

08/13

New Brunswick Disease Watch Bulletin

Office of the Chief Medical Officer of Health

Introduction

Welcome to the 17th edition of the *New Brunswick Disease Watch Bulletin*.

In this volume, we have an article regarding the New Brunswick pertussis outbreak that is officially declared over. We have a short message from the NB immunization team on general guidelines for vaccine administration practices. We also have an article on the health risks associated with the personal services industry, i.e. tattoos, body piercings, aesthetics, etc.

Moreover, we provide information regarding the changes to Healthy Toddlers Assessment which is the implementation of 18-month old child assessments that will replace the 3.5-year-old health clinics.

Electronic copies of the bulletin can also be found on the Department of Health website under publications at: <http://www2.gnb.ca/content/gnb/en/departments/ocmoh/publications.html>.



I would like to extend my deepest gratitude to Alex Doroshenko for his significant contributions to the Disease Watch bulletin. Alex will be beginning an exciting position with Alberta Health Services and the University of Alberta. I'm sure you will all join me in wishing him well in his new role in Alberta.

Dr. Eilish Cleary

Healthy Toddler Assessment: A new assessment for 18-month-olds

Background

The shift in age of a universal, population-health based, child assessment from 3.5 years to 18 months of age developed as a response to a recommendation made following the review of the Early Childhood Initiatives. A growing body of literature identifies the need to assess children's healthy growth and development early, so that services can be put in place earlier, if needed. Shifting the age of these assessments will also provide better sequencing with the Department of Education and Early Childhood Development preschool assessments, which are completed when the child is between 4 and 5 years of age.

Purpose

Grounded in a population health approach, the purpose of the one hour Healthy Toddler Assessment will be to promote healthy lifestyle practices and behaviours, to screen and assess, to link parents with appropriate child/parent services within their community, and to gather population health data on young New Brunswick children that provides evidence to enhance public policy.



10 Components

The Healthy Toddler Assessment includes ten components that screen and/or assess both the parent and the child. These were developed after a thorough literature search and wide consultation, throughout the province, with various health professionals and other stakeholders. Physician input was obtained through the New Brunswick Medical Society.

Components

- Parent concerns about child's growth or development
- Healthy teeth
- Healthy and safe
- Healthy vision
- Healthy hearing
- Parent literacy
- Child development
- Parent mental health
- Growth and nutrition
- Immunizations

Parents are introduced to the child assessment and then asked about any concerns they have about their child's health. The following ten components are then completed, although not necessarily in the order listed. A health risk questionnaire asks questions related to a child's teeth, vision, hearing and safety. Parents are questioned about their own mental health (using the Edinburgh Postnatal Depression Scale), and their literacy skills. Children are screened using the validated *Ages and Stages-3* developmental screening tool that is widely used among health practitioners in Canada. Parents are questioned about the child's growth,

The implementation of a universal 18-month-old child assessment called the Healthy Toddler Assessment is well under way. Public Health (PH) nurses are delivering these child health assessments through the Regional Health Authorities. In time, they will replace the Public Health 3.5-Year-Old Health Clinics. These assessments complement the important role that physicians and nurse practitioners play in enhancing the health of young children and their families. In support of our complementary roles and shared expertise, each physician or nurse practitioner will receive a report about their patient's Healthy Toddler Assessment, so that he/she can use the information to address any strengths or concerns that were identified at the next patient visit. Providing assessment results will enhance communication between health-care practitioners, providing synergistic and holistic care.

nutrition and immunization status, and children are weighed, measured and offered age appropriate immunizations, where possible.

Referrals and liaison

If either the parent or child requires further assessment, they are referred to appropriate health professionals or community resources. If you are the health-care practitioner for the child or parent, you will be advised of referrals that have been made as they will be recorded on the Healthy Toddler Assessment summary sheet that will be forwarded to you. For hearing, vision, dental and speech/language concerns, PH nurses will refer children directly to audiologists, optometrists, dentists and speech/language pathologists respectively. In some regions, PH nurses can refer directly to hospital dietitians for nutrition concerns or, if unable to refer directly, the nurse will suggest they take their child to a physician for referral to a hospital dietitian. For child development or growth concerns, referrals will be made to health-care practitioners. If a parent voices health concerns for their own mental health, he or she will be referred either to health-care practitioners or to community mental health teams. PH nurses may refer parents to community resources, such as literacy organizations, or family resource centres, and to family and early childhood interventionists, if appropriate.

Healthy Toddler Assessment Referral Form

Healthy Toddler Assessment Referral

Aiguillage de l'Évaluation du trotteur en santé

Department of Health
Ministère de la Santé

Name of Child / Nom de l'enfant: _____ Medicare Number / No d'ass.-maladie: _____

Date of birth / Date de naissance: Y/A M/M D/J _____ Language preference / Langue préférée: E A F

Parent / Guardian / Parent / Tuteur: _____ Telephone: Home / Téléphone: Domicile: _____ Work / Travail: _____

Address / Adresse: _____

Postal Code / Code postal: _____ Primary Health Care Provider / Fournisseur de soins de santé primaires: _____

Please check Cochez la case appropriée

<input type="checkbox"/> Primary Health Care Provider / Fournisseur de soins de santé primaires	<input type="checkbox"/> Dentist / Dentiste
<input type="checkbox"/> Speech / Language Pathology / Orthophonie	<input type="checkbox"/> Dietitian / Diététiste
<input type="checkbox"/> Audiology / Audiologie	<input type="checkbox"/> Early Intervention / Intervention précoce
<input type="checkbox"/> Occupational Therapy / Ergothérapie	<input type="checkbox"/> Literacy agency / Agence d'alphabétisation
<input type="checkbox"/> Optometrist / Optométriste	<input type="checkbox"/> Community resource / Ressource communautaire
	<input type="checkbox"/> Other / Autre: _____

Reason for referral:
Raison de l'aiguillage:

I consent for this referral to be sent to the health care provider or community resource checked above.
J'accepte que cette demande soit envoyée au fournisseur de soins de santé ou à la ressource communautaire coché(e) ci-dessus.

