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CANADA'S PUBLIC HEALTH LEADER
LE LEADER CANADIEN EN SANTÉ PUBLIQUE

Canadian Public Health Association
Invitational Roundtable Series

Setting the Stage for Advancements in Immunization in Canada

October 5, 2009
Ottawa, Ontario

SUMMARY REPORT

The Canadian Public Health Association is a national, independent, not-for-profit, voluntary association representing public health in Canada with links to the international public health community. CPHA's members believe in universal and equitable access to the basic conditions which are necessary to achieve health for all Canadians.

CPHA's mission is to constitute a special national resource in Canada that advocates for the improvement and maintenance of personal and community health according to the public health principles of disease prevention, health promotion and protection and healthy public policy.

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Table of Contents

Introduction and Overview

The Canadian Public Health Association's Invitational Roundtable Series: Setting the Stage for Advancements in Immunization in Canada took place in Ottawa on October 5, 2009.

Key stakeholders from government, industry, and the public health sector came together to discuss Canada's current immunization environment, explore Canada's readiness for new developments in immunization, and optimize the health benefits to all Canadians that will arise from future vaccine developments.

The meeting had the following objectives:

- To articulate a common understanding of the issues and questions of interest regarding Canada's current vaccine environment
- To determine optimal objectives against each of the identified issues, to ensure Canada's readiness for new developments in vaccination
- To determine a framework/plan within which new developments in vaccination can take place
- To publish a report that collates the issues and questions that must be considered by all sectors, along with objectives and recommendations that address those issues

Following plenary presentations by Drs. Ian Gemmill, David Butler-Jones, Arlene King, Philip Schwab and David Allison, participants separated into eight discussion groups to discuss the advancement of immunization in Canada.

The facilitator asked the groups to consider the following questions during their discussions:

1. What are the most important issues and questions that need to be answered in the government, private, and public health environments?
2. What are the optimal objectives against each of these issues in order to ensure Canada's readiness for new developments in vaccination?
3. What elements are needed in a plan to achieve these objectives?

The following summary reflects the primary themes and issues raised during the group discussions, and includes perspectives from government, industry, and public sector roundtable participants.

National immunization registry

The lack of a national, comprehensive, automated system for logging immunizations (immunization registry) in Canada is a significant gap, and should be addressed through federal government leadership.

An immunization registry should be an integral part of any effective national immunization program, and would also serve crucial surveillance purposes. The registry—especially when coupled with a reminder system—would help increase uptake and ensure that universal mass vaccinations reach all

segments of the population. It would also facilitate the transfer of patients' immunization histories to other regions, should patients move within Canada.

There was an expressed need for an enhanced national surveillance of vaccine-preventable diseases, and help track adverse reactions to vaccines.

Participants generally agreed that a national registry should record target rates, impact, surveillance, delivery, and funding. Necessary steps include deciding on the keeper of the registry, identifying the necessary technology or software to capture the desired information, and deciding on common definitions. Possible challenges to a national registry include funding and organizational structure.

Participants discussed the merits of a national registry versus provincial registries. They discussed Panorama, the national registry currently in development—intended to be a full-service registry, an immunization registry, and a notification system.

Some Canadian jurisdictions have systems in place to keep track of immunization records, but communication among provinces and territories is non-existent. Despite the momentum for a national approach, participants identified the integration of provincial systems as a significant challenge.

For example, participants expressed concern over whether all provinces and territories must use identical systems, or whether similar systems would be adequate. Some suggested that each province have its own registry, with the federal government assuming a coordination role.

Provincial intent to tie registries into doctors' offices could be an obstacle to developing a national registry, since many physicians still do not use computer-based systems. Organizing the registry this way would create the need to manage information-sharing among individuals, and would become a broader electronic health record issue. One discussion group suggested that any registry should be at arm's length, and should include the entire health record.

