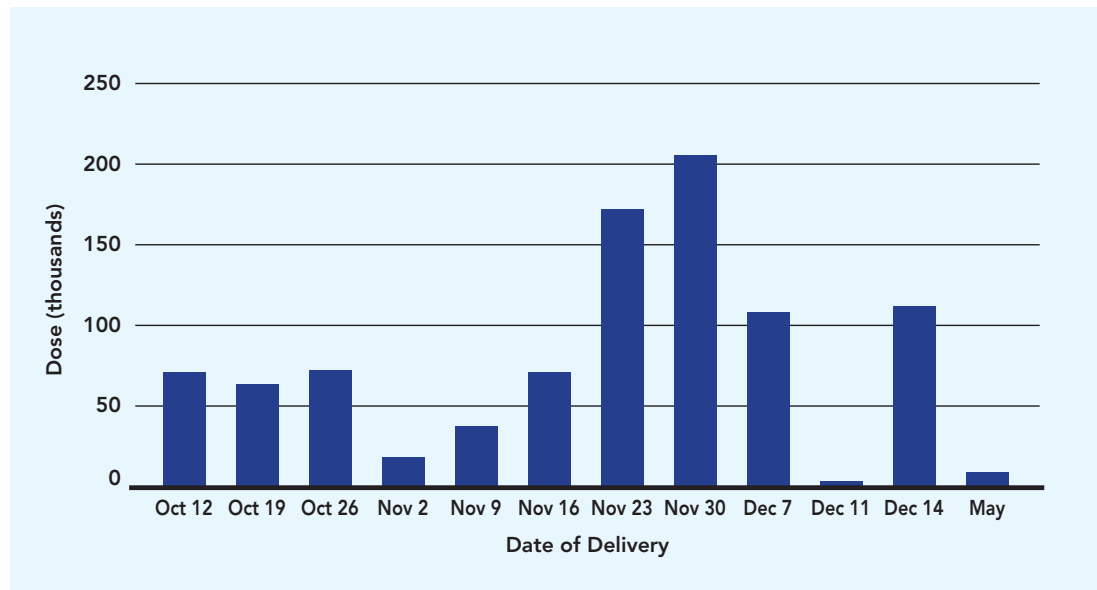


PERCENT OF THE POPULATION IMMUNIZED WITH H1N1 VACCINE BY AGE GROUP, MANITOBA, 2009-2010

Overall, young Manitoba children were the most likely to be immunized.

Vaccine supply was a significant issue in the fall. Under Manitoba's plans for mass immunization, up to 200,000 people could be immunized per week. Manitoba had expected 120,000 doses of vaccine in the first week but received 71,000 doses, followed by 63,000 in the following week. At the lowest point, the province received 17,500 doses for the week of November 2, 2009. There was also some public confusion in understanding the two different types of vaccine available (with and without adjuvant) and the evolving recommendations over whether one or two shots would be required. By the time there was sufficient vaccine, many Manitobans seemed to decide that the threat of H1N1 flu had passed and decided not to be immunized.

VACCINE  
DELIVERY TO  
MANITOBA -  
WEEKLY



## Caring for Manitobans

### *Surge Capacity*

Planning for a pandemic flu identified the potential need to quickly expand the number of available hospital beds and included options such as reducing the number of surgeries and re-directing patients to other care options. The province could also access the National Emergency Stockpile System (NESS), which has 2,500 beds that could be used on a temporary basis. Plans were in place to provide beds in every facility in Manitoba, if required. During both waves of disease, the primary demand was on intensive care beds. Surgeries were not cancelled and the stockpiled beds were not required.

### *Expanding ICU capacity*

During the first wave of the H1N1 flu, intensive care units experienced a surge in demand from patients requiring ventilator support; sometimes for unusually long periods of time. The peak demand was on June 24, 2009 when 38 patients associated with H1N1 flu were on ventilators — about 40 per cent of the province's capacity. As a result of this demand in the first wave, the Manitoba government requested 15 additional ventilators from the NESS through PHAC. These ventilators were not required, but their existence was important in planning to manage the potential numbers of patients. They were positioned around the province to be used as needed.

