

Life Sciences Ontario Annual Policy Forum

December 1st, 2017



*Elevating Life Sciences to the Top
of the Political Agenda*

Report & Recommendations

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Blueprint for a Coordinated Ontario Life Sciences Strategy

Our Annual Policy Forum kicked off with the launch of an important policy document: Our Blueprint for a Coordinated Ontario Life Sciences Strategy. It lays out a comprehensive plan and recommendations for government and policymakers to accelerate our life sciences sector.

Why the need for a coordinated strategy?



Ontario lacks a billion-dollar biotech success story, despite being identified as our greatest economic growth opportunity.

To harness this, we must create a competitive business environment for Ontario life sciences. This requires alignment around key policy issues and coordination with regional/partner strategies.

The Blueprint is endorsed by leading provincial and national life sciences, health, and economic organizations. It recommends a pan-government strategy with specific action around:

- Promotion of our sector
- Access to capital
- Talent growth
- Support for innovation

To read the full text of the Blueprint, visit: <http://bit.ly/2i6U9bv>

To read the Executive Summary, visit: <http://bit.ly/2E3UrJ8>

Provincial Life Sciences Policy: 2018 and Beyond

Regardless of the outcome of the next Provincial election, the Ontario Public Service will continue to work toward growing Ontario's life sciences sector. What are the key priorities for the OPS leading up to the election and how do these align with the LSO Blueprint presented?



Sabina Steinkellner,
Chief Commercial
Officer, Sanofi Pasteur
Limited



Greg Wootton,
Assistant Deputy
Minister, Ministry of
Economic Development
and Growth



John Marshall,
Assistant Deputy
Minister, Ministry of
Economic Development
and Growth

Key takeaways:

- Life sciences is a priority sector. However, it is often underrepresented and underserved in terms of traditional funding and programs.
- However, government has made significant investments into science with a view toward the next ten years; we are just beginning to see results now.
- There is a shift in how government is approaching support for innovation – more focus on end-user applications, technology platforms and forward-looking strategies (i.e. disruptive technologies).
- Panelists agreed on the need for a coordinated strategy for life sciences. However, a pan-government approach may present challenges due to structure of government.

The government has implemented / is developing the following:

- Office of the Chief Scientist with an all-of-government mandate.
- Life Sciences Working Group, with findings expected in early 2018.
- Review of Ontario Research Fund.
- Improved IP strategy, driven by NAFTA negotiations and federal government review.
- Scale-up Voucher program and Small Business Innovation Challenge – providing funds to drive early-stage growth.
- Comprehensive review of ONE (Ontario Network of Entrepreneurs).
- Particular focus around accelerating transformative technologies – e.g. AI, deep learning.

Areas of focus going forward:

- Access to Capital is still a primary concern; expect to see more pension funds coming into the system, along with the creation of a life sciences fund.
- Shift toward government beginning to act as a market rather than merely a funder.
- Talent creation and retention – addressing underemployment in STEM for grads while attracting and retaining mid-senior-level executives.
- Re-organization of existing pillars / buckets for programs and funding along the lines of transformative technologies and emerging industries.

Conclusion: The prognosis for our sector – including the increase in capital markets – is promising, however, capital follows companies. Significant barriers to our companies' growth still must be addressed.

Recommendation: Implement a coordinated, pan-government life sciences strategy that will reduce barriers to entry and retain companies within Ontario as they scale.



Access to Capital: Strategies to Fuel Innovation & Economic Growth

Access to capital has been repeatedly singled out as a significant barrier to innovation and the success of Ontario life sciences companies. What immediate and long-term strategies are needed to ensure we create and retain made-in-Ontario success stories? How can government and the private sector work together productively to tackle this challenge?



Shermaine Tilley,
Managing Partner,
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Chris Walker,
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Head of Business
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The panel began with this pivotal question: are we undercapitalized in life sciences (in terms of deal sizes, available capital, and the size of Canadian venture funds)?

