Executive Summary

Merck Canada ("Merck") is pleased to contribute to the pre-budget consultation process of the House of Commons Standing Committee on Finance for the 2015 Federal Budget.

Merck is committed to addressing the significant unmet medical needs of Canadians. We are a leader in a broad range of areas such as diabetes, vaccines, cardiology, infectious diseases, and respiratory, and are focused on expanding offerings in other areas. Based in Montréal, Québec, our company employs approximately 1,150 individuals across Canada. . Merck is one of the top R&D investors in Canada, with investments totalling $39.7 million in 2012 alone and more than $1 billion since 2000.

One key aspect distinguishing Merck from other international manufacturers is our strong and long-standing commitment advancing immunization. Vaccines remain among the most cost-effective health interventions. In addition to reducing the economic burden of illness, vaccines help to ensure a healthy and productive population which, in turn, supports Canada's continued economic prosperity.

However, Canada currently lags behind other industrialized countries in immunization rates. Canada is one of only three OECD countries where immunization rates for a number of key infant diseases falls below 90%.[1] Canadian vaccination rates for 2-year old children for Hepatitis B of just 17% significantly lag the OECD average rate of 95.3%. Even vaccination rates for Measles are below the OECD average (92.7% vs 93.6%).[2] These statistics suggest a missed opportunity from a public health perspective for all Canadians.

To help address this gap, Merck is recommending a renewed federal commitment to immunization support at the level of $100 million annually to establish a permanent public vaccine funding mechanism linked to the independent recommendations from the National Advisory Committee on Immunization (NACI). This investment could form the basis of a long-range plan to ensure sustained, broader immunization funding, bringing Canada more in line with other industrialized countries' immunization rates and afford all Canadians equitable and timely access to vaccines.

Within this renewed financial support for vaccines, we would also propose funding for shingles vaccination. A vaccine for this debilitating illness was approved by Health Canada in 2008, but it remains absent from the publicly funded vaccine programs. Disproportionately impacting Canadian seniors, preventable illnesses such as shingles are costly on several levels, including medical interventions and impaired quality of life and activity levels. Public support for immunization is critical. If not publicly funded, uptake for vaccination is low and incidence of disease is higher.

Supporting families and helping vulnerable Canadians by focusing on health, education and training

[1] Unicef Innocenti Report Card 2011 (http://www.unicef-irc.org/publications/pdf/rc11_eng.pdf). Only Canada, Austria and Denmark fall below 90% immunization rates for measles, polio, and DT3.
[2] OECD 2011 Health Indicators (http://dx.doi.org/10.1787/888932525571).

Vaccines are among the greatest public health achievements of the 20th century, having reduced the morbidity and mortality from a broad range of preventable diseases.[3] Vaccines have successfully eradicated smallpox, eliminated polio from most of the world and have significantly reduced the incidence of measles, mumps, rubella, diphtheria, pertussis (whooping cough), tetanus and *Haemophilus influenza type b*. Infectious diseases were once a leading cause of death in Canada but as a result of immunization, now account for less than 5% of mortality. Immunizations in Canada have saved more lives over the past 50 years than any other health intervention and globally prevent over 5.9 million deaths annually.[4] Vaccines have proven to help prevent disease, reduce healthcare costs and alleviate suffering.

In addition to playing a vital role in preventing infectious diseases, improving individual well-being and quality of life, vaccines also offer significant value to society as a whole. Immunization not only protects individuals, it protects entire populations and communities by preventing the spread of infectious disease.[5]

Vaccines are a proven, cost-effective investment for the health of all Canadians – an important factor in ensuring improved economic performance and labour market participation. Vaccines offer further economic benefit through decreasing the need for avoidable and more expensive forms of treatment such as hospitalization, emergency room visits, and physician visits.

The Federal Government has previously shown strong leadership in promoting the adoption of immunization programs. Recent advances in vaccine innovation reinforce the need for renewed Federal leadership in order to spur momentum for more sustainable and predictable immunization funding.

