

01/10

New Brunswick Disease Watch Bulletin

Welcome to the first edition of the New Brunswick Disease Watch Bulletin.

During the recent response to the H1N1 pandemic, communication between the Office of the Chief Medical Officer of Health (O/CMOH) and our colleagues in clinical services was critical in New Brunswick's success.

After the H1N1 review, a decision was made to continue regular communication about important public health topics with our clinical colleagues. It is anticipated that the New Brunswick Disease Watch Bulletin will be distributed nine times a year and will include updates on hot topics; a rolling review of infectious disease policy; and a regular update on the epidemiology of other diseases.

This edition provides a summary of the H1N1 campaign in New Brunswick; information about an upcoming change to the vaccination schedule, with the availability of a new improved pneumococcal vaccine.

This edition also includes information about important changes to the *Public Health Act* that have been proclaimed and that will have implications for clinicians.

I hope you find the bulletin useful. We welcome any suggestions for topics or other feedback.

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New Brunswick Pandemic H1N1 2009 Immunization Program Summary

The New Brunswick pandemic influenza mass immunization was a tremendous success.

As of February 4, 2010, 65 per cent of the New Brunswick population had been immunized – one of the highest rates in Canada. The pandemic immunization campaign began October 26, 2009, and mass clinics closed on December 16, 2009. Since then, smaller clinics and private practitioners have provided the vaccine.

Initial vaccine shortages mandated the use of a sequencing strategy for early access. The key target groups first included First Nation persons, pregnant women and very young children, followed by those with chronic diseases. These groups were at highest risk of severe disease based on the epidemiology of the first wave of the pandemic.

To slow the spread and reduce the effects of the virus, New Brunswick extended the initial priority childhood age range to nine years. Immunizing these *super spreaders* of influenza through school clinics had a dramatic effect on the spread of the virus.

Provincially, 82 per cent of children six months to nine years were immunized with one dose of pandemic vaccine, most within the

first few weeks. Immunizing such a large proportion of children rapidly truncated the pandemic in New Brunswick.

There was a dramatic decrease in the proportion of positive specimens once more than 60 per cent of children six months to nine years were immunized (see Figure 1).

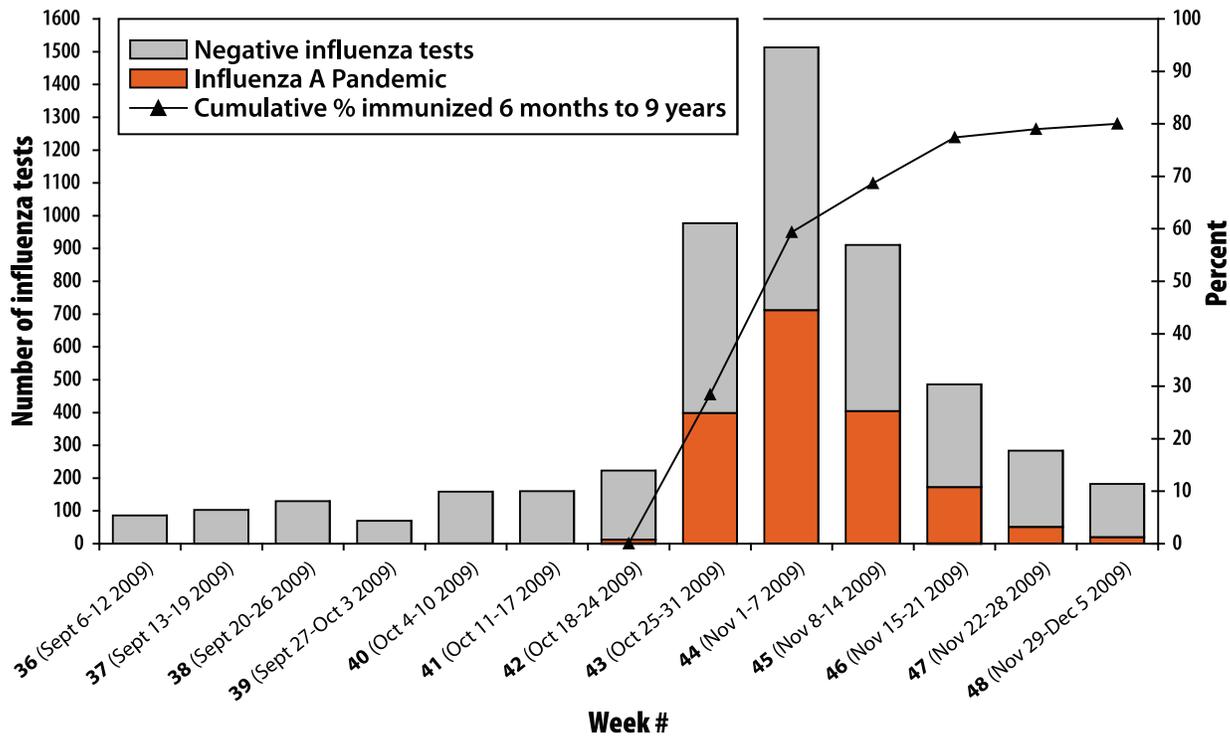
The second pandemic of slightly more than four weeks had a smaller effect than in the rest of Canada (Figure 2).

