

Life Sciences Policy Forum

Towards A Comprehensive Growth Strategy for Ontario's Life Sciences

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Panel 1 – A Life Sciences Strategy for Ontario



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- Ontario needs a coordinated life sciences growth strategy. The strategy needs to consider the needs of all key stakeholders and be the result of collaboration between industry, academia and government.
- Currently Ontario has great people and great science but is only an okay environment for life science sector. Ontario has all the building blocks for a strong life sciences sector. A strategy will help the sector grow and have a broader impact on Ontario's economy.
- Key considerations in developing a strategy:
 - Need a broad strategy for the life science sector as a whole that is able to support and help create specific strategies for areas within the larger sector, for example health sector research.
 - Includes a vision, priorities, and a plan for implementation. Also includes measures (a plan to collect more data) and outcomes to determine if we have achieved desired results.
 - Accountability for implementation of strategy
 - Not all subsectors within Life Sciences are at the same stage in development, geographic location is a partial contributor to this. A strategy is needed to ensure that all areas of the sector grow and develop. Ontario needs to be recognized as a source of innovation.
 - Need to take what we have and promote it so that the investor community will come to Ontario to take advantage of what is already here.
 - Incorporate very focussed and targeted activities.



- How do we define success:
 - Increase in investment (strategy and priorities attract investment)
 - Increase in public engagement (discussion related to the sector, knowledge about the size and impact of the sector).
 - Increase in awareness about the opportunities in the sector, especially when considering government priorities.
 - Government programs that are designed with the specifics of the sector in mind. Timelines, metrics and expectations of research need to consider the requirements of the sector and make it easier for companies within the sector to develop and remain in Ontario.
 - Leverage the relationship with the federal government and across provinces to support industries.
- Defined roles:
 - Government = support and resources
 - Remove silos within government to allow for a consensus instead of challenging and competing points of view. Become a jurisdiction where things can co-exist with the notion of transparency.
 - Industry = growth stream.
 - The sector needs more concise asks of the government.

Conclusion: Ontario urgently needs a coordinated life sciences growth strategy to further develop and take full advantage of its current assets.

Recommendation: Industry and Government should strike a working group of key stakeholders to develop the framework of an Ontario life sciences sector growth strategy.



Panel 2 – Sector Perspective



Andrew Casey,
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- Ontario environment can be described in terms of good and ugly.
 - Good: Role of health economics and epidemiology – core strength for this area. Evidence based science. Centre of Excellence.
 - Ugly – environment of commercialization is not great. Issues with procurement, reimbursement, regulation (one of the slowest in the world since process repeats what goes on in other parts of the world). Also slow to adopt new medical technology.
- Difficult to find reasonably priced capital for investment in new technology. Current system of piecemeal funding is not sufficient. In future, need to get the financial institutions at the table, with the Government of Ontario and Canada lending money to the companies based on milestones and deliverables with significant due diligence done on the company. This type of investment promotes an education about these technologies that will support the financial institutions to take the risks associated with these investments.
- Ontario needs to brag about its success in the life sciences sector.
- Ontario has a robust toolbox and needs to incorporate innovation and technology into the sector as a whole, and especially into the agricultural sector, which is underutilized and has underpriced opportunities.
- Need to establish the right partnerships for an innovation led agenda. We have great science but are lagging on commercialization.
- In Ontario the silos approach does not work. Need to prevent death at multiple points along pathway and push towards commercialization.

Conclusion: A life sciences strategy should focus on key elements of successful commercialization, especially factors like access to capital and market access.

Recommendation: Ensure the development of a life sciences strategy is viewed primarily through the lens of the commercialization pathway.

Luncheon Keynote



Jason Donville, MBA, CIM,
President & CEO, Donville Kent Asset
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- Growth investors invest in companies that have high returns on equity capital. These companies also tend to have high barriers to entry. Many of the fastest growing companies are in knowledge based industries.
- Knowledge based companies include companies that leverage technology, science engineering, data.
- Why do I invest in knowledge-based Industries?
 - The great ones: typically sell things that are “new”; are “protected” by patents, brands, complexity, science & knowledge; reinvest in knowledge for even more wealth in the future.
- Knowledge base companies are the only way to maintain a competitive advantage.
- Canada needs to invest in its greatest resource: our knowledge base.
- Ontario needs to compete with our brains:
 - Implications for policy:
 - Our ability to create or protect high paying jobs through trade barriers and unionization etc. is weakening.
 - The relationship between income inequality and education exists at the national level but can be addressed by increasing opportunities for education.
 - Many of the great social challenges we face as a nation require knowledge based investments:
 1. Environment- clean technology
 2. Aging demographic/ disease – life sciences
 3. Transportation- clean technology.