Signature of parent/guardian / Signature du parent/tuteur: _____ Date: _____ Signature of Public Health Nurse / Signature de l'infirmière en Santé publique: _____

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The Healthy Toddler Assessment represents an exciting opportunity for Public Health nurses to assess the health and well-being of young children and their families. If you are aware of an 18-month-old child who has not been invited to attend a Health Toddler Assessment, you might suggest that the family contact their local PH clinic for an appointment. List of PH clinics: http://www2.gnb.ca/content/gnb/en/departments/ocmoh/healthy_people/content/public_health_clinics.html.

If you have questions about the Healthy Toddler Assessment, please feel free to contact Kimberley Blinco; Director Public Health Practice and Population Health by email at: Kimberley.Blinco@gnb.ca or by phone at: (506) 453-6874.

Vaccine Administration Practices - General Guidelines

Appropriate vaccine administration is a key element to ensuring the optimal safety and efficacy of vaccines [1].

The following information provides general guidance for vaccine administration practices.

Providers should use all clinical opportunities to review immunization status and administer needed vaccines.

Pre-vaccination counseling

- Information regarding the risks and benefits of both receiving and not receiving the vaccination should be provided, along with the opportunity to ask questions [2].
- Common side effects and any adverse effects should be discussed along with the reporting and management of these reactions [2].

Pre-vaccination assessment

- Contraindications and precautions should be assessed. The person should be asked about vaccine history, health status, medications, allergies and past reactions.
- The vaccine (s) to be administered should be determined according to age, eligibility criteria and vaccine history.

Vaccine administration

- Providers should administer all vaccine doses for which the person is eligible at the time of each visit.
- Adherence to recommended ages and intervals between doses provides optimal responses [3].

Post - Vaccination

- After vaccination, it is prudent to keep the person in the clinic for 15 minutes.
- Vaccine providers should have the necessary training and equipment to manage anaphylaxis.
- An immunization record should be provided to the client and made in the notes [2].

References:

- Evergreen edition of the Canadian Immunization Guide, 2012; Public Health Agency of Canada. <http://www.phac-aspc.gc.ca/publicat/cig-gci/index-eng.php>
- New Brunswick Immunization Program Guide. http://www2.gnb.ca/content/gnb/en/departments/ocmoh/for_healthprofessionals/cdc/NBImmunizationGuide.html
- General Recommendations on Immunization (Recommendation of ACIP); Recommendations and Reports/ Vol.60/No.2, MMWR- January 28th, 2001.

Pertussis Outbreak in New Brunswick

New Brunswick experienced the largest pertussis outbreak recorded in the province to date in 2012. A total of 1,421 confirmed cases were reported to Public Health between January and December 2012.

The outbreak was declared over in January 2013.

Epidemiological summary

Of the 1,421 confirmed cases 1,186 were laboratory confirmed and 235 were epidemiologically linked confirmed cases [1].

Laboratory testing

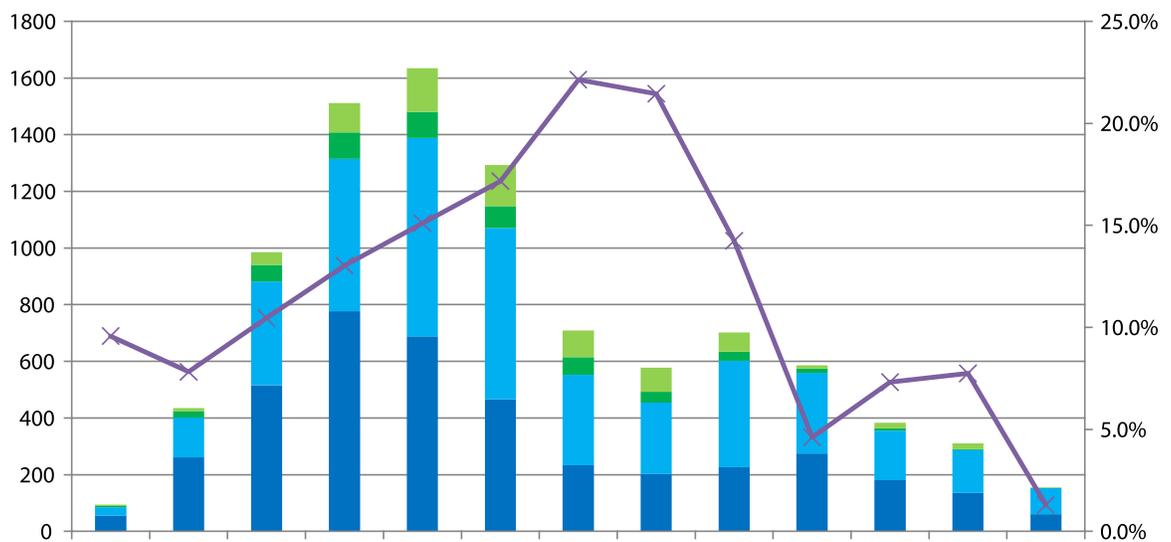
Pertussis detection testing was done by PCR at the Moncton Hospital and at the Dr. Georges-L.-Dumont (GDL) laboratories. Graph 1 depicts the trends in positivity rates for all samples processed in New Brunswick during the outbreak period.

