



## The Centre for Drug Research and Development (CDRD)

Budget Consultation Submission to the House of Commons Standing Committee on Finance  
August 5<sup>th</sup>, 2016

### Executive Summary

The Centre for Drug Research and Development (CDRD) strongly supports the Budget 2017 priority to ensure Canadian businesses are effectively able to **“meet their expansion, innovation and prosperity goals, and thereby contribute to economic growth in the country.”** In that context, this submission focuses on the need for a robust “innovation ecosystem” supportive of the national health sciences sector, and more specifically how incubators and accelerators such as CDRD can best support entrepreneurs in establishing sustainable new companies, and enable existing small and medium enterprises (SMEs) to grow into strong anchor companies.

CDRD is the only national drug development and commercialization engine providing the expertise and infrastructure to transform basic health research in our academic institutions and small- and medium-sized enterprises (SMEs) into commercialized products improving human health. In doing so, CDRD has established an international reputation and competitive advantage for Canada. In order to sustain this advantage and realize the full potential of Canada’s health sciences industry however, CDRD requires the continued support of its many public and private sector funding partners until it reaches financial self-sustainability. CDRD appreciates greatly the two-year bridge funding (\$32M) provided in Budget 2016, and is actively working with Innovation, Science and Economic Development Canada to define the framework for this funding. This support is critical in enabling CDRD to maintain its baseline level activities in the short term, and in order to continue its high impact work in the future, we look forward to working closely with the Federal Government to develop longer-term strategic avenues through which successful and impactful organizations such as CDRD can continue to deliver results for Canadians.

CDRD is leveraging its network to actively support the development of Canada’s Innovation Strategy. We believe this strategy will be paramount to the sustainability and growth of the Canadian health sciences industry, and is an opportunity for the Government of Canada to ensure that we take a holistic approach to supporting innovation, with robust and dynamic incubators and accelerators such as CDRD being well-supported and critical pieces of a vibrant ecosystem.

We believe this engagement, and the track record of success at CDRD as a central hub for the British Columbia health sciences sector positions us uniquely to offer the following perspective on fostering a robust national health sciences ecosystem, with a focus on the specific role CDRD plays as Canada’s national drug development and commercialization engine.



## Enabling a Robust Health Sciences Ecosystem for Canada

Canada has a long and proud history of important scientific discovery. In recent years however, our global standing has slipped significantly, particularly when it comes to translating our world-class research into new innovations and commercial products. We have in Canada the foundation for a vibrant health sciences industry to develop such commercial products. This enviable position is the direct result of Canada's historic public policy support for basic health research through such leading organizations as the Canadian Institutes of Health Research (CIHR), the Canada Foundation for Innovation (CFI), Genome Canada and others. Policy makers around the world however, grapple with the challenge of translating this high potential research into its full commercial potential; into new medicines for patients; and into the full extent of resulting economic and societal benefits.

There are daily stories on the news: *Exciting new breakthrough brings hope to patients*. But most often, these promising breakthroughs are never actually developed into innovative life-changing/saving medicines often because the universities and/or small companies that have made these discoveries do not have the specialized expertise, infrastructure and/or dedicated funding to develop them further and realize their full potential value.