Overall, 169 persons were admitted to hospital; 27 cases were admitted to intensive care; and eight persons died.

High coverage rates were also seen in other early sequencing groups. Vaccine coverage for First Nations communities was around 90 per cent overall and almost 80 per cent among pregnant women. As vaccine supply increased, the program was expanded, and by the end of November 2009, vaccine was available to all New Brunswick residents.

The tremendous efforts of everyone involved in the mass immunization campaign greatly reduced the number of H1N1 hospitalizations and deaths in New Brunswick.

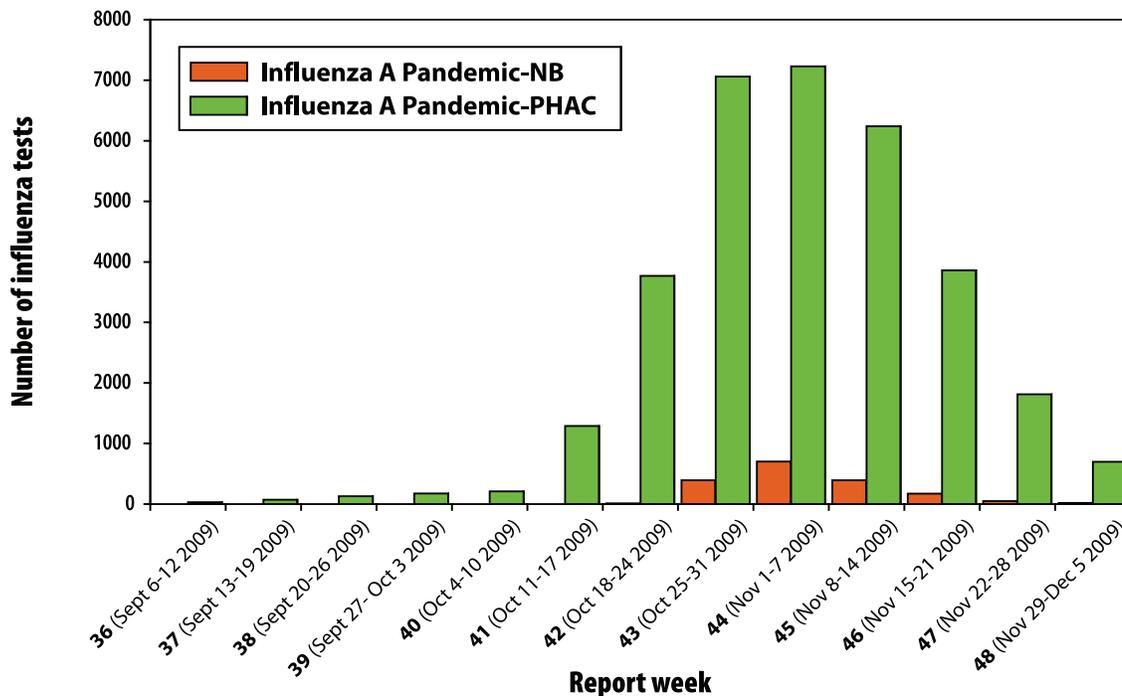
Number of positive influenza specimens and percent of immunized between 6 months to 9 years with H1N1 vaccine in New Brunswick to December 5 2009



Source for Laboratory Data: G.L Dumont Lab.
Source for Immunization Data: CSDS.

Figure 1

Number of positive influenza specimens in New Brunswick and Canada, up to December 5 2009



Source for NB data: G. L Dumont Lab.
Source for national data: Public Health Agency of Canada

Figure 2

Increased Protection Against Pneumococcal Disease with New Vaccine

The Province of New Brunswick will soon be enhancing the routine immunization schedule to provide increased protection for infants and children against invasive pneumococcal disease (IPD) by offering a new vaccine: Pevnar®13.