Affected health regions

Over the entire outbreak period, most of the cases were concentrated in Health Regions 1 and 6. The highest proportion (60 per cent) of cases was seen in Health Regions 1 and 6. Table 1 gives an overview of the average annual pertussis cases by health region from 2006-2011 and during the outbreak in 2012-2013.

The most affected health regions (based on rate) varied across the outbreak period. From January to June, the highest region specific rates were seen in Health Regions 1 and 2. In mid-June activity started to decrease for these Health Regions and increase in Health Regions 4 and 6 such that the latter Regions had the highest Region specific rates from that point until the fall. Overall, Health Region 6 had the highest region-specific rate (407 per 100,000), followed by Health Region 4 (391 per 100,000).

Graph 1. NB Positive and Negative Pertussis Lab Result Counts and Positivity Rates by Month, January 2012 to January 2013

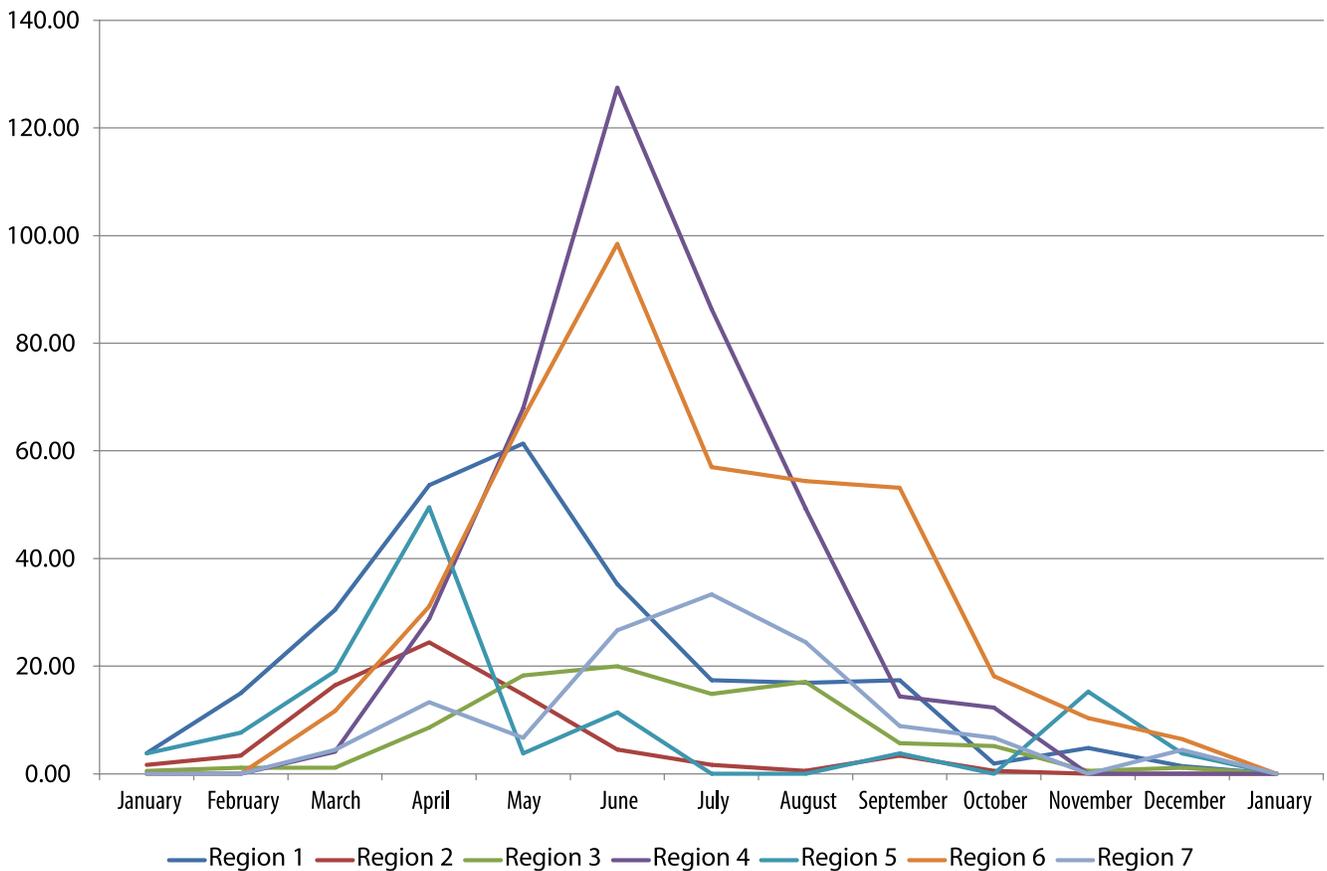


	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13
GDL Positive	4	11	45	104	155	145	94	86	68	12	19	19	2
Moncton City Positive	5	23	58	93	92	77	63	38	32	15	9	5	0
GDL Negative	29	140	366	538	700	605	319	252	375	284	175	151	92
Moncton City Negative	56	261	516	777	688	466	233	202	227	275	180	135	61
NB Positivity Rate	9.6%	7.8%	10.5%	13.0%	15.1%	17.2%	22.1%	21.5%	14.2%	4.6%	7.3%	7.7%	1.3%

