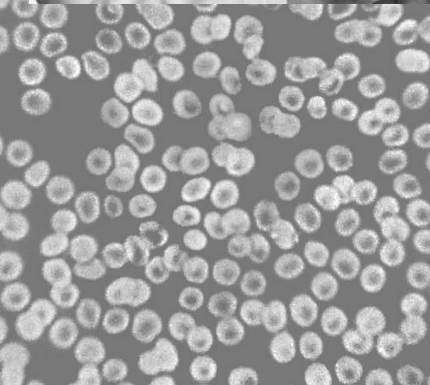
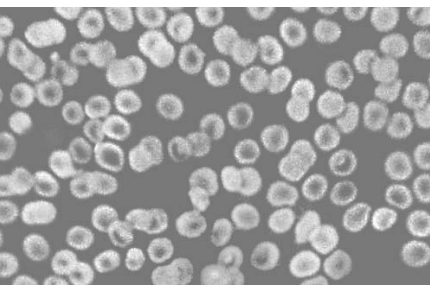
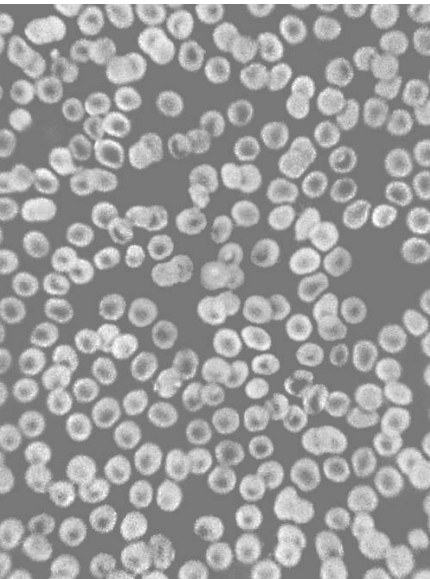


Immunization in British Columbia, 2006–2007



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BC Immunization Subcommittee

Co-Chairs' Message

Welcome to the inaugural report on Immunization in British Columbia. This report was produced by the BC Immunization Subcommittee (BCISC), formed in 2005 to strengthen province-wide collaboration for improvements in all aspects of the publicly funded immunization programs. The guiding principles for where we want to go and what we need to achieve are contained in *ImmunizeBC: A Strategic Framework for Immunization in BC*.

When we are successful, we will be able to get immunization appointments within one to two weeks, including evenings and Saturdays, without having to take time off work to get ourselves or our children immunized. For us as health care workers employed full-time, we will be able to get a flu shot each fall at our workplaces.

Every member of our family will have a confidential, electronic immunization record in the provincial immunization registry that is kept up to date and includes vaccines given by a variety of health care providers, whether given in BC or elsewhere. We will get reminders to keep our families on schedule for needed vaccines.

When we are successful, BC will have an adequate supply of knowledgeable, trained service providers. Individuals and families will have the same access to quality immunization services regardless of where they live in BC. Busy family doctors will be kept up to date in a variety of ways about changes to immunization policy or new vaccines—by newsletter, on the web, and through live face-to-face encounters with well-informed health care providers.

Our public education program will rebuild the knowledge that people have lost about the face of the diseases we prevent through vaccines and rebuild trust in vaccines. We will have better storage, transport and tracking processes to make sure that not a dose of increasingly expensive vaccines is wasted. We will have more vaccine research in BC to create new vaccines to prevent illness and death, as well as research that translates into knowledge about how to improve our current programs, get vaccines to everyone who can benefit, and maintain public confidence.

BC has a superb track record in immunization. We have achieved zero or near zero rates of many vaccine preventable diseases. But only smallpox has been eradicated globally, and for every other disease, we need to keep vaccinating to keep benefiting. *ImmunizeBC* raises the bar and is a roadmap of where we need to head in the next several years. This first report attempts to highlight the major areas of progress in 2006/07 and we look forward to providing future updates.

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Introduction

Over the last decade, the landscape of public health in BC has changed considerably with the acceptance of the National Immunization Strategy (NIS) by the Conference of Federal, Provincial and Territorial (FPT) Deputy Ministers of Health and National and Provincial commitments of new funding to strengthen collaboration on immunization and to support the introduction of new childhood and adolescent vaccines. The outbreak of Severe Acute Respiratory Syndrome (SARS) in 2003 highlighted the need to strengthen Canada's public health infrastructure, including development for emerging infections, immunization programs and our capacity to conduct rapid vaccine research. It also highlighted BC's existing collaborative relationships and validated the role of the BC Centre for Disease Control (BCCDC) as the provincial body to support the Ministry of Healthy Living and Sport (MHLS) by leading and co-ordinating provincial communicable disease control.

The mission of the immunization program in British Columbia is to improve health by continuing to reduce the incidence of vaccine-preventable diseases and the associated impact of disease, disability and death.

In the context of these significant events, the purpose of this report is to describe progress in BC's immunization programs, including current immunization coverage results, in a format that will be useful for both health care professionals and consumers of BC's immunization programs. The BCCDC website, www.bccdc.org, contains useful information about immunization in BC, including immunization practice guidelines and detailed immunization coverage reports and vaccine preventable disease rates.

Since 2003, BC has expanded its routine immunization programs to include childhood pneumococcal conjugate, meningococcal C, and chickenpox vaccines as well as adolescent pertussis programs. This report highlights planning activities in anticipation of the new human papillomavirus (HPV) vaccine, the streamlining of the BC routine immunization schedule by using new evidence to decrease the recommended number of doses of pneumococcal vaccine, the campaign to promote chickenpox vaccine uptake in preschoolers, and the increased emphasis on responsible vaccine inventory management in light of the increased value of vaccines. Vaccine coverage defined as completely "up-to-date by age 2" for all recommended vaccines remains in the range of 65%, falling short of the national goal of 95%. The new *ImmunizeBC* strategic framework is highlighted as a collaborative planning effort, as are ongoing immunization research and immunization promotion activities.

Next steps include preparation for new vaccines using efficient and innovative collaborative approaches and it will be important to monitor our progress closely, identify and address challenges, and report on our accomplishments.

A Word from the Ministry of Healthy Living and Sport

British Columbia has one of the most comprehensive immunization programs in Canada, and strives to exceed national expectations in immunization coverage and service. Since 2004, the NIS has provided over \$39 million to British Columbia in new funding to implement a number of new or expanded childhood immunization programs and has provided additional resources to improve the performance of BC's immunization program.

When the first funding allocation from the NIS ceased at the end of 2006, the BC Ministry of Healthy Living and Sport maintained the funding for the newly implemented programs and expanded investment further in health promotion, program evaluation and research. In 2007 alone, \$34 million was allocated within the BC Centre for Disease Control for the purchase and distribution of vaccines, while Regional Health Authorities (RHAs) were allocated additional funds for the staffing required to deliver immunization services across the Province.

The Ministry of Healthy Living and Sport's Communicable Disease and Addiction Prevention Branch (CDAP) works collaboratively with its immunization partners to provide all British Columbians with one of the best immunization programs in Canada.

BC has one of the best immunization programs in Canada



The *ImmunizeBC* Strategic Framework

Building on the theme of collaboration and partnership for immunization, in 2006/07, extensive consultations were conducted across British Columbia, with input from health authorities, family physicians, Citizenship and Immigration Canada, BC Corrections, First Nations and Inuit Health (Health Canada), and representatives from the Aboriginal community.

ImmunizeBC is a provincial initiative aimed at increasing the uptake of vaccines, ensuring that the BC immunization program is supported by strong evidence, promoting quality across the system, and building capacity to ensure long-term sustainability.

These consultations resulted in the creation of the *ImmunizeBC* strategic framework that was aimed at increasing the uptake of vaccines, ensuring that BC's immunization program is supported by strong evidence, promoting quality across the system, and building capacity to ensure long-term sustainability. *ImmunizeBC* will complement, guide, and support both health authorities—in public health, occupational health, acute care, and residential care settings—and health system partners, such as private clinics and general practitioners, to together deliver optimal immunization services in BC. This provincial blueprint is available at <http://www.healthservices.gov.bc.ca/library/publications/year/2007/immunizebc.pdf>. Through this framework, service providers in all health authorities will ensure that all British Columbians understand the importance of immunization for themselves, their families, and vulnerable populations, and benefit from the many vaccines that are now available. *ImmunizeBC* also supports coordination of common approaches to immunization registries, improving vaccine procurement processes, strengthening immunization research activities, developing approaches to special populations, and expanding public and professional education.

The framework was launched in the spring of 2007 via the broadcast media and electronic transmissions to provincial immunizers. Subsequent to the launch, Ministry and BCCDC staff travelled to the five BC regions to increase the awareness of the strategy, to begin discussion on approaches to implementing the framework, and to introduce annual integrated progress reporting. The vision, goals and priorities are described below.

