

2009 Pandemic H1N1 Immunization Campaign After Action Report

Office of the Chief Medical Officer of Health (OCMOH)

April 2010

EXECUTIVE SUMMARY

The 2009 pandemic H1N1 mass immunization campaign was a huge success due to the incredible work of many people across the province. Government and non-government health and non-health partners, community organizations, professional associations, universities and many others pulled together to make the campaign a true success story. Nevertheless, the campaign had its share of challenges, and the lessons learned are important.

The goal of this report is to identify the strengths, challenges, and lessons learned during the campaign. During the review, the following themes were highlighted:

(1) Communication

Communication plays an important role in increasing awareness among the public and in initiating behaviour. Effective communication is imperative to the overall success of a campaign. Media such as marketing, website, news conferences and the toll-free information line were used to ensure that the Office of the Chief Medical Officer of Health (OCMOH) message was accurately conveyed to the public.

Communication within government and to non-government health and non-health partners was also important to ensure information about vaccine supply, safety, policy/guidelines and priority groups was transmitted to appropriate individuals in a timely manner. Gaps in communication can challenge the overall efficiency of the program. All parties involved in the response must be kept apprised of frequently evolving information to ensure informed action is taken.

New Brunswick public opinion research showed that, especially for children, the provincial health team was seen as a credible source of information and the message transmitted about vaccine safety was a key factor in the decision to vaccinate. This was felt to be a significant factor in the high uptake rates as compared to elsewhere in Canada.

(2) Roles and responsibilities

Operational elements of a campaign are, for the most part, influenced by the need for clear roles and responsibilities. All parties involved in the response must clearly understand their role and responsibility to take action efficiently and effectively.

A lack of established roles and responsibilities may create gaps, decrease co-ordination and impair teamwork within a response and the overall success of the program.

A clear operational command process existed within the OCMOH during the pandemic; at times, however, the delineation in roles between Public Health and regional health

authority (RHA) staff at the zone level as well as the role of the RHAs in general were less clear. An updated document setting out the roles and responsibilities of each party is required.

(3) Data

Accessing good data is essential to any immunization campaign as well as data entry. The use of the CSDS data application program and effective data training were essential to the campaign.

The available data contributed to the success of the campaign because they were used to modify target groups and identify areas that were not doing as well with some target groups as hoped.

The campaign reinforced the need for a comprehensive immunization registry with a mass immunization feature in New Brunswick

(4) Flexibility in plans

Throughout the campaign, there were a number of slogans created such as, “those who can...do”; and “expect the unexpected.” Although these sayings were transmitted in a light-hearted fashion, their message was important.

Flexibility in operational plans is necessary to accommodate and adjust to changes such as evolving information and unforeseen supply shortages. In future pandemics, available international and national epidemiology may again be minimal early on, and there will again be a requirement to adjust with changing recommendations and supply realities. The ability to adapt and change during a response was a strength of the NB response.

(5) Scope of clinics

The success of an immunization campaign relies on providing enough vaccine access choices to deal with different personal circumstances. In New Brunswick, more than 900 clinics were conducted in mass settings, including the evenings and weekends and also in a variety of locations. In addition to the public health clinics, vaccine was available from physicians and through industries. The latter was particularly important for hard-to-reach younger adult males, and this should be improved in future campaigns if vaccine allows. The wide range of clinics contributed significantly to the outcome.

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INTRODUCTION

In late April 2009, the World Health Organization (WHO) announced the emergence of a novel influenza A virus (an H1N1 strain) that had not circulated previously in humans. On May 1, the first human case of H1N1 influenza virus was confirmed in New Brunswick. As part of pandemic preparedness, improvements had been made to provincial influenza surveillance; guidelines had been developed to help the RHAs and other organizations with their responses; investments had been made in provincial laboratories; the Department of Health's emergency operations centre had been activated; and the Department of Health had begun collaboration with the Emergency Measures Organization. On June 11, WHO declared the start of the 2009 influenza pandemic.

On Oct 1, New Brunswick launched a seasonal influenza immunization campaign for key target groups and followed up on Oct 26 with the start-up of a mass H1N1 influenza immunization campaign.

The supply of the pandemic H1N1 influenza vaccine to the province, estimated to be about 80,000 doses per week, was severely limited for three weeks after the initial supply. In response to vaccine shortages, temporary restrictions were placed on some priority groups for immunization, and some planned immunization clinics were postponed. After priority groups were vaccinated, mass immunization clinics for the public started Nov 30, and clinics continued through to Dec 16.

The campaign resulted in 65 per cent of New Brunswickers being vaccinated against the H1N1 influenza virus (internal New Brunswick H1N1 estimates 63 per cent, and public opinion research polling estimates around 70 per cent). By the start of December, the second wave of H1N1 influenza was nearly over in New Brunswick, and the prevalence of the flu continued to decline.

The goal of mass immunization is to decrease the number of cases and control an outbreak of an infectious disease. Reducing the reproduction rate below one (the number of new cases each case infects), breaks the cycle of transmission. The New Brunswick mass immunization campaign was successful in accomplishing this goal.

1.0 OBJECTIVE

The primary purpose for this document is to assess the 2009 pandemic H1N1 immunization campaign and identify many of the actions taken, operational strengths and gaps, and lessons learned.

This report draws on the experiences and comments gained from individuals involved in various aspects of the immunization campaign (provincially, regionally and locally). The ideas discussed in this document were identified during a debrief session held Dec 18, 2009, as well as, through feedback from individuals involved in the planning and response phases.

The objective of this document is to examine the following three characteristics for each activity:

1. what worked well;
2. opportunities for improvement; and
3. suggestions/recommendations for the future.

2.0 ROLES AND RESPONSIBILITIES

The Public Health Annex - Mass Immunization chapter outlines the roles and responsibilities of the OCMOH, the Regional Medical Officer of Health (RMOH) and the RHAs.

The role of the OCMOH is to plan, fund and monitor Public Health programs and activities including routine and mass immunizations. The RMOH is part of the OCMOH team and has responsibility for the functions of the OCMOH in their respective region. The RHAs are responsible to ensure such decisions are implemented in each of their regions in an efficient and effective way, taking into account the needs of their specific population and resources. In addition to the planning, funding and monitoring role, the OCMOH provides selective service delivery such as the health protection programs and those functions mandated by the *Public Health Act*. Almost inevitably, the oversight of local programs by the OCMOH will be more intense during a pandemic, but the responsibility for business continuity planning, mass immunization clinics and other responses rests with the RHAs.

Recommendations

Roles and responsibilities in plans need to be defined and clearly communicated to all involved in the response. Feedback indicated some confusion was experienced when discussions distinguished between the roles and responsibilities of the RHAs and Public Health services. The RHAs deliver Public Health services during the campaign, however, some references to the RHAs were interpreted as all RHA programs excluding Public Health services.

3.0 MISSION-CRITICAL PRIORITY

Establishing a mission-critical list was important in ensuring sufficient resources were available to provide an adequate response to the pandemic. Continuing with business as usual was not possible.

A number of RHA programs need to be scaled back or stopped completely during a mass immunization campaign. This enables reallocation of resources and consistency in the maintenance of critical public programs.

The OCMOH developed a provincial list of mission-critical priorities for Public Health services. Based on this list, the RHAs and Regional Medical Officers of Health (RMOH) prioritized regional public health services.

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Recommendations

The outlining of mission critical priorities by the OCMOH before the start of the campaign enabled some reallocation of RHA resources.

Due to the tremendous resources required during a mass immunization campaign, it is imperative that resources be reallocated as needed. Future RHA pandemic plans should include scenarios that involve the transfer of staffing and support from the acute sector to mass immunization clinics in addition to changing the conduct of activity within acute-care settings.

4.0 MASS IMMUNIZATION PLANNING TEAMS

The communication between government health partners (OCMOH, RMOH, and RHAs, including Public Health services staff) and other partners, such as Tele-Care, was essential in ensuring evolving information was disseminated in a timely manner.

Teleconferences occurred twice a week to discuss provincial directives, immunization program issues, clinic supplies, vaccine delivery and other issues.

The OCMOH developed recommendations, policy and key content messages based on national information and recommendations. Government and non-government health partners implemented these recommendations.

Recommendations

The consensus was that the regular teleconferences, involving government and other health partners, were extremely useful. This allowed dissemination of essential information in a timely manner at a time of rapidly evolving and changing information; for example, vaccine recommendations for pregnancy and dosing recommendations for children.

The discussions and information from the regular teleconferences could have been further supported with clearer communication. Translation must be available at teleconferences to ensure messages are clearly communicated and understood by all participants. In some circumstances teleconferences may need to be conducted in French.

Following each teleconference, a brief summary of the discussion, recommendations and policy should be disseminated to the mass immunization planning teams. These should be communicated and disseminated to appropriate staff involved in mass immunization.

Communication should be flexible to accommodate changing information and activity. One suggestion was to have a single website repository for information so it would be available to government and external partners.

5.0 TRANSLATION

In New Brunswick, as an officially bilingual province, the provincial government is required to provide all documents in English and French.

During the H1N1 immunization campaign, there were large numbers of documents, forms and external communications that required rapid translation. Delays occurred despite the creation of a dedicated pandemic support process, particularly in professional documents that often needed changes following translation to correct technical issues. Information changed rapidly, further requiring a quick turn-around. This placed a great deal of pressure on an already busy resource.

Recommendations

Future pandemic plans and responses should address the high demand for translation services on a 24/7 basis and the affects on the Translation Bureau. In addition to translation services, once documents are translated, having resources available for technical review should be considered.

6.0 VACCINE PRIORITY GROUPINGS

According to the Canadian Pandemic Plan for the Health Sector 2006, the aim during a pandemic was to vaccinate the whole of the Canadian population on a continuous prioritized basis as quickly as possible. No priority group was included in the 2008 review of the vaccine response annex as it was clear that the early recipients would be determined by the epidemiology of the circulating virus.

With the arrival of p/H1N1 in spring 2009, a framework for identifying these groups was agreed with four categories of criteria including:

- Scientific evidence such as disease characteristics and burden, vaccine characteristics;
- Ethical considerations;
- Program issues such as vaccination strategies, logistics, program acceptability; and,
- Other policy issues such as legal considerations and conformity of programs

The final National guidance was endorsed by F/P/T Ministers of Health and was based on the epidemiology of H1N1 with a primary focus on minimizing serious illness and overall deaths.

It was recognized in the preamble that Aboriginal populations should have vaccine as soon as possible and that other groups at risk of severe illness may declare subsequently as the epidemiology became clearer.

The National guideline specifically did not include as a priority “Societal support” groups such as Emergency Service Organizations or Government workers given the expected low impact on broader societal activity of the H1N1 virus.

Based on international epidemiology and logistic considerations, the priority groups in New Brunswick were restricted to the following:

- front-line health-care workers;
- children six months to 18 years;
- parents of children younger than six months;
- pregnant women;
- First Nations individuals;
- Persons with chronic diseases

During the first week of the campaign, health-care workers, school children and First Nation communities were priority groups however based on the objective to vaccinate as many as soon as possible, and the expected supply, staff at the clinics were not turning others away.

During the second and third weeks of the campaign, a much lower-than-expected supply of the H1N1 vaccine was received by jurisdictions across Canada. This was in addition to a far higher turn out than ever expected, primarily as a result of some higher media coverage of the tragic passing of a child in Ontario from H1N1. A number of clinics had to be postponed and immunization had to be further restricted within the priority groups to those whom we felt we could target most effectively. Therefore, the decision was to continue with children, pregnant women, frontline health care workers, First Nations communities, and selected chronic disease groups that could easily be identified for example those with renal failure on chemotherapy.