Before the second wave, funds from the province purchased additional ventilators, and trained more health professionals to use ventilators and manage ventilated patients. In addition, plans included using surgical and transportation ventilators to meet the demand for ICU care for H1N1 flu patients who required ventilator care. These measures had the potential to triple the number of ventilators available to treat patients in Manitoba.

### *Air Ambulance Services*

During the first wave, there was significant pressure on the air ambulance services with 76 patients requiring air transport from northern communities. Air ambulance services are different than Lifeflight services, which transport critically ill patients. Plans for the second wave included the development of a different response plan for air ambulance use, based on the input of air carriers, First Nations communities and the department. The response included plans for sharing staff, equipment and supplies between companies, if required.

### *First Nations and Metis Peoples*

During the first wave, Manitobans of Aboriginal ancestry experienced greater incidence of severe disease with H1N1 flu. To help manage and co-ordinate the response to the H1N1 flu, Manitoba established a tri-partite table that included the province, the federal government and First Nations and Metis organizations. This was a valuable way to identify issues, gather and share information, and develop solutions.

### *Flu Kits*

To prepare for the second wave, a partnership between the Manitoba government and the Assembly of Manitoba Chiefs resulted in 15,500 flu kits being distributed to all First Nations communities in Manitoba. They contained hand sanitizer, infants' ibuprofen, children's acetaminophen, adult acetaminophen, sanitizing hand wipes, a thermometer and flu information. A similar approach was undertaken in partnership with the Manitoba Metis Federation. Northern affairs communities also received 2,400 flu kits.

### *Call to Action*

Manitoba issued a Call to Action to health care professionals in September 2009 to help manage the demand for professional health care services. Volunteers were asked to potentially help with mass vaccination clinics, work in ICU units or to provide support in remote or northern regions. Over 630 volunteers, including doctors, registered nurses, retired nurses, licensed practical nurses and paramedics responded, along with members of the public who offered to help register or greet patients. The response to the call to action helped RHAs tap into additional resources to manage service demands during the second wave.

### *Antiviral Drugs*

Manitoba used antiviral drugs to treat people with severe respiratory illnesses and people at risk of severe disease. Antivirals are generally for short-term treatment. The province developed guidelines for health care providers to guide their use of antivirals during the H1N1 flu pandemic.

The Manitoba government also covered the cost of antiviral drugs through the Pharmacare program to ensure costs were covered for people, such as those receiving employment and income assistance, employment insurance or those who had met their Pharmacare deductibles.

Manitoba has a provincial stockpile of antivirals, established in partnership with the federal government. Based on Manitoba's population, it is intended to serve all Manitobans. Supplies were positioned around the province to provide RHAs and provincial and federal nursing stations with supplies as needed. An information and distribution system was developed to link private pharmacies, pharmacy suppliers and the province to co-ordinate antiviral distribution. Over the two waves of disease, 168,500 doses of antiviral medication were dispensed.

## **Supporting the Frontlines – Working with Health Professionals**

The province established a central stockpile of equipment for the health sector to protect front-line health care workers and support a mass immunization campaign. Distribution of materials to RHAs and hospitals began May 4, 2009 and continued over 30 weeks. Supplies include N95 respirator masks, hand sanitizer, examination gloves, syringes and other equipment.

This stockpile will continue to support the health care sector for future emergency situations. Supplies will be rotated into the regular supply chain and renewed as needed to ensure products and equipment are used before their expiry date.

Regular contact was maintained with doctors, nurses and other health care professionals to share H1N1 flu information as it evolved. Guidance documents were provided in many areas, such as clinical care, infection prevention and control, workplace safety, workplace resiliency strategies and testing. Updated information was also provided about the use of gloves, surgical masks and N95 respirator masks.

Guidelines were also circulated for specific settings, such as first responders, homecare, child care centres, corrections, businesses, summer camps and other workplaces. There was also extensive information provided about the vaccine.

