

ALBERTA

IMMUNIZATION

STRATEGY

2007-2017



immunize...do it for life

Alberta

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IMMUNIZATION: A MEDICAL SUCCESS STORY

Immunization has often been cited as one of the greatest medical success stories in human history. Research has repeatedly demonstrated that immunization is one of the most effective medical interventions to prevent disease.¹ In fact, research shows that with the exception of clean drinking water, no other human intervention surpasses the impact immunizations have had on reducing infectious disease and mortality rates—not even antibiotics.²

Many diseases are preventable through immunization. Since the introduction of vaccines, rates of diseases such as measles, mumps, rubella, polio, diphtheria, whooping cough (pertussis), and *Haemophilus meningitis* have declined by over 95 per cent.³ Currently, immunizations are estimated to save three million lives per year worldwide.¹

Despite the success of immunization, many vaccine-preventable diseases still exist. They result in increased doctor visits, missed days from work, hospitalization, disability and even premature death. When immunization rates fall, epidemics of disease occur. One example is in Great Britain where there was a drop in the rate of immunization against whooping cough in 1974. This was followed by an epidemic of more than 100,000 cases of whooping cough and 36 deaths. In Russia, falling immunization rates resulted in tens of thousands of cases of diphtheria, and 1,700 deaths. Urgent attention to diphtheria immunization resulted in a dramatic reduction of the disease.

Outbreaks of serious preventable diseases still occur in Canada. In Alberta, 179 cases of mumps occurred in 2001 and 2002. The vast majority of these people – 80 per cent – were unimmunized.

ACHIEVING IMMUNIZATION TARGETS IN ALBERTA

Alberta has the most comprehensive immunization program in Canada. Universal immunization coverage through the publicly-funded immunization schedule offers Albertans protection against potentially life-threatening diseases. Despite immunization success in Alberta, the proportion of Albertans who are adequately immunized continues to be below provincial targets. Since 1996, immunization rates for one and two-year-old children have been between five and 20 per cent below target for some immunizations. Low immunization rates result in vaccine-preventable diseases and outbreaks.

Complacency about the importance of immunization is a growing concern.

Prevention in practice –

Immunization is one of the greatest public health achievements of the 20th century.

Immunize . . . do it for life –

Immunization is a lifelong practice that prevents disease and death in infants, children, adolescents, adults and the elderly.

Many of the once common and deadly vaccine-preventable diseases are now controlled as a result of immunization programs. Consider these achievements:

- Smallpox has been eradicated globally;
- Following the introduction of the polio vaccine in 1955, the number of Canadian cases of polio dropped by 99 per cent in 12 years. Prior to the vaccine, there were up to 20,000 cases of polio in some years. The last case reported in Canada was in 1988;
- *Haemophilus influenzae* type b (Hib) disease was once the leading cause of life-threatening, serious infections in babies and young children. Since the introduction of the Hib vaccine for babies in 1988, the number of cases of infection caused by Hib has dropped by 99 per cent;
- Immunizing elderly individuals with the influenza vaccine is approximately 60 per cent effective in preventing hospitalization and pneumonia and up to 95 per cent effective in preventing death from the complications of influenza.

¹ Hall R. *Immunization myths and realities*, 2nd edition. Australia: Commonwealth Department of Health and Family Services, 1998. <http://www.health.gov.au/pubhlth/strateg/immunis/myths.htm>

² Plotkin SL, Plotkin SA. A short history of vaccination. In: Plotkin SA, Orenstein WA, eds. *Vaccines*. 1999. Saunders: Philadelphia.

³ Gold R. *Your child's best shot: a parent's guide to vaccination*. 1997. Canadian Pediatric Society: Ottawa.

Reaching immunization target rates is vital to ensure that Albertans are protected against vaccine-preventable diseases. Immunization rates in Alberta have been between five to 20 per cent below target rates. Serious and sometimes fatal vaccine-preventable diseases, and outbreaks of these diseases, still occur. One example is whooping cough (pertussis). The rate of whooping cough in Alberta in 2004 was 21.5 cases per 100,000. There were 15 outbreaks and several more clusters of cases reported in 2004, with a total of 684 cases reported.

The Alberta Immunization Strategy is a 10-year plan to support evidence-based, innovative strategies to improve immunization rates in Alberta. Improving immunization rates will lead to fewer cases of vaccine-preventable diseases.

The strategy is based on evidence gathered from a literature review, an environmental scan, interviews with experts, focus groups, a survey of Canadian nurse managers and epidemiologists, a survey of regional health authorities, as well as input from a working group. The working group was led by AHW, and included representation from the Council of the Medical Officers of Health; the Alberta Council of Public Health Nurses on Communicable Disease Control; the Regional Shared Information Program; First Nations and Inuit Health Branch, Health Canada Alberta Region; and an Alberta-based pediatrician.

THE ALBERTA IMMUNIZATION STRATEGY: A STRATEGY TO IMPROVE IMMUNIZATION IN ALBERTA

In order to increase immunization rates in Alberta, Alberta Health and Wellness (AHW) developed the Alberta Immunization Strategy (2007-2017) to address immunization barriers and to explore evidence-based strategies to overcome these barriers.