Vision

By 2010, it is envisioned that BC will be a leader in immunization where:

- Immunization is highly valued by the public and health care professionals
- Every resident has equal access to immunization
- More people are protected against more diseases
- Immunization is sustained in conditions of diverse social values, changing demographics and economies, and evolving diseases
- Immunization is seen as crucial for the wider strengthening of health systems
- Vaccines are put to best use in improving health and security for British Columbians

Provincial Goals for Immunization Programs

The *ImmunizeBC* strategic framework has four goals aimed at improving the health of British Columbians:

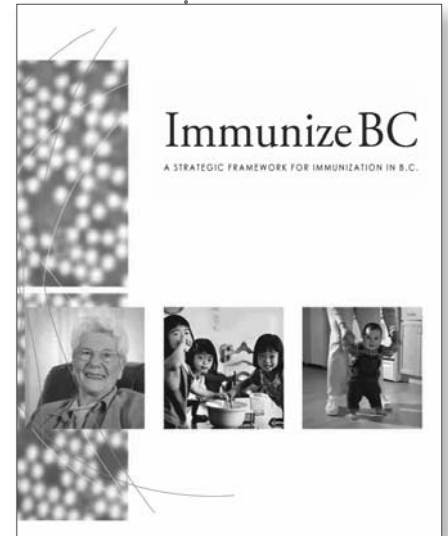
1. Increase the uptake of current and future recommended vaccines to reach select provincial targets by 2010
2. Ensure the BC immunization program is supported by the most current, evidence-based information on the status of vaccine-preventable infectious diseases in BC and on emerging sources of infectious disease risk from other parts of the world
3. Build the capacity of the immunization program to ensure long-term sustainability
4. Promote quality across the immunization system to achieve improved system performance

Priority Actions

Six priority actions emerged from the planning processes. These are:

1. Promote the immunization program publicly and with health care professionals
2. Improve access to immunization services
3. Ensure an adequate supply of knowledgeable, trained service providers
4. Create an integrated immunization registry
5. Improve the vaccine inventory management system
6. Establish an immunization research agenda that includes the socio-cultural aspects of vaccine delivery and uptake

Together, these goals and priority actions create the foundation upon which BC's immunization program planning and monitoring is created.



Publicly funded immunizations in BC are given by public health professionals and physicians.

Immunization Program Planning and Monitoring

Since BC's first immunization against smallpox in 1907, the program has evolved to provide publicly funded vaccines for routine childhood immunization against diseases such as diphtheria, pertussis, tetanus, polio, *Haemophilus influenzae* type b, measles, mumps, rubella, hepatitis B, and influenza. With the National Immunization Strategy and Trust Fund in 2003 (available at <http://www.phac-aspc.gc.ca/publicat/nis-sni-03/index-eng.php>), BC was able to expand the routine childhood vaccination series to include vaccines against pneumococcal disease, meningococcal C disease, and chickenpox, as well as pertussis vaccine for adolescents. These additions have led to further declines of diseases in children. When the *ImmunizeBC* strategic framework was launched, there were many more progressive changes to BC's immunization program underway. Additional vaccine programs were being evaluated and implementation options were being considered to protect British Columbians against human papillomavirus (which causes cancer of the cervix), rotavirus (a leading cause of diarrhoea in children), and herpes zoster virus (the cause of shingles). What follows are select program changes made to enhance health and reduce vaccine preventable diseases.

Human Papillomavirus Vaccine Program Planning

In July 2006, Health Canada approved the use of the first HPV vaccine in Canada. In February 2007, the National Advisory Committee on Immunization (NACI) recommended this HPV vaccine for females aged 9–26. In March 2007, the Federal Government announced \$300 million in funding for provinces and territories to support HPV vaccine programs. BC's share is approximately \$39 million over three years.

BCCDC participated in national and provincial planning for the implementation of this vaccine. Mathematical modeling and feedback from the RHAs regarding feasibility, program resources required, effectiveness and cost-effectiveness for different program options were presented to the BC Communicable Disease Policy Advisory Committee (CD Policy) in April 2007. CD Policy recommended that BC initiate a school-based vaccine program for girls in grade 6 on an ongoing basis, and for girls in grade 9 for a 3 year period. In September 2007, the MHLS announced BC would begin an HPV immunization program in September 2008.

Pneumococcal Conjugate Immunization Program Change

In January 2007, the schedule for Prevnar™ was reduced from 4 doses to 3 doses for healthy children. This change allows for one less injection at 6 months of age and advanced the 18 month dose to 12 months. Evidence based on studies in the US and elsewhere indicated that 3 doses are as effective as 4 in healthy children. Children with high risk medical conditions continue to receive 4 doses. Effectiveness of the 3-dose program is under close scrutiny in BC. Every case of invasive pneumococcal

disease in a child is followed up by an epidemiologist at the BCCDC to review both laboratory and immunization records. Rates of invasive pneumococcal disease among children <5 years old in British Columbia have fallen by more than 70% since the introduction of conjugate pneumococcal vaccine (from 54.6 per 100,000 in 2002 to 15.4 per 100,000 in 2007). In 2006, rates were 12 per 100,000 in the <1 year age group. In 2007, they were 9.7 per 100,000. These rate decreases illustrate the impact of the pneumococcal conjugate immunization program in BC.

Chickenpox Vaccination Campaign

Routine childhood vaccination against chickenpox started in BC in 2005. Previously, varicella-zoster virus caused up to 47,500 cases of chickenpox (varicella) each year in BC. There were 17,000 visits to a physician, 172 hospitalizations and 1–2 deaths annually in BC due to chickenpox alone. The estimated costs of chickenpox in BC were \$3.4 million in direct health care costs and \$13.6 million in societal costs each year. In 2006/07, BC had a one time opportunity from the NIS funds to boost immunization. A chickenpox catch-up program was carried out for preschoolers who are most at risk of this disease and who were missed by the introduction of the routine program for children at the 1st birthday in 2005.

As part of this program, a multimedia radio and print campaign to promote chickenpox vaccination was launched in September 2006. Parents of more than 25,000 susceptible children born between January 1, 2002 and March 31, 2005 were sent postcards in October 2006 and March 2007 to invite them to have their children immunized. By the end of the media campaign and postcard mailing, 27% of children who received mailed invitations had a record indicating they had been immunized. This rate of uptake was lower than the 82% hoped for but susceptible children in this age group will be offered chickenpox vaccine again when they enter kindergarten.

Vaccine Supply

Most vaccines for BC programs are purchased through a collaborative FPT procurement process coordinated by Public Works and Government Services Canada. As a result, BC benefits from lower cost vaccines due to higher combined purchasing volumes. This FPT process is designed to:

- Combine purchasing power across Canada to optimize pricing
- Obtain efficiencies and effectiveness in the competitive procurement process and in contract management
- Monitor vaccine supply and prices
- Prevent and mitigate vaccine shortages
- Meet the needs of each and every participating jurisdiction

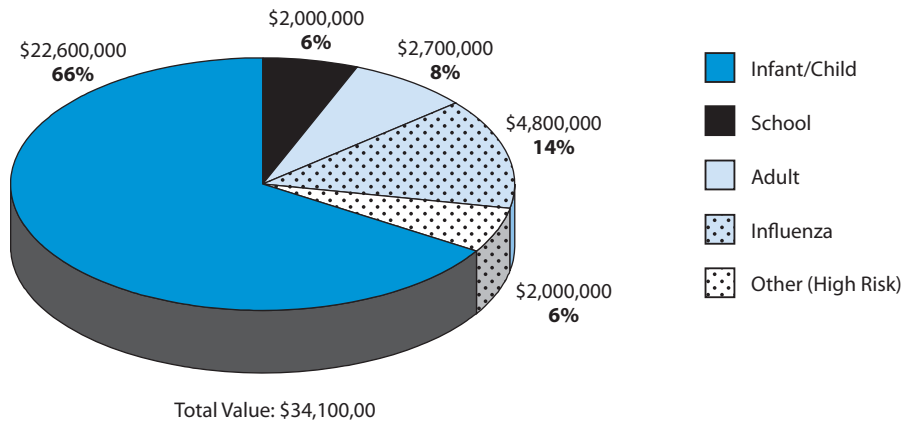


More than 25,000 toddlers and preschoolers were offered chickenpox vaccine in this campaign.

- Make recommendations to vaccine manufacturers and the Canadian Immunization Committee (CIC)

Figure 1 demonstrates how \$34 million of vaccines is distributed amongst BC's various immunization programs.

Figure 1: Value and Proportion of Publicly-Funded Vaccines in BC, Fiscal Year 2006-2007



Vaccine Supply Management

Physical distribution of vaccines for BC's public programs is managed by the Vaccine and Pharmacy Services Division, BCCDC (Pharmacy). In 2007, Pharmacy participated in an efficiency enhancement project principled by the Toyota Production System, and focused on the redesign of the vaccine distribution process. This involved identifying and eliminating inefficiencies while maintaining client safety. The result included renovations to the biologicals storage, packing, and shipping area, use of a refrigerated delivery vehicle, and staff training.

Vaccines continue to increase in price despite government efforts to maintain cost inflation. As part of overall government efforts to reduce health care spending, more emphasis has been placed on reducing vaccine wastage. Wastage is defined as the value of unusable vaccines returned to the BCCDC from the Health Authorities divided by the value of vaccine shipped from the BCCDC to the Health Authorities. Analysis of vaccine return data for both fiscal years 2005/06 and 2006/07 highlighted a wastage rate of 6%. In the spring of 2007, a provincial working group was formed with the goal of reducing wastage to 3% by March 31, 2009. Results to date show improving inventory management practices across the province.