- We need to get help the companies that we have get big because this will lead to the spin-off of new start-ups.
- We need to have pockets of companies all over the province.
- We need a commitment that they will not move their headquarters out of Ontario, because that is where the intellectual capital of a company is housed.
- Other places, like Singapore, Israel, and province of Quebec have developed their human capital successfully since they had no other options for creating a successful economy. Ontario has a diverse economy so our development of human capital has fallen below the level necessary to be competitive in knowledge-based sectors like the life science sector.

Conclusion: Canada's future economic and social prosperity will depend on how effectively we can transition to a knowledge based economy.

Recommendation: Ontario has an opportunity to demonstrate policy leadership in innovation by leading the transition to a knowledge economy. Economic policy makers should be making this transition their top priority.



Panel 3 – Regional Perspectives



Allan O'Dette,
President, Ontario
Chamber of
Commerce



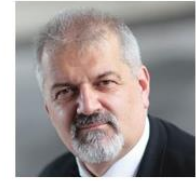
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In Ontario, there are currently different geographic clusters with different approaches to life science strategies. Lessons can be from these which can help identify the ingredients needed to make a successful coordinated Ontario strategy, specifically what enablers are successful and what road blocks need to be removed. The Ontario life science sector and the government need to work collectively and collaboratively to achieve success.

The panel explored four different geographic clusters: London, Mississauga, Ottawa and Niagara corridor.

Unique aspects of each geographic cluster:

- London:
 - Hard to raise capital locally; need to create more global connections.
- Mississauga:
 - Strong knowledgeable talent base including Master of Biotech program at U of T Mississauga.
 - 2nd largest life science cluster in Canada by employment.
 - Supportive environment - very purposeful support for work in the sector, identified as a key sector 15 years ago by Mayor McCallion
- Ottawa:
 - Strong support from mayoral office.
 - Large concentration of medical device companies, growing health IT businesses, shrinking biopharmaceutical.
 - Working to create a strategy for the region: Invest Ottawa tries to bring companies to Ottawa and has created a diverse group of CEOs with a lot of cooperation amongst companies.
- Niagara Corridor:
 - Border in past was seen as a hindrance but starting to be seen as an asset that can be an advantage.



General Successes:

- Silos are starting to disappear.
- Devoting time to regular face-to-face meetings, which can help to break down barriers.
- Ontario needs to do a better job of promoting its success, especially since a lot of past successes are not consumer facing.

General Challenges:

- Identifying barriers to future success.
 - Breaking down the barriers of competing against other regions.
- Sector faces challenges because of the time it takes to get products to market.
- Raising capital /access to capital, the government has some programs to help with this but other sources are still needed.
- Need a more collaborative infrastructure, can't focus only on regions, need to consider the bigger picture, Canada, Ontario etc.
- Need to be more proactive rather than only having reactive responses

Conclusion: An Ontario life sciences growth strategy needs to leverage the common challenges and diverse strengths of all geographic regions.

Recommendation: Create infrastructure that encourages collaboration across regions and promote Ontario as a whole cluster and within the macro-clusters of the Ontario-Quebec life sciences corridor and Canada.

Panel 4 – Global Best Practices



Ryan Wiley,
President, Shift
Health



Dan Wasserman,
Founder,
Mammoth Health
Innovation



Kuldeep Neote,
Senior Director, New
Ventures, Johnson &
Johnson Innovation,
Boston



Josh Cooper,
CEO, Jewish
National Fund
Canada



Jacqueline Northcut,
former CEO,
BioHouston Inc



Paul Kirkconnell,
P-A-K Limited

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- Ontario has a highly trained workforce, strong institutions, strong science and some infrastructure. We need to need to pull together these resources to create a strong life sciences sector.
- A strategy would address current challenges / hurdles:
 - Government funding programs are provincially based & onerous.
 - The path to market / supply chain - the need to validate health technology in US before can do it in Canada, should be able to get to markets in Canada.
 - Procurement issues.
 - Will help focus our limited resources.
- An example of a place with a successful purpose-built life sector strategy is Boston. It is considered an innovative ecosystem with a density of biotech, talent, access to capital, an entrepreneurial spirit and extensive collaboration amongst organizations.
- Ontario needs a life sciences strategy to help this sector succeed. Ontario has some of the key components in place, the genesis from academic institutions, the people (including entrepreneur in residence programs). Ontario needs the luck and the access to money to provide a good opportunity for business growth.
- A key to success is access to money.
 - Governments should not be the primary funder of companies but should be play a role. The role can be through programs like co-funding strategies, tax incentives, ROI, and market investment etc. De-risking the assets can incentivize investment.
 - There is a role for the private sector in the partnerships – philanthropic funding from high net worth individuals, charities etc.