The goal of the Alberta Immunization Strategy (AIS) is “to minimize the risk of vaccine-preventable diseases as evidenced by an increase in immunization rates.” This goal is to be achieved through seven evidence-based strategic directions:

1. Enhance Accessibility;
2. Improve Enabling Technology;
3. Strengthen Parental Education and Counselling;
4. Strengthen Partnerships;
5. Strengthen Provider Training and Education;
6. Strengthen Public Education and Awareness; and
7. Strengthen Research and Evaluation.

The Alberta Immunization Strategy (2007-2017) will be used by AHW in collaboration with other provincial ministries, including: Advanced Education and Technology; Education; Children’s Services; and partners including: Regional Health Authorities (RHAs); the First Nations and Inuit Health Branch, Health Canada Alberta Region; professional associations; and national organizations.

ALBERTA'S IMMUNIZATION OUTLOOK

Alberta has the most comprehensive publicly-funded immunization program in Canada. Alberta was the only province whose publicly-funded immunization program was rated as “excellent” by the Canadian Pediatric Society in 2005.⁴

The publicly-funded, routine immunization schedule begins in Alberta at two months of age.

ALBERTA'S ROUTINE IMMUNIZATION SCHEDULE

AGE	VACCINE
Two months	• DTaP-IPV-Hib¹ • Pneumococcal conjugate • Meningococcal conjugate
Four months	• DTaP-IPV-Hib • Pneumococcal conjugate • Meningococcal conjugate
Six months	• DTaP-IPV-Hib • Pneumococcal conjugate • Meningococcal conjugate
Six to 23 months	• Influenza
12 months	• MMR² • Varicella
18 months	• DTaP-IPV-Hib • Pneumococcal conjugate
Four to six years	• DTaP-IPV³ • MMR
Grade 5	• Hepatitis B (3 doses) • Varicella⁴
14 – 16 years	• dTap⁵

Note: each bullet represents one vaccine/injection

¹ Diphtheria, tetanus, acellular pertussis, polio, Haemophilus influenza type b

² Measles, mumps, rubella

³ Diphtheria, tetanus, acellular pertussis, polio

⁴ If no history of disease or not previously immunized

⁵ Diphtheria, tetanus, acellular pertussis

Immunizing on schedule gives children the best immunity possible and lasts throughout childhood. It is important to start with the first appointment at two months of age and make it a priority to schedule the next appointment when it is due.

⁴ *Are We Doing Enough? A status report on Canadian public policy and child and youth health.* Canadian Paediatric Society. 2005.

Since the influenza virus is always changing, a new vaccine is created each year that contains the three virus strains most likely to circulate. This means you need to be immunized yearly. The best time to be immunized is during October and the first half of November — just before the influenza season starts, as it takes two weeks for the vaccine to become effective. Even after influenza arrives in the community, it is not too late to get immunized.

Who should be immunized?

- People who are at greatest risk of serious complications.
- Anyone, including children, who lives in the same household or who is in contact with people at risk.
- People such as caregivers, volunteers and health-care workers who might transmit the disease to persons who are at risk.

Alberta Health and Wellness covers the cost for these people to be immunized. Some employers also offer vaccine to their staff. People who are not at risk may be immunized for a fee.

Immunization is the cornerstone of public health programs. Publicly-funded immunizations protect those who are healthy, as well those who are at high risk of exposure to disease or of transmitting disease to others. Examples of recommended immunizations include:

- All adults:
 - Review immunization status at least once during adult life and offer a single tetanus immunization (Td) to anyone who has not had a dose of Td in the previous 10 years.
- To protect newborns:
 - All non-pregnant women of childbearing age who lack proof of immunity to rubella (German measles) should be offered a rubella-containing vaccine (e.g. MMR). Pregnant women without immunity to rubella should receive a rubella-containing vaccine after delivery, if eligible;
 - All non-pregnant women of child-bearing age with no history of chickenpox or chickenpox immunization and no proof of immunity should be offered varicella vaccine to prevent chickenpox. Pregnant women without immunity to varicella should receive varicella vaccine after delivery;
 - All pregnant women should be tested for hepatitis B. Newborns of mothers who tested positive for hepatitis B should receive hepatitis B vaccine.
- Influenza immunization is recommended annually for groups such as:
 - All persons under 65 years of age at high risk;
 - All persons 65 years of age and older; and
 - Residents of long-term care facilities.
- Publicly-funded immunization programs are in place for individuals at high risk of disease. For example:
 - Pneumococcal vaccine for immuno-compromised individuals;
 - Influenza vaccine for individuals with diabetes.
- Publicly-funded immunization programs are in place for occupational health and safety. For example:
 - Rabies vaccine for veterinarians;
 - Influenza vaccine for health care workers.

Details about other groups eligible for publicly-funded immunizations are available in the *Alberta Immunization Manual*.

While a comprehensive immunization program for children and adults is essential to attaining the maximum degree of community protection against vaccine-preventable diseases, this is only the first among many steps to ensure a well protected population.