New Medical Services Plan Immunization Billing Codes

In January 2007, seventeen new Medical Services Plan (MSP) immunization fees and billing codes were approved for routine immunizations for patients age 18 and younger. This change recognizes the important contribution physicians make to childhood immunization in BC. The new MSP billing codes provide a mechanism for capturing most immunization records for children in BC, and to pay physicians for immunizations given. It also encourages accurate and timely reporting of immunizations. Each new MSP code is vaccine specific and MSP will pay for up to four injections per visit at \$3.00 per injection. These new immunization fees became available for billing as of March 15, 2007 and could be back dated to January 01, 2007. To help with the transition to the new codes, the BC Ministry of Healthy Living and Sport, Population Health and Wellness Division, sent out an information package to all physicians. The package included immunization record sheet pads for patient charts and a small pocket sized laminated billing code card (see right). For more information visit

http://www.health.gov.bc.ca/msp/infoprac/physbilling/new_vaccine_codes.html.



New MSP billing code card for physicians

Immunization Registries

British Columbia's provincial immunization registry, the integrated Public Health Information System (*iPHIS*), is a secure web-based electronic registry system with a variety of functions including reporting of vaccine preventable diseases, immunization recording and reporting of adverse events following immunization. Once a record is entered into *iPHIS*, it can be accessed by other *iPHIS* users in the province because of data sharing agreements. *iPHIS* contains immunization records on children from birth to kindergarten. Administration of vaccines given to school children is also recorded in *iPHIS* in most regions.

iPHIS is used by all regional health authorities except for the Vancouver and Richmond Health Service Delivery Areas (HSDAs) of Vancouver Coastal Health (VCH). In Vancouver and Richmond, an electronic system called PARIS (Primary Access Regional Information System) is used to both plan and document immunization services from birth to grade 12. In addition, immunizations given by program staff for individuals beyond school age are entered into PARIS (with the exception of influenza vaccine given at mass clinic settings). Richmond has a process to capture information from physician immunizers for input into PARIS. Vancouver gathers immunization histories on children attending preschools and daycares and enters that information into the system. Once children reach school age, both Vancouver and Richmond HSDAs follow a robust process of capturing immunization records and using PARIS to carry out immunization campaigns in the school setting.

In 2010 *i*PHIS will be replaced by a new system called Panorama. This system will serve as the provincial immunization registry and will have new functions including vaccine inventory management and bar coding capability. Panorama is part of the BC Public Health Information Project and will allow for electronic messaging and integration with the new Electronic Health Record. In the future, this system will enable all immunization service providers, including physicians, to access and update immunization records.

Immunization Coverage Rates

Coverage rates are one of the most important indicators of the success of an immunization program and are an indication of:

- Population protection against vaccine preventable diseases
- Completeness of records in the immunization registry
- Public awareness of the health benefits of immunization

If vaccine coverage rates fall, the potential exists for a disease to rapidly spread in the under-immunized or unimmunized population.

Vaccine coverage rates provide estimates of the levels of direct and herd immunity in the population for specific diseases within specific age cohorts. If vaccine coverage rates fall, the potential exists for a disease to rapidly spread in the under-immunized or unimmunized population.

Coverage rates in BC are calculated for children at the second birthday and at select milestones in school based programs. For adults, coverage rates are calculated for influenza vaccine in health care workers in acute and long-term care facilities and residents in long-term care facilities, community-based seniors, and people aged 18–64 with chronic medical conditions.

Coverage reports, including those for 2 year olds, children in kindergarten, grades 6, 9 and 12, and influenza are available on the BCCDC's website (<http://bccdc.org/content.php?item=277>).

■ Coverage Rate Methodology

The BCCDC reports coverage at the second birthday quarterly and annually. The denominator is all children with active records in *i*PHIS whose second birthday occurred in the previous quarter or year, and the numerator is the subset of these who are up-to-date for the recommended routine immunizations. “Up-to-date” is calculated as having documentation of receipt of the following vaccines by the second birthday: 4 doses diphtheria/tetanus/pertussis, 3 doses hepatitis B, 2 doses measles, 1 dose mumps/rubella, 3 doses polio, 1 dose chickenpox (or prior history of disease or protective antibody levels), and up-to-date for *Haemophilus influenzae* type b, pneumococcal conjugate and meningococcal C conjugate, which for these 3 vaccines varies by age of first dose. Periodic surveys are conducted to obtain data on children in Vancouver and Richmond HSDAs or to validate the results in *i*PHIS.

Coverage rates among children in Kindergarten, Grade 6, Grade 9, and for 2005 through 2007 Grade 12 (because of the meningococcal C catch-up program), are

assessed annually for the school year ending June 30th. These rates are based on aggregate reporting from health authorities of the number of children immunized with vaccines recommended for school children, divided by the total number of children enrolled in that grade level. The exception is Interior Health Authority, where the data on Kindergarten children immunized and total numbers of children in Kindergarten are based on iPHIS data.

Coverage rates for influenza in health care facilities are assessed at the end of the influenza vaccination season based on reports received to February 28th. Influenza vaccination rates for seniors and younger adults with high risk medical conditions are assessed as data become available from the Canada Community Health Survey, which is conducted every two years.

■ Coverage Rate Targets

Targets for the percentage of two year olds up-to-date for all immunizations have been set by the ministry at a 5% increase over the actual results achieved in the prior year, until a longer term goal of 95% is reached. Table 1 outlines the baseline and targets for two year olds and influenza immunization. Meningococcal C conjugate, pneumococcal conjugate and chickenpox vaccines were not included in these measures as these vaccines were only available for children born in or after July 2002, July 2003 and July 2004, respectively. With the launch of *ImmunizeBC*, a review of these four performance measures is underway.

Table 1: Ministry of Health Performance Targets for Immunization Rates in British Columbia

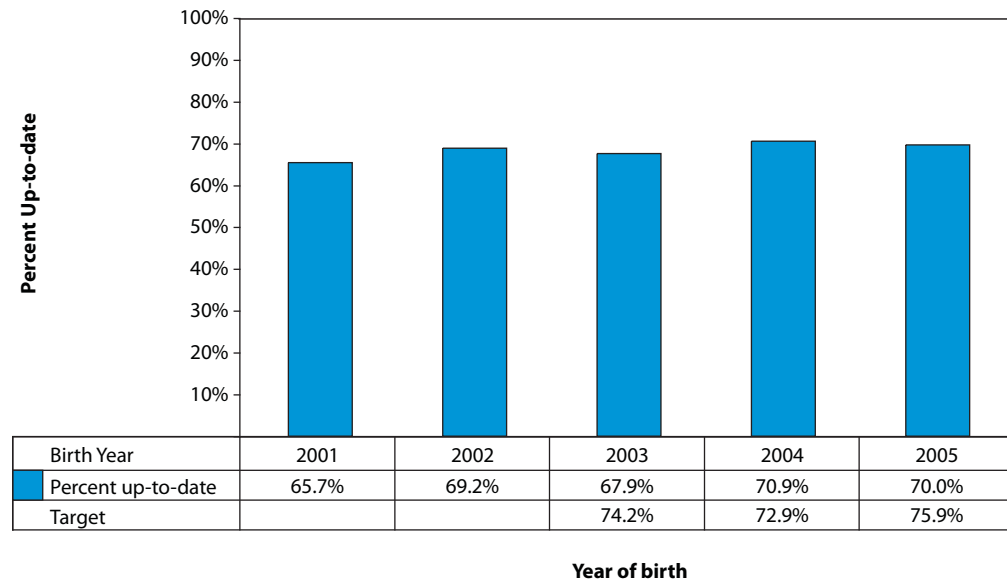
Performance Measures		Baseline	2006/07 Target	2007/08 Target	2008/09 Target	Long-term Target
Two-year-olds with up-to-date immunizations		69% (2004/05)	72.9%	5% increase over prior year	5% increase over prior year	95% (2015)
Influenza immunization for residents of care facilities		91.8% (2004/05)	Maintain at or above 90%	Maintain at or above 90%	Maintain at or above 90%	Maintain at or above 90%
Influenza immunization for health care workers	Long-term Care Facilities	Set at Health Authority level	Increase towards/ maintain at target	Increase towards/ maintain at target	Increase towards/ maintain at target	80%
	Acute Care Facilities	Set at Health Authority level	Increase towards/ maintain at target	Increase towards/ maintain at target	Increase towards/ maintain at target	60%

■ Coverage Rate Results

Two year old children

In 2007, 64.9% of two-year-old children were up-to-date by their second birthday for all recommended vaccines. This means that 1 in 3 children in BC were not fully protected by their 2nd birthday. The result in 2007 indicates a shortfall against the target, indicating a possible plateau in improvements. This will be closely monitored in 2008, as a province-wide immunization promotion campaign has been launched with a focus on on-time immunization of young children.