## Working with Manitobans

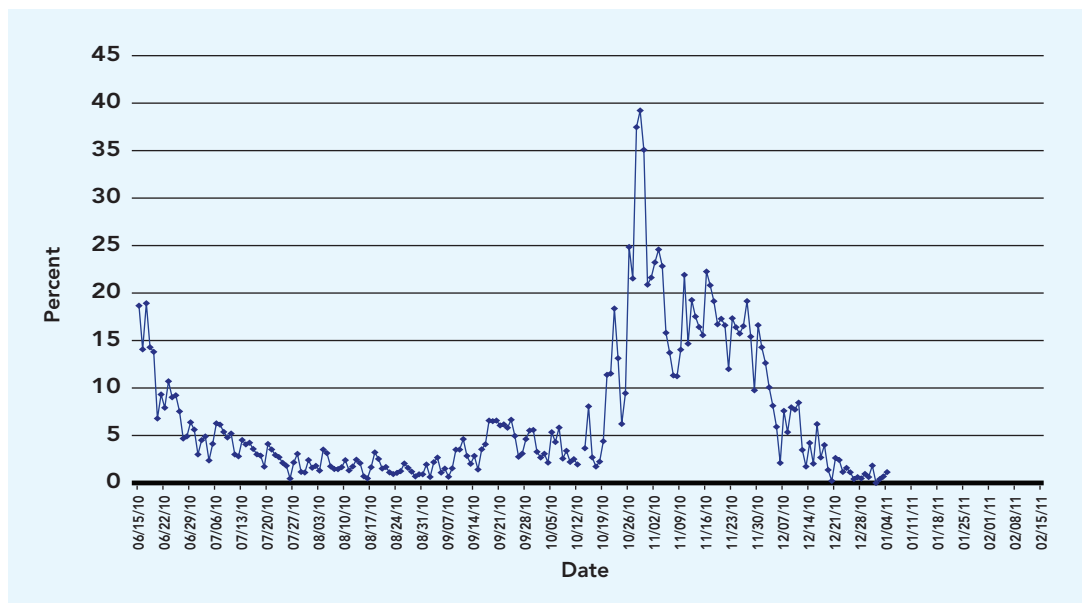
Manitoba’s incident command system guided the provincial health response. This structure connected to the RHAs, the federal government, First Nations and Metis governments, and other organizations to collectively gather information, solve problems and provide direction. This structure was flexible and effective in managing daily operations and responding to issues as they arose.

Regular media news conferences, interviews and bulletins, along with advertising in print, radio, TV and websites, plus a household flu guide for all Manitoba households, helped provide Manitobans with information about H1N1 flu.

Information on cough etiquette and handwashing was translated into 17 languages. Targeted communications were developed with First Nations and Metis leadership and communities. Other targeted communications included materials for pregnant women, businesses, municipalities and workplaces.

RHAs also issued media bulletins and ran advertisements, particularly for mass immunization efforts. The federal government also held media briefings and produced advertising.

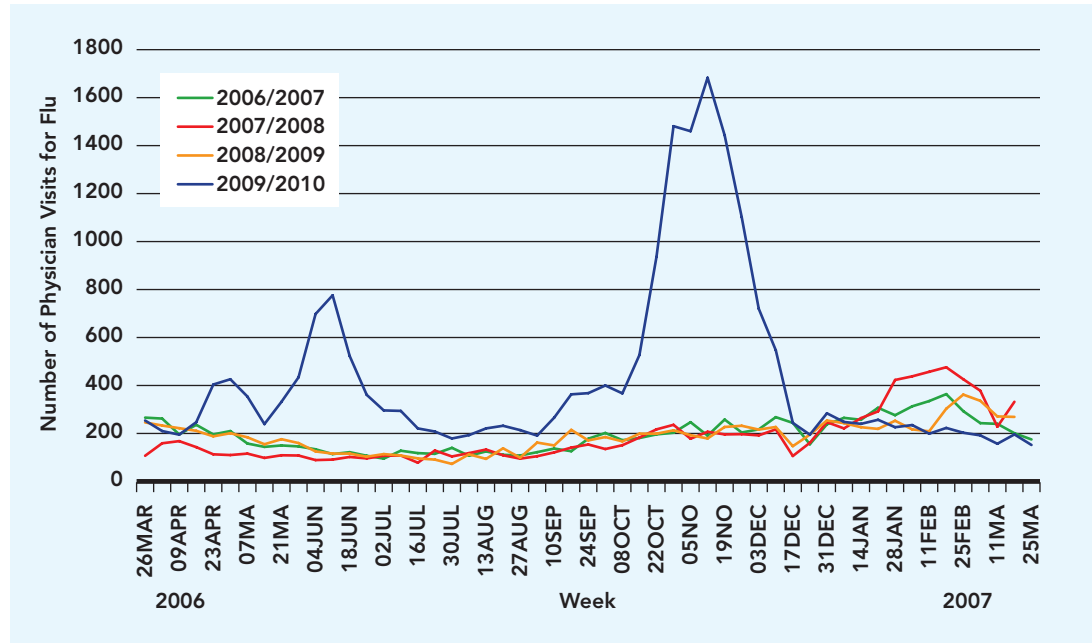
Health Links-Info Santé handled 9,481 calls about H1N1. This service provided Manitobans with direct access to information about H1N1. Registered nurses answered specific questions from callers.