Other steps include taking advantage of opportunities within the health system to review the immunization status of all age groups, for those at high risk and for those in certain occupations. For example, an individual's immunization status can be reviewed at infant immunization clinics, during physician visits, during treatment of injuries or during immunization programs offered in the workplace.

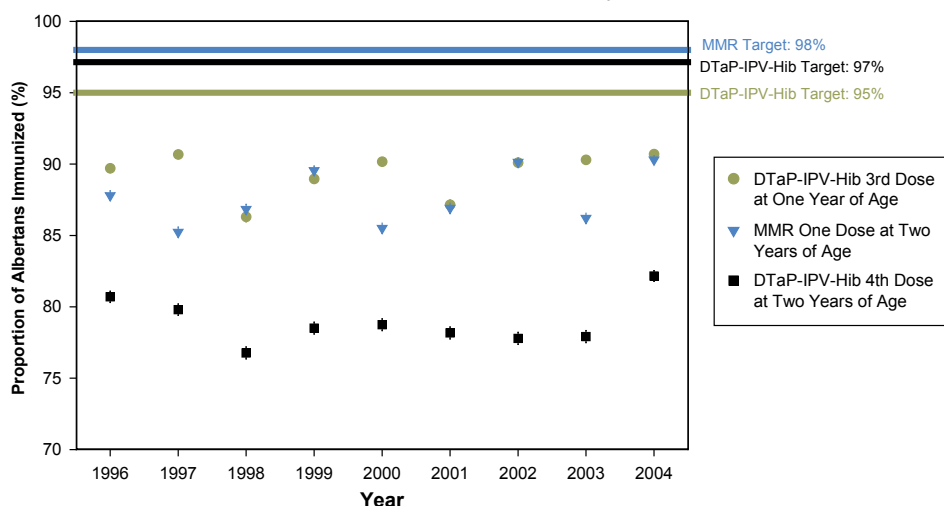
ALBERTA'S IMMUNIZATION RATES

The implementation of Alberta's immunization program is a shared and co-ordinated responsibility between AHW and the RHAs. AHW provides program standards for immunization and sets targets for immunization rates, which are published in the *Alberta Immunization Manual*.

Data on immunization for one and two-year-old children is reported to AHW by the RHAs and the First Nations and Inuit Health Branch, Health Canada Alberta Region. While there are limitations in the calculation of immunization rates, the rates provide an assessment of the extent to which immunization targets are being met. Although Alberta has a strong immunization program, the proportion of Albertans who are adequately immunized continues to be below provincial targets. Exhibit 1 shows immunization rates for one and two-year-olds in Alberta from 1996 to 2004. This exhibit demonstrates that immunization rates have been consistently below target for a number of years. The lines at the top of the graph are the immunization targets, while the data points below are actual figures. This exhibit illustrates the gap between actual and target immunization rates.

Exhibit 1

Immunization Rates for One and Two Year Old Children in Alberta, 1996 to 2004



Alberta's immunization rates for other vaccine-preventable diseases are also below target. For example, rates for influenza are below the 75 per cent target for those aged 65 years or older. However, the 90 per cent target for long-term care residents was exceeded in six of the nine health regions in 2005-06. Data on immunization rates for chickenpox, hepatitis B (Grade five), meningococcal and pneumococcal childhood programs is not reported consistently. As a result, specific immunization rates are not known.

By March 31, 2007, RHAs are expected to be reporting immunization data electronically through the provincial Immunization and Adverse Reactions to Immunization reporting system. This system will improve the accuracy of provincially calculated immunization rates.

Ultimately, protection against vaccine-preventable diseases requires maximum immunization coverage for children and adults. Immunization rates for one and two-year-olds in Alberta in 2004 are still below target:

- DTaP-IPV-Hib (diphtheria, tetanus, acellular pertussis, polio, and *Haemophilus influenza* type B) – third dose: target 95 per cent by one year of age, actual 90 per cent. Result: five per cent below target.
- MMR (measles, mumps, rubella): target 98 per cent by two years of age, actual 91 per cent. Result: seven per cent below target.
- DTaP-IPV-Hib (diphtheria, tetanus, acellular pertussis, polio, and *Haemophilus influenza* type B) – fourth dose: target 97 per cent by two years of age, actual 82 per cent. Result: 15 per cent below target.

These rates reflect immunizations provided up to one year after the recommended schedule. The immunization schedule reflects benchmarks by which immunization should be done. Delays of even a few weeks result in susceptibility to disease.