Harmonization of vaccine delivery and equitable access

Currently, Canada lacks a harmonized cross-country routine immunization schedule. Participants agreed that one of the most important problems to be addressed in the federal/provincial/territorial (F/P/T) environment is the patchwork of vaccine scheduling across the country. In addition, some routine vaccines and vaccines for special circumstances are publicly funded in some jurisdictions but not in others.

Immunization schedules should be harmonized across jurisdictions; harmonization could still allow provinces to address localized outbreaks separately.

Living in a "have–not" region should not affect access to a routine NACI-recommended vaccine; nor should a move from one jurisdiction to another put a child or youth at increased risk for missing a vaccine because of regional variations in vaccine schedules.

The scheduling variability among the provinces is a holdover from the past, reflecting events that occurred before some vaccines became available. For example, when a variety of a particular new vaccine was introduced several years ago, some regions only came on board once they saw the federal government was ensuring that everyone could afford them. "The balancing part was the ability to pay for the vaccine," a participant said.

Some participants suggested that Canada adopt an immunization approach similar to that of the U.S. Centers for Disease Control and Prevention (CDC), combined with effective planning and outreach efforts. The CDC sets a national schedule for all 50 states and provides almost immediate funding once recommendations are made to use a particular vaccine.

On the issue of implementation, health care providers and parents remain confused regarding immunization schedules and service delivery. Targeting special populations is another concern.

Participants identified some issues that could stand in the way of harmonization:

- The federal government's ability to act will be limited if the provinces and territories do not agree.
- Without enough data, evidence, and analysis, experts cannot achieve consensus on methods to harmonize schedules while accommodating local epidemiological conditions.
- The government tends to introduce new immunization programs when existing ones are problematic.

An optimal objective for harmonization would be to achieve consensus on a national schedule model by January 1, 2012. Implementation should be phased in afterwards, as two years from the date of the Roundtable does not allow enough time to both agree upon and implement the schedule.

Sustainable funding

Many participants identified sustainable funding as a major issue.

Sustainable funding and service delivery vary across jurisdictions, and some jurisdictions have yet to harmonize their own internal processes. Public health funding is an important factor—provinces with the most financial support have the highest uptake on immunization.

Funding constraints can drive decisions regarding which vaccines to offer, as well as preferred delivery mechanisms. Many participants felt that the federal government should provide adequate and conditional funding to play an effective coordinating role. One suggestion was that provinces fund

maintenance and upkeep of the immunization program, while the federal government funds upfront costs.

Sustainable funding also constrains both pre- and post-marketing surveillance, underscoring the need for joint efforts between government and industry. A participant noted that whenever a new program is introduced, Quebec sets aside part of its budget for surveillance.

Some suggested that secure, predictable federal government funding must be provided if immunization is to advance in Canada. They argued that funding should be global, rather than focused on specific pockets such as Human papillomavirus (HPV) or H1N1 influenza. Trust funds that require renewed applications and lobbying every three years were deemed by some as insufficient to address Canada's immunization needs.

Several participants noted a lack of accountability regarding spending once trust fund money is given to provinces. They suggested creating a permanent, federal budget for immunization, to enhance provincial and territorial governments' accountability.

Administration of the vaccine and resources

Participants discussed whether the responsibility for immunization should rest with public health or with individual physicians. While school-based immunization is a viable vaccine delivery method for children and adolescents, reaching adults remains a challenge.

Interactions among various health care systems would make vaccination more convenient. If pharmacists, nurse practitioners, or licensed practical nurses were allowed to prescribe, dispense, and administer vaccines, outreach could be improved. While some participants said public health provides a more efficient immunization delivery system because of its consistency, others said this would depend on factors such as volume, area, and frequency.

Participants suggested that vaccines not provided through public programs or extended health insurance plans be treated in the same manner as pharmaceuticals—they should be included in both public and private drug plans, albeit with strict parameters.

Participants also noted the difficulty in obtaining adequate funding for immunization delivery, which includes costs related to staffing, education, and training in addition to the cost of vaccines.