Figure 2: Immunization Rates: Up-to-date by 2nd birthday, BC (2007)



Data source: integrated Public Health Information System (iPHIS)

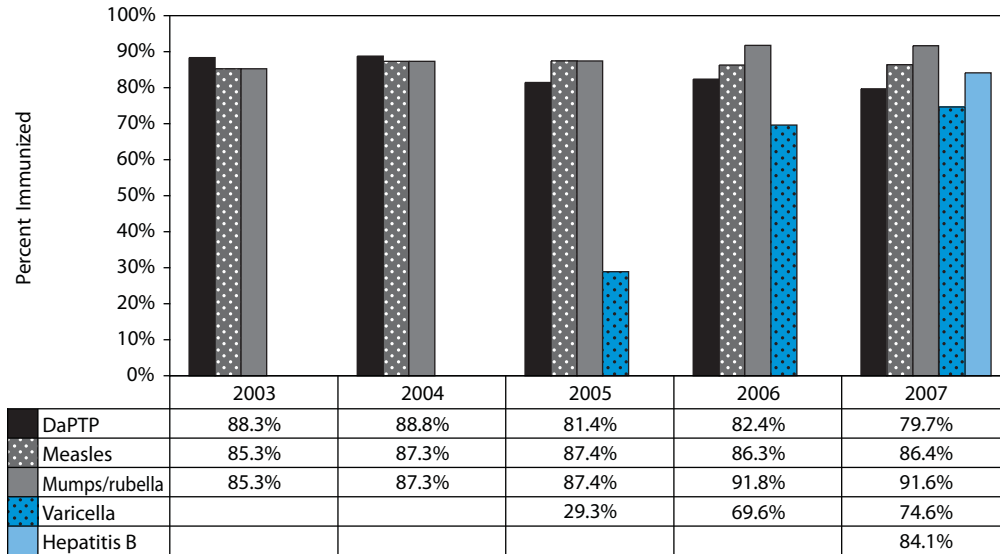
NOTES:

- Target data is unavailable for 2002 due to change in the definition of “up-to-date”.
- “Up-to-date” defined as: 4 doses diphtheria/tetanus/pertussis, 3 doses hepatitis B, 2 doses measles, 1 dose mumps/rubella, 3 doses polio, and 1 dose of *Haemophilus influenzae* type b after 15 months of age. In order to allow comparison across the years, meningococcal C conjugate, pneumococcal conjugate and varicella vaccines were not counted for this graph as these vaccines were only available for children born in or after July 2002, July 2003 and July 2004, respectively.
- Data do not include the majority of Vancouver Coastal Health Authority (VCH). In an immunization survey conducted in 2005 (using 2003 birth cohort), survey results showed 70.3% of VCH children were similarly up-to-date.
- Birth cohorts 2004 and 2005 include data from one VCH HSDA, North Shore Coast Garibaldi (NSCG). NSCG rates are lower compared to the rest of the province as they have just begun participating in registry assessment and data quality requires improvement.
- The dual provider system in BC (physician and public health delivered immunizations) can impact coverage rates (in some health authorities, data collection from physicians’ offices can be incomplete or delayed).

School-based Coverage Rates

Results of immunization rate assessment of BC children attending Kindergarten, Grade 6 or Grade 9 as of June 30th of each school year in the past 5 years are shown in Figures 3–5.

Figure 3: Immunization Coverage Rates, School-Based, Kindergarten, BC



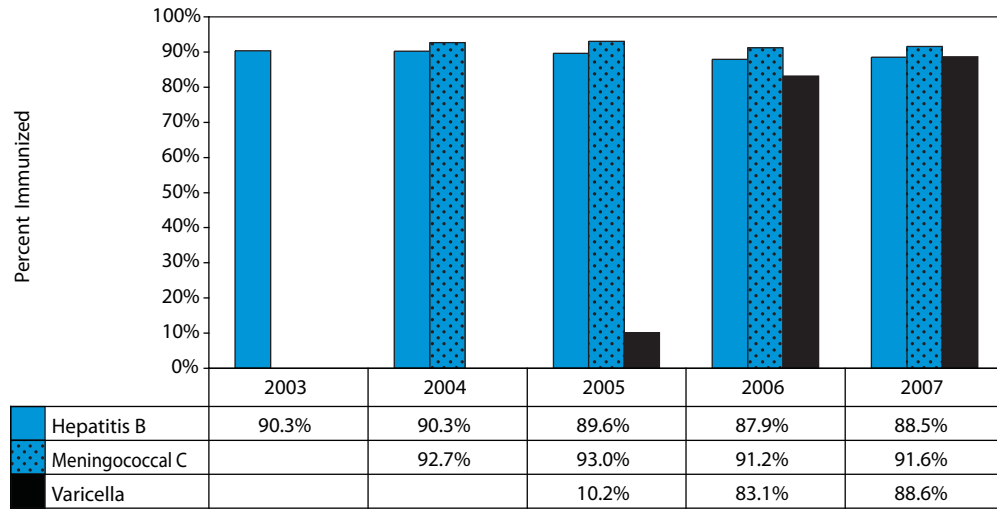
NOTES:

- In 2005, the definition of up-to-date for age for DaPTP was changed to specify that the fourth or fifth dose of DaPTP vaccine must have been received after the fourth birthday to be counted as up-to-date for age. This revision to the definition results in a lower proportion of children “up-to-date for age” for DaPTP in 2005 and later years.
- In 2006, the definition of up-to-date for age for mumps/rubella was changed to requiring only 1 dose, while for measles, 2 doses have been required. In prior years, two doses of mumps/ rubella were deemed “up-to-date”. This accounts for the increase in mumps/rubella immunization rates in 2006 and 2007.
- Varicella immunization for Kindergarten children in BC started in 2004/05. Children are considered up-to-date if they have received 1 dose of varicella vaccine after the 1st birthday, or are known to have had chickenpox or shingles in the past. The latter may be under-reported. Children protected by previous disease were not included in the 2005 definition of “up-to-date” for varicella; as a result, the proportions of children up-to-date for age for varicella was higher in subsequent years.
- Hepatitis B coverage was assessed for the first time at Kindergarten in 2007. Routine infant hepatitis B immunization started in BC in 2001.

School entry is an opportune time to renew and catch-up immunization.



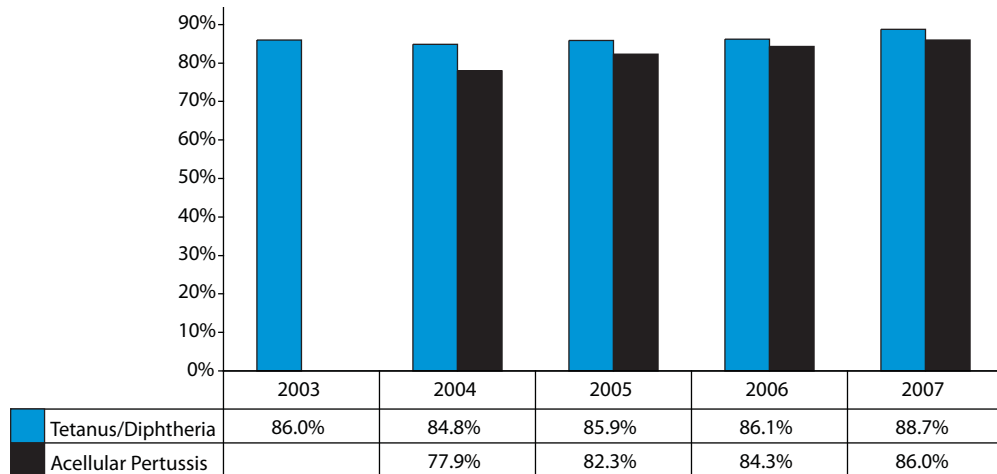
Figure 4: Immunization Coverage Rates, School-Based, Grade 6, BC



NOTES:

- Meningococcal C immunization for students in Grade 6 in BC started in 2003/04.
- Varicella immunization for students in Grade 6 in BC started in 2004/05. Children are considered up-to-date if they have received 1 dose of varicella vaccine after the 1st birthday, or are known to have had chickenpox or shingles in the past. The latter may be under-reported. Children protected by previous disease were not included in the 2005 definition of "up-to-date" for varicella.

Figure 5: Immunization Coverage Rates, School-Based, Grade 9, BC



NOTES:

- 14 out of 16 Health Service Delivery Areas measure coverage for diphtheria, tetanus and pertussis as the number of students who received a Grade 9 dose. The other two Health Service Delivery Areas only count students if they have a completed primary series plus the Grade 9 booster.
- Despite these differences, and assuming consistency in reporting practices, overall trends in immunization coverage can be assessed by examining these data.

Influenza Coverage Rates

Influenza immunization rates in BC health care facilities are as follows:

Figure 6A: Influenza Immunization Rates for Residents of Long-Term Care Facilities, BC

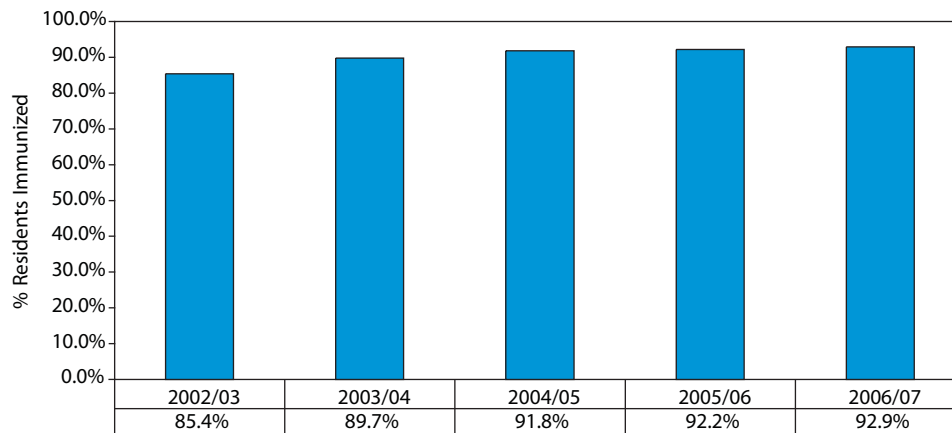


Figure 6B: Influenza Immunization Rates for Staff of Long-Term Care Facilities, BC

