Vaccine Research, Development and Awareness

With a proud history of health research and promotion, and ongoing contributions to the development and distribution of disease-fighting vaccines, Canada is well positioned to put our health innovation and expertise to even fuller benefit for the world and our society and economy. Could this be just the shot in the arm Canada needs? Proponents say yes, and are encouraging the public to tune into the benefits.

Beyond Childhood

Adults advised to keep immunizations up to date

For many parents, having their children vaccinated can be a daunting task. To make sure our children are up-to-date on their immunizations can be a challenge, but it’s worth the effort to keep our children healthy and protected against a wide range of other vaccine-preventable infections.

The National Advisory Committee on Immunization (NACI) recommends that all children born in Canada receive the MMR vaccine series to protect them against measles, mumps, and rubella.

In early February, Health Canada approved Covaxin, a vaccine developed by the government of India, for use in Canada.

IMMUNIZATION CAMPAIGN IN HAITI

In the aftermath of emergencies, childhood diseases can run rampant. In Haiti, this risk is especially acute due to the fact that many of the children affected by the earthquakes and hurricanes that have devastated Haiti in recent years have never been vaccinated against potentially life-threatening diseases. UNICEF and its partners in Haiti have begun an immunization campaign targeting children that are at risk of contracting diseases such as diphtheria, diphtheria, tetanus and whooping cough.

UNICEF will be on the ground in Haiti over the next 365 days and beyond to help build a brighter future for all Haiti’s children. Join us by becoming a monthly supporter of the 365 DAYS FOR HAITI campaign.
A 15-year-old girl in the Toronto region was infected with meningococcal meningitis last month. The girl, whose name is being withheld to protect privacy, is now recovering.

Dr. Garçon, a professor in the Department of Microbiology and Infectious Diseases at the University of Calgary, says in Canada, in almost all the provinces, infants are given the meningococcal C vaccine, which has markedly decreased the infection rate.

“The symptoms of meningococcal meningitis often mimic those of the flu virus,” she says. “But parents need to realize that there are other symptoms that can cause exactly the same disease. It is very important for them to know that even if their children have received the meningococcal C vaccine, they were not in protection. Their children can still get it.”

As meningococcal meningitis cases occur so quickly, prevention is vital, says Dr. Garçon. “In Canada, in infants who have received the meningococcal C conjugate vaccine, the disease can occur until the child is vaccinated and is protected.”

For more information, visit meningitisresearchfoundation.ca.

Defending against IMD

Invasive meningococcal disease (IMD) is an aggressive, often fatal disease that strikes about 20 Canadians – mostly healthy children and teens – each year. One out of 10 people infected will die. Of those who survive, one in five will be permanently disabled. Knowing the facts can help you save your loved ones.

- The symptoms of meningococcal meningitis often mimic those of the flu virus. It is too late.

Seek medical attention immediately if babies or toddlers demonstrate any of these symptoms: fever with cold hands and feet; refusal of food when normally hungry; vomiting; fretfulness without wanting to be held; stiff neck and arched back; and high pitched cry.

- Seek medical attention immediately if children or adults have some of these symptoms: vomiting; fever with cold hands and feet; headache, especially in the back of the neck; no tears; difficulty waking, confusion or delirium.

- IMD is contagious, and can be spread from one person to another through close contact involving secretions from the nose or mouth, such as sharing drinks, water bottles, utensils, or sleeping in the same bed. Infected persons can spread the disease to others simply by kissing.

- Children who have received meningococcal conjugate C vaccines are still vulnerable to the other vaccine-preventable strains of IMD. Children should continue to receive the vaccine that protects against the four vaccine-preventable strains until they receive the vaccine that protects against all four vaccine-preventable strains.

- Parents of children and teens must not be fooled into thinking that the vaccine that protects against meningococcal meningitis is the same as the one that protects against IMD.

- Parents need to understand that there are other causes that can cause exactly the same disease.

Now available in Canada.

Vaccine technology

Advances in adjuvant technology adding fuel to vaccine efficacy

M.

Canadians likely hadn’t heard about adjuvants before. They are small molecules that hops onto antigen – the portion of a pathogen that the immune system is trying to target. These compounds are sufficient to prime immune systems, thereby increasing the immune response, some of which are also allowing us to develop and make available vaccines that address untold medical needs, doctors say. For example, the GSK team is in the final stages of completing clinical trials to test the efficacy of a new vaccine against cervical cancer – a goal that has previously eluded vaccine developers.