- Capital follows markets; profitable companies drive this.
- Shift to innovation economy has created increased interest in sector from investors and rise in capital.
- Confidence by Canadian founders is also increasing (e.g. Shopify success remaining in Canada – now a \$12B company).
- However, we have a long way to go to create made-in-Ontario global biotech success stories; simply throwing money at the problem will not fix it.
- Must focus on returns, deal flow, stable platforms for growth, exit environments.

What's needed to move forward:

- Improvements to grants system – how companies access money needs streamlining.
- Pension funds must be incentivized to invest through improved value proposition and demonstration of returns.
- Focus on creating and improving programs that incentivize investment (e.g. VCAP, Flow Through Shares, Angel Tax Credit).
- A coordinated vision for our life sciences sector both provincially and federally – what are we trying to achieve? We must set goals if we are to reach them.
- Supporting global talent with international business savvy; initiate “Canadians in the Valley” program for life sciences.
- Improved commercialization support.

- Better celebrating our success stories.
- Encouraging all forms of growth. Exits are not necessarily negative if we retain the talent / innovation capacity – these entrepreneurs go on to build other companies, and this experience is integral.

Conclusion: Available capital for life sciences is improving as companies demonstrate their value to investors. However, strategic interventions from government and industry are needed to accelerate and secure this momentum.

Recommendation: To accelerate capital, we must offer smart incentives in tune with investors, while improving companies' access to existing funds and their ability to develop and attract global talent.



Lunchtime Keynote

Keynote Speaker

Facilitated by: Ryan Wiley, President, Shift Health
André Picard, Health Columnist, The Globe and Mail



André Picard is one of Canada's top health and public policy observers and commentators. He is the health columnist at The Globe and Mail, where he has been a staff writer for more than 30 years. He is also the author of numerous books and has received much acclaim for his writing and for his dedication to improving healthcare. In 2010, he was awarded a National Newspaper Award as

Canada's top newspaper columnist.

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André Picard's discussion with Shift Health's Ryan Wiley revolved around innovation in our health care system: what we're doing right, where we're falling short, and what we can do about it.

Existing barriers to healthcare innovation:

- Healthcare is an investment, not a cost. We need to approach healthcare like running a business.
- Our politicians tend to be risk-averse and lacking in political will to carry through major policy changes.
- Overall, we lack concrete goals about what we want to achieve.
- Gestures are not policies. We produce reports but don't act on them.
- Notion that a 'cookie cutter' approach, borrowed from other jurisdictions, will solve our problems. We have deeply ingrained cultural aspects unique to Canada that must be addressed.

To innovate our health system government must:

- Give our health system leaders autonomy.
- Address issues with primary care.
- Implement pharmacare broadly.
- Treat people where they live.
- Make quality the top priority rather than volume.
- Address all factors of health – not just sickness care.
- Create a medicare "win" by making the basket of services wider and shallower – such as in France, Netherlands, and Sweden.

- Change attitudes and corresponding policy surrounding drug pricing. Fair does not equal cheap; we must factor in and reward innovation.
- Like any successful business, we must invest in health innovation (currently only 1.5% of health budget goes to research).



Conclusion: Canada has a world-class healthcare system – 90% of the time. However, to secure its sustainability, we must break down existing barriers to innovation.

Recommendation: Our health care system needs an overarching roadmap, with a robust suite of policies that will incentivize innovation and ensure improved accessibility and quality of care for all Canadians.

Federal and Provincial Life Sciences Policy Landscape

As both Provincial and Federal Governments hire Chief Scientists, these new roles have the potential to influence key policy items across government – from support for innovation, rare diseases, NAFTA negotiations and hot-button issues surrounding Trump and the pharmaceutical industry. What should the role and scope of these positions be, and what impacts can we expect for our life sciences and innovation ecosystem?