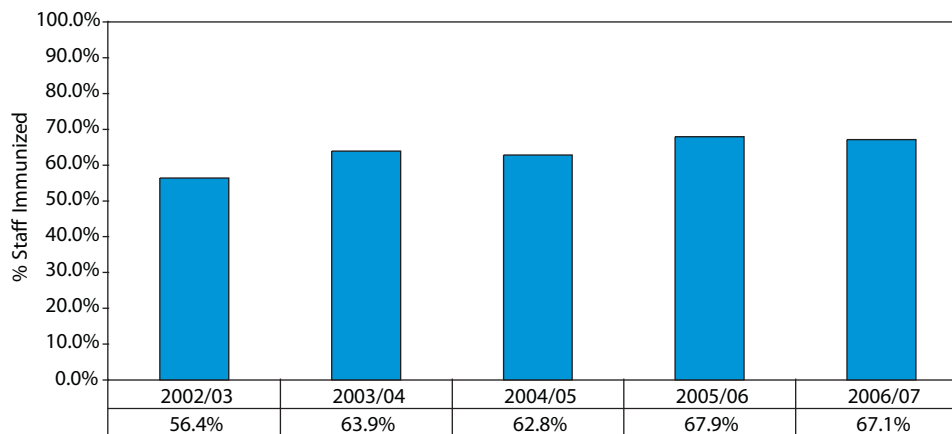
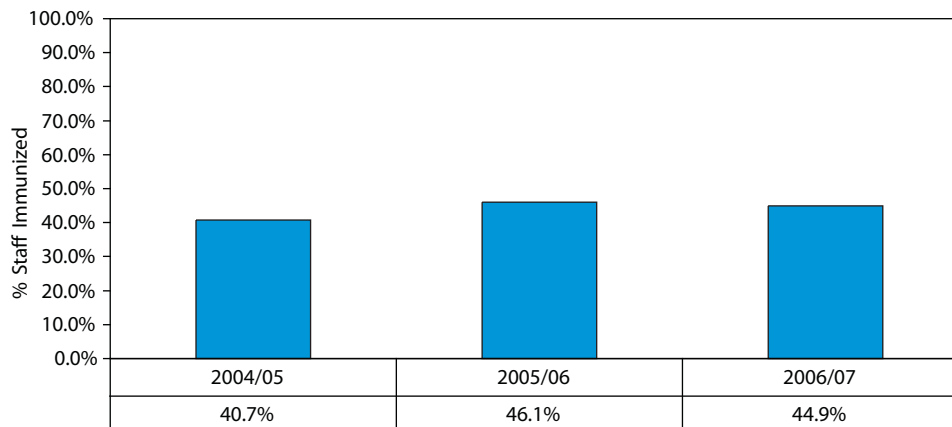


Figure 6C: Influenza Immunization Rates for Staff of Acute Care Facilities, BC



See notes on following page.

NOTES:

- “Long Term Care Facilities” are defined as residential facilities that have 50% or more residents aged 65 years and older AND are either (a) licensed under the Community Care and Assisted Living Act and provide some health care services, or (b) licensed under the Hospital Act.
- “Acute Care Hospitals” are defined as non-profit institutions that have been designated as a hospital by the Minister and are operated primarily for the reception and treatment of persons (a) suffering from the acute phase of illness or disability, (b) convalescing from or being rehabilitated after acute illness or injury, or (c) requiring extended care at a higher level than that generally provided in a private hospital.
- “Staff” are defined as persons who work or train on a full time, part time or casual basis in a facility or hospital who have direct or indirect contact with patients or residents, regardless of whether they are health care providers.
- Due to difficulties in accurately determining the number of people who meet the definition of “Staff” in each facility, changes in immunization coverage rates may be a result of changes in methods of calculating the denominator (the total number of “staff”).

■ Future Improvement in Coverage Assessment

British Columbia operates within a dual immunization provider system—both public health and physicians deliver immunizations. Physicians do not currently have access to the provincial immunization registries in the province. Approximately 35% of immunizations for babies and young children are delivered by physicians in BC. Records for such children are recorded into immunization registries by the health authorities. Delays in obtaining and entering these records can result in lower immunization rates, as rates are assessed based on data in the registry two weeks after the close of each quarter year. In future years, it is anticipated that this information will be sourced from a variety of electronic data including physician billings for vaccines, which started in 2007, and the future electronic health record.

First Nations and Inuit children may not be completely captured in the registry, as immunization services may be provided on reserve and not recorded in *i*PHIS. For children whose records are entered in *i*PHIS, their First Nations or Inuit status may not be recorded. A variety of solutions in the future are being planned to allow for more complete data capture by First Nations and Inuit communities on the immunization status of their people.

■ The Occurrence of Vaccine Preventable Diseases in BC

The BCCDC releases a provincial summary report annually, available on www.bccdc.org under statistics and reports; BC Annual Summary of Reportable Diseases.

Surveillance of Adverse Events Following Immunization

Vaccine safety is a critically important issue for immunization providers and for the public. Vaccines are subject to rigorous evaluation prior to approval for use. Post-marketing surveillance provides additional information on vaccine safety. Monitoring vaccine safety in BC involves both passive and active surveillance.

Passive surveillance: In BC, health care providers report adverse events to the local health unit where these are entered into *i*PHIS, and reviewed by the Health Authority’s

Medical Health Officer including recommendations for future immunizations. About 2,000 reports are received each year. Reports are forwarded to the BCCDC, and from there, to the Centre for Immunization and Respiratory Infectious Diseases (CIRID) at the Public Health Agency of Canada (PHAC). PHAC is responsible for maintaining a database of all adverse events reported in Canada. Summary reports are periodically published, with the most recent in section 5 of the Canadian National Report on Immunization, 2006 available at <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/06vol32/32s3/index.html>. Detailed review of severe and unusual adverse events is conducted by the Advisory Committee on Causality Assessment (ACCA), which is comprised of paediatricians, immunologists, epidemiologists and other experts. The findings of ACCA are communicated back to the province. More information is available at <http://www.phac-aspc.gc.ca/im/vs-sv/index-eng.php>.

Active surveillance: IMPACT, Immunization Monitoring Program ACTive, is a paediatric hospital-based surveillance network for adverse events following immunization, vaccine failures, and selected infectious diseases in children that are, or are soon to be, vaccine preventable. The IMPACT network of 12 paediatric hospitals across Canada includes the BC Children's Hospital. An IMPACT nurse monitors hospital admissions and emergency room visits, and reports adverse events following immunization to the health authority where the child resides, and to CIRID. More information about IMPACT, coordinated through the Canadian Paediatric Society, is available at <http://www.cps.ca/English/surveillance/IMPACT/IMPACT.htm>.

Immunization Research

BC's immunization program has participated in many research projects over the last few years. The BCCDC partners with the University of British Columbia (UBC) to focus on research into the surveillance, control and prevention of communicable disease, including vaccine preventable diseases. The BCCDC aims to be an internationally recognized Centre of Excellence linking academia, governments and public health organizations in the understanding, management and prevention of infectious diseases of public health significance. Immunization related research conducted in 2006 and 2007 includes:

- Uptake and Behavioural and Attitudinal Determinants of Immunization in an Expanded Routine Infant Hepatitis B Vaccination Program in British Columbia
- Influenza Vaccine Uptake: Health Care Workers in BC—Attitudes and Beliefs
- Vaccine Adverse Events Aberration Detection
- Mathematical Modeling of HPV Transmission Dynamics to Determine Optimal Vaccine Strategy for BC
- Cost-effectiveness of HPV Vaccine in BC

The Vaccine Evaluation Centre (VEC) is another key research centre located at BC's Children's Hospital. The VEC, established in 1988, is a joint initiative between the hospital and the University of British Columbia. It was the first academic centre for independent vaccine research in Canada and over the last 19 years, has been a national

leader in vaccinology research. Research projects have spanned from pre-licensure clinical trials, epidemiology research, post-marketing evaluation including optimizing immunization schedules, promotional and programmatic research as well as laboratory-based assay development. Research projects currently under way are:

- HPV vaccine study examining the effectiveness of two doses, versus the recommended three doses, for girls 9–13 years of age
- Improving uptake of influenza vaccine in health care workers
- Evaluation of a new generation 13-valent pneumococcal vaccine in infants
- HPV vaccine responses in HIV infected girls and women
- The use of topical adjuvants as a practical means to enhance responses to injected vaccines
- Long term effectiveness of a new quadrivalent meningococcal vaccine given in infancy

The VEC also serves as the coordination centre for the Canadian Association for Immunization Research and Evaluation which assists in networking Canadian vaccinologists to increase and improve vaccine research capacity in Canada.

BC's Immunization Strategy: Progress Highlights

Spotlight on the Health Authorities

In December 2001, a restructured health care system merged 52 health authorities into one provincial and five regional health authorities. This restructuring has made our public health system more agile and able to improve quality and systems performance.

The Provincial Health Services Authority, with several agencies including the BCCDC, coordinates provincial programs and specialized services. As part of the BCCDC's commitment to working together to protect health and prevent harm, a new Immunization Program was created in the fall of 2006 to lead, coordinate and strengthen BC's public health immunization programs.