One group said that coordinating resources to identify duplication and gaps would free up resources. A national repository of standard documents, such as consent forms and information sheets, would help save both time and money; for example, it would allow local providers to obtain informed consent more easily.

Another group called for an increase in public health workers and a reduction in the burden on such workers, through such measures as combining vaccines to streamline inputs into the system.

Storage, packaging, and shipping can also be complex and expensive—often more so for vaccines than for other products. Infrastructure challenges include the heavy-duty refrigerators and freezers required for storing vaccines, the alarm systems needed to monitor temperature, and other factors such as the logistics and costs related to vaccine distribution and storage. Participants said storage is a joint concern shared by industry and public health providers.

Alignment of timelines and committees

Priorities include the alignment of timelines and committees. Since Canadian vaccines undergo a rigorous screening process before they are approved, overlaps and duplication in the work of review bodies tend to extend the approval process for new vaccines.

Some participants called for alignment of the various F/P/T committees' activities, noting that these could occur simultaneously, potentially speeding up the vaccine licensing process.

A shorter processing time is needed for vaccine evaluation. Currently, the process can remain in the first stage with Health Canada's Biologics and Genetic Therapies Division (BGTD) for up to two years, and then potentially spend the same amount of time with the National Advisory Committee on Immunization (NACI), the Canadian Immunization Committee (CIC), and the provincial review committees. Some of the participants recommended concurrent evaluations, rather than the current linear process.

International best practices should be examined, and case studies should compare approaches among major jurisdictions; data-sharing will be critical to reduce the vaccine evaluation timeline. A participant noted that NACI has access to data that CIC does not, and asked how to facilitate data-sharing. However, since NACI operates in a closed environment, others agreed that this could be difficult to implement.

One group said the optimal objective would be to create a 90-day time limit for NACI recommendations. A second objective would be to undertake, enhance, and confirm pharmaco-economic research.

Some participants called for more funding and resources for NACI and for the NACI secretariat to conduct research; they noted that NACI members are volunteers who conduct NACI investigations on their own time.

Fostering partnerships and communication between industry, government, and public health stakeholders

Issues facing industry, such as funding and uptake, are similar to those faced by public health and government. It was generally felt that a more coordinated approach to vaccine development would

engage all partners at an early stage, rationalize the development of vaccines and their use in public programs, and foster greater collaboration among stakeholders.

Immunization programs should be based on disease epidemiology and the need for intervention, and the public sector should support pre- and post-market research. This approach would create a true partnership "where we all have a say right from the start."

Participants were divided over whether the onus for making vaccines readily available lies with industry, or whether the government is responsible for determining and communicating Canada's vaccine needs to industry.

Sharing the data where possible and appropriate could help streamline the process.

Government, public health and industry should collaborate to determine vaccine development priorities, participants said. Public confidence is the key to increased immunization uptake and coverage. Decisions on vaccines and their intended use must be free of political considerations—or the public perception of them. If the public perceives that the pharmaceutical industry is playing an overly influential role, confidence will be damaged, and will be difficult to rebuild. Participants agreed that a transparent partnership would be beneficial.

Industry members identified issues with the current purchasing process that treats vaccines as commodities. They noted that vaccines bring enormous value to Canadian society, but this value is not always recognized in the purchasing process. They suggested that public health should focus on the value vaccines provide, as well as their price.

Education and promotion

Although vaccines have provided tremendous benefits, public acceptance is the key to effectiveness for existing and new immunization programs. Unfortunately, public opinion has been increasingly challenged by concerns regarding vaccine safety.

In particular, anti-science lobby groups such as the anti-vaccine lobby have challenged the need for vaccines, and have made strong, widely disseminated public statements about the alleged dangers of immunization. The media has picked up on this controversy, in many cases fuelling it, and creating a negative impact on vaccine knowledge, attitudes, and coverage rates.