The National Immunization Strategy (NIS) was initiated in 2003. It is a proven success in achieving equitable access to vaccines across Canada. It represented a strategic investment with measurable economic returns in addition to wider social and health benefits.

During the period of 2003 to 2010, five new vaccines (against chickenpox, pneumococcal infections, adolescent whooping cough, meningitis and human papillomavirus (HPV) – related diseases) were introduced to publicly funded immunization programs across Canada as a direct result of the Federal Government's NIS contributions.[6] Approximately twice as many Canadian children were protected against vaccine-preventable diseases in 2006 than in 2003, and hospitalization reductions related to these infections were clearly documented.[7] Research demonstrates that publicly funded vaccine programs have significantly higher immunization rates than private programs, and consequently far greater success in reducing vaccine preventable diseases.

The benefits of federal leadership in funding the HPV vaccine should also not be underemphasized. The number of HPV-related diseases prevented as a direct result of the publicly funded program, spearheaded by the initial federal investment in the 2007 vaccine procurement fund, is significant.

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[3] BIOTECanada - Vaccine Industry Committee. Building on the Legacy of Vaccines in Canada: Value, Opportunities, and Challenges. Pathway to Access: The Current Canadian Vaccine Environment. November 2008. www.biotech.ca/en/what-biotech-is/vaccines/vaccinewhitepapers/VICWhitePapers.aspx

[4] Ibid.

[5] Ibid.

[6] Ibid.

[7] Kondro, W. Progress Report on the National Immunization Strategy. CMAJ 2007; 76(13): 1811-1813.

HPV Vaccine Funding Impact in Canada (2007 to present)[8]	
187,387 Cases of Genital Warts prevented	**299,818** Abnormal Pap Tests eliminated

While progress has been made for certain vaccines approved since 2003, there are continuing disparities and access gaps for vaccines across Canada. Broad adoption of publicly recommended vaccines is often delayed due to lack of timely, predictable and sustainable sources of funding.

Merck recommends that the Government make a renewed strategic investment in improved health outcomes and reducing avoidable health costs by investing $100 million per year into funding for new vaccines programs in order to protect the health of Canadians.

Introducing a Public Shingles Vaccination Program to Protect Seniors

Great public benefit has been demonstrated through the adoption and promotion of federally-funded vaccine programs. The government is also facing increasing pressure to deal with issues specifically related to the aging population. Canadians expect the healthcare system to meet their medical needs and deliver high-quality outcomes at all stages of life. This requires finding innovative ways to keep rising healthcare costs manageable while still supporting independence and an active quality of life.

For a number of diseases and conditions, there are now increasingly effective treatments available. Investments that reduce the burden of illness on our healthcare system now and into the future should be prioritized in order to ensure the system's long-term stability and quality.

Innovative vaccines allow us to better manage and prevent chronic disease, including for the elderly who often suffer disproportionately from a number of serious conditions. For example, one in three Canadians will develop shingles in their lifetime, and 50% of the cases occur in people aged 50 or older. Singles (also known as herpes zoster) is a painful, often debilitating disease. Anyone who has had chickenpox is at risk of developing shingles (over 90% of Canadian adults have had chickenpox). Each year an estimated 130,000 new cases are diagnosed, leading to 252,000 physician visits, reducing productivity and impairing quality of life.[9]

Shingles: Costs and Impacts			
$521 Average treatment / diagnosis costs per case of shingles in Canada	**$68 Million** Annual direct health care costs of shingles (CAN)	**40%** Percent of shingles consults by those over 60 years old	**75%** Percent of shingles-related hospitalizations and PHN episodes by those 60+[10]

[8] Brisson M, Van de Velde N, De Wals P, Boily MC. Estimating the number needed to vaccinate to prevent diseases and death related to human papillomavirus infection. CMAJ 2007; 177(5): 464-8.
[9] Brisson M, Pellissier JM, Camden S, Quach C, De Wals P. The potential cost-effectiveness of vaccination against herpes zoster and post-herpetic neuralgia. Hum Vaccine 2008; 4(3):238-45.
[10] Ibid.

