

17. Create a Global Research Fund to Finance Innovative Technologies and Research For The Benefit Of Human Life and the Global Economy

DESCRIPTION

The Canadian life sciences sector is an important contributor to both the health and economic prosperity in Canada. Several challenges and opportunities have arisen with this sector with the emergence of the global COVID-19 pandemic.

BACKGROUND

Currently there are no drug therapies available for either the prevention or treatment of COVID-19. Health Canada and other international health organizations are working with researchers and manufacturers to help expedite the development and availability of vaccines, antibodies, and drugs to prevent and treat COVID-19 and other future viral threats. Once a vaccine has been successfully developed, they must be effective, affordable and accessible to everyone, quickly, to prevent ongoing transmission and to facilitate the return of the domestic and global economy.

Additionally, a lesson learned from this global pandemic is the degree to which the Canadian medical technology supply chain is highly dependent on the global supply chain. Steps taken by various countries during the crisis to restrict exports were highly disruptive and in most cases did not achieve the desired impact. We know the largest economic entities (E.g. China, US, EU) will be thinking and reassessing some form of domestic pandemic preparedness strategy that encourages/mandates greater local production. Canada has the opportunity now to ensure our own health systems remain resilient and have access to the necessary supplies and equipment should a second wave of the pandemic emerge.

COVID-19 has created extraordinary circumstances and responses worldwide resulting in the complete shutdown of the global economy and increased debt to unthinkable levels, creating high unemployment and poverty not seen since the Great Depression. Experts agree that given increasing global population, travel and interconnectedness of economies there is an increasing risk of ongoing pandemics. Numerous countries have already been previously impacted by other diseases such as SARS, MERS, Ebola, Spanish Flu, H1N1 and others, each affecting the global economy in immeasurable ways. Impacts from these past pathogens were mitigated by timely responses and containment measures; however, as with Covid-19, until vaccines, antibodies and drugs are developed, the global economy and human life is severely impacted.

The study of pathogens, and associated vaccine research, costs hundreds of millions of dollars with a very high failure rate (>94%). With immediate and ongoing financial support, labs and manufacturers can increase their efforts with greater scientific resources applied to each problem and the investigation of multiple potential solutions. Unfortunately, vaccines for emerging diseases are not generally an attractive investment for large pharmaceutical

companies, given that by the time a vaccine is developed and licensed, an outbreak may have been contained.

For research on global pathogenic research to be timely, effective, and responsive, it needs to be sustained and properly funded, free from pure profit encumbrances. To this end, Canada should lead an international effort to create a global research fund to finance innovative technologies and research into the diagnosis and treatment of emerging pathogens and quick, equitable and universal deployment of effective treatments to benefit human life and the global economy. Allocation of the fund would be delegated to an international commission, whose job it would be to determine and show the health and economic benefits of different products in an open and transparent manner.

At the height of the pandemic, global demand for certain medical supplies and equipment was unprecedented and outpaced available inventory. The medtech industry was quick to respond to the needs of the system by pivoting and expanding their manufacturing operations where they could. Canada also saw an emergence of many non-traditional manufacturers retool their operations, enabling short-term domestic production of necessary medical supplies and equipment. While this was necessary to meet the immediate needs of Canadian health systems across the country; a sustainable, long-term strategy is required to ensure the resilience of our domestic pandemic preparedness.

The COVID-19 pandemic, according to most estimates, is cutting GDP by at least 25 percent, which translates into economic losses of \$1.6 billion per day in Canada. Scaled up to include other OECD countries, on a GDP-weighted basis, such a fund would be approximately \$150 billion, enough to motivate an enormous investment in medical innovation. Such a fund would mitigate risk in the development of disease-related technologies and attract investment to accelerate current and future development to benefit global and domestic economies and human life.

Canada should leverage its existing advantage in vaccine and medical technology development and manufacturing and begin expanding domestic capacity to ensure access for Canadians and the potential to contribute to the global supply through exports. Next steps include:

- Establishing the process for evaluating successful trials.
- Determine the Criteria for selecting vaccines for Canadian market approval.
- Immediate expansion of domestic vaccine and medical technology manufacturing capacity.

RECOMMENDATIONS

That the Government of Canada:

1. lead an international initiative to create a global research fund to finance innovative technologies and research for the diagnosis and treatment of emerging pathogens and quick, equitable, and universal deployment of effective treatments to benefit human life and global economy.
 - a. Establish the process for evaluating successful trials;
 - b. determine the Criteria for selecting vaccines for Canadian market approval; and,
 - c. an immediate expansion of domestic vaccine and medical technology manufacturing capacity.