Conclusion: Ontario has the right building blocks necessary for a successful life sciences sector. A strategy will help the sector become more successful.

Recommendation: Make Access to Capital a priority within the context of a life sciences strategy. Develop policy options that will ensure a deep and diverse pool of risk capital to support companies along the entire commercialization pathway.

Panel 5 - Implementation



Paul Lucas, Chair,
Life Sciences
Ontario



Robin Harkness,
VP, Research,
Ontario Genomics



Chirfi Guindo,
President &
Managing
Director, Merck
Canada



Giles Gherson,
Deputy Minister,
Ministry of Research
& Innovation and
Ministry of Economic
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William Charnetski,
Chief Health
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Strategist, Ministry
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term Care



Tom Corr, President
& CEO, Ontario
Centres of
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- It is not enough to have a sector strategy. In the strategy game, implementation of the strategy is key for success.
- The government won't lead a life sciences strategy. They are looking to the sector to tell them what the strategy should look like and how the government can support the sector.
- In the life sciences sector a strategy will help to ensure we have an ecosystem that works in a coordinated, aligned manner that encourages collaboration.
- The life science sector is a huge contributor to the Ontario economy. Recognizing and supporting the corporations, companies, market capital and the jobs generated are important for the continued success of this sector and having this sector contribute to our future economy.
- Ontario needs to improve translation of lab solutions to real world problems (to products). Canada currently produces 5% of the scientific journal references but ranks 14th in commercialization.
- A sector strategy would help connect world-class researchers, help in the development of partnerships, help create a business pull model and help provide access to early seed funding by de-risking these ideas.



- A life sector strategy would benefit from:
 - The right regulatory system
 - A consistent and cohesive voice
 - A coordinating approach from the federal and provincial government
- Current challenges for the life sciences sector:
 - Foreign capital is more available than Canadian capital.
 - Senior management pool is thin in Canada
 - Dialogue focus needs to shift to value so that the ecosystem is composed of both little and big companies.
- The provincial government has tried to fund the whole continuum of life sciences. They are spending lots of money but it is a fragmented landscape. We need to optimize the system and have more coherence with all the players.
- Ontario recently created the Office of the Chief Health Innovation Strategist (OCHIS), which is committed to pulling innovation through the health care system. Its objectives are to improve patient outcomes and create jobs in Ontario. To do this successfully it needs to articulate a strategy, prioritize and measure how we are doing (results oriented). It is currently working to develop a structure to facilitate execution that is aligned with the priorities of health ministry and the stakeholders.
- The province has committed to strike a working group to further explore how to strategically grow Ontario's life sciences sector.

Conclusion: Implementation is the key to any successful strategy.

Recommendation: Within the life sciences working group, consideration should be given to how recommendations will be implemented and who specifically will be responsible for translating recommendation into action.



Keynote Wrap Up



David Main,
President & CEO,
Aquinox Pharma

- Three different perspectives (lenses) for viewing Canada's life sciences:
 - Business leader = capitalist: Reduce the system (get government out of the equation).
 - Trade Association = lobbyist and industry resources: Harness the system
 - Citizen = patriot and taxpayer: Optimize the system for all beneficiaries.
- There are conflicts and commonalities amongst the perspectives.
- Business Leader Perspective:
 - Canadian science and entrepreneurs can compete globally.
 - Foreign capital is more available than Canadian capital, but foreign capital is not the solution.
 - Senior management pool is thin in Canada
 - Immigration and relocation is complicated and expensive and tax system is different.
- Trade Association Perspective:
 - Canada already has a world-class biotechnology ecosystem for discovery and development. This ecosystem can be strengthened with the right support.
 - Canada needs the right regulatory system.
 - Canada needs a consistent and cohesive voice. It needs coordination from the federal and provincial agendas.
 - Canada's ecosystem needs both little and big companies. Dialog needs to value and balance the needs of the large companies that sell products in Canada and small companies that have a growth and export focus.
- Citizen's Perspective:
 - Innovation is the central issue in economic prosperity.
 - Innovation improves the quality and standard of life.
 - Innovation leads to diversification of the economy and provides increased ROI.
 - Innovation can provide skilled jobs with high earning potential



- Opportunities for Canada:
 - Canada needs to optimize company creation and translation to maximize exports and to prevent 'brain drain'.
 - Canada needs to find a way to get Canadians to invest in Canada. Money from foreign capital leads to leakage. Increasing Canadian capital participation through incentives can create positive return through economic multiplier effect.

Conclusion: Think Canadian, think innovation and think optimization. Advocate for all R&D based industries. The Canadian economy will be stronger we compete through value creation.

Recommendation: The development of a life sciences growth strategy needs to consider perspective of all stakeholders (including public citizens) and focus on company creation and the development of Canadian sourced capital.



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