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Public health, prevention and vaccines

By Russell Williams
President, Rx&D
Canada’s Research-Based Pharmaceutical Companies

Over the past 30 years, we’ve seen incredible advances in medicine and health outcomes. Access to medical care has increased from 71 to 82 years and hospitalization rates have reduced significantly for a number of diseases including heart cancer, cardiovascular disease, HIV/AIDS and childhood leukemia.

Similarly, over this time period, the number of people living past 65 years has increased by 100% and the elderly population has become more active, healthy and engaged. Major public health advances have contributed to a higher quality of life in a longer period of time. In 2002, the World Health Organization listed a longer life span and the eradication of major diseases as the two most significant contributions to global health gains.

But there is a hidden problem behind these statistics. Too many Canadian adults do not recognize the threat that vaccine-preventable diseases pose to them.

In 1989, the Canadian Paediatric Society conducted a telephone survey of 1970 parents of school-age children and found that 62% of parents did not know the names of any diseases that could be prevented by childhood vaccines. Dr. Mary Ann Mazzulli, a pediatrician and the current chair of the Canadian Academy of Pediatric Research, stated at a recent national conference that this is still the case today.

In the 15% of parents who were aware of the children’s vaccination schedule, there were many gaps. For example, many parents did not know that children should be vaccinated for meningococcal disease. Some parents did not understand that vaccines protects children from a variety of diseases including pneumonia, whooping cough, measles, mumps, rubella, and meningitis.

It is still the case today that many parents do not recognize the threat of vaccine-preventable diseases. Too many adults do not recognize the threat to them posed by vaccine-preventable diseases, say health experts.

In 2002, the National Health and Social Life Survey was conducted in Canada. The survey was completed by 508 women and 603 men aged 18 to 59 years. It was the first time that the survey had included questions about vaccination. The results showed that 43% of adults had not received a flu shot in the past year. This is a significant problem given the high mortality rates associated with influenza.

In 2004, the Canadian Immunization Vaccine Network (CIVN) conducted a survey among adults aged 18 to 64 years. The survey found that 40% of adults had not received a pneumococcal vaccine in the past year. This is a significant problem given the high mortality rates associated with pneumonia.

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In 2008, four out of five children around the world were reached with a basic set of vaccines – amazing progress that as a global community we should be proud of. However, the question it raises is, what about that fifth child? What can be done to further help protect children against the two main killers of children under five years of age – pneumonia and diarrhoea. Today, global deaths from pneumonia and diarrhoea still account for almost nine million deaths of children under five years of age every year. While these deaths are preventable, there are many children who die every day in trying to immunize all children at a global scale from diseases like measles, tetanus and whooping cough.

Reaching the Children
Many challenges have to be overcome to bring immunization activities to the farthest reaches of the world. Whether it is to get vaccines to reach remote villages in some of the world’s most conflict-ridden areas or trying to immunize and vaccinate in the present conflict situations, UNICEF collaborates with others to negotiate temporary cease-fires to get health workers access to children. Community leaders are motivated to paint posters to bring children for vaccination in conflict situations. UNICEF collaborates with other organizations to present vaccines and run immunization campaigns. It is important for people to understand that vaccines work, that you will experience fewer deaths and that as a global community we should be proud of. However, the question it raises is, what about that fifth child? What can be done to further help protect children against the two main killers of children under five years of age – pneumonia and diarrhoea.

New vaccine offers protection against disabling, burdensome disease – shingles

Shingles is a painful, itchy rash caused by the chickenpox virus. It is commonly seen in people over 60 years old. The pain can last anywhere from a few days to months. Shingles is caused by the same virus that causes chickenpox. After chickenpox, the virus stays in the body and may wake up at a later time in one’s life. The pain that comes with shingles is described as burning, tingling, or shooting pain. It can be extremely painful and can last with you for your entire life. While it is very rarely deadly for an otherwise healthy adult, shingles can be very serious for some people, especially older ones. The shingles virus is capable of causing another type of pain known medically as post-herpetic neuralgia. The pain associated with this condition can last months to years. Fortunately, there is now a vaccine available in Canada that significantly reduces the risk of shingles. The Shingles Prevention Study, conducted by the National Advisory Committee on Immunization, found that the vaccine significantly reduces the risk of developing shingles by 51 per cent and the incidence of severe, long-lasting pain by 73 per cent compared with placebo.