HEALTH LINKS-INFO SANTÉ – PERCENTAGE OF CALLS RELATED TO H1N1

In addition, Manitobans went to see a doctor more frequently during both waves of the disease, but particularly during November of 2009 during the second wave.

ALL MANITOBA  
(ALL AGE GROUPS)  
Fiscal Years by Week  
(Beginning April 1st  
through March 31st)



## Keeping Manitoba Moving

The response to a disease outbreak is not only driven by the health sector, but also by communities, businesses, organizations, families and individuals. Information and planning guidelines were targeted to specific areas, such as schools, child care centres, recreational programs, municipalities and businesses. Schools put in special monitoring practices for unusually high absenteeism rates that could indicate a potential flu issue, including web postings. Infection prevention and control practices were extensively shared in classrooms across the province.

The planning by many organizations was largely cautionary as H1N1 was not as severe as first anticipated. The severity of a pandemic, or similar public health emergency, is unpredictable and plans need to be thorough and adaptable. These plans will continue to help communities, organizations and government departments prepare for a future pandemic flu or another emergency situation that would disrupt normal operations.

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## Lessons Learned

### 1. Pandemic Planning Paid Off

The work of Manitoba Health and the health care system to prepare for a potential pandemic was important in this response to H1N1 flu. The plans of the department and the RHAs were ready to use and could be adapted quickly based on what was occurring in the community.

Guidelines for municipalities, child care centres, recreational programs, businesses and schools were prepared. Numerous presentations were made to help schools, school divisions, private businesses and government departments plan their response to potential illness.

Planning and purchasing supplies, such as antiviral drugs, in advance was useful. Other supplies, such as masks and hand sanitizer, were in high demand by all provinces as the pandemic flu began. Initially, it was difficult to get some supplies.

The implementation of the incident command system across the health care system was instrumental in rapidly gathering and sharing information, responding to issues, sharing information and quickly co-ordinating solutions among provincial partners. This approach worked well to co-ordinate the response to H1N1 flu in a complex health care system.

Manitoba will build on the success of the planning and preparation and move forward with:

- assessing the antiviral stockpile and how it is maintained and used
- maintaining a permanent stockpile of personal protective equipment for health professionals for future incidents
- continuing to participate and support national efforts to establish stockpiles for potential responses to disease outbreaks or other health-related matters that require additional equipment and resources
- continuing to use the incident-management system across the health care system, including training and exercises that test the response system

### 2. Expect the Unexpected – Managing an Unknown is Challenging

Projecting how a new type of disease may evolve, who it may affect and how widespread it will be is challenging. When a new disease emerges, such as a pandemic flu, it is critical to quickly assess many factors, such as who is affected, how, to what extent, how fast the disease is spreading, which part of the population is most affected, etc. During the H1N1 flu, public health and health care experts were learning about the disease while, at the same time, responding to its effects on the population.

