

Supporting Document: The Waterloo Wellington Health & Social Innovation Ecosystem

The Super Cluster of Innovation and Waterloo Wellington's Innovation Ecosystem

What sets Waterloo Wellington apart from other innovation centres across the province, and around the world, is our unique innovation ecosystem that acts as one of the anchors of a Super Cluster of Innovation (Super COI) which spans from Toronto to Waterloo and connects innovators, industry, funding partners and talent at all points in between. At one end of the Super COI is Waterloo, with its technology hub, manufacturing base and world class academic and research institutions. The Super COI runs along the highway 401 corridor and is connected at the other end to the technology and innovation centre in Toronto, which includes access to a rich pool of talent, research and academic institutions, funding and industry partners. This Super COI is further set apart by the vast network of technology companies that exist within it; boasting over 15,000 technology companies that employ over 200,000 people, and is home to millions of Ontarians.

The Toronto-Waterloo Corridor presents opportunities that are further unique to the Waterloo Wellington and Toronto geographies, its residents, industries and economic growth. Super-COI's exist in other places around the world, such as Silicon Valley (San Francisco to San Jose), San Antonio, and the Bio-Medical Corridor in Boston.

Within the Toronto-Waterloo Super-COI, there are over 5,000 start-ups who are leveraging the access to talent, information, technology and resources that are available in our unique eco-system. Health innovation companies, agencies and hubs such as the Accelerator Centre, University of Waterloo, Google, Christie Digital, Communitel, AGFA and many more employ thousands of residents and continue to foster innovation and growth in the health care sector.

Currently we have dozens of partners that the WWLHIN has supported and in some cases initiated. Examples include, but are not limited to:

- Schlegel School of Aging, University of Waterloo and Conestoga College
- University of Waterloo's Greenhouse – a Social Impact incubator
- the WWLHIN's eHealth Centre of Excellence
- the Wellbeing Waterloo strategy in partnership with the WWLHIN, Region of Waterloo, Waterloo Police Service and major community foundations
- seed starts involving the WWLHIN and other community partners along with Ontario Centres of Excellence, MaRS Social Innovation Fund and Canada Health Infoway

The WWLHIN sees a significant opportunity that include the WWLHIN acting as a catalyst to finding and promoting solutions to health and broader community problems.

Coupled with the major support from provincial and local politicians to grow the Super-COI, the desire of the University of Waterloo to do for healthcare what it did for computer engineering and technology and support from major players across the community, the opportunity for the Province and residents is outstanding. A robust Super-COI would see greater strategic linkages between the universities at each end of the COI, and would help to promote younger companies to move from the start-up to scale-up.

Waterloo Wellington's Innovation Ecosystem

While similar innovation hubs exist around the world including areas like Silicon Valley, the Health & Social Innovation ecosystem is unique to Waterloo Wellington. This ecosystem is made up of four sub-ecosystem, or nodes: Research Based Partners, System Based Design Thinking and Problem Solving, Social Impact and Syndication. Each of these nodes, while not unique to Waterloo Wellington, are unique in how they operate together within the ecosystem, and the Waterloo-Wellington Super COI.

What makes this ecosystem even more unique is the culture of the Region; a pay-it-forward culture that is deeply rooted in community development and collaboration. While other ecosystems may have elements of what exists in Waterloo Wellington, the culture is what sets us apart; collaboration is done organically, for the greater good, and is done at all levels. In Waterloo Wellington we have excellent relationships with all levels of government and our local leaders are champions of innovation and collaboration.

Technology incubators and champions such as Communitech, University of Waterloo, Conestoga College, and the eHealth Centre of Excellence are each positioned to support a next step in health care innovation, partnered with the WWLHIN. In the technology sector alone, there are as many as 100 bio-medical technology start-ups and scale ups, all with access to the environment, technology, talent and syndication that exists within this ecosystem:

Node #1: Research Based Partners

This node includes a Partner Network of innovation incubators such as the University of Waterloo (including St. Paul's University *GreenHouse*), The Research Institute for Aging, The Village At University Gates Long Term Care Home, Gerontology programs Conestoga College, and the Global Centre for Medical Innovation. These Partners develop and incubate solutions across the ecosystem but for the most part due to process, business limitations and funding, can only take an entrepreneur so far, or might only see the innovation grow within their own ecosystem.

Thought leaders in Waterloo Wellington recognize that a unique ecosystem exists that could allow significant partnership between the research groups at University of Waterloo, Wilfrid Laurier University and Conestoga College, the clinical and front line care environments where people receive care and the rich innovation technology companies that have been incubated in the Region's thriving tech sector.