The other five governance bodies are the regional health authorities: Interior, Fraser, Vancouver Coastal, Vancouver Island, and Northern. Although the six health authorities operate independently, they collaborate to build a high-quality, patient-centred and sustainable health care system in BC.

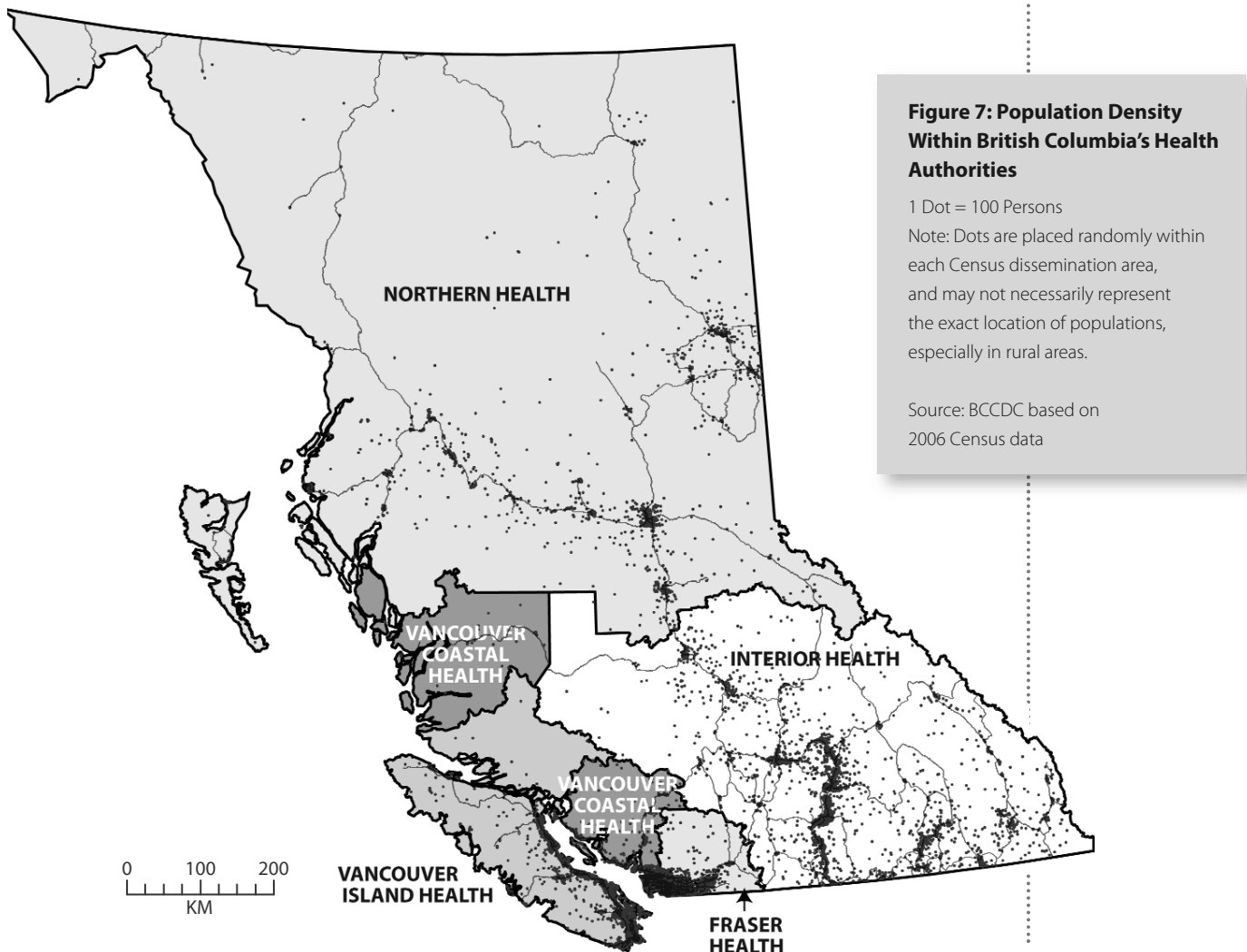
The five RHA areas are depicted in Figure 7. The population is concentrated in the south, southwest and interior of the province. Each region is unique with its own mixed model of immunizers to best meet the public's needs. For example, in the interior of BC, public health nurses deliver 100% of infant immunizations; in the Vancouver region, physicians administer over 75% of infant vaccinations.

While each region has its own unique approach, each has the same commitment to promote health and prevent communicable disease. Next, we will take a look at highlights from each of the health authorities.

Highlights from the BCCDC at the Provincial Health Services Authority

The BCCDC is responsible for the management of immunization program service delivery including planning, organizing, budgeting, supervising, coordinating, directing, monitoring and evaluating all new and existing programs. This provincial program had an annual budget of approximately \$34 million in the fiscal year 2007/08 for the purchase of vaccines. The BCCDC's Immunization Program, formed in the fall of 2006, works to manage these funds using evidence-based decisions with cost-effective measures.

Currently, BC's publicly funded immunization program provides a variety of vaccines for protection against infectious diseases including diphtheria, pertussis, tetanus, polio, *Haemophilus influenzae* type b, hepatitis A, hepatitis B, meningococcal C disease, pneumococcal disease, measles, mumps, rubella, chickenpox, influenza, and rabies for post-exposure prevention. Vaccines are offered to all eligible persons in settings that include public health units, physicians' offices, institutions and schools.



■ Immunization Promotion

In 2007, the MHLS and the BCCDC worked in conjunction with the RHAs to distribute 10,000 copies of two widely referenced immunization resources, *Your Child's Best Shot* and the *Canadian Immunization Guide*. These books were sent to physicians and public health nurses throughout the province.

In 2007, the BCCDC also produced a booklet to help immunizers adjust from the 4-dose to the new 3-dose schedule for pneumococcal conjugate vaccine. The booklet contains clear information to help immunizers change over to the new schedule for children at various ages whether they be 'on-time', delayed, or are considered 'high risk'.

Influenza Promotion Campaign

There were a number of new provincial promotional initiatives undertaken for the 2007 influenza season. To kick-start the campaign, the Honourable Ida Chong, Minister of Community Services with responsibilities for seniors' issues, in conjunction with the Vancouver Island Health Authority, held a public launch at the legislature in Victoria for the media.

Other initiatives included:

- Launch of a new immunization website, www.immunizebc.ca, in time for the influenza season that also served as the host for the province's online flu clinic locator. The clinic locator utilizes Google maps and postal codes to allow the user to easily find nearby public health influenza clinics.
- Production of a new radio advertisement that was aired at the start of the influenza season on stations throughout the province.
- Partnership with the BC Pharmacy Association to distribute new promotional items to several hundred pharmacies in BC to encourage patrons to get their influenza vaccine.



In 2007 the province built an online influenza clinic locator to allow the public to easily find nearby public health influenza clinics.

Highlights from the Five Regional Health Authorities

Five regional health authorities are responsible for the effective delivery of immunization programs including regional coordinating, supervising, monitoring and promoting all new and existing programs in the clinical setting.

■ Highlights from Interior Health

Is your child up-to-date? Vaccinate!

This was Interior Health's (IH's) slogan for National Immunization Awareness Week (NIAW) which was celebrated across the region April 23–28, 2007. The focus of the campaign was to promote childhood immunizations: encouraging parents to not only get all the recommended immunizations for their child but to get them on time for the best possible protection.



The focus of National Immunization week is to promote childhood immunization by encouraging parents to get all recommended shots for their child and to get them on time.

IH-wide activities featured childhood immunizations on both the internal and external websites. A quiz titled “Take your Best Shot! Test your Immunization IQ” was posted on the internal website and generated a lot of interest amongst IH staff with winners taking home a NIAW travel mug or calendar. Staff email bulletins and newsletters featured information and photographs promoting NIAW. A media release and backgrounder were sent to media throughout IH and banner ads and articles were published in newspapers across the health region. Two radio stations featured interviews, with a Medical Health Officer and Immunization Promotion Public Health Nurse, and several cable television stations aired immunization segments.

A variety of promotional material was distributed to all Health Centres (posters, photo frame magnets, calendars and travel mugs) for use at local events.

At the local level, Health Centres promoted immunization through a variety of community based activities:

- immunization information packages and interviews with local newspapers and radio stations
- posters to local physicians, pharmacies, libraries, post offices
- a wall of pictures showcasing infants and children who attended immunization clinics
- an official city proclamation of NIAW
- gift certificates from local businesses
- contests and prize draws
- eye catching displays at parent education groups and in health centre waiting areas



Celebrating National Immunization Awareness Week.



Interior Health



fraserhealth

Better health.
Best in health care.

■ Highlights from Fraser Health

Immunization and Communicable Disease Orientation for PHNs

Fraser Health (FH)'s Communicable Disease team has developed a comprehensive 3 day immunization and communicable disease orientation for public health nurses (PHNs). All new PHNs and any nurses returning from a leave attend the sessions. Topics covered include immunology and vaccinology, treatment of anaphylaxis, benefit/risk communication, communicable disease follow up, and special populations. The material is presented in a variety of formats including power point, group discussion, role playing and case studies.

Feedback from staff attending has been positive and comments include the following:

- “Will be able to answer parents’ questions about vaccine issues.”
- “It will help me to know what resources to use and where to find them.”
- “Very informative and great group discussion.”
- “Better able to utilize immunization manual.”