As people in these groups were immunized and additional vaccine received, the target list was expanded in a selective manner based on those at highest risk. By the fifth week, vaccine was available to complete all the priority groups and finally, during the seventh week, clinics were open to the public. Mass immunization clinics continued until Dec 16.

Pregnant women were a priority group based on a number of reports of poor outcomes during the first wave of the pandemic. Adjuvanted and unadjuvanted vaccines were available in Canada and, based on a recommendation by the World Health Organisation Special Advisory Group of Experts (SAGE), in Canada, the unadjuvanted vaccine was recommended for all pregnant women at any stage of their pregnancy. At the beginning of the campaign, the unadjuvanted vaccine was unavailable, therefore, the recommendation was for pregnant women (more than 20 weeks gestation or with a chronic condition) to consider receiving the adjuvanted vaccine.

Summary of findings and recommendations

The rapidly changing priority groups presented several challenges outside the control of the province such as messaging and times/locations of mass immunization clinics.

The altering federal messaging again highlighted the need for clear, effective mechanisms for dissemination of information, including recommendations and policy.

With emerging epidemiology inevitable in any pandemic, flexibility of approaches will always be necessary and pandemic plans should include a defined process for dissemination of rapidly changing information.

Much unneeded extra pressure was put on health care providers from advocacy groups and others to alter the prioritization process based on perceived as opposed to actual need. It is important that government and health care workers speak with a consistent message in support of those charged with leading this component of the response

In addition, the need for flexibility and the communication process should be understood by all involved in the pandemic response, including mass immunization planning teams.

7.0 COMMUNICATIONS WITH HEALTH-CARE PROFESSIONALS

The primary source of communication with health-care professionals was by way of formal letters to physicians and included vaccine information, policy changes and so on. In addition, a section for health-care clinicians and allied health professionals was developed and placed on the generic flu website. The page contained relevant information about the vaccine and the immunization campaign, including previous letters to physicians.

Summary of findings and recommendations

The use of direct mail-outs to ensure that health-care professionals received information and updates rapidly was challenging. Physicians are a reliable and highly trusted source of health-care information for patients. They need to be informed so they may continue the consistent OCMOH messaging. The best way to communicate with health-care

professionals should be decided on early in any immunization campaign. Letters that were dictated underwent a technical review, went to translation, had the translation technically reviewed and then went to a postal system. This process generally took a week or more which is too long when communicating urgent information.

It is suggested that consultation occur with health-care associations such as the College of Physicians and Surgeons of New Brunswick and the New Brunswick Medical Society to discuss ways of disseminating information and public health messages in a quick and efficient manner (that is, teleconferences, fax, website and/or e-mail) to physicians.

8.0 MARKETING

The Department of Health and Communications New Brunswick developed a bilingual advertising campaign in the fall of 2009, encouraging New Brunswickers to receive the publicly funded H1N1 influenza vaccine. This marketing campaign was done in conjunction with federal messaging.

The primary objectives of the campaign were:

- immunize as many New Brunswickers as possible;
- identify priority groups at high risk of H1N1 influenza complications;
- persuade priority groups to visit publicly funded immunization clinics;
- persuade the public to visit publicly funded immunization clinics;
- promote awareness of the effectiveness and safety of H1N1 influenza vaccines; and
- promote health flu website and information line (Tele-Care) as main tools for clinic information.

Four marketing phases were proposed:

(1) *Build awareness*

General population was targeted through a print campaign from Oct 17 to 31. The primary messaging was high-level and straightforward:

- promote publicly funded vaccine clinics;
- highlight priority groups;
- inform the public that mass immunization clinics would begin after the priority groups were completed;
- reassure the public that the vaccine was safe and effective; and
- call on members of the public to get vaccinated.

The campaign was strengthened by Public Health Agency of Canada (PHAC) marketing activities that included: a direct mail piece, print advertisements, and a preparedness guide.

(2) Promoting local immunization clinics for priority groups

Priority groups were targeted (priority groups would change weekly) from Oct 29 to Nov 28 through a print, radio and Internet campaign (for instance, Facebook).

Primary messaging included:

- vaccine clinics had begun for certain priority groups;
- clinics for public would begin in December;
- the vaccine was safe and effective;
- call on members of the public to get vaccinated.

(3) General awareness

The population and priority groups were targeted through print to reinforce the importance of immunization (message to focus on priority groups and second dose for children). A direct mail piece was developed, but the messaging was out of date before distribution due to evolving information about children's vaccine dosage requirements. Therefore, the third phase of the campaign never went in market.

(4) Promote immunization clinics for public and second vaccine dose for children

The population was targeted through a print and radio campaign from Nov 28 to Dec 18. A separate print and radio campaign was implemented to target parents of children who would require a second dose.

The H1N1 immunization marketing campaign, based on the marketing phases, was implemented from October to December. Print media were primarily used due to the flexibility of the province's four major daily newspapers: *The Daily Gleaner*, *Times & Transcript*, *Telegraph-Journal* and *l'Acadie Nouvelle*. Radio time was purchased to promote H1N1 messaging through the top two rated stations for each region/zone. It was imperative to ensure both English and French audiences were being reached. Due to longer submission requirements and longer shelf life, print advertisements were only placed in weekly newspapers when it was certain that the messaging was unlikely to change within a two-week period.

Throughout November, the province took out Facebook advertisements that linked the user to the provincial government flu website.

Finally, the marketing campaign included directing New Brunswickers to the provincial government flu website. Ensuring a successful website was imperative to achieving the objectives and was included in all four marketing phases.

The H1N1 influenza vaccine can protect you and your family.

Be safe in New Brunswick. Immunize.

The Government of New Brunswick has ensured that sufficient H1N1 influenza vaccine is available to protect every resident this flu season. The vaccine will be provided free to all New Brunswickers aged six months and older.


Important things you should remember:

- the H1N1 influenza vaccine is the safest and most effective way to protect you and your loved ones this flu season;
- if you are under 65 with a chronic medical condition; a child six months to under five years old; are pregnant or have just had a baby; or a person of Aboriginal ancestry, and you have not yet received the H1N1 influenza vaccine, you are at high risk of severe complications from the H1N1 influenza virus;
- if you are a household contact for, or care for, either an infant under six months old or an immunocompromised adult, you can protect them from the virus by having the vaccine and
- if you have had your child, six months to nine years old, recently vaccinated for the H1N1 influenza virus, a second dose is required three weeks following the first.

Publicly funded immunization clinics* for all residents are currently being held throughout the province.

Please visit www.gnb.ca/flu for clinic listings and up to date information about the H1N1 influenza virus. Information is also available by calling **1-800-580-0038**.

*Please be sure to bring your medicare card to the H1N1 immunization clinic.



New Brunswick
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New Recommendations for H1N1 Influenza Vaccine and Children

The H1N1 influenza vaccine is a safe and effective way of protecting your children from the H1N1 flu virus, and potentially severe complications like pneumonia or breathing problems.

The Public Health Agency of Canada has recently updated its vaccine dosage recommendations for children:

CHILDREN	VACCINE DOSING RECOMMENDATIONS
Older than six months, and younger than three years	Two doses
Aged three-to-nine years – healthy children	One dose
Aged three-to-nine years – children with chronic medical conditions**	Two doses


Parents do not need to attend a clinic exactly on the 21-day mark and can be reassured that:

- good protection against the virus has been seen after the first dose, even in the groups recommended to have a booster; and
- the 21-day limit is a minimum and not an ideal. Children will not be adversely affected if the second dose is given a little later.

H1N1 influenza immunization clinics will begin next week for children who require their second vaccine.

For more information on the H1N1 flu virus and current clinic listings, visit www.gnb.ca/flu or call **1-800-580-0038**.

**These recommendations may be updated as more information becomes available.
**Major chronic diseases include: chronic lung disease, kidney disease, blood disorders, heart disease, weakened immune system (children taking cancer drugs or those with HIV/AIDS), and neurological disorders.



Be safe in New Brunswick. Immunize.

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The H1N1 vaccine can protect you and your family.

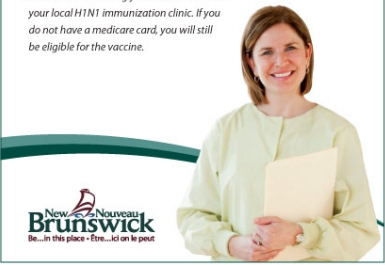
Be safe in New Brunswick. Immunize.

The Government of New Brunswick is committed to ensuring that New Brunswickers are protected from the H1N1 influenza virus this flu season.

Immunization clinics* for children aged six months to 18 years; pregnant women (more than 20 weeks, and less than 20 weeks, with chronic diseases); parents of infants under six months old; and people of Aboriginal ancestry, are currently being held.

Additional immunization clinics will be held around the province in upcoming weeks to ensure that the remaining priority groups, as well as **all** New Brunswickers, have access to the safest and most effective way to protect themselves from the H1N1 influenza. Up-to-date clinic listings and information about the H1N1 flu virus may be found at www.gnb.ca/flu, or by calling **1-800-580-0038**.

**Please be sure to bring your medicare card to your local H1N1 immunization clinic. If you do not have a medicare card, you will still be eligible for the vaccine.*



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Summary of findings and recommendations

The availability of a dedicated marketing resource reporting directly to a specified OCMOH staff member was beneficial during the campaign and should be built into plans. While improved control of some external partners is necessary – that is, contract implications for failing to meet production dates – the marketing component of the pandemic response was a success.

Advertising media are limited in a pandemic due to quickly evolving information; anything that has a long shelf life or has a long turn-around time (that is, direct mail, magazine advertisements, promotional items, and posters) will not work unless it contains very high-level messaging. Newspaper and radio were the best media because messaging can be updated daily (weekly newspapers are best for generic long-term messaging).

When considering printed marketing materials, the following two elements should be considered. First, identify the capacity for the design/print company to produce resources quickly. Second, ensure the information is broad enough to allow for flexibility with evolving messages/information.

With more people gathering information on the Internet, additional online advertising using social media such as Facebook would be recommended for future pandemics.

Finally, to supplement the provincial marketing campaign, identifying methods for local marketing would be beneficial.

9.0 WEBSITE

A successful website must provide compelling content (that is, be attractively designed to complement the content), be easy to navigate, user-friendly, and maintain up-to-date information. The pandemic website strategy was developed after analyzing a number of provincial and international pandemic websites and reviewing research provided by PHAC to determine what information the public wanted. The website was a key tool in providing information to the public, media, and healthcare professionals (that is, training, updates, etc.).

The content, complemented by a new layout, images and graphics, was launched Oct 13.

The following was developed as new web content:

- facts about the flu (seasonal vs H1N1);
- how to prevent the flu;
- what to do if you get the flu;
- priority groups;
- immunization clinic listings for the Province of New Brunswick; and
- information pages for specific groups (that is, families and households, employers, child-care providers and educators, group living settings, critical infrastructure partners and health-care professionals).

Immunization clinic listings

CNB Marketing and the RHAs established a process for updating clinic listings. RHA regions/zones provided clinic listings for editing and translation. A weekly deadline was established to ensure clinic listings would be posted at least one week in advance. This worked well by the end of the pandemic but was challenging early when supply was small. A clear process of information-sharing among clinic organizers, RHA marketing staff and the central office webmasters is needed so as to give due credence to the criticality of accurate web information. Failure to communicate what is happening risks wasting the actual work.