The Research Institute for Aging (RIA)

The RIA is a leader in integrating research, academics and front-line care, located on the University of Waterloo campus. The Schlegel family, founders of the RIA, have created a partnership with the University, Conestoga College and its own network of Long Term Care Homes throughout Ontario. Students and academics conduct research at the centre, which includes living classrooms and the most innovative educational space, and techniques, theories and practices can be applied directly through front-line care which is delivered at the newest Long Term Care Home attached to the building. These practices can then be transferred throughout the network of Long Term Care homes and in turn help to influence policy across the entire province. Research such as vascular aging and brain health is conducted on site and is then applied not only to geriatric medicine but also for broader applications elsewhere.

Node #2: System Based Design Thinking and Problem Solving

Within this node the current Health Care Segment is very fragmented and siloed. The opportunity within this node is for the most well positioned entity to bring people together to finally break down silos in health care and innovate beyond existing borders. An example that is currently redesigning the way healthcare is delivered and solving real world problems include:

eHealth Centre of Excellence

This family health team program at the Centre for Family Medicine is designed to support and lead initiatives in eHealth. This centre fosters and promotes a collaborative environment to develop best practices and enable technology to improve clinical care provided across Waterloo Wellington, and across the province. The team at eHealth Centre of Excellence are leaders in being able to enable technology, as demonstrated through their work on Personal Health Records, Electronic Medical Records, connecting South West Ontario (cSWO) etc.

Node #3: Social Impact

In support of Node #2, there are a number of community partners that impact the social and wellbeing of residents. These include the Police Services, School Boards, Municipalities, Health Service Providers, community foundations, crime and safety councils and more.

The WWLHIN is a key leader in the creation of a new broader social impact wellness strategy. Taking a collective impact approach, this umbrella strategy will take the “sum of the parts” of the various community wellbeing initiatives and focuses energy on a broader collective good. The pieces of this strategy include the Premier’s Community Hub, the WWLHIN Connectivity Table, Ministry of Community Safety and Correctional Services’ Community Safety and Wellness Strategy, as well as similar strategies coming from other Ministries (e.g. MCSS and MCYS) and leverages the capabilities of each to tackle those issues that no one sector can address.

Connectivity Tables

In partnership with the Waterloo Region Police Service and a number of health and social service partners, Connectivity was formalized out of the already strong and long-standing relationship of the partner organizations. Once a week, Connectivity brings together these organizations which are both traditional and non-traditional health service providers to work together to support individual residents in getting access to the services that they need. This partnership and process allows for immediate responsiveness and system improvement. Connectivity addresses resident’s real and immediate needs, whether it be housing, access to care, education and child protection.