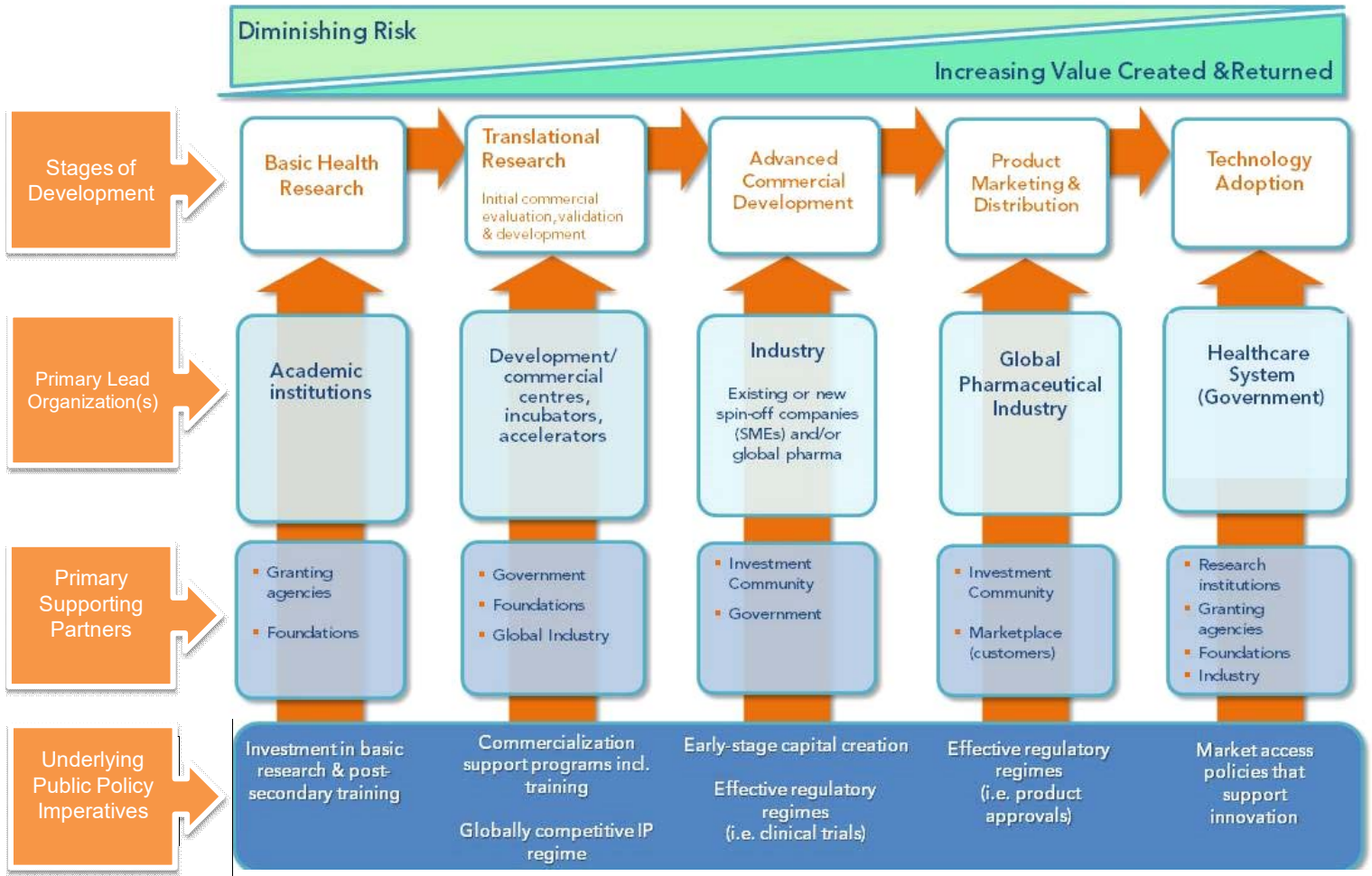
The backdrop for this challenge is today's health research and commercialization landscape. where research and development, clinical evaluation, and healthcare delivery costs are rising continually; regulatory and reimbursement hurdles are getting higher and higher; and venture capital investments focus on less risky later-stage, validated opportunities, leaving little financing available to develop new therapeutics in the early stages. As getting new drugs and other therapeutic products to market becomes more and more difficult, and the associated costs and risks become increasingly greater, the various players (from academic institutions and granting agencies to translational research organizations, incubators, and accelerators to foundations, government and industry) must support one another and deliver on their key roles in effectively reducing the risk of new technologies, leveraging resources, and filling the gaps in the development continuum.

This interdependence means creating and nurturing a comprehensive health sciences ecosystem that is well-supported and aligned. A complete, dynamic and fully-optimized technology development cycle, such as shown in the matrix below will allow Canada to realize the economic and health outcomes on research funded today, and also be the generator of world-class *innovation* from the translation of that research.

Around the world, CDRD has emerged as a recognized translational centre that is an essential piece of this matrix delivering on the potential of this innovation.



## Matrix of Canada's Health Innovation Ecosystem





## CDRD: A Critical Piece of the Health Sciences Ecosystem

### Commercialization of health research innovation is our single focus

Headquartered in Vancouver with operations and alliances across the country, CDRD is not only a central hub for British Columbia's leading health sciences sector, but is the national drug development and commercialization engine. It provides the expertise and infrastructure to transform basic health research from academic institutions and early-stage therapeutic technologies in Canadian small- and medium-sized enterprises (SMEs) into commercialized products improving human health. In doing so, CDRD is actively growing our national health sciences industry into an optimized generator of sustainable economic prosperity for the country.

CDRD was founded in 2007, enabled by the support of the federal government primarily through the Centres of Excellence for Commercialization and Research (CECR) program, the BC provincial government, and the private sector. CDRD has developed and successfully implemented a world-leading shared risk/reward innovation partnership model that is an effective means to collaboratively advance innovative technologies along the innovation continuum, adding value throughout that process.