Table 1. Case Counts and Percentages per Health Region, 2006-2013 (up to February 4 2013)

	R1		R2		R3		R4		R5		R6		R7		Total
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#
Annual average 2006-11	18.3	79%	2	9%	0.3	1%	1	4%	0.3	1%	0	0%	1.2	5%	23.2
2012-2013	537	38%	126	9%	165	12%	190	13%	31	2%	314	22%	58	4%	1421

Graph 2. Region Specific Incidence Rate (per 100,000) by Month (up to February 4, 2013)



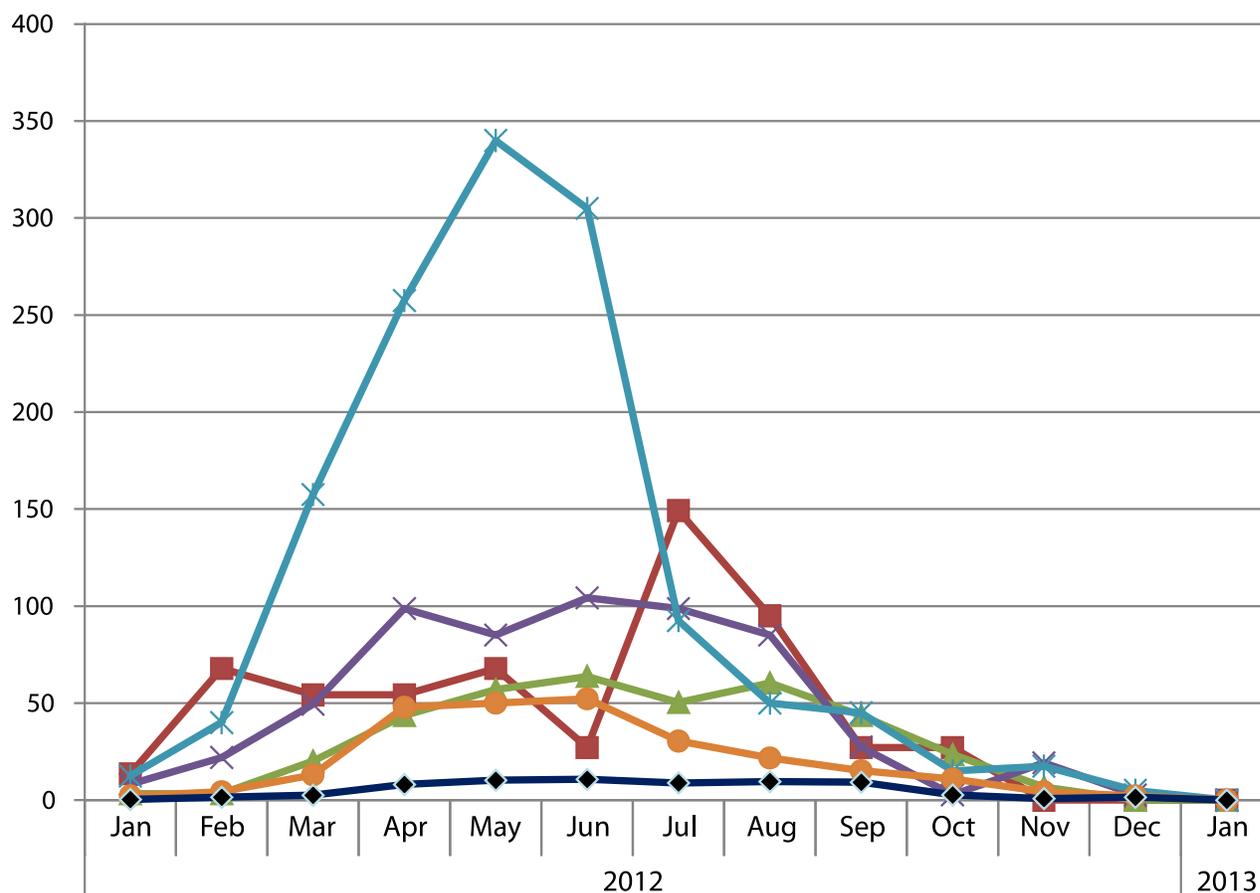
Affected age groups

The highest proportion of cases was seen in the 10- to 14-year-old age group (38 per cent of the cases), followed by persons 20 years of age and over (28 per cent), children aged 5-9 yrs (15 per cent); adolescents aged 15-19 yrs (8 per cent); children aged 1-4 yrs (8 per cent) and infants under 1 (3 per cent). The highest age-specific rates were seen in the 10- to

14-year-old age group (1,337 per 100,000), followed by the 5- to 9-year-old age group (604 per 100,000), and infants under 1 (583 per 100,000).

The median age was 12, the mean age was 19.2, and the age range was 13 days old to 91 years of age.