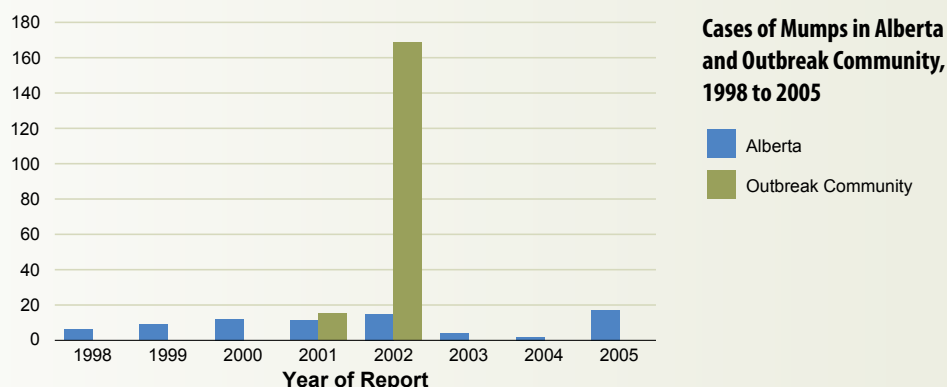
Large outbreaks of vaccine-preventable diseases still occur in Alberta, usually in unimmunized individuals. For example, a large outbreak of mumps occurred in Alberta during 2001 and 2002 in an under-immunized community as a result of an imported case. There were 179 cases reported; the vast majority of individuals (over 80 per cent) were unimmunized.

Mumps is a disease that causes fever, headache and swollen glands around the jaw. Sometimes mumps causes inflammation of the spinal cord and covering of the brain (meningitis). Mumps can also cause deafness. About one out of four men who get mumps have painfully swollen testicles that may lead to sterility in rare cases. One out of 10 women who get mumps will have infected and painful ovaries.

VACCINE-PREVENTABLE DISEASES STILL OCCUR IN ALBERTA

The reduced incidence of vaccine-preventable diseases provides evidence of immunization program effectiveness. However, data published by AHW in the *Notifiable Diseases in Alberta, 2004 Annual Report*, shows that a number of vaccine-preventable diseases still occur. Examples of occurrences in 2004 include:

- Whooping cough:** 21.5 cases per 100,000 population.
 Whooping cough (pertussis) causes coughing spells so severe that a child has difficulty breathing or eating. The coughing can last for weeks or months. Complications of whooping cough are more severe in babies. Children with serious complications may require long hospitalization. Pneumonia, convulsions, brain injury and death may occur.
- Invasive pneumococcal disease:** 348 cases, with the highest rate among children aged one to four years at 23.7 cases per 100,000 population. The majority of cases (113) were reported in adults 60 years and older.
 Invasive pneumococcal disease is a leading cause of invasive bacterial infections in infants and children. It can cause serious infections such as meningitis and pneumonia, and can also lead to severe long-term effects like deafness and brain damage. Although the disease can develop in all age groups, children under the age of two and the elderly are at greatest risk for serious invasive pneumococcal disease.
- Invasive meningococcal disease:** 14 cases (0.4 cases per 100,000 population), which is a significant decrease from previous years. The decrease is a result of introducing universal infant meningococcal vaccination in Alberta in 2002.
 Meningococcal bacteria can cause meningococcal meningitis (an inflammation or infection of the covering of the brain and spinal cord) and meningococemia (a more serious infection of the blood and many parts of the body). The disease can develop in all age groups but most cases occur in children under five years and in 15 to 19-year-olds.



IMMUNIZATION BARRIERS: WHY ARE IMMUNIZATION RATES LOWER THAN TARGET RATES?

Evidence gathered during the development of the Alberta Immunization Strategy reveals:

- Low socio-economic status is the strongest predictor for under-immunization, and factors related to access are the strongest barriers to immunization;
- In more affluent communities, parental attitudes, beliefs and perceptions are a stronger predictor of immunization behaviour.

Barriers to immunization involve a variety of factors related to three major areas:

- **Accessibility** - Inconvenient immunization clinic hours and transportation availability affect immunization rates;
- **Clients** - Individuals' resistance to immunization is sporadic but concerning. Some clients have inadequate information about immunization and vaccine-preventable diseases and perceive the risk of immunization/vaccines to be greater than the risk of acquiring a communicable disease, others possess poor literacy skills, some may experience socio-economic barriers, ethnic-specific barriers and time constraints, while others may oppose immunization for religious or cultural reasons. Open and candid information sharing by health professionals is critical to addressing this issue, while recognizing that an individual's decision whether to immunize must be respected;
- **Health care providers** - Providers require time and resources for role modelling and knowledge transfer to new health professionals, and for counselling clients about immunization.

A focus group study⁵ conducted in a regional health authority in Alberta investigated the reasons for under-immunization of children. Interviews with the parents of these children revealed the following barriers to immunization:

- Socio-economic limitations
 - Meeting basic needs (e.g., food and shelter) takes precedence over costs associated with immunization (e.g., transportation or lost wages for time off to visit the clinic).
- Lack of time and energy
 - Work, parenting and household responsibilities consume parents' time and energy.
- Lack of knowledge and information on:
 - Importance of immunizing on schedule;
 - Importance of immunization;
 - Risks/benefits of immunization versus vaccine-preventable diseases.
- Limited access to immunization clinics
 - Clinics are too far away.
- Parental emotions:
 - Fear of needles;
 - Guilt about inflicting pain on their child.

⁵ Carrier, B. and S. Hayward. A Study Submitted to the Alberta Association of Registered Nurses and Community Health Services, Capital Health. Parents' Perspectives on Reasons for Preschool Immunization Delay and Strategies for Completion. Edmonton, Alberta. February 2001.