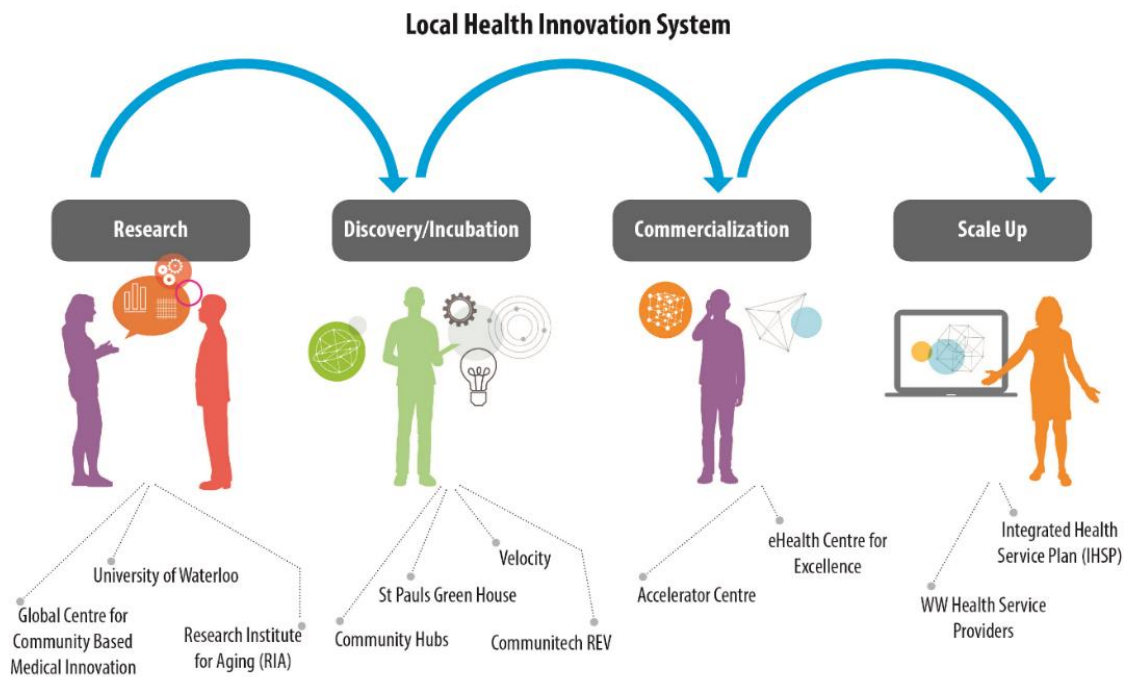
Node #4: Syndication Funding

Syndication funding is an effective way to invest in start-ups to help to accelerate them towards commercialization and sustainability and to get innovations working for patients faster. Through syndication, funds can be invested from multiple sources, much like crowd funding, or matched by larger angel investors. These partners include the network of the Ontario Centres of Excellence, MaRS Social Innovation Fund, Canada Health Infoway and community foundations who could all contribute to syndicating funds. The WWLHIN meets with a series of large funders attempting to take a syndicate

approach to funding as well as provide a platform for provincial and private sector investment in meaningful social impact change.

The Innovation Process at work in Waterloo Wellington

The innovation ecosystem in Waterloo Wellington has ideal conditions for these technology companies to move from commercialization as start-ups to successful scale-ups. The local health innovation process is



illustrated in the diagram below:

The eHealth Centre of Excellence leads a great example of how innovation can be moved locally from ideation through to scalability through the System Coordinated Access project;

Streamlining access to health care services and improving wait times is a problem for most health systems internationally. In Canada, the last First Ministers Health Accord identified wait times as a priority area for Canadian healthcare. Electronic Referral is one solution that has been shown to improve access to specialist services and has the potential to decrease wait times, however, a recent environmental scan concluded that few electronic referral systems have been implemented in Canada and many challenges exist with the technology with impact their deployment in Canada and internationally.

WW System Coordinated Access Program:

The eHealth Centre of Excellence System Coordinated Access (SCA) program, is leading a first-of-its-kind project to design an innovative referral system that coordinates access to health services across the

continuum of care including patients and caregivers. Grounded in an understanding of the needs for such a system internationally and a review of the literature, SCA developed an electronic referral system that will improve linkages and communications between patients, referrers, and healthcare providers and that will improve health outcomes.

Create Incentives and Remove Barriers to Innovation

The Waterloo Wellington system is focused on population health, equity and ensuring that residents receive better access to care. The WWLHIN has supported innovative technologies and processes to solve health issues in the system, and to provide better care for residents. For example, the use of eShift in our palliative care system allows for a virtual shift nurse to monitor multiple end of life patients while they remain at home instead of in an acute care facility. Through the use of a unique technology and process, one palliative shift nurse is connected to up to four palliative personal support workers across the system. This allows for increased home care support, providing residents the care that they need and want, at home.

The Waterloo Super-COI also allows for this type of innovation – the WWLHIN can leverage the network of the Super-COI to incent innovator, incubators and syndication partners to continue to provide solutions and test them in our unique market.

Optimize the Pathways to Adoption and Diffusion of Innovation

Scalability and sustainability is a vital component to the success new technologies and innovation. The WWLHIN sees significant opportunity to lead the process of finding continued improvements of pathways to adoption as well as sustainability, by partnering with the various nodes identified in the system, specifically the medical incubation and system based design thinking stakeholders. Further work can be done led by the WWLHIN, with the Ministry of Health and Long Term Care, health technology companies within the Super-COI, health service providers and other local partners.

Supporting online content (blog posts, media etc):

Health Technology Innovation: <https://brucelauckner.wordpress.com/2016/12/06/health-technology-innovation/>

Why I don't want you to Innovate: the paradox of innovation:
<https://brucelauckner.wordpress.com/2017/02/27/why-i-dont-want-you-to-innovate-the-paradox-of-innovation/>

From Innovation to Action: <https://brucelauckner.wordpress.com/2017/05/08/from-innovation-to-action-collaboration-is-key/>

Alaunus Unveils Bloom: <http://news.communitech.ca/news/members/alaunus-unveils-bloom/>

New Electronic Referral System Aims to Improve Access for Patient and Care Providers:
<http://www.newswire.ca/news-releases/new-electronic-referral-system-aims-to-improve-access-for-patients-and-care-providers-593529951.html>