In the early days of the H1N1 flu, there were some indications that the circulating virus strain was similar to the 1918 flu which killed 40 million around the globe. The initial case fatality rate of hospitalized patients in Mexico was seven per cent. These early indications drove health care systems to be ready for, and expect, the worst-case scenario. As it turned out, the extent of fatalities and the seriousness of the disease was less than

originally expected. However, the provincial government and the health system, along with other provinces and countries, had to plan and prepare for the worst-case scenario to ensure the health and well-being of Manitobans was protected.

An example of the unexpected is that the original plans for a pandemic flu response expected pressures within the health care sector to surface first in emergency rooms, then in hospital wards and then in ICUs. With the H1N1 flu, the pressures were felt almost immediately in ICUs because of how quickly the disease affected some people. Manitoba experienced a significant surge in demand for ventilators early in the first wave.

Manitoba will move forward with:

- incorporating the experience of the H1N1 pandemic flu into the models used to prepare for future public health emergencies such as another pandemic flu
- enhancing health surveillance systems that can flag emerging diseases and closely monitor global activities on them
- continuing to test and refine plans, based on emerging science and evidence

### 3. Partnerships Pay Off

Working in partnership with a range of individuals and organizations helped the Manitoba government respond to the H1N1 flu outbreak. This was key to effectively respond to the flu from a community, provincial and national perspective.

#### *Health Care Professionals*

Manitoba's health care professionals were on the frontlines of the response, delivering high quality care and contributing thoughtful suggestions and observations that helped shape the H1N1 flu response. Collaboration with unions and professional organizations was important in providing a fair, reliable framework to respond to the potential impact of a relatively unknown disease. Open communication supported the overall response.

#### *Call to Action*

The over 630 volunteers who responded to the province's call to action in September, 2009 provided a valuable resource for RHAs responding to the H1N1 flu. Health care professionals were interested in providing services and support, as required.

#### *Regional Health Authorities*

RHAs had comprehensive plans to deal with a pandemic flu and used them to deal with H1N1. This included delivering the largest immunization campaign in Manitoba history. The co-ordination of the RHAs with the province, and with each other, was invaluable in resolving issues quickly and effectively system-wide.



### *Manitoba's First Nations and Metis Communities*

Manitoba's tri-partite table helped manage the response to H1N1 flu. It included the Assembly of Manitoba Chiefs, Health Canada – First Nations Inuit Health, the Manitoba Metis Federation, Southern Chiefs Organization, Manitoba Keewatinowi Okimakanak (MKO) and provincial government representatives. This forum helped bring all groups together and became a valuable way to identify and resolve issues in managing H1N1 flu.

### *National Co-ordination*

Manitoba contributed to the development of the national Canadian pandemic plan, which provides a framework for national co-ordination of issues, such as a pandemic flu, that crosses borders and affects all Canadians. The framework provided for valuable information sharing and problem solving as the H1N1 flu arrived in Canada and spread to all provinces and territories.

Co-ordinating information on this scale did result in some issues and challenges. There was some duplication of effort. Sometimes, contradictory information was provided by the provinces and the federal government in areas such as the use of N95 respiratory masks and immunization priority groups. During the second wave of disease, national co-ordination improved with the implementation of a national health incident management system. It improved communication and co-ordination between the provinces and the federal government.

Manitoba will move forward with:

- maintaining close working relationships with PHAC and Health Canada – First Nations Inuit Health to respond to cross-Canada disease outbreaks and health emergencies affecting Manitoba
- re-establishing the tri-partite table involving First Nations and the federal and provincial governments, to respond to significant emergencies that may arise
- continuing to participate on national committees to further develop and refine plans for nationally co-ordinated responses
- establishing a permanent database of health professionals who could be called on as required
- maintaining the partnerships developed during the planning and response to pandemic flu

## 4. Share Information

The public is a key partner in preventing the spread of disease and taking appropriate steps when it occurs. Many Manitobans acted to:

- ensure handwashing and cough etiquette were fully understood in their homes and workplaces
- learn about and follow H1N1 issues
- make the decision to immunize themselves and their families

Proactive, timely communications helped keep Manitobans in the loop through advertising, news media events and the website. A research poll, conducted in October, showed 76 per cent of Manitobans knew the importance of handwashing in preventing the spread of diseases, such as H1N1 flu.