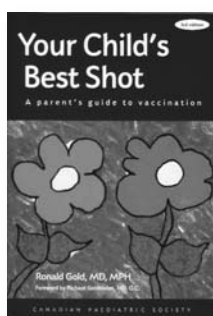
As with all educational materials, the team is constantly revising and updating the information. Plans for next year include incorporating the newly designed informed consent education.

Neonatal Hepatitis B screening

As per the BCCDC guidelines, infants born to women with certain risk factors are eligible for hepatitis B prophylaxis (hepatitis B immune globulin and hepatitis B vaccine). Although infants born to women who were hepatitis B surface antigen (HBsAg) positive were identified and received the appropriate prophylaxis, infants whose mothers were HBsAg negative but who had risk factors were often missed. To close this gap, FHA Health Promotion and Prevention staff partnered with Perinatal leaders to develop a screening tool which could be used by any primary health care provider and would accompany the prenatal assessment form.

Enhanced partnerships with immunizing physicians

In an effort to improve both immunization registry quality and relationships with immunizing physicians, FHA has implemented several new initiatives. The first was to standardize the process of immunization data reporting by physicians. In early 2006, using funding obtained from BCISC, a PHN visited each immunizing physician's office explaining the newly revised data collection forms, answering questions and providing a copy of the book, *Your Child's Best Shot* as a “thank you”. Feedback from the physicians' offices was positive in response to the onsite visits and the opportunity to ask questions. Building on the success of this project, a Physician Immunization Resource Binder was developed. Five health units participated in a pilot where PHNs delivered the binders to physicians' offices and provided an opportunity for dialogue around immunization issues. Early anecdotal reports indicate that these visits and the resources were appreciated by physicians and their staff. The pilot will be evaluated in late 2007 and the program expanded to all immunizing FHA physicians in early 2008.



Five health units participated in a pilot where PHNs delivered the binders to physicians' offices and provided an opportunity for dialogue around immunization issues.



DTES.

Residents of the area were well aware that nurses in bright yellow jackets were there to give them their “pneumonia shots”. Three weeks after the conclusion of the campaign (December 22, 2006) the number of cases of invasive pneumococcal disease began to decline. The keys to the success of this program were the coordinated efforts of various parts of the health care system, the use of local expertise of community volunteers, and the ability of nurses to meet the needs of hard to reach populations. Of note, throughout the campaign, there was never a shortage of nurses offering to be one of the 20 immunizing nurses offering vaccine in the DTES from 8 in the morning to 10 at night.

■ Highlights from Vancouver Island Health

Improving Service Delivery for Immunizations

Vancouver Island Health (VIH) is committed to improving the immunization status of clients. Opportunities to accommodate families for immunization appointments vary across the health authority but have now been expanded to include: Saturday clinics, evening clinics, drop in clinics, and satellite clinics for outlying communities. New clinics were added to accommodate clients and to decrease wait times and private appointments were offered to meet clients’ needs.

Providing the kindergarten immunization has included offering clinics for parents on Saturday mornings for one area. Letters sent home to parents to advise them of the need for this immunization were also utilized. Articles in *Island Parent* included information on immunization.

Articles were submitted to local papers on the importance of school immunizations. Presentations included students at school assemblies. Letters were also sent to parents for children who missed immunization in some areas.

A review of the audit process has led to increased two-year-old immunization rates for VIH. Postcard reminders and/or phone reminders for immunization are done at 11 and 17 months. Reports are pulled monthly from *iPHIS* and a process for supporting parents to complete immunization has been put into place.

VIH is providing increased immunization services to a growing number of high risk clients. Staff are working closely with the Kidney Care Clinics to provide service to clients. In the winter of 2006/07 pneumococcal vaccine was offered to high risk clients. Nurses provided outreach services in some areas to provide this vaccine.

Local PHN Presents at the Canadian National Conference

Courtenay Public Health Nursing produced a poster titled “Is the “Audit” an Accurate Reflection of Improved Immunization Rates?” This poster was presented at the Canadian Immunization Conference in Winnipeg in December 2006. The objective was to assess whether the implementation of an audit process along with other strategies has increased immunization rates in the Comox Valley. It concluded that the audit provides an effective tool to assess the number of two-year-

olds who were up-to-date for immunization according to the BCCDC schedule. It provides opportunities to discuss, monitor and evaluate immunization awareness. However, the audit data on its own is not an accurate reflection of improved immunization rates. Children in the process of completing immunization are reflected in audit reports as under-immunized. These children would be considered as fully immunized once their schedules are completed.

Be Wise Immunize

VIH provided immunization gift items with the logo 'Be Wise Immunize' to families, at birth. Gifts received include a bib at birth, a fridge magnet when the child is six months old and a mug one year after the child's birth.

Immunization Awareness Week in VIH

Courtenay Public Health Nurses submitted newspaper advertisements for the month of April 2007. Businesses donated prizes and displayed immunization posters, and a draw box was set up for clients to enter at each Child Health Clinic (CHC) throughout the month. Eight gift baskets were made up covering a variety of age groups and draws made.

■ Highlights from Northern Health

Northern Health (NH) has been working on standardizing and coordinating immunization programs across the north. A communicable disease plan has been developed and reflected within this plan are the goals and objectives of *ImmunizeBC*.

NH has implemented an infant preschool immunization review. This project will examine current practices within NH's infant preschool immunization program and identify best practices in childhood immunization programs in other rural jurisdictions. The information gathered will form the basis for the development of a comprehensive plan that will be evidence based and tailored to the unique aspects of the region.

The main components of this plan are:

- To survey parents to evaluate immunization services and to understand barriers and support from the parent perspective
- An online survey of all PHNs who provide infant and preschool immunizations
- Focus groups with parents and PHNs to clarify issues highlighted through the survey responses

NH has implemented various strategies over the year to help increase the infant/preschool immunization rates. These strategies include:

- Appointment times given at the initial home visit for the 2 month immunization
- Stickers attached to the outside of the health passport listing the immunization schedule and the appointment dates
- Birthday cards mailed before the first birthday to congratulate the baby as well as remind the parents of their child's 12 month immunization appointment



northern health

- Regular audits of immunization records
- Encouraging parents to book their next appointment before leaving the clinic
- Providing alternate locations for immunizing
- Phone and mail reminders to parents
- Casual PHNs traveling to other areas of NH to help with CHCs
- Fridge magnets with the immunization schedule

NH has also developed the Influenza School which is a program to teach PHNs/students about influenza. It includes the following:

- Influenza overview
- Vaccine overview
- Vaccine Administration
- Outbreaks
- Pandemic influenza DVD
- Mock vaccination role play
- Pneumococcal disease/vaccine
- Quiz

Working Together to Improve Quality and Training

Quality is a continuous improvement process that all stakeholders work collaboratively to develop. Through public awareness (BC NurseLine and BC HealthFiles), professional education (conferences and workshops), and innovation (new standards of practice), we are working together to improve quality and training within immunization programs.

BC NurseLine—There for You

BC NurseLine provides free confidential health information and advice. Anywhere in the province, residents can call BC NurseLine toll-free at 1-866-215-4700 to speak to a registered nurse 24 hours a day, 7 days a week.

Pharmacists are also available to answer questions about medications and vaccines from 5 pm to 9 am, 7 days a week.

Translation services are available in more than 130 languages. Services are also available to the deaf and hearing impaired at 1-866-889-4700.

BC NurseLine provides callers with general immunization information that includes up-to-date information regarding British Columbia's immunization schedules, vaccine specific information, and where immunizations are available in communities across the province.

BC NurseLine is involved in promoting and raising awareness of immunization across the province and is often noted on health authority publications as an information resource for residents. The BC NurseLine is an integral component of the annual influenza vaccine campaign.

“Nurses Together in Support of Immunization”: BC Immunization Conference

The BCCDC and representatives from each Health Authority and from First Nations Inuit Health coordinated a BC Immunization Conference in 2006: “Nurses Together in Support of Immunization.” Over two hundred nurses from all regions of the province attended the two day conference in June 2006. Dr. Monika Naus, Director of the Immunization Program at the BCCDC, provided the keynote address, presenting the NIS and its impact in BC. Other speakers included physicians working in communicable disease control in the province, and community health nurses providing a field perspective on the management of communicable disease outbreaks. Immunization topics ranged from choosing a vaccine program to immunization controversies to communicating with parents. The conference was a follow up to a 2003 BC Nurses’ Immunization Conference, and again provided a great opportunity for networking and sharing of ideas.



In May 2007, the BCCDC organized a successful Immunization Conference that provided a learning opportunity for immunizers around Vaccine Benefit/Risk Communications.

Vaccine Benefit/Risk Communications Conference

In response to a 2006 Community Health Nursing Survey requesting in-servicing on how to deal with misinformation concerning vaccines, the BCCDC held a Benefit/Risk Communications Conference in May 2007. The purpose of the conference was to provide a learning opportunity around Vaccine Benefit/Risk Communications. Two international experts in vaccine safety and efficacy, Drs. Paul Offit and Gary Marshall, were the keynote speakers. They addressed a series of common questions and concerns expressed by parents. A panel of parents whose children suffered or died of vaccine preventable diseases shared their powerful stories. Andrew Hume, a communications expert, provided practical techniques to take what had been learned during the day to communicate more effectively with clients.