The pain related to shingles can interfere with performing basic activities such as bathing, shopping, dressing and housework. It may also cause other conditions such as depression, insomnia, and anxiety. Other complications include scarring, pneumonia, hearing loss, loss of taste and facial paralysis. Shingles occurs around the eye in 10-25% of cases, and up to half of these patients may suffer from visual impairment.[11] This can significantly reduce the productivity of Canadians and impair their quality of life and ability to function, with a disproportionate burden falling on seniors.

Shingles and complications such as post-herpetic neuralgia (PHN) result in a significant number of annual outpatient physician visits, hospitalizations and drug prescriptions. It can also have the consequence of family members having to take time off or work to take care of those suffering from the illness.

Due to the healthcare resources and lost economic productivity required to manage shingles and its complications, public funding of a vaccine prevention program is highly cost-effective. A number of independent international, Canadian, and Ontario based reviews have found that public coverage for shingles vaccination for adults 60-74 years old is recommended under commonly used value-for money measures. And only a public program will ensure sufficient coverage to realize this value for money.

Importantly, in May 2014, the Public Health Agency of Canada's (PHAC) Canadian Immunization Committee released a report recommending the routine offering of the zoster vaccine to immunocompetant adults aged 60 to 65 years and older. The report cited a review of cost-effectiveness analyses from 12 publications from seven countries indicating that cost-effectiveness is maximized when zoster vaccine is given to adults between the ages of 60-69.[12] In the next budget, the Federal Government has the opportunity to step forward and translate PHAC's recommendation into action within the renewal of the National Immunization Strategy Program Funding.

Conclusion

Workforce productivity is a key competitive driver and critical to Canada's economic performance and competiveness. Keeping our workforce and population healthy is fundamental for Canada's productivity. Avoidable illnesses compromise the ability of the system to deliver world-class healthcare in a sustainable manner over the long term. Illness, especially chronic disease, is a major strain on our economy. This focuses the need to invest in preventative measures in healthcare that support a productive labour force.

Vaccines are an investment in prevention and the avoidance of higher-cost treatments in the future. However, absent public funding, the number of people getting vaccinated is lower and the incidence of disease is higher. The impact of a specific investment in the shingles vaccines would meet a need in a vulnerable part of the Canadian population. Given our population demographics, Canada's healthcare system will continue to face resource pressure. By providing funding for National Advisory Committee on Immunization (NACI) recommended vaccines through the National Immunization Strategy Program fund , Canada will save healthcare dollars and help people stay healthy, both at home and in the workplace. It is an

[11] Merck Frosst Canada, Product Monograph for ZOSTAVAX®, August 2008. www.merckfrosst.com/mfcl/en/corporate/products/zostavax.html

[12] Canada Communicable Disease Report CCDR ISSN 1481-8531 (On-line) CCDR: Volume 40-9, May 1, 2014 http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/14vol40/dr-rm40-09/dr-rm40-09-cic-eng.php

opportunity to demonstrate how federal leadership in health can produce both results and savings.

Previous federal investment in the area of dedicated vaccine funding was proven to be highly successful. A renewal of the National Immunization Strategy (NIS) through investing $100 million per year into funding for new vaccines programs will lead to improved health outcomes and reducing avoidable health costs. A focus on a public shingles vaccination program within this renewal to protect seniors will address a common yet preventable disease.

We appreciate the opportunity to share our recommendations for the upcoming budget cycle. Merck would welcome the opportunity to appear before the House of Commons Standing Committee on Finance at the pre-budget consultation meetings to discuss our recommendations and respond to any questions the Committee may have.