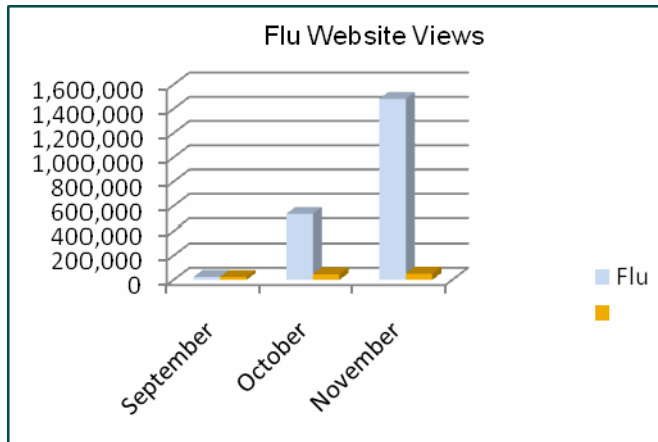
Website development and maintenance

The website was a crucial tool in the H1N1 immunization campaign because it allowed quick updating and revision of information as required and could also reach a large

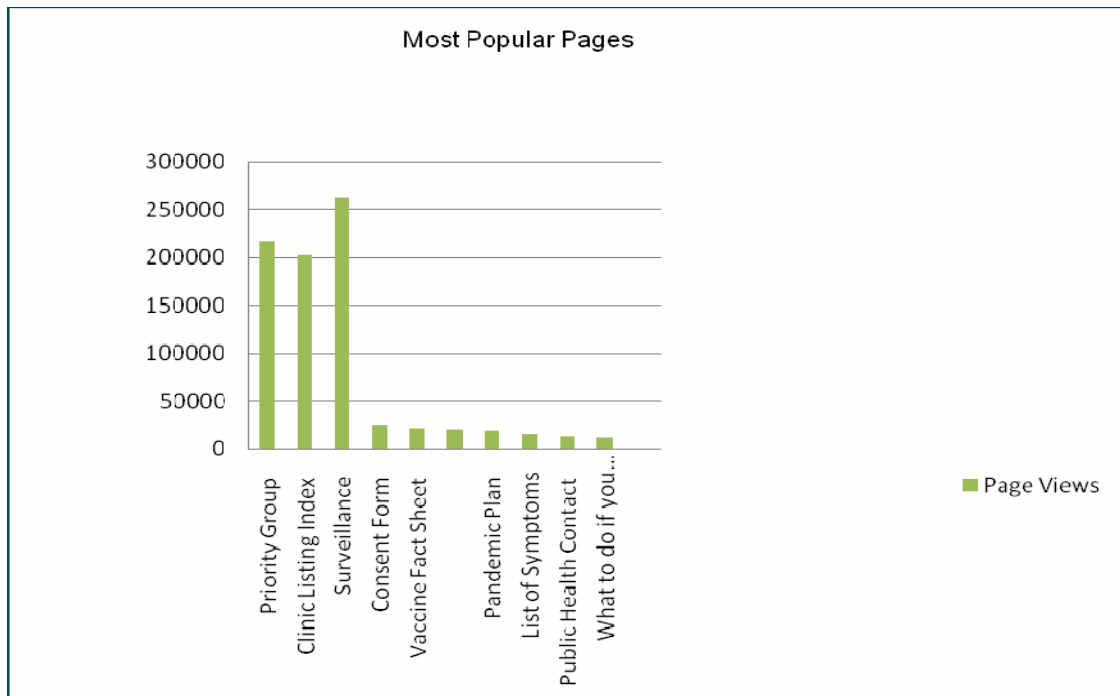
percentage of New Brunswick residents. It simplified the delivery of information to the public and was a main source of information.

A Health Canada survey showed that the Number 1 source of information that people used was the website/Internet (65 per cent), followed by television news (28 per cent) and newspaper articles (22 per cent). During October and November, the clinic listing index page received 202,879 page views. In early September, the average number of page views for the entire flu website was 350.

Health and flu website: views per month



Flu website: most popular pages



Summary of findings and recommendations

Website development and maintenance

With Internet and social media usage increasing dramatically, it is recommended that a dedicated team with diverse knowledge and experience be assigned web development early in the planning process.

Keeping up with the many updates to website information and clinic listings was challenging. For example, early on, multiple versions of documents remained on the website leading to difficulties in tracking and locating the most up-to-date version. Furthermore, the approval process required for documents to be posted on the website was cumbersome and, in future, should be more efficient.

A web maintenance team should include website, marketing, and communication representatives. This group should collaborate to ensure content on the website reflects new information and consistent messaging. The website sometimes contained errors that led to frustration among the public.

Immunization clinic listings

Posting immunization clinic listings in one central location (that is on the website) was important to the success of the campaign. However roles and responsibilities of stakeholders involved in clinic postings should be clarified to ensure all individuals are aware of their responsibilities and the process involved.

Translation and editing make up two large components of clinic listings and accurate updates. These functions need to be incorporated into planning, at the RHA and OCMOH levels and should include a process for timely review of clinic listing information and accuracy.

Database and templates for web updates must be developed as early as possible to ensure accurate and timely clinic information is delivered to the public. To support clinic updates, processes should be developed in advance to address urgent requests for any website updates (that is, postponed clinics, cancellations, weekend updates, etc.) and for addressing errors on website.

It was suggested that only clinics available to the public be listed on the public website (health-care worker clinics did not need to be listed). Furthermore, posting clinic listings a full week in advance caused challenges when clinics were cancelled. Thus, it is recommended that clinics not be posted more than one week in advance. However language should be added to alleviate public anxiety that clinics would be available in specific locations

A link from the RHA website to the New Brunswick influenza website was helpful in providing information.

10.0 COMMUNICATIONS AND MEDIA

The media were a key factor in building a general awareness about the province and providing information about the campaign. The OCMOH held regular news conferences to present a clear and transparent message about the characteristics of the virus and the status of the epidemic and the immunization program. Regular spots on breakfast radio were used to promote the message. The chief medical officer of health and the deputy chief medical officer of health were consistent spokespersons throughout the pandemic.

The responsibilities of communications and media included:

- stakeholder packages, fact sheets, and public alerts;
- news conferences and news releases (text content and video); and
- a response system to address public inquiries and complaints.

Summary of findings and recommendations

The news conferences established the OCMOH as a credible source of information. Media conferences (text and video) were posted on the web and were a valuable source of information. Staff outside central office used the web postings to keep abreast about information changes.

In future, increased media demands may place an additional burden on the ability of spokespersons to respond. This potential should be considered, including the availability of anglophone and francophone spokespersons. While at times concerns were raised about the lack of francophone spokespeople in the OCMOH, the assistance of staff from Hospital Services and the Emergency Operations Centre covered translation needs and spokespersons at media events.

There were no data in vaccine coverage statistics that suggested lower understanding in the French sector of New Brunswick. In fact, northern New Brunswick had higher vaccination rates than the south in many areas.

Having increased capacity comes with some recognition risk. The public became familiar with the face and messages of the CMOH and the DCMOH and the post pandemic Public Opinion Research and a great deal of anecdotal information suggests

that they became trusted sources. Having too many spokespersons risks a lack of public recognition.

The media communications, marketing and website personal needed to work together to ensure consistent messages and strategies.

Having a single manager, designated from within the OCMOH staff, overseeing the project (including the information line, marketing, website and communications) could address the need to share information and resources across each of these responsibilities.

The process for approvals of documents by the OCMOH was tardy at times and needed streamlining. This was in due in part to the continued development of plans, documents, and stakeholder kits for a “generic pandemic,” often based on an Avian flu model, when the actual and quite different pandemic was here. While the documents will be a legacy for New Brunswick, senior staff within OCMOH often deemed at the time that reviewing these was a lower priority than the pandemic response.

A list of mission-critical priorities should be developed in communications. This would have deferred the stakeholder package development during a time when the focus was to control the spread of the H1N1 virus and mass immunization clinics. It is suggested that pandemic planning cease when the province is in response phase in order to free resources.

The centralized complaint and inquiries management system developed to address public concerns seemed to work well and contributed to the positive public attitude.

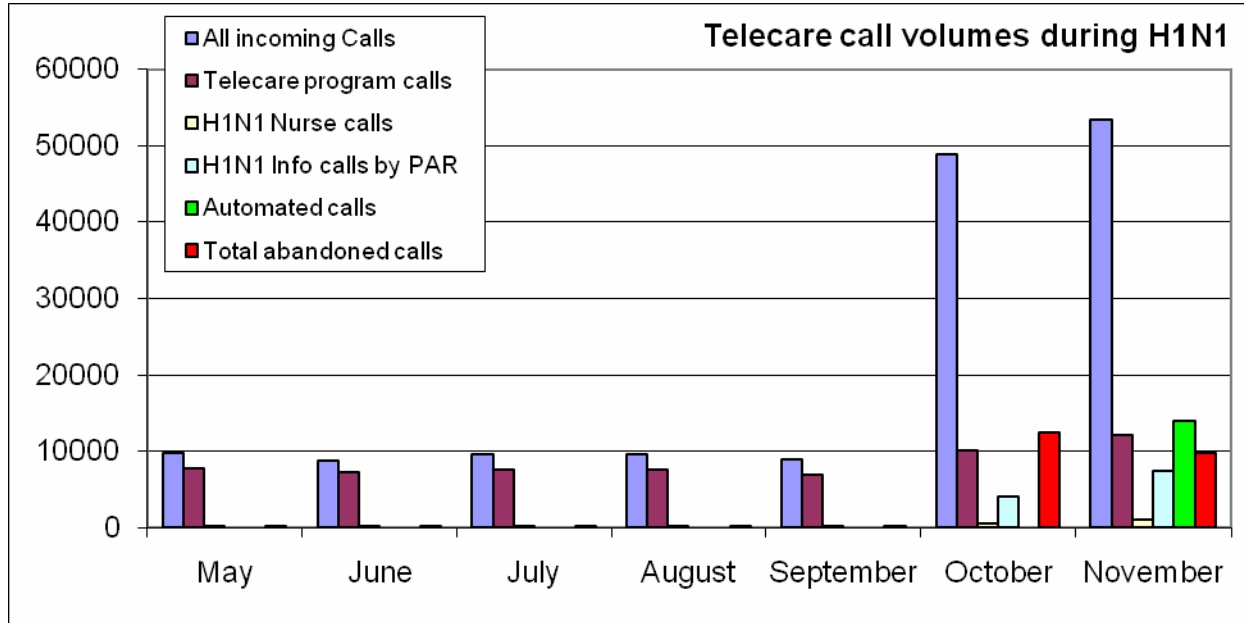
There is a separate Communications Plan and a Public Health Messaging section within the Public Health Annex. A single plan addressing communications should be developed to clarify roles and responsibilities.

11.0 INFORMATION LINE

The bilingual, 24/7 toll-free provincial health advice and information line was a significant tool for residents to obtain information (Tele-Care provided by Sykes Assistance Services Canada). This line provided callers with information such as clinic locations, priority grouping updates and information about the H1N1 influenza virus and the vaccine. The information line was especially useful for residents who did not have the Internet.

A demand similar to the websites was also found with the information line. There was a dramatic increase in number of calls (call volumes) starting on Oct 24. This caused all

circuits to be busy and resulted in abandoned calls (callers disconnecting the call before being answered) when more than 8,000 calls were reached. A large part of this demand was numerous frequent calls from single households, as only 35 per cent of calls were from unique telephone numbers.



Summary of findings and recommendations

For the information line to disseminate the appropriate messages and information to the public, Tele-Care had to receive accurate and timely information. When there were gaps in the dissemination of information, Tele-Care’s delivery was impaired. It is essential for information lines to receive the most accurate and timely information.

The public extensively used the information line. To address the intense pressure on this resource, eight persons (to handle information calls) and an automated system to provide information to callers (clinic dates, times and locations) were added. This worked well in bringing service levels back to normal. In future, introducing an automated system earlier would be helpful.

12.0 IMMUNIZATION SUPPLIES AND EQUIPMENT

Supplies to prepare and administer the vaccine were provided to each RHA by way of regional Public Health services. The supplies included needles, syringes, alcohol swabs, cotton balls, band aids, alcohol hand gel, sharps containers and syringe labels.