New vaccine offers protection against disabling, common disease

Researchers have long known about the danger of not vaccinating all children – more than 24 million children die each year for preventable causes. In 2000, the international community launched an initiative that will play important roles in helping to end the deaths of almost nine million children who die every year from preventable causes.

The Canadian International Immunization Initiative is key to developing nations build capacity for immunization and other health interventions. It was a special information supplement to The Globe and Mail on Friday, March 5, 2010.

The Canadian International Immunization Initiative has been critical in helping developing nations build capacity for immunization and other health interventions. Today, 60 per cent of children under five years in developing nations are immunized against the two main killers of children under five years of age – pneumonia and diarrhoea.

People with shingles or post-herpetic neuralgia (PHN) report difficulty performing activities of daily living, fatigue, disruption of sleep, depression and disfigurement. People with shingles or PHN often have to stop work and can experience severe pain. Shingles can be very serious for some people, especially older ones. The pain associated with this condition can last months to years. Fortunately, there is now a vaccine available in Canada that significantly reduces the risk of shingles. The Shingles Prevention Study, conducted by the National Advisory Committee on Immunization, found that the vaccine significantly reduces the risk of developing shingles by 51 per cent and the incidence of severe, long-lasting pain by 73 per cent compared with placebo.

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Despite vaccine benefits, public needs convincing

By Dr. David Butler-Jones
Chief Public Health Officer, Public Health Agency of Canada

A special information supplement

In the last century, immunization has transformed childhood and greatly improved the chances of growing up healthy. The World Health Organization estimates that every year, 4 million children die from vaccine-preventable diseases; without vaccines, this number would be around 2.5 billion. Vaccines have eradicated smallpox, and polio was eradicated in our lifetime. To the relief of these same parents only a few years later, it was suddenly and miraculously immune.

A little shot in the arm, a few drops in the leg, and we were suddenly and magically immune. The benefits of immunization far outweigh the risks and go beyond disease prevention. We imagine if the country were trying to cope without vaccines. If we weren’t spending $160 million annually to treat the illnesses we could prevent with vaccines, we would have to spend one billion on the treatment of diseases we could have prevented with vaccines – a safe, effective way to prevent many illnesses in the first place – where would that leave us?

The benefits of preventive medicine, public health measures, make working in the health sector a tremendous privilege. One of the greatest sources of job satisfaction I have had in my career is knowing the difference immunization makes – to the people who are immunized, and as a cost-effective and very successful public health measure that benefits all of us.

The concept of eliminating a disease as successfully was a somewhat foreign concept at the time. A little shot in the arm, a few drops in the leg, and we were suddenly and magically immune.

Despite the clear benefits that vaccines have brought our society, it is still often an uphill battle to convince some of the benefits of immunization. Vaccines are the safest public health intervention we have. They are also one of the safest – adverse events following immunization are rare, and vaccines are vigorously tested and monitored in Canada.

HPV vaccine has the potential to have a real impact on the future health of Canadians. I encourage all Canadians to get the HPV vaccine. It is estimated that more than two million women who fall outside the school programs varies widely. The vaccine offers protection for elementary school girls from grades 4 to Grade 8 from Canada depending on jurisdiction. However, Dr. Elit and the concept of eliminating cervical cancer has greatly improved the chances of growing up healthy, says Canada’s Chief Public Health Officer Dr. David Butler-Jones.

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CHILDREN CANADA WANTED kids to be healthy, learning, and safe from the horrible complications of polio and other infectious diseases. Parents greatly feared this and other viral and bacterial illnesses that we now see as mild, like whooping cough and measles, cases of other diseases like chickenpox and hepatitis B.

