Dear Minister Duguid,

The Toronto region’s Human Health and Sciences (HHS) cluster is home to an incredible concentration of people, ideas and investment. On behalf of the HHS cluster and its leaders from the worlds of research, finance, industry, medicine and technology, TO Health! is proud to share with you a Cluster Plan designed to leverage these assets into a long-term, sustainable strategic advantage for the Province of Ontario. This is the first Cluster Plan written and submitted under the Partnership for Jobs and Growth Act passed in 2014. The stakeholders within the cluster have organically aligned and collaborated to design this planning document and we are united in our resolve to move ahead together.

The HHS cluster is invigorated to witness three levels of government united in their focus on building upon regional strengths, investing to improve global competitiveness and fostering economic development to create the successful enterprises that ultimately lead to more, better-paying jobs. The Federal Growth Council has recommended and inspired the creation of a new economic development office focused on promotion of Canada internationally, in order to better engage and attract global investors and partners. Province, Ontario has just created the new Office of the Chief Health Innovation Strategist, a bold move which highlights the province’s foresight and intent to improve care and outcomes for Ontarians while driving economic growth for the province through healthcare investment.

Meanwhile, the momentum of the Toronto region’s HHS cluster is being accelerated by recent investments from large multinational private organizations like Bayer and Versant Ventures (to create BlueRock Therapeutics, a stem cell company), Johnson & Johnson (to create the first JLABS outside the US), Celgene (to invest in Blueline Biosciences and multiple other growing biotech companies) and General Electric (to invest in the Toronto region’s Regenerative Medicine development and manufacturing sector).

With government and industry increasingly coordinating and collaborating, the time is ripe for a Cluster Action Plan that captures months of thinking and planning by a wide range of leaders
across the cluster. To prepare the Plan, TOHealth! organized and convened working groups, collected and summarized the insights and ideas of dozens of groups and individuals, and then organized and convened roundtables that brought together more than 60 sector leaders to refine and enhance our common understanding of the key opportunities facing the sector and to begin prioritizing a core set of recommendations that are laid out in the pages to come.

We want to thank you for your support and are looking forward to your response to the Plan to better understanding how the initiatives and tactics laid out in this document can complement and reinforce the leadership already being shown by the Government of Ontario to support the Toronto region’s HHS cluster. We’re proud to share this plan on behalf of the cluster and look forward to working with you and your ministry to create and foster a clear advantage for Ontario.

Sincerely,

Ella Korets-Smith
Executive Director, TO Health!
Executive Summary

The Toronto region Human Health and Sciences (HHS) cluster is one of Canada’s most high impact and high potential economic superclusters. The HHS cluster includes all of the institutions and organizations that touch the development and delivery of healthcare, from medical technology and biopharmaceuticals, to health-focused venture capital funds, to hospitals and university R&D centres. The HHS ecosystem is defined by a convergence of key stakeholders from academia, industry and government, what some theorists have called the ‘triple helix’ required to create and expand a successful cluster.

The HHS cluster has the largest concentration of health sciences employment and companies in Canada, as well as a century-long track record of outstanding research innovations. We have undeniable momentum and believe we can grow the economy of the region and improve patient outcomes.

![Figure 1: Toronto region Human Health and Sciences Cluster Map](image)

Toronto region’s HHS cluster is central to the Life Sciences ecosystem in Ontario. The Life Sciences sector contributes $3.9 billion to the GDP of the province, with exports of $8.6 billion. With nearly 50% of Ontario’s population and a representative percentage of the $5.9 billion healthcare spend, Toronto region is the largest healthcare market in
Our cluster’s strength stems from our deep expertise in three therapeutic areas: Oncology, Neurological Diseases and Cardiovascular Diseases and Diabetes. These areas of strength allow us to start identifying and leveraging opportunities to increase our competitiveness through research, development and commercialization of technologies to better serve our patients and increase wealth and prosperity in the region. These technology areas of opportunity - including Regenerative Medicine, Genomics, Imaging/Medical Devices and Data/Analytics - have been identified based on the institutions, assets and resources already present in the region upon which we can build.

Investment from multinational enterprises in the cluster is starting to gain momentum. Corporations such as Bayer, Johnson & Johnson, Celgene, GE Healthcare and IBM are establishing major facilities and placing investments in the GTA, many times with support or financial assistance of at least one level of government. A global venture fund, Versant Ventures, has made five major investments in the region over the past three years, including the most recent investment of $225M USD into a new regenerative medicine company using technology from Toronto’s UHN and the McEwan Center for Regenerative Medicine. We expect to build on this momentum to create even more centres of excellence, and with them, jobs.

Our vision is to elevate the Toronto region HHS cluster to Top 5 global status within 10 years. TO Health! has been formed with a mandate to build a community of stakeholders working in concert to first and foremost stimulate economic growth of the cluster. With a diverse population, a pool of highly-skilled, well-educated people and an engaged group of leaders willing to influence action on priorities, we are in an enviable position to build from strength.
This document, called the HHS Cluster Action Plan, represents the framework and roadmap to achieving our objectives. The plan is an industry-focused, multi-stakeholder effort, which includes ideas and inputs from past learnings and summarizes required contribution from business leaders, government, and academic institutions. Its ideas have been shaped and supported by foundational work from Influential organizations including Life Sciences Ontario (LSO), Ontario Biotechnology Innovation Organization (OBIO), Ontario Chamber of Commerce (OCC), Toronto Region Board of Trade (TRBOT), MaRS, City of Mississauga and others collaborators whose consultation and policy development efforts have laid the groundwork for this plan.