Initially, 25 per cent of the vaccine supplies were prepositioned with a further 25 per cent transferred at set times thereafter or as required.

Syringe pre-loading labels for use in mass immunization clinics were produced by the OCMOH, and a staff signatory sheet was recommended for all immunizers and syringe pre-loaders. According to policy, administration of the vaccine had to occur within two hours of mixing. In cases where this timeframe was not met, the mixed vaccine was discarded. Therefore, the purpose of the syringe labels and staff signatory sheet was to ensure immunizers were well-informed of the time that the vaccine was mixed and the individual responsible for mixing.

<p>Syringe pre-loading labels and description of usage:</p> <ul style="list-style-type: none"> • coloured area will be filled in by nurse drawing up vaccine • grey/white area will be wrapped around syringe cap • nurse administering vaccine will remove coloured label and attach to the consent form 	
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Summary of findings and recommendations

Vaccine supplies from the provincial stockpile were distributed prior to the campaign. While an excessive contingency stockpile is hard to justify fiscally, policy changes, in particular paediatric dosing changes, led to a mad scramble for smaller syringes. Similarly, initial vaccine company messaging about drawing up processes led to a scramble for high-gauge needles. It is recommended that within fiscal realities, stockpile plans be flexible enough to accommodate unforeseen supply shortages.

The provision of supplies in lots of 25 per cent of the population produced severe storage space issues at a number of sites. In future, distribution of supplies may need to be in small amounts, done more frequently.

The use of consistent OCMOH-mandated resources such as syringe pre-loading labels attracted comment. It is clear that mass clinics using staff unfamiliar with vaccination require some degree of rigidity in process to minimize vaccine errors. Some thought the labels worked well, while others felt the process was burdensome and time-consuming.

A time-effective recommendation put forward was to have a process in place enabling loaders to print and initial labels in advance rather than write information several times over by hand.

It was also found that having supplies such as swabs and needles packaged into pre-prepared boxes (the “clinic-in-a-box” approach) was effective.

13.0 VACCINE PROCUREMENT AND DISTRIBUTION

The H1N1 influenza vaccine for Canadians was produced by GlaxoSmithKline (GSK). The Canadian government ordered adjuvanted (Arepanrix®) and unadjuvanted vaccines. There was a delay in the production of GSK’s unadjuvanted vaccine, so Canada also ordered a small amount of an adjuvant free vaccine (Panvax®) produced by CSL.

GSK were expected to produce at least 3.5 million doses per week of the H1N1 influenza vaccine. New Brunswick was expected to receive 78,000 doses weekly. However, early on, the supplies of vaccine to all Canadian provinces were considerably lower than expected. In New Brunswick, vaccine supply during the second and third weeks was reduced to 11,000 doses at best. This reduction had a dramatic effect on the campaign.

Vaccine was delivered weekly from the GSK vaccine manufacturing centre in Ste-Foy, Que., to the Central Serum Depot (CSD) in Saint John. Confirmation of the weekly allocation and delivery time was received through a New Brunswick representative on the national Vaccine Supply Working Group (VSWG), while preliminary allocations for each week were communicated to New Brunswick through other committees.

Based on each RHA region/zones’ population distribution, CSD staff would notify each RHA (regional public health immunization coordinators) of their allocated vaccine doses for the following week and ensure they were able to receive the total amount in one shipment.

Summary of findings and recommendations

The regular reports to each RHA region/zone from the CSD staff on vaccine availability and distribution worked well. Vaccine distribution to RHA regions/zones from the CSD was well organized and worked smoothly.

The lack of available vaccine during specific weeks of the campaign created major challenges for clinic scheduling, targeting priority groups and maintaining public confidence. It must be recognized, however, that the availability of vaccine was a matter that fell outside the control of the OCMOH and the RHAs (including Public Health services). With this said, no recommendations are offered.

14.0 VACCINE RECEIPT, STORAGE, HANDLING AND INVENTORY

Before the campaign, those Public Health offices that stored vaccine were reviewed to ensure that they each:

- had the vaccine refrigerator capacity to store the putative amounts of vaccine arriving each week; and
- complied with the manufacturer's guidelines for correct storage and handling of the vaccine.

All regional Public Health services offices stored vaccine in dedicated vaccine refrigerators with back-up batteries to ensure there was a power supply in the event of a power outage. Extra resources such as gel packs, vaccine coolers, warm and cold mark monitors, and minimum/maximum thermometers were purchased so that vaccine cold chain would be maintained throughout the campaign.

Weekly vaccine inventory reports

pH1N1 Vaccine - Weekly Inventory Report for Report Week of Nov 16 - 22, 2009											
Zone: Fredericton			E-mail to cdcunit@gnb.ca by 3:00 PM each Monday								
# of doses is to be recorded as the number of full 0.5 ml doses.	Totals										
Beginning Inventory											
# of doses on hand at start of report week											
	Arepanrix	0									
	Panvax	0									
	GSK- Unadjuvanted	0									
	Total Beginning Inventory	0									
# of Doses Received											
In Current Week											
	Arepanrix										
	Panvax										
	GSK- Unadjuvanted										
	Total # of Doses Received	0									
# of Doses Administered											
By PH in Current Week											
	Arepanrix										
	Panvax										
	GSK- Unadjuvanted										
	Total # of Doses Administered	0									
# of Doses Distributed											
Outside of PH in Current Week			GP's	Specialty Clinics	VON	First Nation	Nursing Homes	Hospitals	Corrections	Companies	Other
	Arepanrix	0									
	Panvax	0									
	GSK- Unadjuvanted	0									
	Total # of Doses Distributed	0	0	0	0	0	0	0	0	0	0
Total # of Doses Lost			Please provide details:								
In Current Week											
	Arepanrix										
	Panvax										
	GSK- Unadjuvanted										
	Total # of Doses Lost	0									
Total # of Doses Returned to PH											
Doses previously distributed, cold chain maintained and able to be used.											
	Arepanrix										
	Panvax										
	GSK- Unadjuvanted										
	Total # of Doses Returned to PH	0									
Total Inventory			Targets for use in upcoming week:								
Doses on hand at end of week											
	Arepanrix	0									
	Panvax	0									
	GSK- Unadjuvanted	0									
	Total Inventory	0									
Additional comments:											

Summary of findings and recommendations

The purchase of back-up batteries for refrigerators provided an excellent solution to prevent loss of vaccine. The purchase of coolers, ice packs and minimum/maximum thermometers were helpful in ensuring that cold chain practices were observed.

The weekly vaccine inventory reports ensured control and monitoring of vaccines, and they were useful for guiding clinic planning according to vaccine availability. Unfortunately, a number of inventory reports were developed and/or requested from several entities (provincially, regionally and locally). It became time consuming to complete and submit forms. To simplify this process, it was recommended that one report sheet be used for vaccine inventory reports.

15.0 RECRUITMENT

Each RHA was responsible for ensuring that adequate numbers of trained staff were available to assist in the mass immunization clinics. The OCMOH assisted the recruitment of staffing by working centrally to enrol retired/non-practicing/registered nurses and licensed practical nurses, nursing and practical nursing students, paramedics and family physicians.

More than 1,000 people (not including the Victoria Order of Nurses), about 80 family physicians and staff within several large scale corporations were recruited centrally. This was accomplished by working with the following professional association and educational institutions:

- Nurses Association of New Brunswick;
- Ambulance New Brunswick;
- New Brunswick Association of Licensed Practical Nurses;
- Paramedic Association;
- New Brunswick community college system (anglophone and francophone);
- the University of New Brunswick; and
- l'Université de Moncton

The Nurses Association of New Brunswick supported recruitment efforts by screening for eligibility and assigning temporary emergency registration for non-practising and retired nurses. The OCMOH covered the cost.

Recruitment presentations were given at l'Université de Moncton and the University of New Brunswick. An agreement between the Department of Health and the Department

of Post-Secondary Education, Training and Labour allowed practical nursing students to receive credit for the time they spent in the clinics toward their practicum requirement.

A process was established to review data reporting and training requirements with physicians, and a method to streamline the Medicare remuneration process was implemented.

In addition, industries interested in supporting the campaign were screened for such things as on-site nursing capacity and staff training.

Summary of findings and recommendations

Staffing was a critical issue during the campaign. Having a budget dedicated to the campaign enabled clinics to obtain staff and reallocate them if necessary, without overburdening other staff members.

There were challenges with recruiting. With the changing availability of vaccine and the ever shortening time to the proposed start date, only a short timeframe existed to recruit and train people. This may occur in future pandemics.

It is recommended that recruitment begin as soon as possible and there should be an ongoing recruitment and training process after clinics have opened to allow for additional help.

Fiscally, the program suffered heavily from a lack of pre-organized agreements regarding flexibility of employment, redeployment and so on. While attempts were made to standardize salaries and costs, invoices from the RHAs and other groups were dominated by overtime amounts. Negotiations about reasonable costs are not possible during the crisis and must predate it.

Similarly, there were difficulties in reducing the number of nurses and security staff when vaccine shortages eased and “queue behaviour” improved.

16.0 IMMUNIZATION TRAINING

Immunization training was intended to support the placement of alternate vaccinators into Public Health mass immunization clinics and to provide safe administration of the vaccine. Training tools were developed and approved and distributed by the OCMOH. These tools included:

- immunization certification (a self-directed learning immunization PowerPoint module, a self-directed learning certification print module, and an on-site supervision form);

- syringe pre-loading training module (on-line video and CD, a PowerPoint presentation and a factsheet). Arepanrix™, the adjuvanted vaccine required mixing prior to administration. Information included how the vaccine was prepared, the cold chain and storage requirements as well as the expiration time after mixing; and
- fact sheets (minimum training requirements and education, medical directive, and Arepanrix™ factsheet, Panvax™ factsheet, and GSK unadjuvanted factsheet).

The RHAs were responsible for implementation of mass immunization clinics, including the training of alternate immunizers. The minimum training requirements were defined according to skills required and the level of task complexity.

Immunization training on-site supervision form:

RECORD OF COMPLETION OF H1N1 IMMUNIZATION TRAINING

Employee Name: _____

Employee status (ex., student): _____

Regional Health Authority _____ Zone _____

Task assignment: _____

STATUS OF H1N1 IMMUNIZATION CERTIFICATION TRAINING	YES	NO
Has successfully completed the H1N1 Immunization Certification Training session		
Has successfully completed H1N1 Immunization on-site direct supervision		
Has acquired the clinical skills to provide H1N1 influenza immunization		
Has acquired the clinical skills to provide anaphylaxis management		
Certificate provided for completion of the H1N1 Immunization Certification Training		
ACQUIRED SKILLS RELATED TO IMMUNIZATION PRACTICE STANDARDS		
A) COLD CHAIN MAINTENANCE		
Stores and handles vaccine to maintain cold chain		
B) CLIENT ASSESSMENT PRIOR TO IMMUNIZATION		
Assess current health status		
Assess history of severe allergic reactions		
C) INFORMED CONSENT FOR IMMUNIZATION		
Discuss benefits and risks of receiving the vaccine		
Reviews contraindications, precautions and adverse events related to the vaccine		
Discusses risks associated with not having the vaccine		
Provides after immunization care instructions		
Ensure clients has opportunity to ask questions		
D) VACCINE PREPARATION		
Cleanses hands		
Maintains sterile and aseptic technique		
Selects correct vaccine, checks expiry date and dosage		
Selects appropriate syringe and needle		
Reconstitutes vaccines correctly		
Draws up vaccine correctly (dose and technique)		
E) VACCINE ADMINISTRATION		
Verifies client identity		
Ensures client is positioned appropriately		
Identify correctly injection site location and demonstrates accurate injection technique		
Handles and disposes of syringe/needles safely		
Assists parent to comfort child as needed		
Ensures that client stays on-site for the required observation period after vaccine administration		
F) ANAPHYLAXIS MANAGEMENT		
Demonstrates appropriate knowledge of protocol for the management of anaphylaxis and immediate adverse event		
Ensures anaphylactic kit is complete and accessible		
Verifies client identity		
Ensures client is positioned appropriately		
Identify correctly injection site location and demonstrates accurate injection technique		
Handles and disposes of syringe/needles safely		
G) DOCUMENTATION AND REPORTING		
Documents vaccine or epinephrine administration as per the NB Public Health protocol.		
Documents contraindications to the vaccine		
Documents and reports immediat adverse event following immunization		
Documents vaccine administration on client personal immunization record		
Documents refusal of immunization		
I am satisfied that the person named-above has successfully completed the H1N1 Immunization Training and has demonstrated the skills to perform the above-mentioned immunization-related tasks as described in New Brunswick guidelines for Public Health H1N1 immunization clinics.		
DATE: _____	Immunization coordinator or designate: _____ <small>(Signature)</small>	
Please return to the Immunization Coordinator.		