Graph 3. NB Age-Specific Incidence Rate (per 100,000), Per Month in 2012 (up to February 4, 2013)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
	2012												2013
■ <1	14	68	54	54	68	27	149	95	27	27	0	0	0
▲ 01-04	3	3	20	44	57	64	50	60	44	23	7	0	0
✕ 05-09	8	22	49	99	85	104	99	85	27	3	19	3	0
✱ 10-14	12	40	157	257	340	305	92	50	45	15	17	5	0
● 15-19	2	4	13	48	50	52	30	22	15	11	4	2	0
◆ 20+	0	2	3	8	10	11	9	10	9	3	1	2	0

Immunization status

Forty three per cent of the pertussis cases had proof of being immunized with five or more doses of pertussis containing vaccine. This varied by age group and by region. Table 2 and Graph 4 give an overview of the percentage of cases immunized with five or more doses of pertussis containing vaccine by region and age group.

Table 2. Percentage Immunized with at least Five Doses of Pertussis Containing Vaccine for Cases Aged Four Years to 20 years or More in NB and by Region (as of February 4, 2013)[±]

Age Group	R1	R2	R3	R4	R5	R6	R7	NB
4-9 years	59%	35%	18%	60%	100%	89%	75%	60%
10-14 years	67%	51%	38%	66%	60%	84%	79%	67%
15-19 years	61%	50%	32%	89%	0%	73%	67%	59%
>20 years	11%	0%	5%	26%	0%	6%	17%	10%
Total	46%	29%	19%	50%	58%	52%	43%	43%

[±] Source: Enhanced Pertussis Surveillance Database, OCMOH

While vaccination remains the best protection against pertussis, this outbreak raised some questions about the potential duration of the protection afforded by vaccine in some age groups.

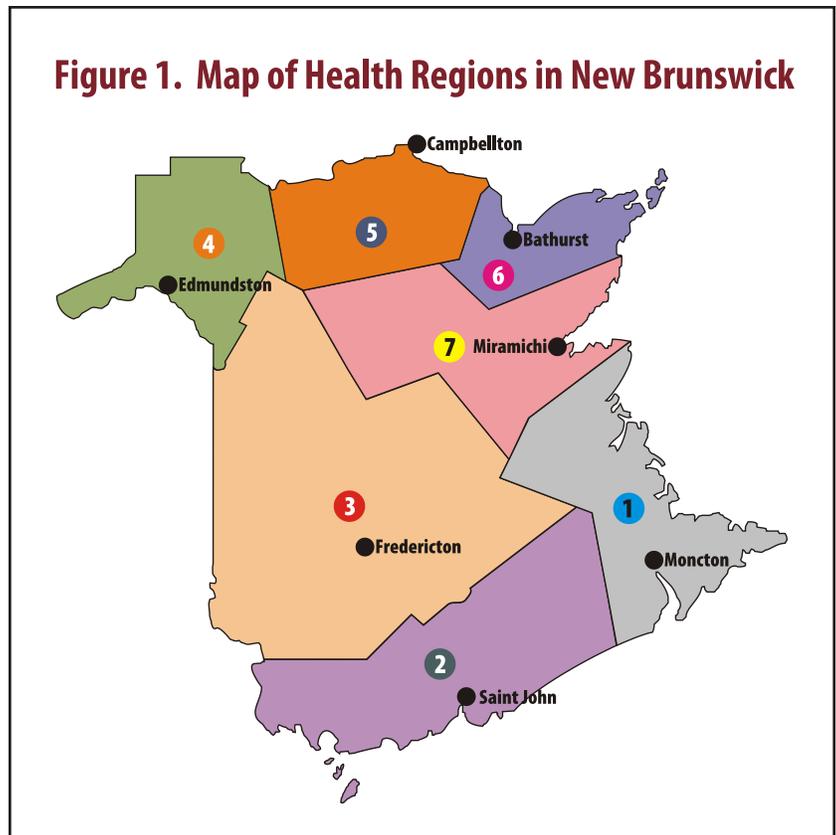
Outbreak measures

The Public Health response to this outbreak was multifaceted. It involved actions by regional and provincial Public Health and included surveillance, case and contacts follow-up, chemoprophylaxis, immunization and advice on isolation and prevention. Early in the outbreak, guidelines were developed detailing aspects of public health management; the purpose of these outbreak guidelines was to ensure a similar approach by Public Health regional staff and others involved, such as health care practitioners across the province. Each case of pertussis reported to Public Health was followed-up by regional Public Health staff and appropriate interventions were undertaken.

Immunization during the outbreak

Pertussis is a vaccine preventable disease. Immunization of the population in general and more specifically immunization of contacts of vulnerable persons has been the priority during this outbreak.