Each new vaccine must undergo laboratory and field testing, and also pass a rigorous licensing procedure by the federal government before it is introduced. Once a vaccine is approved for use, every lot is tested for safety and quality and side effects are continuously monitored. Immunization is the most effective intervention to prevent illness and disease due to vaccine-preventable diseases.

THE CHANGING IMMUNIZATION ENVIRONMENT

Another factor that has an impact on immunization rates is a changing environment. This includes policy and regulatory changes, socio-demographic changes, economic changes and technological changes. These changes are occurring while the interest and focus on disease prevention and healthy populations grows.

- **Policy/regulatory changes** include new service delivery models such as primary care networks, expanded scopes of practice for health professionals, and increasing privacy and security requirements.

With the increase in primary care networks as well as an expanded scope of practice for some health professionals in Alberta, there is an opportunity for new partnerships between providers and the public health system to increase accessibility and ultimately immunization rates. These partnerships will occur as part of the publicly-delivered immunization program that has a centralized immunization data collection, analysis, and reporting system.

Another change includes new vaccines. Over the next 10 years, several new vaccines will emerge and will be considered for inclusion into the publicly-funded immunization program. As more vaccines are introduced, current challenges and proposed strategies take on increased importance.

- **Socio-demographic changes** include a growing population characterized by mobility, diversity and aging, a more informed and well educated public that wants scientific information about immunization, and more diverse family configurations that intensify time constraints.
- **Economic changes** include an increasing number of people in the workforce and limited public health human resource capacity.
- **Technological changes** include rapidly increasing technological sophistication and complexity, an increasing growth and reliance on the Internet as a source of information, more avenues of communication through tools such as mobile and wireless devices, and an increasing demand for automated recall/reminder systems and immunization management systems.

The Alberta Immunization Strategy (2007-2017) is a 10-year plan designed to increase immunization rates in Alberta. It addresses immunization barriers and recommends evidence-based strategies to overcome these barriers.

VISION

The vision of Alberta's Immunization Strategy (2007-2017) is:

"Effective immunization programs ... protecting the health of Albertans by reducing the risk of vaccine-preventable disease."

GUIDING PRINCIPLES

There are seven guiding principles to the Alberta Immunization Strategy (2007-2017). The principles are designed to advance the best possible outcomes for the immunization program in Alberta. The principles are:

1. **Client-focused responsiveness** – Immunization services are organized to meet the needs of clients using informed, timely and accessible approaches;
2. **Provider-focused competency** – Health service providers are knowledgeable and skilled in providing immunization information to all age groups in accordance with Alberta's immunization program and policies;
3. **Evidence-based and sustained immunization interventions** – Immunization interventions are evidence-based and sustained over extended periods of time;
4. **Respect for individual rights and decisions** – Individuals are accurately informed and individual rights and decisions are respected in accordance with provincial and federal legislation and policies;
5. **Optimal use of enabling technology** – Information systems are developed and integrated across regional and provincial jurisdictions to optimize data collection, sharing and analysis; including point-of-service technology for use by practitioners in the field;
6. **Adequately resourced infrastructure** – Necessary human, financial and physical resources are acquired and sustained over the long term;
7. **Performance accountability** – Responsibility and accountability for quality delivery of immunization programs are clear and upheld at all levels.

Seven guiding principles:

- Client-focused responsiveness
- Provider-focused competency
- Evidence-based and sustained immunization interventions
- Respect for individual rights and decisions
- Optimal use of enabling technology
- Adequately resourced infrastructure
- Performance accountability

GOAL

The goal of Alberta's Immunization Strategy (2007-2017) is:

To minimize the risk of vaccine-preventable diseases as evidenced by an increase in immunization rates.

To measure progress, the following overarching indicators, measures, baselines and targets will be used:

The goal of Alberta's Immunization Strategy (2007-2017) is:

To minimize the risk of vaccine-preventable diseases as evidenced by an increase in immunization rates.

INDICATOR	MEASURE	BASELINE	TARGET
Childhood immunization rates by one year of age	Diphtheria/Tetanus/acellular Pertussis/Polio/Hib	90 per cent (2004)	95 per cent
	Meningococcal Conjugate	To be established	95 per cent
	Pneumococcal Conjugate	To be established	95 per cent
Childhood immunization rates by two years of age	Diphtheria/Tetanus/acellular Pertussis/Polio/Hib	82 per cent (2004)	97 per cent
	Measles/Mumps/Rubella	91 per cent (2004)	98 per cent
	Meningococcal/Pneumococcal	To be established	97 per cent
	Varicella	To be established	98 per cent
Childhood immunization by seven years of age (or end of Grade 1)	Diphtheria/Tetanus/acellular Pertussis/Polio	To be established	99 per cent
	Measles/Mumps/Rubella	To be established	99 per cent
Youth immunization by Grade 5	Hepatitis B	To be established	95 per cent
Youth immunization by Grade 9	Diphtheria, Tetanus and acellular Pertussis	To be established	97 per cent
	Hepatitis B	To be established	95 per cent
	Measles containing vaccine	To be established	98 per cent
Adult immunization	Tetanus/Diphtheria	To be established	Improve upon baseline
Influenza immunization	Seniors who have received the annual recommended influenza vaccine	68 per cent (2005-2006)	75 per cent
	Residents in long term care facilities who received the annual influenza vaccine	92 per cent (2005-2006)	90 per cent

Seven evidence-based strategic directions that address immunization challenges and barriers will be used to improve immunization rates in Alberta:

- 1 Enhance accessibility;
- 2 Improve enabling technology;
- 3 Strengthen parental education and counselling;
- 4 Strengthen partnerships;
- 5 Strengthen provider training and education;
- 6 Strengthen public education and awareness; and
- 7 Strengthen research and evaluation.