Adapted from Record of Certification / Administration of Biologicals for Nursing Students, Ottawa Public Health and from Pandemic Influenza Certification, Vancouver Coastal Health

Summary of findings and recommendations

The training resources prepared were well received, and groups such as non-public health nurses felt the training sessions adequately prepared them.

There was some localized confusion about the required training for nurses of different disciplines and experiences. The training that occurred with nurses in these situations seemed to be inconsistent across regions/zones.

Much of the training occurred before the immunization clinics started to ensure staff would be prepared to help.

It was suggested that would have been easier to recruit additional staff if training were provided throughout the campaign. This would be especially important when the need for qualified staffing exceeded the availability.

17.0 IMMUNIZATION PUBLIC EDUCATION MATERIALS

The OCMOH coordinated the development of educational resources during the campaign. Program resources were updated as necessary when new vaccine information was received. Resources produced included pandemic H1N1 vaccine information sheets and a DVD for public education used at immunization clinics and other centres to ensure informed consent.

Summary of findings and recommendations

Overall, the DVD resources were well done.

18.0 MEDICAL DIRECTIVE

The medical directive was to provide for the safe administration of the vaccine and epinephrine during the campaign. The directive touched on such topics as the skills and/or training required by vaccinators, the target clientele and the contraindications of the vaccine.

Summary of findings and recommendations

The medical directive was an important support document. One recommendation was that the directive should clarify items that require the MOH's advice. There was confusion at some sites as to which previous reactions could be a contraindication to immunization.

19.0 VACCINE DELIVERY BY NON RHA STAFF

19.1 Victoria Order of Nurses

The Department of Health entered into a contract with the VON to help with the campaign. RHA staff worked locally with each regional VON manager to organize how VON immunizers could help. They immunized the priority groups in the beginning and then expanded to other groups as priority sequencing progressed. Under the contract, VON staff were to run independent immunization clinics and not help with the Public Health clinics. VON immunizers were provided with the H1N1 vaccine, supplies and instructions on mixing, administration and cold chain management of Arepanrix™ by the regional Public Health offices.

Summary of findings and recommendations

There were challenges with the dissemination of information throughout VON. It is unknown whether this gap was in communication provincially with the VON or within the VON itself. In future, closer links with VON, possibly by way of regular teleconference updates should occur.

19.2 Physicians

The OCMOH contacted all physicians practising within New Brunswick to offer the opportunity to participate in the campaign. Due to the special requirements of the Arepanrix™ (that is, mixing prior to administration and once mixed the 10 doses had to be used within a specific timeframe), physicians were required to run large clinics to ensure that vaccine was not wasted.

Twenty-five doctors were involved at the start. They immunized their clinic patients who were in the priority groups.

Regional Public Health offices provided the physicians and/or their nurse immunizers with the vaccine, supplies, vaccine instructions and data listing requirements. The data listing forms, once completed by the physicians, were faxed to central office and entered into the immunization record (CSDS).

Fifteen doctors provided mass immunization clinics to their patients and the public once priority groups were completed.

Summary of findings and recommendations

The physicians involved offered support in vaccinating hard-to-access clients, priority group members, and/or most of their patient population. There were a few challenges faced with data submission, vaccine storage/handling and adhering to priority groups.

Consultation is necessary to identify potential ways to increase physician participation in mass immunization campaigns and ensure they receive accurate timely information.

The feedback from physicians included suggestions about fine-tuning the data form (that is, increasing the size of boxes and adding a postal code field) and improving data submission. The possibility of submitting immunization data through existing electronic systems, such as Medicare billing, is being explored.

19.3 Industry

Once the vaccine became available to the public, industries that could provide their own complement of trained immunizers (usually occupational health nurses) were issued with the vaccine, supplies, vaccine instructions and data listing requirements.

Several of the province's industry groups, both large and small employers, ran workplace clinics.

Summary of findings and recommendations

The support from industries presented an opportunity to immunize people outside of the mass immunization clinics. Moreover, the contributions of industries such as NB Power that seconded their vaccination teams to help at the mass immunization clinics for children were valuable. It is recommended that collaboration with industries be ongoing to exercise their capabilities effectively in the future.

20.0 IMMUNIZATION DATA, CSDS APPLICATION AND INFORMATION TECHNOLOGY

CSDS application

Early in the campaign, the CSDS development team analyzed the requirements for a mass immunization database. As New Brunswick does not have a comprehensive vaccine registry nor the electronic capacity to support a mass immunization campaign, it was decided that the most efficient and beneficial approach would be to design a *mass*

immunizations application (screen) within the CSDS. Subsequently, a new application was built, tested and deployed that included:

- specialized H1N1 mass immunizations screens to accelerate data entry.
- improved CSDS immunization windows to enable Public Health staff to enter data about vaccines given at the Public Health offices; and.
- H1N1 mass immunizations reports for age groups and target groups, by zone and for the province.

The goal was to have direct data entry into CSDS at the mass immunization clinic sites. The following steps ensured the RHAs had network access to allow direct entry:

- primary Internet access is available at all public schools. An arrangement was made with the Department of Education for Public Health to hold mass immunization clinics at schools whenever possible;
- remote access (ROAM) was arranged with Zone 2; and
- assessment of proposed mass immunization clinic facilities was done (that is, users and local information technology teams examined layout, functionality and connectivity).

Hardware

To ensure RHAs had adequate hardware for direct data entry, 270 laptops were loaned from Elections New Brunswick; laptop accessories were loaned from the Department of Education; remaining required accessories were purchased. Once laptops were received, they were imaged and set up for access; they were re-imaged before being returned. All borrowed laptops and accessories were returned.

Account management

The following outlines the account management activities during the campaign. A process to terminate these accounts began January 2010:

- 555 Z generic accounts for network were created;
- 520 ROAM accounts were created;
- 335 Z accounts were assigned and created in CSDS;
- 355 ROAM accounts were assigned; and
- 120 accounts in CSDS were updated with the new mass immunization icon.

Support

During the campaign, extra capacity for CSDS was provided from servers acquired from the Department of Social Development. The CSDS program development team

provided ongoing support for CSDS and data entry. Six mini-upgrades were needed over five weeks in response to evolving needs.

To ensure an adequate and appropriate level of support was available during clinic times (9 a.m. to 9 p.m.) a support model was established that consisted of the following:

- single point of contact using existing help desks;
- linkage to key areas for support: Zone 2 for ROAM support;
- CSDS support; technical support; and
- technicians were made available at major sites.

Summary of findings and recommendations

The connectivity at most clinic locations worked well.

The ongoing upgrades to the CSDS program simplified data entry. Installing system updates that saved the last lot number and date entered made submitting the next data entry (new client) easier and time-efficient.

It is recommended that a comprehensive immunization registry with a mass immunization feature be developed for New Brunswick. Included would be a standing arrangement with partners for such resources as hardware, network and remote connectivity.

21.0 IMMUNIZATION DATA ENTRY AND MANAGEMENT

Training was provided to all data entry team members as per a “train the trainer” method by way of WebEx sessions. In some locations, personal training was also held.

Seven full-time data entry positions were formed within the central data entry team. An additional seven Department of Health employees were recruited to support this team, as required. The RHAs managed their own data entry.

If direct entry of data into the CSDS could not be possible, data were entered on a paper information form and faxed to a central data entry team (OCMOH) for entry.

Data were reviewed by the central data entry team, and inconsistencies were followed up with central office staff, RHA staff or external stakeholders as required. RHAs reviewed all paper forms before sending to central office, and an algorithm was established to “clean” data once entered into the database. A procedure was developed to ensure confidential management of data.

22.0 CONSENT FORMS AND CLIENT IMMUNIZATION RECORD

Two consent forms were produced and used during the campaign. One was for school consent, and the other was a public consent form with a guide for immunizers.

Summary of findings and recommendations

The suggestions for future pandemics included recognizing the literacy rate of the target population when designing forms.

General consent form with immunizer guide



**Pandemic H1N1 Vaccine Consent Form
Guide for Immunizers**

Please note: If any of the boxes are checked in the pre-vaccination checklist of the Pandemic (H1N1) Influenza Immunization Consent Form, it does not necessarily mean that the person cannot be vaccinated with the Pandemic H1N1 vaccine. A summary of contraindications and selected precautions is provided in Table 1. Table 2 provides more detailed information and the responses/reasons to any conditions or circumstances identified in the pre-screening checklist. Also refer to the Canadian Immunization Guide (CIG) Edition 7, 2006: <http://www.phac-aspc.gc.ca/publicat/cig-gci/index-eng.php> Individuals can be referred to the Physician H1N1 immunization clinics if indicated.

Table 1: Summary of contraindications and elected precautions for vaccine administration

Issue of concern See Table 2 for a more detailed explanation or the Canadian Immunization Guide (CIG) 2006	Type of vaccine	
	Inactivated (dead virus)	Activated (live virus)
Pregnancy	None	Contraindication
ill / unwell	None see Table 2/CIG	None see table 2/CIG
Has a severe life threatening allergic reaction (anaphylaxis) following any vaccine.	Contraindication if the specific vaccine contains that particular component. Contraindicated for H1N1 vaccine if severe allergy (anaphylaxis) to a previous seasonal influenza vaccine	
Has a severe life threatening allergy to eggs or anything else	H1N1 vaccine contraindicated if severe life threatening allergy (anaphylaxis) to eggs	As above
Administration of a live virus vaccine in the past month	None	Precaution
Has had an injection of immunoglobulin, received any blood products or whole blood transfusion	None	Precaution
Has a disease that lowers immunity (e.g. leukemia, cancer) or having treatment that lowers the immunity (e.g. steroids, radio/chemotherapy)?	Precaution	Contraindication
Past history of Guillian-Barré Syndrome	Precaution	Precaution
Severe bleeding disorder	Precaution	Precaution

Table 2: Responses to relevant conditions or circumstances identified by the prevaccination screening checklist

Condition or circumstance	Action	Rationale
Is pregnant	All inactivated vaccines are safe in pregnancy and should be administered if indicated. The Pandemic (H1N1) Vaccine is an inactivated (dead) vaccine and is strongly recommended for pregnant women. Activated (live) vaccines should be deferred until after delivery. Conception should be deferred until at least 28 days after administration of live viral vaccines.	Influenza vaccine is recommended for pregnant women. There is insufficient evidence to ensure the safety of administering live vaccines during pregnancy or within 28 days before conception.
Ill / unwell today means: Acute febrile illness (current T ≥ 38.5°C). Acute systemic illness.	Can defer vaccine until afebrile. Note: All persons presenting for H1N1 vaccination at mass immunization clinics must be screened to ensure they do not have influenza-like-illness. Advise infected people to see their doctor or go home and return for the H1N1 vaccination when symptoms subside. Children and adults with minor illnesses (without acute systemic symptoms / signs) should be vaccinated.	To avoid an adverse event in an already unwell child / adult or to avoid attributing symptoms to vaccination. Screening people attending the immunization clinics will ensure the spread of viruses to the healthy adults / children at the clinic does not occur. Staff must NOT be involved in immunization clinics if they have an influenza-like illness