In creating this document, cluster leaders came together at the working sessions held by TO Health! in October 2016 to align, refine and prioritize actions we need to take together to improve the competitiveness of the Toronto region. Participants included business leaders, policymakers, scientists, investors and entrepreneurs whose ideas, insights and energy went into the roundtables and who will continue to play essential roles in the creation and implementation of this plan.

(See Appendices for the full list of participants and detailed session notes).

Following the roundtables, TOHealth! narrowed a longer list of potential actions and tactics into a prioritized set of eight key recommendations that are collectively intended to help Toronto’s HHS cluster raise its profile both at home and abroad, expand access to risk capital, attract and expand the local footprint of multinational enterprises and attract experienced entrepreneurs to (or back to) the region:
CLUSTER ACTION PLAN SUMMARY

4 OBJECTIVES

- Raise the Profile of the Cluster both Internally and Externally
- Expand the Pool of Specialized Risk Capital
- Anchor Cluster with Infrastructure and Corporate Global Mandates
- Attract, Develop and Retain C-Level Talent

8 TACTICS

- A detailed, interactive cluster inventory that includes a functional listing of organizations, programs and resources in the cluster.
- An ongoing stream of high profile health-related conferences in the Toronto region, including existing major conferences and new programming.
- A Health Science focused stewardship program, facilitating inbound and outbound international engagement, hosting global delegations and showcasing the cluster.
- A government-catalyzed, industry matched and administered venture fund specifically focused on Health Sciences.
- Resources and streamlined application processes to help local outposts of leading MNEs secure a new wave of investments, partnerships and alliances that align with HHS cluster strengths.
- Program further leveraging and optimizing public sector procurement to accelerate the absorption of innovation into the healthcare system.
- A plan that prepares the Toronto region to utilize health data to drive better health outcomes and greater economic benefits.
- A targeted program that helps scaling companies access C-level executives with specialized skills.

8 SHORT TERM OUTCOMES

- An ability of stakeholders within the cluster to tell the “Toronto HHS cluster story” both internally and externally.
- A measured increase in the amount of collaboration between stakeholders within the HHS cluster.
- Additional sales resources for the Toronto region, including a complete listing of Global partnerships already in place here.
- A more complete understanding of the risk capital landscape for Health Sciences in the Toronto region.
- An identified lead and strategic work plan that identifies shorter term and longer term opportunities and a process to connect these to JPF funds.
- An expanded and deepened commitment to attracting and embedding novel significant technological interventions for delivering better outcomes to patients.
- A more detailed understanding of opportunities to use health data to improve patient outcomes as well as anchor growing healthcare data firms.
- An understanding of required skills sets HHS companies need to grow and scale and where to find these kinds of skills.

5 LONG TERM OUTCOMES

- A measurable increase in the number of midsize, scaling healthcare companies (100+ people employed)
- One major healthcare company anchored in the region
- Half of the global multinational healthcare MNEs located within the region will have a focus on partnerships and innovation.
- An investment of private capital from a broader range of partners than currently do not invest in Health Sciences or not in Ontario.
- A core group of world class, talented and experienced C-level executives working with companies in the region.
Moving forward, TOHealth! and its cluster partners will be focused on three core mandates:

1. **Launching a Core Set of immediate Projects**
   
   At least three of the recommendations captured above are ready for immediate action – with work on some already well underway: developing an Integrated cluster Inventory; hosting world-class conferences; and creating a dedicated program to expand global HHS connections. TOHealth! and its partners will focus on accelerating the momentum behind these ideas and ensuring they have the resources and support required to successfully launch.

2. **Refining and Enhancing Longer-term Projects**
   
   From a Health Technology Integration Program to HHS Data Access and Integration to creating a HHS Venture Fund, a number of the recommendations in this plan have been deliberately selected to catalyze debate and discussion and generate opportunities for additional research and refinement. TOHealth! and its partners will work diligently to develop detailed implementation plans for those more nascent recommendations.

3. **Engaging with Key Strategic and Funding Partners**
   
   Working through both its HHS Committee and the broad group of cluster leaders whose insights are captured in the pages above, TOHealth! will communicate the Cluster Action Plan to public and private sector leaders across the region. Particular emphasis will be placed on engaging with a broader set of ministries across the Government of Ontario beyond MEDG, and working closely with both FedDev and Innovation Science and Economic Development Canada – as well as leading municipal government allies and advocates from across the region.

The Toronto region is already home to an HHS ‘Supercluster’, defined by exceptional researchers, world-class innovation institutions and an impressive array of early stage and global companies. All stakeholders including government at all levels must (continue to) recognize this cluster’s magnitude and potential. The initiatives and ideas contained in this plan are intended to build on that exceptional foundation to help the cluster achieve its goal of becoming **top 5 in 10 years.**
CONTACT

ELLA KORETS-SMITH
Executive Director, TO Health!
ella.korets-smith@tohealth.ca
www.tohealth.ca