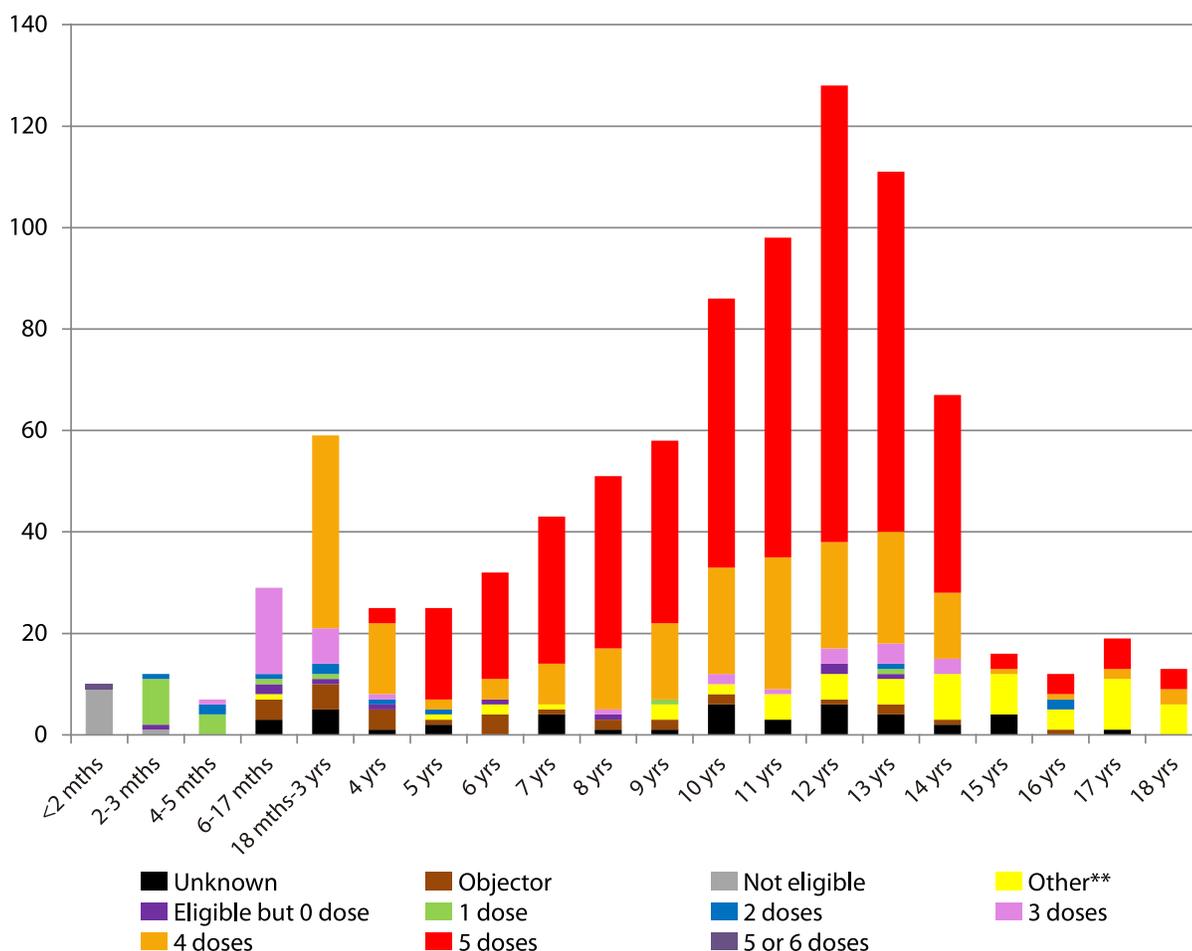
Figure 1. Map of Health Regions in New Brunswick



The goals of the immunization campaign were three-fold:

1. To improve immunity against pertussis in the general population (adhering to New Brunswick Routine Immunization Schedule) [2];
2. To improve immunity against pertussis in the most affected cohort by implementing a school-based immunization campaign for that age group; ;
3. To provide indirect protection to vulnerable infants by offering immunization to expecting parents and those in close and regular contact with children under one year of age. Immunization of pregnant women or new mothers in postpartum period was also offered.

Graph 4. Number of Doses of Pertussis Containing Vaccine According to NB Schedule for NB Cases 0-18 years (up to February 4, 2013)



Outbreak immunization campaign targeted to Grades 6, 7, 8 in Health Regions 1 and 2

A school-based immunization campaign in Health Regions 1 and 2 was launched in the spring 2012 after following considerations:

- The most affected age group was of children 10-14 years of age.
- In the early stages, the outbreak was concentrated in Health Regions 1 (Moncton area) and 2 (Saint John area) and fewer cases were seen in the rest of the province.
- School-based immunization programs are more effective in obtaining higher vaccine coverage rates and deemed the best approach.

Approximately, 74 per cent of the students enrolled in Grades 6, 7 and 8 in regions 1 and 2 were immunized.

Fall immunization campaign

A school-based immunization campaign for all the other regions was implemented in fall 2012. Tdap was offered to students in Grades 7, 8 and 9. These students are in the same age group as the students targeted in spring 2012 in Health Regions 1 and 2. The uptake for the fall campaign ranged from 75 per cent in Health Region 3 to 96 per cent in Health Region 6.

Routine immunization for adolescents

The timing for the routine Tdap immunization in adolescence was changed to Grade 7 students in fall 2012 [2].

References:

1. Office of the Chief Medical Officer of Health. Department of Health, New Brunswick. Pertussis enhanced surveillance and RDSS database.
2. Office of the Chief Medical Officer of Health. Department of Health, New Brunswick. New Brunswick Routine Immunization Schedule. Accessed on April 2 2012 at <http://www2.gnb.ca/content/dam/gnb/Departments/hs/pdf/en/CDC/Immunization/RoutineImmunizationSchedule.pdf>

Health Risks Associated With the Personal Services Industry

Personal service establishments are those which offer a wide array of services ranging from common aesthetic procedures (i.e., manicures, pedicures and hairdressing) to common body modifications (i.e., body piercing and tattooing) to more extreme body modifications (i.e., scarification, branding and dermal implants). For the purposes of this article, the main focus will be on the following services: *tattooing; body piercing; and manicures, pedicures, waxing, hairdressing, barbering.*

The personal services industry is ever-changing and evolving. Many of the services provided today were not available years ago. Technology changes and evolves with new equipment being developed. For example, in the past 140 years we have seen the introduction of the electric tattoo machine and polymer-based pigments [2]. As well, the increasing ease of access to equipment has made it quite simple to start up a tattooing business [2]. In the United States, the estimated percentage of adults with one or more tattoos has increased from 14 per cent in 2008 to 21 per cent 2012 [3].