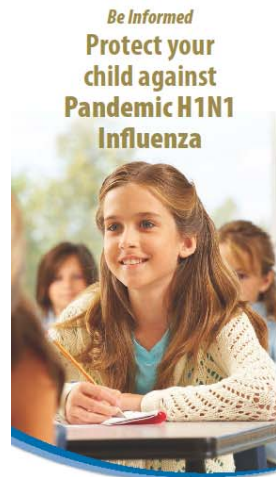


**CONSENT FORM
PANDEMIC H1N1 INFLUENZA IMMUNIZATION**

THIS FORM IS TO BE VERIFIED AND SIGNED BY THE PERSON ADMINISTERING THE VACCINE

PERSONAL INFORMATION OF PERSON RECEIVING THE PANDEMIC H1N1 VACCINE													
<table style="width:100%; border: none;"> <tr> <td style="width: 10%; border: none;">[] [] [] []</td> <td style="width: 10%; border: none;">[] [] [] []</td> <td style="width: 10%; border: none;">[] [] [] []</td> <td style="border: none;">Medicare number</td> </tr> </table>		[] [] [] []	[] [] [] []	[] [] [] []	Medicare number								
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Address _____	Telephone number _____												
<p>Yes No</p> <p><input type="checkbox"/> <input type="checkbox"/> Do you/your child identify as First Nation/Aboriginal?</p> <p><input type="checkbox"/> <input type="checkbox"/> Are you pregnant?</p> <p><input type="checkbox"/> <input type="checkbox"/> Are you a health-care worker?</p> <p><input type="checkbox"/> <input type="checkbox"/> Did you/your child have the seasonal influenza vaccine (flu shot) this year?</p> <p style="margin-left: 20px;">If your child is younger than nine, how many doses? 1 dose <input type="checkbox"/> 2 doses <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/> Do you/your child suffer from a medical condition? (refer to the list below)</p>													
MEDICAL CONDITIONS													
<p><i>Please indicate (✓) if you have any of the following medical conditions:</i></p> <p><input type="checkbox"/> Cardiac (heart) condition</p> <p><input type="checkbox"/> Pulmonary (lung) condition; includes bronchopulmonary dysplasia, cystic fibrosis, asthma</p> <p><input type="checkbox"/> Diabetes mellitus and other metabolic diseases</p> <p><input type="checkbox"/> Cancer</p> <p><input type="checkbox"/> Immunodeficiency or immunosuppression due to underlying disease and/or therapy</p> <p><input type="checkbox"/> Renal (kidney) disease</p> <p><input type="checkbox"/> Anemia or hemoglobinopathy i.e. sickle-cell disease, thalassemia</p> <p><input type="checkbox"/> Conditions that compromise the management of respiratory secretions and are associated with an increases risk or aspiration</p> <p><input type="checkbox"/> Children and adolescents with conditions treated for long periods with acetylsalicylic acid</p>													
PRE-VACCINATION CHECKLIST FOR H1N1 VACCINE(✓) BOXES WHERE APPLICABLE													
<p><i>This checklist helps your immunizer decide whether to vaccinate you or your child.</i></p> <p>Yes No</p> <p><input type="checkbox"/> <input type="checkbox"/> Are you/your child ill today? (serious fever or an active infection)</p> <p><input type="checkbox"/> <input type="checkbox"/> Have you/your child had a severe life threatening allergic reaction (anaphylaxis) following any vaccine?</p> <p><input type="checkbox"/> <input type="checkbox"/> Do you/your child have a severe life-threatening allergy to eggs or anything else?</p> <p><input type="checkbox"/> <input type="checkbox"/> Do you/your child have a disease which lowers immunity (eg. leukemia, cancer) or receive treatments that lowers the immunity (eg. steroids, radio/chemotherapy)?</p> <p><input type="checkbox"/> <input type="checkbox"/> Have you/your child ever developed Guillain-Barré syndrome? (a neurological disease)</p> <p><input type="checkbox"/> <input type="checkbox"/> Do you/your child have a bleeding disorder? Are you taking any medication that thins the blood?</p>													
PERSONAL CONSENT													
<p>Yes No</p> <p><input type="checkbox"/> <input type="checkbox"/> I have read or had explained to me the information on the H1N1 vaccine and understand the risks, benefits, contraindications and side effects. I give consent for myself/my child being immunized against H1N1 influenza</p> <p><input type="checkbox"/> <input type="checkbox"/> I am aware that I/my child will have to stay for 15 minutes following the injection</p>													
<p>Name: _____ Signature: _____ Date: _____</p> <p>Relationship to child, if applicable: _____</p>													
OFFICE USE ONLY													
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">H1N1 Dose 1</td> <td style="width: 80%;">Vaccine name _____</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Lot # _____</td> </tr> <tr> <td></td> <td>Dose given: _____</td> </tr> </table>	H1N1 Dose 1	Vaccine name _____	<input type="checkbox"/>	Lot # _____		Dose given: _____	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">H1N1 Dose 2</td> <td style="width: 80%;">Vaccine name _____</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Lot # _____</td> </tr> <tr> <td></td> <td>Dose given: _____</td> </tr> </table>	H1N1 Dose 2	Vaccine name _____	<input type="checkbox"/>	Lot # _____		Dose given: _____
H1N1 Dose 1	Vaccine name _____												
<input type="checkbox"/>	Lot # _____												
	Dose given: _____												
H1N1 Dose 2	Vaccine name _____												
<input type="checkbox"/>	Lot # _____												
	Dose given: _____												
<p>Injection Site: Arm Leg</p> <p style="margin-left: 40px;">Right <input type="checkbox"/> Right <input type="checkbox"/></p> <p style="margin-left: 40px;">Left <input type="checkbox"/> Left <input type="checkbox"/></p> <p>Date vaccine administered _____</p> <p>Name of person giving vaccine (PRINT) _____</p> <p>Name of person giving vaccine (SIGNATURE) _____</p>	<p>Injection Site: Arm Leg</p> <p style="margin-left: 40px;">Right <input type="checkbox"/> Right <input type="checkbox"/></p> <p style="margin-left: 40px;">Left <input type="checkbox"/> Left <input type="checkbox"/></p> <p>Surname _____</p> <p>Given name: _____ Date of birth _____</p> <p>Centre's contact details _____</p>												

School consent form with parent cover letter:



**Be Informed
Protect your
child against
Pandemic H1N1
Influenza**



All New Brunswickers six months of age and older will be offered the pandemic H1N1 influenza vaccine. All school students may receive this publicly funded vaccine at school as part of the Public Health Pandemic H1N1 Immunization Program.

What should you know about pandemic H1N1 influenza?

- H1N1 influenza is caused by a new influenza virus.
- H1N1 influenza is a respiratory illness with symptoms similar to those of regular seasonal influenza.
- The symptoms begin very quickly and include:
 - fever and cough, and one or more of the following:
 - o sore throat, joint or muscle pain or fatigue.
 - children younger than five may have gastrointestinal symptoms.
 - persons younger than five or persons 65 and older may not necessarily have a fever.
- Complications of H1N1 influenza include pneumonia, respiratory failure, worsening of chronic medical conditions and death.
- The H1N1 influenza is spread the same way as the seasonal influenza:
 - germs enter the nose and/or throat and spread from person to person through the air via coughing and sneezing; or through direct contact with contaminated hands and surfaces.
- Influenza is considered contagious for as long as seven days following the beginning of the illness, particularly when the symptoms are present.

What should you know about the pandemic H1N1 vaccine?

- It is similar to the seasonal influenza vaccine and is made the same way.
- The vaccine is made of killed H1N1 influenza virus and cannot cause H1N1 influenza.
- The vaccine contains an adjuvant (additive) that makes the vaccine work better. Adjuvants are used in other vaccines.
- The vaccine is given by injection into the arm.
- Children may need two doses of the vaccine to obtain adequate protection.

Who should NOT receive the pandemic H1N1 influenza vaccine?

- Children should not receive the influenza vaccine if they:
 - had a severe allergic reaction to the seasonal influenza vaccine.
 - have a severe allergy to eggs or any of the ingredients of the vaccine or its container.
 - are younger than six months of age.

What to expect following pandemic H1N1 immunization?

- Redness, discomfort, and swelling at the injection site may last up to two days.
- Fever, fatigue and muscle aches may last for up to two days.
- As is the case with any vaccine, there is an extremely small chance that a more serious reaction may occur.
- **Children are asked to remain on site for at least 15 minutes after the vaccine is given so that possible reactions can be monitored.**

What if my child has a reaction to the pandemic H1N1 influenza vaccine?

- A cold compress on the injection site may reduce discomfort.
- For discomfort and fever, children may be given acetaminophen or ibuprofen (for example: Tylenol or Advil).
- Aspirin (ASA) should NOT be given to children younger than 18 due to its link to Reye Syndrome.

What else should you know?

- Individuals 16 or older can give their own consent.
- If a student has a fever or illness other than a minor cold, the nurse may delay immunization.
- It is important to answer all questions on this consent form.
- If a student has an allergic reaction to a vaccine, or if you have any questions, contact the public health office.
- The vaccine is safe and highly recommended to be given in pregnancy. Female students must tell the nurse if they think they may be pregnant.
- Immunization records are not confidential. If your family doctor requests your immunization records we will provide it.
- Report to the local public health office or see your doctor if your child has a severe or unusual reaction during the four weeks after the vaccine.
- All parents/guardians/students are asked to complete the tear-off portion of this brochure and return it to the school, even if the student will not be immunized. This is important for maintaining accurate records.

How to register for this program

- Complete and sign the tear-off section of the brochure.
- Return the completed tear-off section to the school.
- Keep the rest of the brochure for your information.
- Once the student is fully immunized, the nurse will complete the Personal Immunization Record and return it to that student.

For more information

- Contact the local public health office.
- Government of New Brunswick: www.gnb.ca/flu.

08.04/10/289

Personal immunization record for pandemic H1N1 influenza vaccine

Medicare number: _____

Student's name: _____

Surname Given name(s)

Gender (M/F)

Date of birth: _____

Year/Month/Day

Vaccine name: _____ Lot #: _____

Nurse's signature: _____ 1st dose date immunized: _____

Vaccine name: _____ Lot #: _____

Nurse's signature: _____ 2nd dose date immunized: _____

This immunization record will be given to the student after his/her immunization. Keep this record in your personal health files.

Consent form for pandemic H1N1 influenza vaccine

Medicare number: _____

Student's name: _____

Surname Given name(s)

Birth date: _____

Year/Month/Day

Does the student identify as First Nation/Aboriginal? Yes No

Is the student pregnant? Yes No

Does the student have a medical condition? Yes No

If yes, please state: _____

Did the student receive a seasonal influenza vaccine (flu shot) this year? Yes No

If Yes, how many doses of the seasonal flu vaccine did he/she receive? 1 dose only 2 doses

Does the student have any allergies? Yes No

If yes, please state: _____

Parent/Guardian: _____

Daytime telephone number: _____

I have read or had explained to me the information about the vaccine. I believe I understand its benefits, risks, side-effects and reasons why the above-named student may or may not receive the vaccine. I have had the opportunity to ask questions to a health-care provider, who answered all of my questions to my satisfaction.