The proposed actions identified in the following strategic directions are broadly applicable to most age groups including infants, children, adolescents, adults and the elderly. However, customization will be needed for some actions (such as educational campaigns) in order to address the unique needs of some populations. Some actions may also be applicable to, or have an impact on, other strategic directions.

1

Enhance Accessibility

Issue:

Socio-economic factors have a bearing on the immunization status of children, with children in lower socio-economic situations more likely to be under-immunized. Convenient, timely access is also an issue for all levels of society, with delays putting individuals at risk for vaccine-preventable diseases. Alberta's routine immunization schedule represents evidence-based benchmarks that indicate when children should receive immunizations. Current waiting times for appointments are estimated to be at least two to four weeks beyond these benchmarks.

Key Partners: AHW; regional health authorities; the First Nations and Inuit Health Branch, Health Canada Alberta Region; Alberta Education and Alberta Children's Services.

Objectives:

- Reduce immunization delays for all age groups and immunize on schedule; and
- Reduce clinic wait times.

Proposed Actions:

- Develop new evidence-based, innovative approaches to enhance accessibility to immunization through the Innovation in Immunization Fund (IIF). Such approaches may include: outreach programs, use of incentives, increased clinic operations/hours and increased collaboration with other service providers (specifically primary care networks);
- Develop programs to improve immunization access for under-immunized or special needs groups, including children in elementary school, foster homes or day-care centres;
- Use surveillance data to establish program priorities, develop effective programs and monitor progress and results; and
- Evaluate results of new evidence-based, innovative approaches established through the IIF, sustain successful interventions, and share results with partners.

2 Improve Enabling Technology

Issue:

Inadequate, varied and incompatible immunization management information systems inhibit the collection and analysis of immunization data. It also reduces efficiency in submitting and sharing pertinent immunization information. Existing information systems need to be compatible with the Electronic Health Record (EHR), and immunization must be identified as a priority within the EHR. This lack of comprehensive and accurate data adversely affects the surveillance of immunization rates and vaccine-preventable diseases, as well as the availability of information needed by front-line staff to determine required immunizations.

Key Partners: AHW; regional health authorities; the First Nations and Inuit Health Branch, Health Canada Alberta Region.

Objectives:

- Better enable client adherence to immunization schedules;
- Improve efficiency in submitting and sharing immunization information; and
- Improve immunization and vaccine-preventable disease surveillance.

Proposed Actions:

- Continue developing, enhancing, implementing and integrating immunization management information systems, including standardized client reminder systems;
- Continue improving—both provincially and regionally—the standardization, collection, analysis and dissemination of data in a timely manner. This data should reflect immunization rates, incidence of vaccine-preventable diseases, and incidence of adverse events;
- Develop plans for inclusion of information on immunization and adverse reactions in the EHR;
- Promote the use of immunization data to establish program priorities, to develop effective programs and interventions, as well as to monitor progress and results; and
- Provide training to appropriate individuals on the use of enabling technologies.

3 Strengthen Parental Education and Counselling

Issue:

Parents require open, candid information about immunization and about when their child should be immunized.

Objectives:

- Improve parental knowledge about the importance of immunization; and
- Improve parental adherence to Alberta's immunization schedule.

Key Partners: AHW; regional health authorities; the First Nations and Inuit Health Branch, Health Canada Alberta Region; Alberta professional associations, other provider groups and national organizations.

Proposed Actions:

- Increase parental access to open, candid immunization information, counselling and consultation;
- Develop and promote provincial standards and guidelines for leading practices in immunization programs, with a focus on provider counselling directed at parents;
- Promote and encourage cross-sector action at the national, provincial, regional and local levels on the development and implementation of collaborative and co-ordinated approaches to address immunization education; and
- Collaborate with primary care networks and other community-based organizations in the planning, co-ordination, delivery and evaluation of counselling services and immunization programs and support in order to address the needs of the population.



4

Strengthen Partnerships

Issue:

Some factors affecting immunization rates (such as socio-economic factors including income, employment, education and housing) are outside the mandate of AHW and the RHAs. There is a need for strengthened partnerships between the numerous organizations involved in providing direct or indirect immunization information and client services. This will help to address immunization barriers by reducing duplication of efforts and taking advantage of opportunities to increase awareness and access to immunization services.

Objectives:

- Improve effectiveness of collaboration and partnerships among organizations that are able to influence immunization rates.