Participation was remarkable with 143 PHNs from across the province in attendance and others viewing the entire event via a live webcast across Canada and the US. The conference evaluation was strongly positive with the majority giving the conference evaluation scores of 9/10 or 10/10. The full-day webcast of the conference is archived and may be viewed at: <http://www.lidc.sfu.ca/archive/vaccine/>.

Immunization Competency Program

The aim of the Immunization Competency Program is to support health care professionals in their role as vaccine providers, educators and advocates for immunization. An Immunization Competency Program for Public Health Nurses has been in place in British Columbia since 2001. In 2004, a provincial working group developed both “Initial Competency” (for nurses new to public health) and “Renewal of Competency” (for experienced practitioners) examinations, in a format that is currently available through the University of British Columbia’s distance-education web site. The competency program includes a Program Overview

document to guide individual study and provide pertinent references, examinations, and a Skills Checklist to be completed in a clinic setting when the nurse's practice is observed. Public health nurses in the RHAs and nurses within First Nations Inuit Health of Health Canada use this Competency Program to attain the knowledge and skills needed to provide safe and effective immunization programs. Currently, the BCCDC is working to develop on-line teaching modules for an Immunization course. This will be based on Core Competencies for Immunization Providers developed at the national level by the Professional Education Working Group, within the National Immunization Strategy.

New Health Files for Vaccines

BC HealthFiles are fact sheets for the public on health and safety topics such as common illnesses, environmental health concerns, problems with pests, and health and safety tips. There are HealthFiles with specific vaccine information for publicly funded vaccines available through the BC Immunization Program. The files give information on the most commonly used vaccines, such as those provided free as part of the routine immunization for infants and children, as well as other vaccines used less frequently, such as travel vaccines for those visiting other parts of the world. The files also highlight the risks associated with diseases, and outline both the common expected and the rare severe reactions that may be associated with vaccines.

BC HealthFiles provide information for each of the vaccines available to BC residents through Public Health services

The vaccine files go hand-in-hand with Health Files a - e, created to answer and address important questions and valid concerns raised by parents about childhood vaccines. HealthFiles may be found at www.healthlinkbc.ca

- #50a Your Baby's Immune System and Vaccines
- #50b The Benefits of Vaccinating Your Child
- #50c Childhood Vaccines are Safe
- #50d Childhood Vaccines: What is in the Vaccines and Why
- #50e Getting Ready for Your Child's Shots

The HealthFiles will help in standardizing and improving the process of obtaining informed consent prior to immunization. They form a part of the Informed Consent Standard of Practice developed by one of the working groups of the BCISC.

Informed Consent Standard of Practice

Over the spring and summer of 2007, the Informed Consent Working Group of the BC Immunization Subcommittee developed an Informed Consent Standard of Practice. The intent of the document is to standardize and expedite the procedure for obtaining informed consent prior to the administration of a vaccine series. A Train-the-Trainer approach was used to train PHNs over the fall of 2007.

The standard of practice:

- Provides guidelines for assessing if the presenting individual has the authority and capacity to provide informed consent
- Specifies the standard information to be provided
- Provides guidelines to assess client and/or representative understanding
- Outlines documentation of the Informed Consent process
- Sets out how and when specific aspects of the Informed Consent process should be implemented

The standard of practice was ready for a January 1, 2008 implementation in public health units and First Nations and Inuit Health clinic settings.

Conclusion

Immunization will continue to be a vital disease prevention activity in the coming years. Despite the imminent global elimination of some diseases, such as polio, vaccines will continue to be needed to maintain the gains in life made in the past century. New vaccines offer prospects for improved protection of entire populations and those most vulnerable to infectious diseases. While the opportunity for better disease prevention is welcome to health care providers who treat illness, we continue to face the challenge of maintaining public confidence in vaccine programs against diseases that are now nonexistent or exceedingly rare within our borders.

This report is the first of a planned series of annual reports, intended to highlight the major initiatives to strengthen immunization programs in BC under the ImmunizeBC Strategic Framework for Immunization released in 2007. This report highlights both old programs and new initiatives, vaccines for babies, youth, adults and seniors, and programs for everyone and those for high risk groups. We have attempted to showcase both “high level” and “ground level” activities. We welcome hearing from you about what you would like to see in future reports. Write to us at contact@immunizebc.ca.

Glossary of Abbreviations

ACCA	Advisory Committee on Causality Assessment
BCCDC	British Columbia Centre for Disease Control, an agency of the Provincial Health Services Authority
BCISC	British Columbia Immunization Sub-Committee, a subcommittee of the Communicable Disease Policy Advisory Committee, which is advisory to the Ministry of Health on Program and Policy decisions
CDAP	Communicable Disease and Addiction Prevention, Ministry of Health
CHC	Child Health Clinic
CIC	Canadian Immunization Committee, a federal/provincial/territorial committee
CIRID	Centre for Immunization and Respiratory Infectious Diseases of the Public Health Agency of Canada
DTES	Downtown Eastside
FH	Fraser Health
FPT	Federal/Provincial/Territorial
HBsAg	Hepatitis B surface Antigen
HPV	Human papillomavirus
HSDA	Health Service Delivery Area
IH	Interior Health
IMPACT	Immunization Monitoring Program ACTive, an active surveillance program funded by the Public Health Agency of Canada working out of tertiary care paediatric centres throughout Canada
iPHIS	Integrated Public Health Information System, the information system used in BC for reporting of notifiable diseases, immunization record recording and reporting of adverse events following immunization
MHLS	Ministry of Healthy Living and Sport
MSP	Medical Services Plan
NACI	National Advisory Committee on Immunization, an expert committee reporting to the Public Health Agency of Canada, which publishes statements on use of vaccines including the Canadian Immunization Guide
NIAW	National Immunization Awareness Week
NIS	National Immunization Strategy
NH	Northern Health
NSCG	North Shore Coast Garibaldi
PARIS	Public Assistance Reporting Information System, an information system used by Vancouver Coastal Health Authority for the functions done by iPHIS in other health authorities
PHAC	Public Health Agency of Canada
PHN	Public Health Nurse
RHA	Regional Health Authority
SPH	St. Paul's Hospital
UBC	University of British Columbia
VCH	Vancouver Coastal Health
VEC	Vaccine Evaluation Centre
VIH	Vancouver Island Health
VSWG	Vaccine Supply Working Group, a working group of the Canadian Immunization Committee

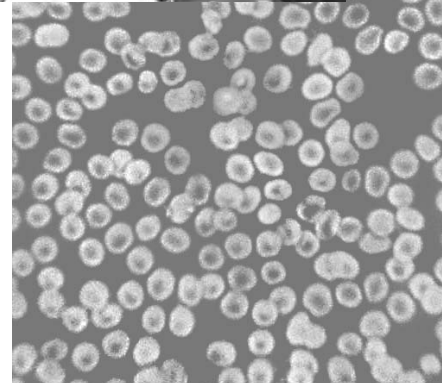
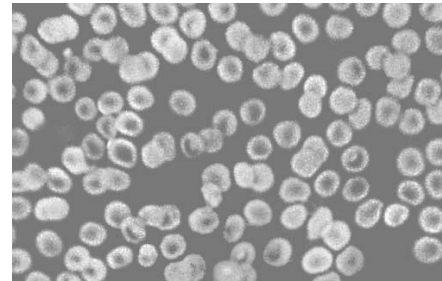
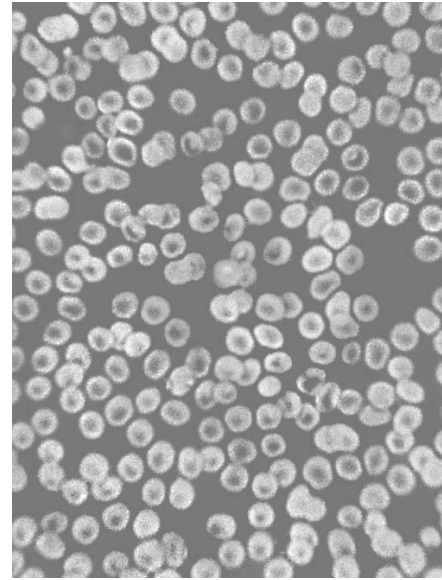
BC Routine Immunization Schedule - 2007

Infants & Children

VACCINE	2 months	4 months	6 months	12 months	18 months	4-6 years	14-16 years
DTaP-IPV-Hib (diphtheria, tetanus, pertussis, polio, <i>Haemophilus influenzae</i> type B)	✓	✓	✓		✓		
DTaP-IPV (diphtheria, tetanus, pertussis, polio)						✓	
Hepatitis B	✓	✓	✓				
Pneumococcal conjugate[†]	✓	✓		✓			
Meningococcal C conjugate	✓			✓			
MMR (measles, mumps, rubella)				✓	✓		
Varicella (chickenpox)				✓			
Tdap (tetanus, diphtheria, pertussis)							✓
Influenza				✓* (6-23 months)			

[†]Children with specific medical conditions that place them at high risk of disease should receive an additional dose at 6 months of age. See the web link for more information or speak to your doctor or public health nurse.

*Second dose needed 4 weeks after the first if receiving vaccine for first time.



ImmunizeBC



BC Centre for Disease Control
AN AGENCY OF THE PROVINCIAL HEALTH SERVICES AUTHORITY