As the industry evolves, it is an ongoing challenge for Public Health officials to keep current in their knowledge of services and changing industry practices. It is important for Public Health officials to

Body modification: A deliberate altering of one's body for nonmedical purposes (e.g., piercing, tattooing, permanent hair removal, scarification and branding) [1].

have this information so that they may better assess risk, and investigate and mitigate health hazards.

What types of personal services are available?

Table 1 provides an extensive list of available services that are being provided in personal services establishments.

One may obtain a tattoo, piercing or other service from a store front business, in an institutional setting, or even in a home setting. For example, hairdressing, barbering and hand and foot care services are often provided in home care settings, long-term residential settings and hospitals.

What are the health risks?

Providing these services presents various kinds and levels of risks to both the client and the service provider. Specific infection risks vary depending on the type of service, tools and equipment used, health status of the clients and service providers, and conditions under which the service is performed, including hygienic practices and infection prevention and control procedures carried out [4].

Table 1. Types of Personal Services

TYPES OF PERSONAL SERVICES		
Hair, Skin, Nails and Personal Wellness		Body Modification
<ul style="list-style-type: none"> • Aesthetics (skin and body therapy) • Hair/barber services • Beauty parlor services • Shaving • Microdermal abrasion • Manicures • Pedicures • Make-up application • Face painting • Services offered by health spas, skin clinics, medical spas • Waxing, lash and brow tinting 	<ul style="list-style-type: none"> • Cosmetic laser services • Electrolysis • Tanning • Aromatherapy • Massage (excluding RMTs) • Mud/steam baths • Teeth whitening • Floatation tanks • Water therapy • Ear candling • Fish pedicures 	<ul style="list-style-type: none"> • Ear piercing • Body piercing • Tattooing (including eyeball) • Micropigmentation • Scarification • Tongue splitting • Beading and Implants • Ocular jewelry • Branding • Tattoo removal

Source: Based on Table 1 of BC's Guidelines for Personal Service Establishments [1].

In general, health risks associated with personal services include the following [5]:

- Viral, bacterial and fungal infections, for example:
 - Viral: bloodborne viruses [Hepatitis B, Hepatitis C, Human Immunodeficiency Virus (HIV)], *Herpes simplex*
 - Bacterial: *Staphylococcus aureus*, *Pseudomonas aeruginosa*
 - Fungal: *Tinea capitis/cruris/corporis/pedis*
- Allergies and/or adverse reactions to materials used

Invasive procedures such as tattooing and piercing are associated with greater health concerns; however, any service that can potentially break the skin carries the risk of infection [6]. Infections may be spread between clients or from the service provider to the client and vice-versa, by the use of contaminated equipment, unhygienic practices and procedures, and overall poor sanitation and infection prevention and control procedures [5].



Onychomycosis due to *Trichophyton rubrum*, right and left great toe.
Source: CDC Public Health Image Library

Tattooing

Health risks associated with tattooing include bacterial and viral infections, allergic reactions, granulomas, keloid formation and potential complications if subjected to magnetic resonance imaging (MRI) [7]. Infectious agents such as Hepatitis B, Hepatitis C, HIV and *Staphylococcus aureus* may be transmitted by the use of unsterile equipment, unhygienic practices by the tattoo artist and/or contaminated ink [7]. Infection during the healing process after getting a tattoo is the most commonly identified complication [2]. Allergies or adverse reactions to tattoo pigment may occur [2]. Those with pre-existing heart conditions which undergo invasive procedures such as tattooing

and piercing are at risk of developing infective endocarditis (IE) [6]. Medical case reports have documented noninfectious tattoo-related illnesses and dermatologic complications, although they are uncommon (e.g., skin papules, malignant melanoma, pseudolymphoma) [2].

In a literature review conducted by Barn and Chen (2012) [6], documentation of several outbreaks and case reports of bacterial and viral infections related to tattooing were found:

- *M.haemophilum* in two males who visited the same Washington State tattoo parlor between August and October 2009
- *M.chelonae* in six individuals after receiving tattoos from the same tattooist between October 2007 and May 2008
- Two tattooists in France were implicated as the source of *M.chelonae* in 48 patients suffering skin lesions around tattooed areas
- 44 cases with community-acquired methicillin-resistant *Staphylococcus aureus* (CA-MRSA) who received tattoos from 13 unlicensed tattoo artists over a 2-year period in three U.S. states
- Several case reports of *Mycobacteria*, *Pseudomonas aeruginosa*, *Streptococcus pyrogenes* and syphilis
- IE in a male who received monthly tattoos over a 5-year period
- IE in a 44-year-old male with congenital heart disease after receiving a tattoo at a tattoo parlor in the United Kingdom
- Several case reports of *Molluscum contagiosum*, human papillomavirus (HPV)-related warts and HIV
- Hepatitis B in 34 individuals who had visited the same tattooist in the United Kingdom
- Hepatitis C in 37 individuals, 11 of whom had received a tattoo within the previous 6 months, in the United Kingdom
- Historical outbreaks and cases of tattooing-related tuberculosis and syphilis

Tattooing is the permanent or indelible imprinting of a decorative design into the skin. Tattoo needles on the end of a reciprocating needle bar are used to puncture the skin or mucosa and introduce different colored inks or pigments [1].