Proposed Actions:

- Create collaborative arrangements and share immunization information between other ministries, regional organizations and other community groups;
- Promote and support partnerships between public health, primary care providers and primary care organizations to bring together multi-disciplinary teams to enhance services and streamline service delivery; and
- Continue strengthening the provision of immunization information as well as reminder and appointment booking capabilities through Health Link Alberta.

Key Partners: AHW; other ministries; regional health authorities; the First Nations and Inuit Health Branch, Health Canada Alberta Region; Alberta professional associations and other provider groups; academic institutions; non-governmental organizations and primary care organizations.

5 Strengthen Provider Training and Education

Issue:

Health care providers require training and education to counsel clients and provide open, candid immunization information to parents, adolescents, adults, seniors and eligible high risk and occupational groups. Providers need to ensure that all opportunities to monitor and follow-up on immunization needs are used.

Objectives:

- Improve health care provider knowledge and awareness of immunization and Alberta's immunization program;
- Improve health care provider action to identify and refer clients/patients who have inadequate immunization;
- Improve post-secondary education on immunization for health care providers; and
- Enhance opportunities for immunization education and practical experience.

Key Partners: AHW; regional health authorities; the First Nations and Inuit Health Branch, Health Canada Alberta Region; Alberta Advanced Education and Technology; Alberta professional associations; academic institutions, other provider groups and national organizations.

Proposed Actions:

- Continue focusing on professional training and continuing education to reinforce the importance of immunization, immune system functions, appropriate immunization delivery, Alberta's immunization program, and provide tools to address immunization myths;
- Include information on vaccine-preventable diseases, vaccine efficacy, vaccine safety, vaccine administration and vaccine importance in relevant mandated post-secondary curricula;
- Create and implement immunization prompting systems to address missed opportunities to immunize or include reminders to immunize;
- Develop and sustain collaborative working relationships with federal, provincial and local governments, community-based organizations, national non-governmental organizations, professional organizations and other health consumer or private sector organizations;
- Provide education, training and resource materials/experts on immunization information to support public and private practitioners; and
- Hold a regular provincial immunization forum as a major public health professional educational event.

6 Strengthen Public Education and Awareness

Issue:

As a result of immunization's success, up to two generations of Albertans have not been exposed to, nor recall, the devastating effects of diseases prevented by vaccines.

However, for some people, the perceived risk of disease may be lower than the perceived risk of vaccine. Misinformation about immunization is readily accessible. Attitudes and beliefs have a powerful impact on decisions that are made about immunization, especially in higher socio-economic groups and certain religious/community groups. Specific needs of groups with differing literacy levels and language requirements must also be addressed. Targeted strategies for public education and awareness of immunization are needed.

Objectives:

- Improve public knowledge about the importance of immunization and immunizing on schedule.

Proposed Actions:

- Develop and implement targeted public education and multi-component immunization programs, including development of user-friendly educational materials that meet a range of literacy and language needs and use a variety of distribution methods, including the Internet;
- Promote and encourage cross-sector action on co-ordinated interventions and initiatives at the provincial, regional and local levels to strengthen public education and awareness; and
- Develop and sustain collaborative working relationships with other provincial government departments, the federal government, primary care organizations/networks, community-based organizations, health authorities, organizations such as the Canadian Coalition for Immunization Awareness and Promotion, non-governmental organizations and other sectors involved in immunization education and disease prevention.

Key Partners: AHW; regional health authorities; the First Nations and Inuit Health Branch, Health Canada Alberta Region; national organizations; and non-governmental organizations.

7

Strengthen Research and Evaluation

Issue:

Research and evaluation of immunization programs are critical to ensure maximum effectiveness. Immunization programs are becoming more complex, especially as new vaccines and immunization schedules are implemented. There is a need for research and evaluation of proposed new provincial immunization programs to determine whether new vaccines should be included in the publicly-funded immunization schedule. Research and evaluation will also ensure new and existing immunization programs are clinically and economically effective. In addition, evaluation of innovative approaches to improving immunization is important to ensure effective strategies are implemented in Alberta.

Objectives:

- Increase immunization research to support evidence-based practice; and
- Improve evaluation of immunization programs, including epidemiology, laboratory testing and public perception.

Proposed Actions:

- Encourage networks of individuals and organizations involved in research initiatives. Research should include immunization and vaccine-preventable disease studies that address immediate needs, challenges, adverse events, and long term effectiveness of vaccines and immunization;
- Encourage the evaluation of all immunization program innovations;
- Use scientific evidence to support standards development, policy planning and service performance;
- Monitor public knowledge, attitudes and behaviour using population health surveys; and
- Disseminate findings from research projects and independent evaluations.

Key Partners: AHW; regional health authorities; the First Nations and Inuit Health Branch, Health Canada Alberta Region; and academic institutions.

IMPLEMENTATION

Implementation will include introducing, developing and evaluating these strategic directions over the next 10 years. Action plans stemming from the seven strategic directions will detail steps for implementation.