A notable challenge during the H1N1 flu was explaining rapidly changing scientific knowledge as it developed and guided decision-making. For example, the faster than usual approval process for the H1N1 vaccine, the different forms of vaccine and identifying specific priority groups were challenging to clearly communicate to the public at times. This may have affected the decisions about vaccine and the need to get immunized. Explaining evolving scientific knowledge and decisions to the public will continue to require clear, concise, accessible information to help ensure Manitobans are aware of the information they need to make informed decisions.

Efforts to promote health and healthy living are important as Manitobans with chronic conditions such as diabetes, obesity and smoking habits were more likely to experience more serious forms of the H1N1 flu. Measures, which improve health and living conditions increase peoples' ability to avoid disease or to recover if they do become ill. During H1N1, it was also important to ensure Manitobans understood the importance of seeking early treatment of respiratory problems.

Manitoba will move forward with:

- continuing to develop and share pertinent information about diseases, such as flu, with Manitobans
- continuing to explore alternative ways to provide information to Manitobans
- ensuring that public communications continues to be an integral part of the incident management system
- supporting and encouraging the efforts of Manitobans to improve their health

## 5. Mass Immunization

Manitoba initially focused on mass clinics with public health nurses providing the vaccine before providing it to doctors' offices in November 2009. The mass clinics proved to be successful in delivering vaccine quickly and effectively.

Each RHA tailored their vaccine strategy to reach the priority groups, considering their own geographic and logistical demands, and the needs of their populations. Winnipeg set up mass clinics around the city with extended hours. The Assiniboine RHA set up clinics, based on appointments as the clinics went to various communities in their region. The Burntwood RHA ran some clinics in schools. The various approaches were designed to reach the groups who were most at risk of becoming seriously ill in that region.

Mass clinics effectively reach a large per cent of the population in a short time. Clinics need to be in easily accessible locations and scheduled to meet the needs of all sectors of the population. Reaching out to vulnerable and at-risk populations who cannot access mass clinics requires alternatives that were tried and could be further developed. Informing people about the clinics needs to incorporate various communications methods and languages to reach the greatest percentage of the population possible. Another challenge was receiving the vaccine in 500-dose packages, which limited use by smaller operations, such as doctors' offices, because of the potential for considerable wastage when a package is opened, but not fully used.

Supply issues played a significant role in delivering vaccine. Uncertain and changing vaccine quantity made it very challenging to plan the clinics and move supplies, make appointments in some areas, assign staff and inform the public of clinic times. Providing clear information about the priority groups for the H1N1 flu shot (with two different types of vaccine) and the different priority groups for the seasonal flu shot was also challenging.

The federal government had a single supplier for the vaccine to ensure Canada would have access to its own vaccine supplies in an emergency. The federal government has indicated it intends to have more than one contract for flu vaccine which is expected to help with vaccine supply in the future.

Manitoba's mass immunization plan had been developed and tested through staged exercises. Under the plan, approximately 200,000 vaccinations could be delivered on a weekly basis. This preparation work was important to guide the work of the mass clinics by RHAs during the H1N1 flu pandemic.

Approximately 451,000 Manitobans received the H1N1 flu vaccine in the largest ever vaccination effort. Manitoba's immunization rate was similar to the national average at 37 per cent. The supply delivered to Manitoba from the nationally-co-ordinated vaccine process was at its lowest when Manitobans were in lines to receive the vaccine. By the time the supply was sufficient to immunize more people, many seemed to decide that the risk of H1N1 flu had fallen and they did not get immunized.

Manitoba will move forward with:

- applying the learning from the mass immunization effort to existing plans and similar situations

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## Conclusion

H1N1 flu reminded many around the globe of the potential of disease to affect individuals, families, communities and the whole of society. Overall, H1N1 flu did not cause the level of disease and death that many feared a pandemic flu might, however, it did cause deaths and serious illness. Manitoba's plans worked well for the H1N1 flu and the experience will help improve plans for future emergency situations.