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Enforced brain deaths have rejected any casual association between the innumerable mass-produced (MMR) vaccine and autism spectrum disorders in children, according to the U.S. Institute of Medicine. A survey of 2,278 children born from 1989 to 1998 also concluded there was no relationship between pervasive developmental disorder (autism) rate and one- or two-dose measles-mumps-rubella immunization schedule. In addition, a large Danish study of all children born in Denmark between 1991 and 1998 (527,303 children) concluded there was no difference in the rates of autism between vaccinated and unvaccinated children. Some speculation has tried to link thimerosal in the MMR vaccine to autism, but the MMR vaccine routinely used in Canada has never contained thimerosal. DTaP, polo and Hib vaccines have not contained this preservative since 1997-98. Although the reason for the increase in autism is not yet conclusively known, one explanation may be the broader definition and inclusion of many more behaviors and learning disorders within autism spectrum disorders.

FACT 1
The MMR vaccine does not cause autism

Every day, our bodies come into contact with millions of germs, causing our immune system to work continuously to protect us. It exposes to a few antigens (parts of weak or dead viruses or bacteria) in vaccines is easily handled by our immune systems. In fact, our immune system needs to be challenged continually to remain healthy.

FACT 2
Multiple injections do not overwhelm the immune system

The virus for the vaccine is grown in a modified baby hamster kidney cell culture and grown until it is ready to use. Some vaccines contain... vaccine-preventable diseases in Canada by increasing awareness of the benefits and risks of immunization for all ages via education, promotion, advocacy and media relations.

FACT 3
Vaccines do not contain cells from aborted fetuses

FACT 4
Vaccines do not contain harmful additives

Vaccines do not contain harmful additives. Formaldehyde may be used early in the manufacturing process to inactivate some viruses and toxins. Purification removes almost all of the formaldehyde. Formaldehyde occurs naturally in the human body and helps with metabolism. There is approximately 10 times the amount of formaldehyde in a baby’s body at any time than there is in a vaccine.

About the CCIAP
The Canadian Coalition for Immunization Awareness & Promotion (CCiap) is a partnership of national non-governmental, professional, health, consumer, government and private sector organizations with a specific interest in promoting the understanding and use of vaccines recommended by the National Advisory Committee on Immunization. The goal of the CCIAP is to contribute to the control/elimination/eradication of vaccine-preventable diseases in Canada by increasing awareness of the benefits and risks of immunization for all ages via education, promotion, advocacy and media relations.

To learn more, visit immune.ca

Study linking MMR vaccine to autism retracted

A controversial study linking autism and a礼 (MMR) vaccine has been officially retracted, in its original publication and in its correction, by the medical journal Lancet. Lancet editor-in-chief Dr. Richard Horton said Dr. Andrew Wakefield, lead author, Andrew Wakefield, did not follow suit. Richard Horton said Dr. Wakefield went on to lead “a non-scientific campaign” against vaccination. Recently, the U.K.’s General Medical Council found Dr. Wakefield’s original findings were not reproducible. Lancet editor-in-chief Dr. Richard Horton said Dr. Wakefield went on to lead “a non-scientific campaign” against vaccination. Recently, the U.K.’s General Medical Council found Dr. Wakefield’s original findings were not reproducible.

In 2004, 10 of the paper’s 13 authors retracted the paper. However, the study’s lead author, Andrew Wakefield, did not follow suit. Richard Horton said Dr. Wakefield did not follow suit. Lancet editor-in-chief Dr. Richard Horton said Dr. Wakefield went on to lead “a non-scientific campaign” against vaccination.

According to the Canadian Coalition for Immunization Awareness & Promotion (CCiap), immunization ranks among the 20th century’s most important public health triumphs. Further, the World Health Organization (WHO) notes that while immunization saves three million lives each year, worldwide, almost three million more lives are lost due to disease that are preventable with existing vaccines.

Here are some facts provided by the CCIAP worth knowing about vaccines:

**FACT 1**
The MMR vaccine does not cause autism

**FACT 2**
Multiple injections do not overwhelm the immune system

**FACT 3**
Vaccines do not contain cells from aborted fetuses

**FACT 4**
Vaccines do not contain harmful additives

About the CCIAP
The Canadian Coalition for Immunization Awareness & Promotion (CCiap) is a partnership of national non-governmental, professional, health, consumer, government and private sector organizations with a specific interest in promoting the understanding and use of vaccines recommended by the National Advisory Committee on Immunization. The goal of the CCIAP is to contribute to the control/elimination/eradication of vaccine-preventable diseases in Canada by increasing awareness of the benefits and risks of immunization for all ages via education, promotion, advocacy and media relations.

To learn more, visit immune.ca

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