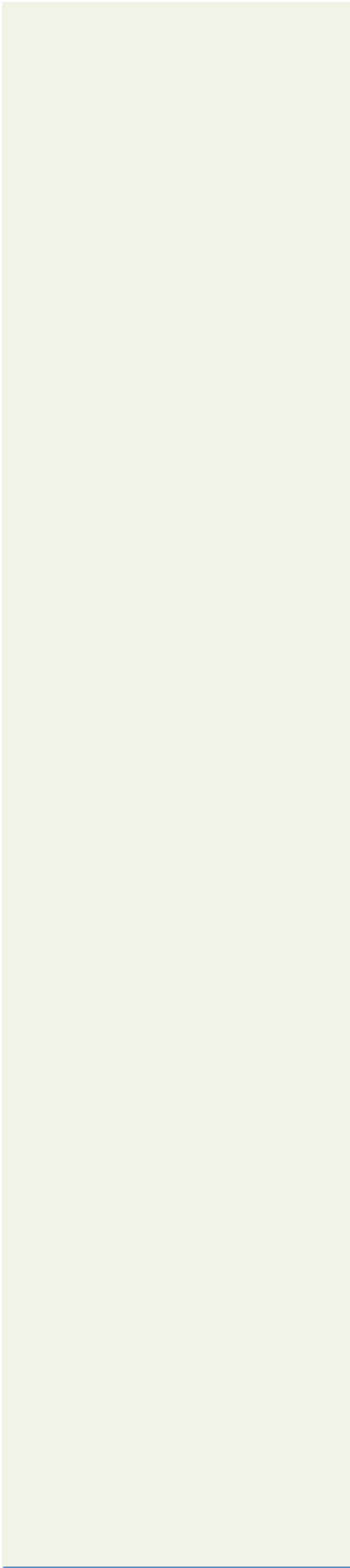
Improving immunization rates is a global issue with many jurisdictions implementing strategies to reduce the risk of vaccine-preventable diseases. Significant strategies have been developed by:

- World Health Organization - The 10-year *Global Immunization Strategy* started in 2005 to improve worldwide coverage to 90 per cent;
- New Zealand - The three-year *Strategic Directions 2003-2006* contains immunization strategies to improve childhood immunization to 95 per cent and influenza immunization to 75 per cent;
- United Kingdom - The 10-year *Getting Ahead of the Curve Strategy* started in 2002 to maintain immunization rates;
- United States - A 10-year strategy contained in *Healthy People 2010* started in 2000 to improve immunization to 80 per cent for diphtheria, tetanus, acellular pertussis, polio, measles, mumps, rubella, *Haemophilus influenza* type b and hepatitis B (DTaP/MMR/Hib/Hep B - achieved); 90 per cent for influenza; and 90 per cent for pneumococcal;
- Australia - The 10-year strategy *Seven Point Plan* started in 1997 to improve immunization coverage to 90 per cent (achieved).
- In Canada, efforts are underway to expand immunization rates. A National Immunization Strategy (NIS) was adopted in 2003 to integrate and implement a national immunization program over 10 years. The NIS contains five major initiatives:
 1. Creating national goals and objectives to ensure an integrated and consistent effort in improving immunization rates in Canada;
 2. Unifying immunization program planning by reducing duplication of national vaccine planning, which subsequently will result in efficient resource usage;
 3. Improving vaccine safety through improved vaccine adverse effects monitoring. The strategy recommends a network of dedicated individuals to identify and address potential safety issues, an improved system of public health response, and a vaccine safety committee to address any limitations of current monitoring systems;
 4. Securing long-term vaccine supply;
 5. Creating an Immunization Registry Network which establishes a compatible national immunization registry, based on a number of common data elements.

LITERATURE REVIEW HIGHLIGHTS

A literature review identified challenges facing immunization programs as well as strategies that are effective in increasing immunization rates. These are the major findings:

- Socio-economic status is the strongest predictor for under-immunization in children and adults. Children of economically marginalized parents who have a low education and more than one child are the most likely to be under-immunized for their age group. Adults who are socio-economically marginalized are the most likely to be under-immunized;
- Misinformation about immunization is readily accessible. Attitudes and beliefs have been shown to have a powerful impact on immunization decisions, especially in higher socio-economic groups and certain religious/community groups;
- Access barriers to immunization are highly co-related to under-immunization in lower socio-economic populations;
- A number of interventions have been shown to be effective in improving immunization rates in under-immunized populations:
 - Outreach programs represent the singularly most effective intervention in improving immunization rates. These programs result in relationship building and have the ability to reach highly marginalized populations, where traditional methods of communication such as telephone calls and letters have failed;
 - One-on-one consultation with parents is an effective way to engage parents in candid and open discussion about immunization risks and benefits, thereby dissuading parents from seeking alternate and often inaccurate sources of information;
 - Mandatory immunization has been used where the social climate is conducive to such an intervention. In areas with high rates of voluntary compliance, such as Alberta, such interventions are not recommended;
 - Changing provider behaviour to address missed immunization opportunities have accounted for increases in immunization rates;
 - Reminder systems for clients are highly efficient and cost-effective mechanisms to improve immunization rates. The parents of under-immunized children are receptive to receiving overdue immunization reminders and will book and keep appointments if a system is in place;
 - Targeted education as part of a multi-component intervention is an effective manner in which to improve immunization rates. Insufficient evidence exists to support the use of education campaigns independent of other interventions.

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