Please check appropriate box:

Yes, please immunize the above-named student with two doses of vaccine against the pandemic H1N1 influenza virus.

No, please do not immunize the above-named student against the pandemic H1N1 influenza virus.

Reason: _____

Date: _____ Signature: _____ (student/parent/guardian)

Dear Parent/Guardian,

Subject: Pandemic H1N1 Vaccine School Immunization Program

The pandemic H1N1 vaccine will be offered to all New Brunswick children and adults aged 6 months and above.

As children are more at risk of influenza complications they are one of the priority groups to be offered the vaccine when it first becomes available towards the end of October 2009.

Public Health Offices in your region will be providing the pandemic H1N1 vaccine to children through a School Immunization Program either at their school or after hours at a nearby school. You may wish to take younger children to an after hours clinic so you can attend with them.

Children less than 10 years of age will require 2 doses of the vaccine to ensure that they develop good immunity to the pandemic H1N1 influenza virus. All others will require one dose.

I believe that it is very important to protect children against this virus.

If you would like your child to be immunized against the pandemic H1N1 influenza virus, please read the enclosed information and complete all questions on the consent form and return it to your child's school as soon as possible.

If you have any questions please do not hesitate to contact your local public health office or visit www.gnb.ca/flu.

Yours sincerely,



Dr. Paul Van Buynder
Deputy Chief Medical Officer

23.0 IMMUNIZATION OF INDIVIDUALS

During the campaign, there was no mechanism to provide immunizations in a controlled setting beyond the Public Health immunization room and experienced Public Health nurse. Normally, persons experiencing possible adverse reactions to immunization would be referred to family physicians or allergists.

Summary of findings and recommendations

There is a need for immunology-supported immunizing clinics for assessment of patients following possible previous adverse events to immunization and, if indicated, providing immunization in a “controlled setting.”

24.0 MASS IMMUNIZATION CLINIC PLANS

The RHA Public Health office staff co-ordinated the planning, implementation and regular reviews of mass immunization clinics throughout their zones. The New Brunswick Department of Health Provincial Pandemic Plan: Public Health Annex Version 1 – Sept 10, 2009, Chapter 2 Mass Immunization, was used to assist with planning, set-up and operations.

The set-up and operations of the clinics involved a number of resources, supplies, scheduling and a great deal of preparation.

Summary of findings and recommendations

This section of the report will be subdivided into seven categories to address the feedback offered.

(1) Immunization sites

The partnership of schools, community colleges and non-profit groups with regard to the use/rental of clinic venues worked well. In large communities, facilities such as schools and community colleges were efficient locations to accommodate large clinics. In smaller communities, the collaboration of non-profit groups such as the Royal Canadian Legion and the Lion’s Club were of great assistance.

The following two lessons were learned throughout the site selection process: (1) more time than anticipated may be needed to co-ordinate clinics; (2) limiting frequent changes to clinic sites may be easier for the public and staff because they become familiar with clinic locations.

It was also recommended that sites be arranged so that people do not have to wait outside; this is especially important when the weather is poor.

(2) Required staff and scheduling

The number of required staff at a clinic depended on the following: availability of vaccine, vaccine prioritization and the degree of preceding media coverage. Activity at clinics was largely affected by the amount of media exposure. Media conferences often initiated a boost in clinic activity over subsequent days. Clinics generally had a surge of activity within the first hour or two of opening. It is recommended that plans be made flexible so that clinics can adjust to fluctuating activity.

The feedback indicated that the ratio of one loader for every five immunizing nurse was deemed necessary. The number of clients that nurses could vaccinate was between 10 to 20 per hour (depending on the number of children immunized, the experience of the nurse, etc.).

To maximize the use of staff, pharmacist and pharmacy technicians were sometimes used to draw up vaccine in clinics or in the hospital pharmacy near clinics where possible). This was time-efficient. Using staff such as paramedics wherever possible was helpful.

Wherever possible, government health workers provided immunizations. RHA hospital staff trained in immunization, conducted clinics targeting health staff and patients in hospitals. Paramedics provided immunization as part of ongoing efforts.

Some zones opted to use coloured shirts to identify different staff functions within the clinics. The shirts were helpful for clinic staff and the public.

One theme in the feedback was with regard to a morale booster for clinic staff. Providing healthy snacks, bottled water, and meals was a positive way to ensure staff received the necessary nutrition to continue their duties.

It was recommended that a streamlined salary schedule for clinic staff be developed.

(3) Management clinic wait times

To manage clinic wait times, zones used tickets, alphabet listings, and coupons with appointments.

Tickets were used to allot appointments as an alternative to individuals and/or families waiting in line for immunization. For example, a client was given a range of time to return to the clinic to receive the vaccine (for example, between 5 p.m. and 6 p.m.). The use of tickets was also helpful to ensure that the amount of vaccine and the number of clients at the clinic coincided. For instance, if there were 500 doses of vaccine at the

clinic, 500 tickets were distributed to the line. Once all tickets were distributed, clients who arrived afterward were informed. Overall, zones that opted to use a method to address wait times found it helpful and productive.

(4) Security response

The role of security personnel at clinics evolved over the campaign. Feedback indicated that security was helpful in telling clients about wait times and priority groups as well as in aiding with traffic flow.

There was a direct link between the amount of security required at clinics and vaccine availability. For instance, a shortage of vaccine meant a need for security. With this in mind, the flexibility of available security is important.

One recommendation was to involve security personnel early in the campaign to provide information to clients entering the clinics. Having informed personnel at the clinic to answer questions from the public is essential in maintaining the public's confidence in the campaign.

(5) Correctional facilities

There were unique challenges experienced due to the particular nature of correctional facilities. They are spread throughout the province and within different zones. The approach to immunizing at these facilities varied from zone to zone. It is recommended that communications with correctional facilities occur early in an attempt to establish clear communication lines.

(6) Long-term-care facilities

Overall, the immunization at long-term-care facilities worked well. Engaging the VON to assist with the immunization of residents was of great assistance. The website with its frequent updates, weekly news releases from the OCMOH and clinic listings was a great resource. Updates from the immunization committee were helpful.

In future, parties involved in the immunization at long-term-care facilities (that is, OCMOH, Nursing Home Services, RHAs, etc.) should be made aware of guidelines, policies and procedures.

(7) Home-bound patients

Reaching home-bound patients was a challenge. It is recommended that further work be done to identify these persons and establish a system for reaching them during mass immunizations campaigns.

25.0 NEW BRUNSWICK FIRST NATION COMMUNITIES

First Nations persons living on reserves had a high morbidity, hospitalization rate and mortality in the first wave of the pandemic. In New Brunswick, priority was given to all First Nations persons.

To undertake this program, meetings were held within each RHA between the RHA First Nation Public Health representatives and the individual First Nations planning teams. Visits were made to each community to discuss plans and resources. Community-wide information sessions were held. Communities managed the timing of clinics, recruitment of volunteers, and communications to their members. Aboriginal people living off reserve received vaccine at mass immunization clinics for priority groups; some went to their home or local reserve.

The campaign for First Nations was successful. Data collected from First Nation communities showed that, on average, 90 per cent of residents received the vaccine from the community-based clinics. Only one community had vaccine coverage below 80 per cent and nearly one-half of the communities vaccinated every member. This reflects the creative planning by First Nations and the collaboration that took place with the RHAs. Relationships and processes that were developed will be useful for ongoing partnerships in Public Health practice.

Shortage of vaccine as the First Nation clinics in the beginning created a problem. These communities were forced to create priority groups or turn away non-residents arriving at their clinics on communities.

Summary of findings and recommendations

Data collection and transfer were a problem at times. It is recommended that community health nurses working in First Nations have access to provincial immunization documentation and data systems. This would have ongoing benefits in enabling registers of routine childhood immunization and program emphasis changes if coverage rates fall.

The local communication strategies worked well and reflected local collaboration. Future public messaging aimed at First Nations clinics should be again developed in conjunction with chiefs and or their delegated planning teams as well as the New Brunswick Aboriginal Peoples Council.

Relationships between RHA Public Health staff, RMOHs and First Nations (FN) were improved. There is an opportunity to build on this by working with FN communities and First Nations Inuit Health Branch on other Public Health programs.

The New Brunswick Pandemic Influenza Plan should be updated to incorporate mass immunization clinics for First Nations held in their communities.

26.0 CONCLUSION

The primary purpose for this document was to assess the 2009 pandemic H1N1 immunization campaign and identify the actions taken, operational strengths and gaps, and lessons learned during the campaign.

Overall, it is important to keep in mind that the campaign was a success due to the work of many people. Much was learned.

It is important to incorporate the lessons learned and the recommendations highlighted in this document. Therefore, the lessons learned from the 2009 pandemic H1N1 immunization campaign will be incorporated into the Public Health Annex Chapter 2: Mass Immunization or similar mass immunization document.

APPENDIX A

Review of laboratory service during the 2009 H1N1 Pandemic

Testing algorithm

The testing algorithm changed each time altered information was received from PHAC, and National Microbiology Laboratory and other sources.

It was clear at one time that upper respiratory investigations such as nasopharyngeal swabs were likely to miss some H1N1 positive cases, and that bronchial washings or other lower respiratory tract investigation were necessary.

Laboratory staff believed that this information was made available to those involved who required it.

Questions were raised, however, about the governance of message transmission and of decision-making about these issues (see recommendations).

Timeliness of reports

Initially, significant delays were seen in the receipt of reports by clinicians. These delays were largely related to obtaining the reagents and a reliance on the National Medical Laboratory to undertake confirmatory testing. After the development of a test at the Dr. Georges-L-Dumont Regional Hospital laboratory, turnaround times greatly decreased.

Initial central testing involved twice-weekly Polymerase Chain Reaction (PCR) runs, but this was increased to twice daily seven days per week during the peak of activity in November. All laboratories said they were satisfied with the response provided by Dr. Georges-L. Dumont Regional Hospital laboratory and the turn around times.

Appropriateness of testing

It is a Public Health axiom that, once the pandemic is in the province and the influenza strain has been identified, then confirmation of the strain among persons with influenza is unwarranted.

It appeared at times that some attending physicians ignored messages about the need for testing only the more severe cases. Laboratories were not in a position to decline testing if a practitioner ordered it. A discussion was held about the possible appropriateness of local laboratories undertaking initial testing for community-based cases so that a report could go back saying, "Influenza A - likely pandemic strain" rather than confirming every case at the Dr. Georges-L. Dumont Regional Hospital. The authority within the province to make this decision was not clear.

Prioritizing of testing

Discussion was held about the deficient clinical information provided on forms by clinicians and transferred by individual laboratories when organizing confirmatory testing. The Dr. Georges-L. Dumont Regional Hospital decided to prioritize testing so that tests from intensive care, hospitals and then emergency rooms would have priority over tests arriving from the community. Attempts were made to improve information on the request forms, and this worked to some extent, but the provision of clear information for the laboratories remains an ongoing issue.

Transferred information and supportive IT

Information flow from the Dr. Georges-L. Dumont Regional Hospital to Public Health improved over the course of the pandemic. It remained hampered by the lack of information provided on referral forms from other laboratories and slow responsive times to produce database enhancements for the information transferable to Public Health.

The Infoway Panorama project was discussed as having the potential capacity to resolve some of the information technology issues including:

- the lack of consistency in databases among hospitals;
- the lack of rapid transfer of information among laboratories; and
- the lack of rapid transfer of information from laboratories to central office.

Information about Panorama suggests that New Brunswick is three years away from having a functional system. Still, the e-Health program is underway, and the opportunity exists to move the microbiology module up in the priority schedule to produce improved consistency across the province.