The path toward the realization of CDRD's ultimate vision can be captured in three seven-year phases of organizational development, with Phase II being the primary focus of this plan:

- **Phase I (2007-2014): Building Capacity**  
Characterized by the building of foundational infrastructure, primarily its BC-based headquarters, and expertise and partnerships to validate and advance a select number of technologies in limited scientific areas
- **Phase II (2015-2022): Achieving Critical Mass for Commercialization**  
Characterized by the building of complementary capacity to increase its presence and support nationally, and operate at a scale adequate to maximize the full commercial opportunity created by government's investment in basic research, and also generate the robust pipeline CDRD/CVI requires for its own self-sustainability
- **Phase III (2023 onward): Reaching Self-Sustainability** Characterized by the generation of a level of commercial revenue that can sustain CDRD/CVI into the future without subsequent public-sector support.

#### Vision

Enablement of a vibrant and fully optimized global health sciences ecosystem integrating and supporting innovative research, commercialization and care.

#### Mission

- To be a global leader in bridging commercialization gaps to translate early-stage discoveries into new medicines
- To uniquely train the next generation of highly-qualified personnel to drive the development of the medicines of tomorrow

#### Mandate

To work in partnership with academia, industry, government and foundations, to identify and de-risk promising discoveries, and transform them into commercially viable investment opportunities for the private sector.



Through its first phase of development, CDRD successfully established itself as a partner of choice for over 50 affiliated universities, 26 small health sciences companies and entrepreneurs, 6 global pharmaceutical companies, and several patient-focused foundations to proactively find, evaluate, develop, and commercialize the most promising discoveries.

One of CDRD's driving principles is to build on existing strengths and fill critical gaps rather than duplicate any existing capacity in Canada. In addition to CDRD's internal technical capabilities and essential infrastructure, the organization has developed relationships to expand its available drug development capabilities by establishing Nodes, Preferred Partnerships and Affiliations with key groups that provide CDRD preferred access to a pipeline of early-stage discovery and a number of external complementary partner platforms across the country.

Through this approach, CDRD has effectively leveraged and networked Canada's strengths from both a regional and a technological standpoint, creating a national "super cluster" that is unique in the world.

## Fostering a National Health Sciences Super Cluster





## CDRD: Impacts and Outcomes to Date (2007-2015)

- Established over **40,000 sq. ft.** of specialized cutting-edge translational research infrastructure
- Recruited top talent in the form of **100+** drug development and commercialization experts
- Secured **75** national and international partnerships (includes 52 academic affiliations, 10 provincial and federal govt. agencies, 5 foundations, and 8 international translational centres)
- Identified and evaluated **1,052** health technologies for their commercial/therapeutic potential
- Selected **209** technologies to be incubated within CDRD
- Successfully advanced **56** technologies toward commercialization (resulting in over **50** new patents)
- Completed commercial transactions on **14** technologies  
This includes **3** co-development deals, plus the development and out-licensing of the **3** technologies:  
and the creation of **7** spin-off companies which are already collectively valued at close to **\$100M.**
- Helped attract over **\$100M** in grant funding for the Principal Investigators with whom CDRD collaborates (PIs have more than double the grant success rate when they are collaborating with CDRD)
- Attracted approximately **\$51M** in private sector investment directly into CDRD
- Attracted an additional **\$25M** in seed investment into CDRD spin-off companies
- Supported **26** Canadian health sciences companies (SMEs) by providing over **9,000** hours in access to CDRD's expertise and infrastructure (enabling their technology development, adding value to these companies, and positioning them to raise additional investment and/or secure strategic partnerships)
- Established a highly-successful and unique Training Program that has produced **162** Highly-Qualified Personnel (HQP) – with **94%** of our Post-Doc alumni now being employed in their field of choice (approximately **85%** of whom have remained in Canada).



## Conclusion

CDRD has been delivering on its promise. We remain fully committed to working closely with public policy makers to align fully all elements of Canada's health sciences innovation ecosystem. With targeted strategic support, government will ensure Canada realizes the full economic and societal potential of Canada's health sciences sector, and re-takes its rightful place amongst global innovation leaders.

In the case of CDRD specifically, these contributions include:

- Maximizing the return from publicly-funded research; ensuring that the societal and economic benefits resulting from Canada's investments in S&T are realized here in Canada and are not lost to other countries;
- Advancing technologies to create and support a critical mass of new companies and sustainable, high-paying jobs (and associated economic spin-off benefits and a diversified bio-economy);
- Attracting Foreign Direct Investment to give our companies the chance to grow their businesses here;
- Supporting continued "Brain Gain" by attracting and retaining biomedical research talent; and training new Highly-Qualified Personnel and entrepreneurs to lead the industry into the future;
- Mitigating healthcare costs through more effective treatments and front-line care (e.g. chronic diseases).

CDRD leadership looks forward to working with the Government of Canada through the Innovation Agenda to identify specific ways in which all of the required health sciences players can be best supported through public investment and policy – and thereby maximize their respective contributions to the Canadian economy for the long-term. Canadian businesses will therefore effectively be able to **"meet their expansion, innovation and prosperity goals, and thereby contribute to economic growth in the country."**



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