Pevnar®13, is a recently approved pneumococcal 13-valent conjugate vaccine that protects against the same seven Streptococcus pneumoniae serotypes as Pevnar®7, (serotypes 4, 6B, 9V, 14, 18C, 19F, 23F), with a further protection against six other serotypes (1,3,5,6A,7F,19A). This improved vaccine will replace Pevnar®7, which has been a part of the New Brunswick childhood immunization schedule since 2002 as a four-dose schedule for infants and children at ages two, four, six and 18 months. Pevnar®13 may be introduced at any stage during a child's primary course of pneumococcal conjugate vaccine and may be administered with other vaccines. The new vaccine is licensed for use in children from six weeks through five years of age. It is likely that family doctors will be asked to use Pevnar®13 as of Thursday, July 1 for all infants and children requiring routine pneumococcal vaccine. The product

monograph for Pevnar®13 is at: http://www.wyeth.ca/en/products/Product%20Monographs%20PDFs/Pevnar_13_Product_Monograph_Dec_21_2009_EN.pdf.

Further information about supply of Pevnar®13 and the return of unused Pevnar®7 will be forwarded in early June.

IPD is one of the leading causes of illness, hospitalization and death worldwide. It may cause meningitis, pneumonia, otitis media, sinusitis and bacteremia in adults and children. IPD has been nationally notifiable since 2000. From 2000 to 2004, children younger than one accounted for seven per cent of cases (mean 130 cases per year); those one to four accounted for 18 per cent of cases (mean 345 cases per year); and adults 60 and older accounted for 37 per cent (mean 711 cases per year) of Canadian IPD cases.

Since the introduction of Pevnar®7 into the routine immunization schedules in Canada, the incidence of IPD caused by Pevnar®7 serotypes decreased by 92 per cent in Vancouver, 94 per cent in Calgary and 72 per cent in Quebec. There has been, however, an emergence of IPD cases in Canada and worldwide due to serotypes not included in Pevnar®7. Rates of IPD

due to serotypes 1, 7F and 19A have increased in children, while serotype 5 has led to IPD outbreaks in adults.

In New Brunswick, from 2006 to 2008, there were 40 cases of pneumococcal disease caused by serotypes covered by the new vaccine and not by the old Pevnar®7 vaccine. While many of these cases were adults, history shows that vaccinating children leads to a degree of herd immunity, lower circulation of these serotypes and reduced disease in adults.

Another new vaccine, Synflorix™ a pneumococcal conjugate vaccine approved for use in Canada in 2009, protects against 10 pneumococcal serotypes. However, Synflorix™ would only have covered one of the 40 cases covered by Pevnar®13 during the last three years; hence, the decision to introduce Pevnar®13 in New Brunswick.

The new Pevnar®13 will be available for use on July 1 and should be used for all children vaccinated in family practice from that date. Please return stocks of the old vaccine when instructed in June. The updated immunization schedule is available at http://www.gnb.ca/0053/public_health/pdf/6330e.pdf

Comparisons of pneumococcal conjugate vaccines and serotype coverage.

Pevnar®

Serotype	4	6B	9V	14	18C	19F	23F
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Synflorix™

Serotype	4	6B	9V	14	18C	19F	23F	1	5	7F
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Pevnar® 13

Serotype	4	6B	9V	14	18C	19F	23F	1	5	7F	3	6A	19A
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The *Public Health Act* and Regulation 2009-136

New public health legislation was proclaimed on November 20, 2009. The *Public Health Act* and its regulations updated legislation and are designed to protect the public from health hazards, environmental risks and communicable diseases.

The act provides authority for Medical Officers of Health (MOH) to implement control measures in cases or suspect cases of specific diseases that present serious public health threats. These measures include mandating individuals to submit to testing, preventing them from behaving in a way that may spread disease, and requiring them to receive treatment. The act allows the MOH to obtain the assistance of the court in situations that pose a serious threat to the population.

Schedule A under Reporting and Diseases Regulation 2009-136, *Public Health Act*, identifies and describes the reporting requirements associated with communicable diseases, notifiable diseases and reportable events. The list of reportable diseases was updated to reflect the evolving nature of communicable diseases, the latest scientific knowledge of diseases, national standards, and an increased understanding of events that pose a threat or risk to the population. Information about the new reporting requirements and responsibilities of doctors, nurses and nurse practitioners will be sent to all affected.

The act also includes requirements for proof of immunization of school children and new requirements for children attending day cares.

Of importance to clinicians, the act requires those who administer publicly funded vaccines to make a report to the minister. Effectively, this will mean notifying Public Health of all immunizations and will lead to a New Brunswick immunization register, meeting one of the key aims of the National Immunization Strategy. Public Health will work with clinicians in the first half of this year to look at effective ways of collecting this information.

The requirement on the immunizer to provide the client with a record of immunization remains unchanged.

While the *Public Health Act* has taken effect, the provincial government is following a phase-in approach leading to full implementation. Stakeholders will be involved in every step. More information is available at http://www.gnb.ca/0053/public_health/act_disease-e.asp.



NATIONAL IMMUNIZATION AWARENESS WEEK

April 24 to May 1, 2010  immunize.ca