Recently, the balance has shifted away from recognizing the true benefits of vaccination, toward increased suspicion of adverse effects resulting from immunization. Dr. Butler-Jones commented that many discussions about the HPV vaccine are not about the vaccine itself but about surrounding social and ethical issues. Unfortunately, public misconceptions regarding vaccination tend to persist, despite the overwhelming body of scientific evidence demonstrating both efficacy and safety.

Effective vaccine education and advocacy programs are needed to help overcome resistance to vaccine acceptance. These programs would promote greater public confidence in immunization as the single safest and most effective public health intervention, especially when weighed against the health risks associated with many serious vaccine-preventable illnesses.

However, participants said most jurisdictions currently lack the capacity and capability to effectively counter negative messaging and promote the importance of immunization. To overcome the effects of misinformation, information must be both accessible and visible—organizations should use social media tools and web pages to effectively disseminate key messages.

Participants offered a number of suggestions to help educate and engage the public: strong communications, getting the message right, and clearing up the confusion through clear, consistent messaging. A coordinated approach would focus on educating those who administer vaccines—nurses, physicians, and public health personnel—to ensure accurate information reaches and affects the attitudes and behaviours of the general public.

Moving forward

During the roundtable discussions, a number of issues were raised by participants that have set the stage for further discussion on immunization in Canada:

- A national immunization registry should be implemented to connect provincial registries and act as an overall surveillance tool. Ideally, this registry would be backed by federal funding, and would be accepted by all P/Ts.
- There was general agreement that F/P/T government officials, public health authorities, vaccine manufacturers, researchers, and health care professionals, should work toward a comprehensive, coordinated framework for communicating with the public and other health providers regarding the benefits and potential risks of vaccination.
- Participants suggested identifying a champion – possibly from the Canadian Public Health Association and the Canadian Coalition for Immunization Awareness and Promotion, or from a provincial government – who could advocate for vaccine delivery to all Canadians.
- Many participants said sustained financial support from both levels of government would help achieve better results in immunization.
- It was generally felt that consideration should be given to improving the national vaccine recommendation process by seeking ways to reduce redundancy between different administrative bodies, examining opportunities for point of engagement with key stakeholders, and undertaking analysis simultaneously.
- Many argued that an attempt should be made to further harmonize vaccine schedules across jurisdictions.
- The effectiveness and efficiency of the National Immunization Straetgy (NIS) could be improved by reducing duplication amongst different levels of government and players.

- Participants discussed the importance of dialogue, noting that a cross-sectoral approach would successfully advance immunization across the country.
- Strategic public communication plans can help overcome negative perceptions of vaccines and enhance recognition that vaccines represent a worthwhile, responsible public health intervention.
- Participants noted the importance of collaborative models for research as well as pre- and post-market surveillance.
- Evaluating a number of delivery systems would help establish a baseline for staffing and other resources required to implement immunization programs.
- Pharmacies can play a vital role as a locus of vaccine delivery, since pharmacists are uniquely placed to work directly with members of the public. They already use computers for record keeping and could communicate information electronically.
- There was a general desire to better empower NACI, especially given that its members act on a volunteer basis.

Conclusion

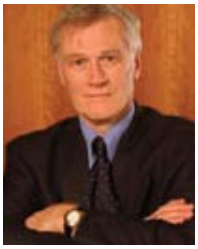
Participants agreed that every individual in Canada has the right to be protected against vaccine-preventable diseases. Although Canada has a well-developed immunization system, some of the system's remaining challenges could be resolved through a strengthened national immunization strategy. This could include the creation of a national registry, and be backed by funding and accepted by the provinces.

Participants said that a strengthened national immunization strategy, endorsed across all sectors, would facilitate multiple improvements to the current system and increased efficiencies. Improvements would include harmonization of childhood immunization schedules across the country; efficient introduction of new vaccines; sustainable funding; and improvements in public access to vaccines.

A strengthened national immunization strategy would also promote more and better opportunities for vaccine and immunization research, vaccine promotion, and improved education of health care providers and the general public.