Roles and responsibilities

A key issue undermining a great deal of the laboratory and clinical activities was a lack of clarity about the roles and responsibilities other than in direct Public Health areas. These areas included clinical best practice (for example, the availability of intravenous zanamavir), confusing messages about infection control and isolation of patients, and doubts about clinical dosing (for example, The Canadian Paediatric Society and PHAC recommended different dosing for the use of oseltamavir in children younger than one.

Recommendations

- Data collection be standardized across laboratories. Discussions should be held between the e-Health development team and Public Health about adopting a minimum data set along with automatic electronic transfer by all laboratories.
- Public Health should set up and chair a committee to include infectious disease specialists and medical microbiologists. This committee would examine the adoption of national protocols and the development of local protocols with regard to infectious diseases and Public Health activities. Public Health would develop terms of reference for this committee and its constituents and distribute these for comment. A virtual expert advisory group is already planned for a range of Public Health communicable disease issues, and consideration should be given to a subgroup of this taking on a role to fulfil these needs.

APPENDIX B

Public Health Mass Immunization Clinics 2009-10

Administration, education and training

Guidelines for using alternate vaccinators during Public Health H1N1 Immunization Clinics

Within the limits of its current mandate, the OCMOH is committed to facilitate and support the placement of alternate vaccinators into Public Health H1N1 immunization clinics.

Definition of placement

The integration into a clinical setting defined as Public Health H1N1 immunization clinic of nursing students, registered nurses, student practical nurses, licensed practical nurses and primary-care paramedics.

Note: Such placement is expected to provide safe and effective H1N1 influenza immunization according to competencies acquired before or during H1N1 immunization training.

Goals

The goals of integrating nursing students, registered nurses, student practical nurses, licensed practical nurses and primary-care paramedics into Public Health H1N1 immunization clinics are:

- to build capacity of skilled immunizers during mass H1N1 influenza immunization;
- to provide an opportunity to gain knowledge and to develop specific skills and attitudes toward immunization practices;
- to achieve greater understanding of immunization as part of a comprehensive communicable disease control program; and
- to support the training of nursing and practical nurse students.

Conditions

The OCMOH supports the integration of nursing students, registered nurses, student practical nurses, licensed practical nurses and primary-care paramedics into Public Health H1N1 immunization clinics if the following conditions are met:

- client safety and well-being are the foremost concerns;
- New Brunswick immunization program standards are maintained;

- all placement participants have successfully completed H1N1 influenza immunization training as developed by the OCMOH;
- participants will be given tasks for which they have acquired the required skills; and
- H1N1 influenza immunization training and certification of the participants are delivered by regional immunization co-ordinators or their designate with the support of the OCMOH.

Roles and responsibilities

The **OCMOH** will:

- identify and develop education training tools and resources;
- support the delivery of training by Public Health certified nurses from the RHAs;
- set policy for immunizers in Public Health H1N1 immunization clinics; and
- provide medical directives for the administration of the pandemic vaccine and of epinephrine to be signed by RMOHs.

Public Health in RHAs will:

- through the immunization co-ordinators or designate, deliver training and certification to nursing students or registered nurses and student practical nurses or licensed practical nurses;
- identify and select the best integration environment among school-based and community-based clinics for these employees;
- ensure constant presence of a registered nurse in the nursing students' work environments; and
- through certified registered nurses, provide on-site supervision of immunization skills of nursing students, registered nurses, student practical nurses, licensed practical nurses and primary-care paramedics.

- MEDICAL DIRECTIVE -

Administration of H1N1 influenza vaccine

Purpose:

This medical directive is intended to facilitate the safe administration of Panvax®, Arepanrix™ and the Influenza A(H1N1) 2009 Monovalent vaccine (without adjuvant)™ to target clientele in New Brunswick.

Name / Description of the procedure:

Administration of Panvax®, Arepanrix™ and the Influenza A(H1N1) 2009 Monovalent vaccine (without adjuvant)™ via injection, respecting the dosage, route of administration and intervals as directed by the New Brunswick Chief Medical Officer of Health.

Target Clientele:

Clientele applicable under this medical directive includes:

- All New Brunswick residents aged 6 months or older; and
- Other target clientele as identified by the New Brunswick Chief Medical Officer of Health.

Contraindications to the application of this directive:

This directive should not be applied if any or all of the following exist:

- the client or his/her caregiver does not or cannot provide adequate consent as per the New Brunswick immunization guidelines (see Appendix A);
- the client presents or has a documented medical exemption from receiving such a vaccine;
- the client has a contraindication as stipulated in the product monograph.

Precautions as stipulated in the product monograph should be discussed with the client and the Regional Medical Officer of Health (RMOH) for guidance on the application of this directive. Immunosuppression is not a contraindication to the receipt of Panvax®, Arepanrix™ and the Influenza A(H1N1) 2009 Monovalent vaccine (without adjuvant)™, however protection may be reduced.

Individuals authorized to apply this directive:

The following is a list of health professionals and students that are authorized to apply this directive:

Professional/Students	Information, training and/or supervision required
1. Public Health nurses certified in immunization ¹	- Vaccine product orientation
2. Registered nurses or nurse practitioners ¹	<ul style="list-style-type: none"> - Licensure with the Nurses Association of New Brunswick - Completion of the H1N1 influenza immunization certification - On-site supervision by a certified registered nurse
3. Licensed practical nurses ²	<ul style="list-style-type: none"> - Licensure with Association of New Brunswick Licensed Practical Nurses - Completion of the H1N1 influenza immunization certification - On-site supervision by a certified registered nurse
4. Primary Care Paramedics	<ul style="list-style-type: none"> - Licensure with the Paramedics Association of New Brunswick - CPR certification - Completion of the H1N1 influenza training certification - On-site supervision by a certified registered nurse
5. Practical nurse students – 2 nd year ²	<ul style="list-style-type: none"> - Having completed the ANBLPN medication administration program - Completion of the H1N1 influenza immunization certification - On-site supervision by a certified registered nurse
6. Nursing student employees – 3 rd or 4th year	<ul style="list-style-type: none"> - Having completed the medication administration program as required by the school of nursing - Completion of the H1N1 influenza immunization certification

- MEDICAL DIRECTIVE -

Administration of epinephrine for anaphylaxis management

Purpose:

This medical directive is intended to facilitate the rapid, safe and appropriate administration of epinephrine following an anaphylactic reaction to Panvax®, Arepanrix™ or the Influenza A(H1N1) 2009 Monovalent vaccine (without adjuvant).™

Name / Description of the Procedure:

Administration of epinephrine via injection, respecting the dosage, route of administration and intervals as stipulated in the anaphylaxis management section of the New Brunswick Immunization Handbook (see Appendix B)¹.

Target clientele and required clinical conditions:

Clientele applicable under this medical directive includes:

- Recipients of Panvax®, Arepanrix™ or the Influenza A(H1N1) 2009 Monovalent vaccine (without adjuvant)™

Required clinical condition:

- Client who is suffering from a confirmed or suspected anaphylactic reaction.

Contraindications to the application of this directive:

There are no contraindications to the administration of epinephrine for suspected anaphylaxis.

Individuals authorized to apply this directive:

The following is a list of professional groups that are authorized to apply this directive:

Professional	Training and/or supervision required
1. Public Health nurses certified in immunization	Licensure with the Nurses Association of New Brunswick CPR certification
2. Registered nurse or nurse practitioner	Licensure with the Nurses Association of New Brunswick

	<p>CPR certification</p> <p>Completion of the H1N1 influenza immunization certification</p>
3. Primary-Care Paramedics	<p>Licensure with the Paramedics Association of New Brunswick</p> <p>CPR certification</p> <p>Completion of H1N1 influenza immunization certification</p>

Reference:

1. New Brunswick (2005). New Brunswick Immunization Handbook. New Brunswick.

Regional Health Authority A or B Public Health administrative authority:

(print name) (signature) (date)

Regional Medical Officer of Health:

(print name) (signature) (date)

Appendix A to the Medical Directive

Section I-III Informed Consent

New Brunswick Immunization Handbook 2005

An informed consent is obtained prior to administering a vaccine or series of vaccines.

Information regarding the nature and purpose of the vaccine(s), probable risks and benefits of receiving the vaccine(s), risks associated with not having the vaccine(s) and any reasonable alternatives to the vaccines should be provided to the vaccinee (or parent/guardian).

The vaccinee (or parent/guardian) will be given the opportunity to seek clarification prior to consenting to the vaccinations.

The client (or parent/guardian) should be informed that immunization records are not considered confidential and may be shared with other health care providers, relevant Family and Community Services personnel, relevant Department of Education personnel and other Provincial authorities, as required.

Prior to administering the vaccine(s), the health care provider will determine if there are contraindications and/or reasons to defer the immunization until a later date.

The health care provider should document that informed consent has been obtained.

Appendix B to the Medical Directive

Anaphylaxis management, Section IV-XII

New Brunswick Immunization Handbook, section IV-XII

Preamble

Anaphylaxis is a life-threatening allergic reaction which results in multiple body system abnormalities. Angioedema affecting the upper airway, bronchospasm and cardiovascular collapse can usually be reversed by treatment with epinephrine. The basis for this protocol is a guideline published by the Canadian Association of Allergy and Immunology.

Policy

Should a vaccine-related anaphylactic reaction occur, the Public Health Nurse (PHN) will treat the client as per the protocol below.

Procedure

(These protocols have been developed in consultation with Dr. Robert Beveridge, (FRCPC)

Indication:

Signs and Symptoms of Anaphylaxis:

- Onset of symptoms within 5-30 minutes of exposure to trigger (e.g., medication, insect sting, food)
- Tightness in the throat
- SOB or trouble breathing
- Itchy rash
- Altered mental state: presyncope/syncope, confusion
- Vomiting and/or diarrhea
- Heart rate may be slow normal or fast, but usually elevated (> 100)
- BP in more serious cases is decreased (< 100 systolic)

Protocol:

1. Assess and manage ABCs.
2. Call for help.
3. Obtain history of similar episodes.
4. If two or more of the signs and symptoms are present, administer aqueous epinephrine (1:1000) subcutaneously (0.01 ml/kg or as per dosage table) in a non-vaccinated limb.

5. If one or more signs and/or symptoms of anaphylaxis **and previous history of anaphylaxis**, give epinephrine by the same protocol.
6. Have a call placed for an ambulance.
7. If no improvement or worsening within 15 minutes, repeat dose.
8. If client is deteriorating or not improving, call for physician backup or telephone advice.
9. Ensure that all relevant documentation is given to the ambulance personnel.
10. If ambulance personnel are not trained in anaphylaxis management, the PHN will accompany the client in transfer to the hospital.
11. With the exception of anaphylactic related assessments to determine need for epinephrine administration, ambulance personnel will be responsible for client assessment and intervention. The need to administer epinephrine, and the preparation and administration of epinephrine is the responsibility of the PHN.

Documentation:

- Vital signs at least every 15 minutes and after every dose of epinephrine (at least two sets of vital signs) should be documented.
- Medication, dose, time administered, route of administration, site of administration, changes in client condition post administration should be documented.

Dosage table for epinephrine based on approximated age (Canadian Immunization Guide, 2002)

Age	Dose	
2 to 6 months *	0.07 ml	(0.07 mg)
12 months*	0.10 ml	(0.10 mg)
18 months* to 4 years	0.15 ml	(0.15 mg)
5 years	0.20 ml	(0.20 mg)
6-9 years	0.30 ml	(0.30 mg)
10-13 years	0.40 ml	(0.40 mg)
≥ 14 years	0.50 ml	(0.50 mg)
* Doses for children between the ages shown should be approximated, the volume being intermediate between the values shown or increased to the next larger dose, depending on practicability.		

Minimum dose: 0.07 ml Maximum dose: 0.5 ml