Maurice Bitran,
CEO & Chief Science Officer,
Ontario Science Centre



Allison Barr,
Director, Office of the Chief
Scientist



Ian Stedman,
Board Member, Canadian
Organization for Rare
Disorders



Serge Marchand,
Scientific Director, Fonds de
recherche du Québec – Santé
(FRQS)

Quebec:

- Fonds de recherche du Québec has had a Chief Scientist since 2011.
- Responsible for three funding ‘buckets’.
- Prevents working in silos, accelerates answers to issues/problems across ministries.
- Helps to galvanize science and policy groups.
- Focus also on helping education ministry to raise STEM.

Ontario:

- Intent is to bridge gap between science and policy makers and bring evidence into decision-making: “Science in policy and the policy of science.”
- All of government mandate – reports to MRIS and to the Premier.
- Model is slightly different than Quebec’s – not involved in funding decisions.
- Three pillars:
 - Coordinate science and policy makers
 - Bring in top level science as needed to help shape policy
 - Promote science culture
- Looking to coordinate within the science-based ministries and create a cluster.

Key characteristics of effective Chief Scientist:

- Must be well-known.
- Must have a ‘doors open’ policy and establish trust.
- Excellent communicator both internally and externally (with public).
- Capacity for foresight – especially due to regulatory pace.

Challenges:

- Key challenge is how broad the intersection of science and policy is; science touches many areas and is cross-disciplinary.
- Current public climate of 'fake news' and distrust in government; lack of science literacy.
- Media dissemination of science not always accurate.
- Complex ethical issues that blur the line between subjective and objective.
- Situations in which decision-making must be applied in a forward-looking way; pressing example is case of rare disease research and funding:
 - We need to be equipped to look at margins of disease and create appropriate policy
 - Canada currently lacks a rare disease strategy
 - We ignore shift toward personalized medicine at our peril

Conclusion: The role of Chief Scientist is integral to developing policy approaches that will secure our economic and social prosperity. However, the challenge is to align and deploy this expertise across government.

Recommendation: The role of Chief Scientist should include an all-of-government mandate with significant supports and resourcing, in order to respond to current challenges and create forward-looking policy to further innovation.



The Business of Policy

From start-ups to multinationals, governments play an important role in creating a competitive business environment for Ontario life sciences companies in terms of Procurement, Access to Capital, Talent, and Investment Attraction. How does public policy influence life sciences companies of different types across our industry? How can government and the private sector effectively work together to the benefit of our sector as a whole?



Mark Smithyes,
Chair, Life Sciences
Ontario; President,
Labtician Théa



Alok Kanti,
President & CEO,
Bayer



Har Grover,
Chairman & CEO,
Scientus Pharma



Will Rowe,
President, CEO and Co-
Founder, Nutrasource
Diagnostics



Carly Martin,
Director of Stakeholder
Outreach, eSight

Key challenges:

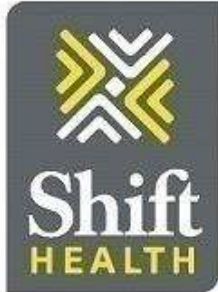
- There are programs that have helped companies (including eSight) through various stages of early-stage development: OCE, NSERC, IRAP, SR&ED. However, Canada lags behind in the adoption of innovation, leading to:
 - Barriers to global markets
 - Lack of adoption for technology within Canada; existing programs such as OCHIS and EXCITE are helpful, but need to create additional pathways to adoption
 - Issues with current technology assessment – cannot accurately assess value of life-changing innovations to patients and then implement into health system broadly
- Policy is often looked at from a historical perspective – we need to be more forward-looking and transverse; investing in long-term innovation.
- Government investment in innovation/R&D not matching private sector.
- Canada lacks a coordinated, clearly-articulated strategy for life sciences, both federally and provincially.
- Lack of coordination between provinces and federal government/regulators.

Conclusion: There are excellent existing programs to support life sciences companies. However, disconnects in innovation, economic, and health policies continue to create barriers to success.

Recommendation: A coordinated, cross-government life sciences strategy to align policy makers.

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