PRESENTATION

The Canadian Vaccine Landscape



Dr. Ian Gemmill
Medical Officer of Health
Kingston, Frontenac, Lennox & Addington (KFL&A) Public Health
Dr. Ian Gemmill has been the Medical Officer of Health for Kingston, Frontenac and Lennox & Addington Public Health since 1997. Previously, he was the Associate Medical Officer of Health for the Ottawa-Carleton Health Department from 1981 to 1997 and was Director of the OCHD Sexual Health Clinic.

Dr. Gemmill has 27 years of experience in public health in Ontario and has a strong interest in communicable diseases, immunization, sexually transmitted diseases, sexual health and tobacco use control. He is currently a member of Ontario's Provincial Infectious Diseases Advisory Committee and chair of its Sub-committee on Immunization, and past chair of the Canadian Coalition for Immunization Awareness and Promotion. He has served on a number of other national and provincial committees on communicable diseases and immunization, including the National Advisory Committee on Immunization (1996-2003), the Ontario Provincial Advisory Committee on Communicable Diseases (1996 to 2004), the Board of the National Cancer Institute of Canada (2007-2009) and the Board of Directors of the Canadian Public Health Association.

Dr. Ian Gemmill said immunization in Canada is based on the principle of partnership. Noting that every partnership can be improved, he said his presentation would provide suggestions in this regard.

Vaccine development is a global activity based on disease epidemiology. Other considerations include researchers' interests, anticipated cost savings to the health care system, and the possibility of producing a profitable product. "Without industry, we would not have vaccine programs," said Dr. Gemmill.

Unlike pharmaceuticals, vaccines are used on large groups of otherwise healthy people, necessitating a higher safety standard higher and considerably less tolerance for problematic products. The aim is to produce a vaccine that is safe, effective, and reliable with no quality risk surprises.

Vaccines are manufactured in specific approved plants. Every ingredient and step is scripted and checked, and the product is subjected to multiple in-process laboratory tests, final quality tests, and quality control measures. Two groups in Canada oversee the majority of these quality control operations: the University of British Columbia's Vaccine Evaluation Centre and the Canadian Center for Vaccinology at Dalhousie University.

Health Canada's Biologics and Genetic Therapies Directorate (BGTD) inspects and regulates manufacturing plants, reviews and assesses the clinical trial data provided by the manufacturer, verifies that vaccines meet safety and efficacy standards, and conducts post-market surveillance. BGTD does not make recommendations on product use. The National Advisory Committee on Immunization (NACI) is the expert scientific review panel responsible for making general recommendations for vaccine use to the Chief Public Health Officer of Canada, based on evidence from a variety of sources.

Canada's National Immunization Strategy (NIS) was implemented in 2003. Its goal is to provide an optimal level of immunization for all Canadians, with complete coverage of all children for routinely recommended childhood vaccines. Dr. Gemmill said the strategy works to:

- Ensure equitable and timely access to recommended vaccines
- Optimize program safety and effectiveness
- Improve the coordination and cost-effectiveness of immunization programs
- Ensure a secure vaccine supply
- Provide rapid and effective national interventions in emergency situations and in response to international requests
- Promote professional and public acceptance of recommended programs
- Monitor adverse events

The Canadian Immunization Committee (CIC) is a federal, provincial, and territorial (F/P/T) body that provides leadership in immunization by advising on NIS implementation and other immunization issues. CIC is part of the Pan-Canadian Public Health Network, which reports to the Public Health Network Council through the Communicable Disease Control Expert Group. CIC considers immunization programs' health benefits, and their economic and political impact.

As health care is a provincial and territorial responsibility, each jurisdiction decides on its own immunization programs and schedules. In turn, most provinces have their local public health agencies administer and distribute vaccines to providers. An expert committee selects vaccines for public programs using tools such as the Erickson-De Wals criteria. Vaccines for routine use, such as tetanus and diphtheria, for specific populations at risk, or for specific age groups are selected using several criteria, including burden of disease, vaccine characteristics, cost-effectiveness, and acceptability.