Image of individual with nontuberculous mycobacterial infection
Source: Centers for Disease Control and Infection

Body piercing

Common piercing sites include the ears (lobes and cartilage), nose, tongue, eyebrow, navel, nipples and genitalia [6].

Body piercing: Penetrating the tissue of a client's body to attach or insert jewelry or similar items. Piercing may be done with a piercing needle, piercing gun (earlobe only) or dermal (biopsy) punch [1].

In a literature review conducted by Barn and Chen (2012) [6], it was found that bacterial infections were the most commonly reported complication from piercing and included *Pseudomonas*, *Streptococcus* and *Mycobacterium* species. Two studies reported potential piercing-related viral infections, specifically hepatitis B and C and HIV. Two reviews were conducted of piercing-related infective endocarditis,



Keloid from piercing
Source: National Library of Medicine

one with 22 cases and the other with 24 cases between 1985-2007.

Aesthetics

Even though the aesthetic services referred to here are not considered invasive, there is still potential to break the skin and introduce infection.

Bacterial infections, specifically mycobacteria infections, are the most commonly reported as occurring from aesthetic services with viral infections being less [4].

Very little evidence is available with respect to infections related to the aesthetic services mentioned. Infection risks for such services are poorly defined in scientific literature, specifically those for manicure, waxing, hairdressing and barbering. However, a literature review conducted by Barn and Chen (2011) [4] documents outbreaks and case reports of bacterial infection:

- Outbreaks related to pedicures: *Mycobacterium fortuitum*, *Mycobacterium furunculosis* and *Mycobacterium mageritense*
- Outbreaks related to waxing: *Pseudomonas folliculitis* and MRSA
- Outbreak related to hair dressing and barbering: *Serratia marcescens* in 10 immuno-suppressed male patients in a hospital's cardiac surgery unit
- Case reports related to waxing: *Streptococcus pyogenes* and *Herpes simplex* in a patient where poorly controlled Type 1 diabetes may have been a contributing factor; folliculitis and skin damage in two individuals who were both taking anti-acne medication
- Case report related to hair dressing and barbering: MRSA infection in a hospital patient's hairline who had received services from the hospital's hairdresser

What is happening in New Brunswick?

The New Brunswick Department of Health does not have legislation specific to this industry and as such there is no health regulation for personal services providers. The Health Protection Branch does investigate health hazard complaints pertaining to these facilities. Authority to intervene and issue orders is provided by the *New Brunswick Public Health Act* with 'health hazard' being defined as a condition of a premises, a substance, thing or plant or animal other than man, a solid, liquid, gas or combination of any of them, or a noise, vibration or radiation

that has or is likely to have an adverse effect on the health of a person [8].

Public Health inspectors also investigate cases of certain types of communicable disease and partake in outbreak investigations, part of which may involve inspecting a personal services facility suspected of being the cause. This enables Public Health to ensure appropriate control measures are put in place to break the chain of transmission and prevent further illness.

It should be noted that there are jurisdictions across Canada that do regulate sectors of the personal services industry, specifically Alberta, British Columbia and Ontario [9]. Others are in the process of drafting legislation and standards.

Future direction

In general, infection risks for personal services are not well characterized because there is a lack of well documented cases and scientific literature on infection risks associated with specific personal services [4]. Why is this? Barn and Chen (2011) [4] outline various potential reasons:

1. More research is needed. Case studies do not allow for the assessment of the burden of disease presented by personal services. We do not know how many people are receiving these services nor do we know how many receive medical treatment thereafter as a result of the service.
2. Many affected people may not seek medical advice and may self-medicate.
3. The client with an infection or the treating physician may not associate the infection with a personal service, especially in cases where there is a long incubation period (i.e., weeks or months).
4. A better relationship is needed between the clinicians and the public health community to identify and report personal services-related infections, and document associated circumstances and factors that have led to them. In the United States, some States require the reporting of adverse reactions (infectious and allergic) from tattooing to the health department, which in turn can contribute to knowledge in this field and inform the research needed to study the link between tattooing and adverse health outcomes [2].

Although no reliable estimates exist for rate of complications of tattooing procedures, the risk of adverse effects can still be addressed by ensuring sanitary facilities and equipment, comprehensive training of artists and strong infection control

practices [2]. Unfortunately, without provincial regulations, Public Health does not have the authority to conduct routine monitoring of personal services establishments in New Brunswick. However, increased reporting of incidents and concerns to Public Health would allow for investigation and hence education of service providers and implementation of infection control measures.

Healthcare practitioners are reminded that while Public Health works to reduce health hazards in this area through investigation, it would be useful to have cases of infection suspected to be related to personal services establishments reported to the Regional Medical Officer of Health in your area.

References:

1. British Columbia Ministry of Health. Guidelines for Personal Service Establishments. January 2013. Accessed on April 29, 2013 at: http://www.health.gov.bc.ca/protect/ehp_pse.html.
2. Carlson VP, Lehman EJ and Armstrong M. Tattooing Regulations in U.S. States, 2011. *Journal of Environmental Health* October 2012; 75(3):30-37.
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- Did you know that one in 10 New Brunswick adolescent students used controlled pain relievers without a prescription and one in 30 misused tranquilizers or sedatives in the past 12 months?

- To find out more, go to <http://www.gnb.ca/0378/pdf/2013/9230e.pdf> and download the New Brunswick Student Drug Use Survey Report 2012.