The immunization field is not immune to political considerations, said Dr. Gemmill. Immunization programs have a host of initial and recurring costs and should compete with other public health programs, curative interventions, and other government sectors. "There is a whole array of programs against which they are compared, including fixing potholes in roads." Decisions on a particular vaccine often follow "the usual rules for political decisions, which are a mix of science, opportunity, and public pressure." He noted that decisions around vaccines should be couched in scientific evidence to foster public trust.

Dr. Gemmill said the national vaccine trust fund has improved the accessibility of certain vaccines, such as the human papillomavirus (HPV) vaccine.

All stakeholders, including the public, have a role to play in vaccine implementation, said Dr. Gemmill. The lack of a national vaccine registry in Canada is a significant gap that should be addressed. Some Canadian jurisdictions have a system to keep track of immunization records, but communication between provinces and territories is non-existent. "There is a role for government and industry. The technology is there. We just don't seem to have the wherewithal to make it happen."

Encouraging, developing, and sponsoring research on vaccines in Canada is also a priority, Dr. Gemmill added.

Canada has a well-developed immunization system, but challenges remain. Currently, the choice of available vaccines is largely determined by industry. Public health practitioners and other health care professionals have little input into the process until a vaccine is licensed for use. Dr. Gemmill called for further dialogue on identifying priority vaccines and greater consistency in provincial and territorial programs. To this end, CIC needs time to refine its role. He also called for the creation of a national immunization registry.

Promoting the cost-effectiveness of vaccines can be difficult, said Dr. Gemmill. Harnessing public support to demonstrate vaccines' worth in terms of both lives and money saved could help counterbalance information disseminated by special interest groups or those who call themselves experts, or are portrayed in the media as experts, but lack a scientific background or credentials. To further foster public trust, decisions on vaccines should not be perceived as politically motivated.

Dr. Gemmill said a more coordinated approach to vaccine development would engage all partners at an early stage, rationalize the development of vaccines and their use in public programs, and foster greater collaboration among stakeholders. Immunization programs should be based on disease epidemiology and the need for intervention and the public sector should support pre- and post-market research. This approach would create a true partnership "where we all have a say right from the start."

PRESENTATION

Opportunities and Challenges Faced by Government

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

Dr. David Butler-Jones, Canada's first Chief Public Health Officer, is the head of the Public Health Agency of Canada, providing leadership on the government's efforts to protect the health and safety of Canadians.

Throughout his career, Dr. Butler-Jones has been an advocate for public health in Canada and around the world. Dr. Butler-Jones was a vocal supporter of the recommendations included in the Naylor Report.

From 1995 to 2002, Dr. Butler-Jones was Chief Medical Health Officer for the Province of Saskatchewan and Executive Director of the Population Health and Primary Health Services Branch for the province. He has worked in many parts of Canada and has experience with consultations and work exchanges in places as diverse as the Dominican Republic, Turkey, Scotland, Brazil, Kosovo, and Chile.

Dr. Arlene King
Chief Medical Officer of Health of Ontario

Dr. Arlene King was appointed Chief Medical Officer of Health of Ontario, effective June 15, 2009. She is an internationally recognized expert in immunization, infectious diseases and pandemic preparedness. Prior to joining the ministry, Dr. King was the Director General of the Centre for Immunization and Respiratory Infectious Diseases at the Public Health Agency of Canada (PHAC), a position that she held since 2007. This was her latest role at Health Canada/PHAC where she held several positions between 1999 and 2007, including Director General of Pandemic Preparedness.

Dr. King is on two World Health Organization (WHO) advisory committees on pandemic preparedness and has been a consultant to the WHO on polio, SARS and influenza, and to the World Bank and to the Canadian International Development Agency on emerging infectious diseases. She is a member of the Pan American Health Organization technical advisory group on immunization and belongs to the WHO Africa Region Polio Eradication Certification Commission. From 2004 to 2006, she served on the Board of the Global Alliance on Immunization.

Drs. David Butler-Jones and Arlene King were asked to help articulate a common understanding of the session's issues and questions related to Canada's immunization landscape.

Dr. Butler-Jones thanked participants for attending the session, saying it was an opportunity to bring together a range of sectors and determine how best to work in partnership. Citing the many available opinions and sources of information, he said the main challenge facing stakeholders is to convince the general population of the benefits of certain vaccines. While the federal government has invested in the creation of the NIS, challenges remain. The local nature of public health delivery necessitates a better understanding of the federal government's role in areas of shared responsibility and interest, combined with better coordination across jurisdictions.

Canada has made several efforts on the immunization front, said Dr. Butler-Jones. Although more Canadians are getting immunized annually, remaining challenges include:

- Waning public confidence
- Mythology surrounding vaccines
- Price increases
- New therapeutic or niche vaccines
- Novel delivery methods
- New target populations
- Surveillance

Dr. Butler-Jones said an increased level of coordination between hospitals and communities is a potentially positive outcome of pandemic preparedness, as with the H1N1 virus, and could lead to better national surveillance.

The Chief Public Health Officer added that setting the stage for advancements in immunization requires a concerted effort by all key players, including government, industry, NGOs and the Canadian public. The Public Health Agency of Canada is currently examining its own role in immunization, with a view to strengthen the National Immunization Strategy, and will be engaging all stakeholders as this work evolves.

Dr. King agreed, saying, "We are much readier than we used to be, but we are not there yet." Dr. King said her role as one of the instigators of the NIS gives her insight into its creation and implementation. The strategy was developed to ensure equitable access to vaccines across the country. "Physicians were being forced to recommend new vaccines, and their patients couldn't afford to pay for them. They were telling us patients were making choices between food items and new vaccines."

Having received its first funding allotment in 2003 and another in 2004 to create the vaccine trust fund, the strategy progressed toward collaborative program planning.

Dr. King said the current environment presents both opportunities and challenges. Key structures and processes are now in place, and the creation of new bodies and agencies presents a significant opportunity for progress. Stakeholders are recognizing the impact of globalization and the need for collaboration in public information provision. Canada's increasing expertise in vaccine research and development is also a highly marketable commodity, she said.

Challenges include the current economic climate, increasingly expensive vaccines, and competing funding priorities. Work should be done on the linkage between immunization and the determinants of health, and on perceptions around vaccine safety. Engaging all stakeholders, including post-secondary institutions and new advisory bodies such as Ontario's Provincial Infectious Diseases Advisory Committee, is also vital to identifying common goals and objectives for immunization in Canada.

Dr. King noted the importance of creating an immunization registry, reaching targeted populations, and funding research. She also called for the creation of robust surveillance systems coordinated at the national level, with a strong provincial or territorial presence.

On the issue of implementation, Dr. King said confusion exists among providers and parents regarding immunization schedules and service delivery. Targeting special populations is another concern. Canada should position itself as a leader and a model for the world.

PRESENTATION

Opportunities and Challenges Faced by Industry

Dr. Philip Schwab
Vice President, Industry Relations
BIOTECanada

As Vice President for Industry Relations at BIOTECanada, Dr. Schwab is responsible for managing the Agriculture and Nutrition, Health, and Industrial Biotechnology sector advisory boards as well as the Vaccine Industry Committee. Dr. Schwab works with member companies to develop industry-wide responses to government initiatives and to communicate industry priorities to federal decision makers.

Prior to joining BIOTECanada, Dr. Schwab served as Director of Programs at Genome Canada, where he coordinated the scientific review processes for competitive programs across the spectrum of genomics and proteomics research.

Dr. Philip Schwab said Canada has a robust vaccine industry, from early-stage research to the finished products. Proper processes should be in place to nurture this industry.

The Vaccine Industry Committee (VIC), a BIOTECanada subcommittee, provides a common voice for all stages in the vaccine industry and views itself as a partner to the Canadian public health system.

Dr. Schwab listed the key factors for high Canadian immunization rates:

- Safe vaccines
- Strong NACI recommendations
- Public funding to make vaccines available
- Education campaigns for providers
- Access to target populations

Public spending on immunization is a very small portion of health care funding, approximately 0.26%. Public health funding is important—provinces with the most financial support have the highest uptake on immunization. Increased and sustainable public funding would reduce inequities across Canada, said Dr. Schwab.

Canadian vaccines undergo a rigorous screening process before they are approved. Dr. Schwab noted the concern that overlap and duplication in the work of the review bodies extends the approval process

for new vaccines. He suggested having concurrent rather than additive reviews to reduce industry uncertainty about production details and to foster greater reliance on scientific evaluation and less reliance on public pressure to implement new programs.

Dr. Schwab said VIC supports firm and permanent government funding, such as the trust fund; more F/P/T program implementation agreements; a world-class Canadian evaluation and recommendation process; and a national immunization process.

PRESENTATION

Opportunities and Challenges Faced by Public Health

Dr. David J. Allison
Chief Medical Officer of Health
Eastern Health

Dr. David Allison has served the Eastern Health regional health authority as Medical Officer of Health since 2000 and is also a Clinical Assistant Professor with the Division of Community Health in the Faculty of Medicine at Memorial University of Newfoundland. Dr. Allison has worked in public health settings in several provinces in Canada as well as internationally. Among a variety of interests in national public health he has participated as Co-Chair and now past co-chair of the Canadian Coalition for Immunization Awareness and Promotion, a network of government, non-government and professional organizations with an interest in encouraging the uptake of vaccines and the spread of information about immunization.

His present activities include guiding the regional public health pandemic response in Eastern Health as the current pandemic continues to evolve.

Dr. David Allison highlighted some of the challenges faced by public health organizations and vaccine program coordinators in the field and identified opportunities for improved service delivery and immunization coverage.

He identified challenges in several areas, including:

- Resources
- Providers
- Education
- Record keeping
- Vaccine characteristics

The number of vaccines, the timing of their administration, and their cost are a drain on resources. Infrastructure challenges relate to storage and handling conditions, such as the heavy-duty refrigerators and freezers required for storing vaccines and the alarm systems to monitor temperature, vaccine distribution, and clinic space.

Regarding providers, Dr. Allison noted the existence of conflicting priorities and programs between public health providers, physicians, and other providers. Lead time for planning is also a challenge. He

cited the delay between a vaccine's approval, its marketing, provider adoption, and public program adoption. Other provider-related concerns include locations, fees, and other service costs.

Education of public health staff is also a challenge, said Dr. Allison. The frequency of updates takes staff away from the clinic and into seminars. Public health staff should field questions about adverse reactions and questions triggered by misinformation and the Internet. Staff should also stay apprised of compliance requirements, such as recommended schedules, vaccine storage and handling, procedures, and communication.

Record keeping is a concern in the public health field, said Dr. Allison. He called for the creation of an immunization registry and said improved access to technology and paper records was necessary.

The challenges posed by vaccine characteristics includes the question of live versus killed vaccine, the number of doses required, the proposed schedule for the vaccine, and its antigenic properties. Dr. Allison said the scheduling of a vaccine and the likelihood of adverse reactions are priorities. He noted that the requisite skills for providers to deal with problems that might arise could vary.

Offering a field perspective, Dr. Allison emphasized the potential for improved service delivery and immunization coverage. He called for reductions in several areas, including:

- Vaccine numbers: this should involve examining the issue of unnecessary antigens
- Injection numbers: by combining vaccines, reducing doses, or finding alternative mechanisms
- Confusion and paperwork: provinces should have common schedules and record and billing systems
- Conflicts between providers

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