

Life Sciences Ontario Ideas to Action Life Sciences Forum

November 3rd, 2022



Hosted at the Borden Ladner Gervais LLP Offices
Bay Adelaide Centre, East Tower
Toronto, ON

Summary Report

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Executive Summary

This year's Ideas to Action Forum, previously known as our annual Policy Forum, brought together stakeholders and leaders from across the life sciences sector to discuss how we can take actionable steps to empower the life sciences in both Ontario and Canada. For the first time since 2019, we were pleased to host this year's event in-person, which featured 4 guest speakers and 25 panelists from government, industry, and academia.

As Ontario and Canada emerge from the COVID-19 pandemic, we need collective and determined action that will take our life sciences sector to the next level. A resilient and vibrant life sciences sector can help solve many of the challenges Ontario currently faces, including health system capacity, economic recovery, and pandemic preparedness. Now is the time to build a life sciences sector that can provide a sustainable and economically prosperous future.

Yet how can we move from discussion to action? Across our five panels, we explored this guiding question and more. How can we ensure coordination between federal and provincial life sciences strategies? How should Canada address the "talent gap" in the life sciences? What steps can we take to build a life sciences sector that is inclusive, diverse, equitable, and accessible? How do we build strong data infrastructure to benefit our healthcare system and patients? Does Ontario have the right infrastructure and resources in place to support our growing sector? How do we transform the ideas discussed from this forum into real action?

Hearing from the Audience: Top Action Items

Aligning with this year's focus on turning ideas into action, we asked each of our panelists to provide a concise "action item" aimed at strengthening the life sciences. In our final panel, we presented the top action items from each panel, as voted on by our audience.

- Expand life sciences strategies beyond governments to secure buy-in, leadership, and coordination from public and private sectors and all relevant stakeholders.
- Leverage offerings across the sector and do not duplicate efforts—the government should work with all stakeholders to create a map of training and talent development offerings to guide learners and organizations.
- Invest more money in areas related to data infrastructure, platforms, and governance beyond a project specific basis.
- Create an environment for rapid evaluation and adoption of health-care technologies for Ontario's health system.

Welcome from Dr. Jason Field and Dr. Claudia Krywiak

LSO President & CEO, Dr. Jason Field, set the theme for the day, emphasizing the importance of solutions and actions that are guided by clarity, decisiveness, and determination. This was followed by remarks from Dr. Claudia Krywiak, President and CEO of the Ontario Centre for Innovation (OCI).



Top: Dr. Jason Field

Bottom: Dr. Claudia Krywiak

Opening Remarks from Minister Victor Fedeli

LSO was pleased to welcome the Honourable Victor Fedeli, Minister of Economic Development, Job Creation and Trade, who announced the Life Sciences Innovation Fund—an important step in the implementation of Ontario’s life science strategy, [Taking Life Sciences to the Next Level](#), announced in early 2022. With this \$15 million investment, start-ups and SMEs in the life sciences will receive support to commercialize their products here in Ontario. Minister Fedeli also highlighted recent economic achievements in Ontario, which saw more than half of all venture

capital investments in Canada in 2021—including \$846 million of investments in the life sciences.



“Growing Ontario’s life sciences sector is absolutely essential to our plan to grow Ontario and ensure that our province continues to be the best place to invest in and grow.”

Hon. Victor Fedeli, Minister of Economic Development, Job Creation and Trade

Top: Minister Victor Fedeli



Bottom (from left to right): Raed Kadri, Dr. Michael R. Jones, Jennifer Moles, Dr. Claudia Krywiak, Minister Victor Fedeli, Dr. Jason Field, Haytham Keyhani, Mandhir

Keynote by Brigitte Nolet: Bringing Strategy Home

Brigitte Nolet, CEO of Roche Canada, provided an international perspective on the life sciences. What can Canada and Ontario learn from Belgium's life sciences strategy?



Key Takeaways:

- Key takeaways were highlighted—the importance of mindset, shared goals, collaboration and action.
- Collaboration is central to developing a life sciences strategy. All stakeholders from public and private sectors, hospitals, academia, and patients need to be at the table. Partnerships should be transparent and seen as long-term investments. This needs to continue to be engagement in the true spirit of partnership.
- For twenty years, Belgium has been renewing a pact that established a partnership between government and the life sciences sector. The pact covers issues such as R&D, innovation, investment, clinical trials, and health care. The pact sets out a clear path with objectives and action items.
- Shared, measurable goals: In Belgium, all life sciences stakeholders shared a common goal, which was to reinforce Belgium's position as a leading biopharmaceutical hub.
- We need a strategic focus. We cannot excel at everything all at once. Belgium chose to focus on 5 key areas in the life sciences.
- There must be a shared understanding that economic growth and health are connected.
- Canada may be fragmented, but we have huge potential from coast to coast to be successful in healthcare, economics, and R&D—both nationally and internationally.
- We need to focus on being action-oriented and moving towards tangible impact.

Coordinating Life Sciences Strategies Panel



This panel explored the interplay between federal and provincial life sciences strategies. How are these strategies co-dependent and will they be mutually reinforcing? How do we define areas of responsibility to ensure coordination within government and across different levels of government? What steps need to be implemented to ensure these strategies are meeting the needs of the life sciences sector?

Key Takeaways:

- The pandemic revealed the importance of building relationships and trust between industry, academia, and government. To strengthen our life sciences sector, we need to continue to build upon these relationships in the long term.
- Due to the pandemic, the life sciences sector is currently experiencing a unique moment in time, as the public, businesses, and governments recognize the importance of the sector to our health and economy.
- Collaboration across the public and private sectors is important to identify barriers and opportunities, set shared goals, and develop clear targets for success.
- Examples of cross-sector collaboration in the life sciences include:
 - [Canadian Chamber of Commerce's Lifesciences Strategy Council](#)
 - Health and Biosciences Economic Strategy Table ([HBEST](#))
- At the beginning of the COVID-19 pandemic, Canada lacked domestic manufacturing capabilities in PPE supply and vaccines. To address these challenges, the federal government launched its Biomufacturing and Life Sciences Strategy (BLSS) and committed 2.2 billion in Budget 2021 to 1) enhance Canada's preparedness for pandemics and other health emergencies and 2) build an innovative, diverse, and growth-driven life sciences ecosystem.
- Coordination within and across governments (including federal and provincial governments, and across mandates within governments) is important to building coherent government policies that are both pro-active and responsive to current and future challenges.
- Canada's life sciences sector already has several strengths, including a highly skilled and talented workforce.

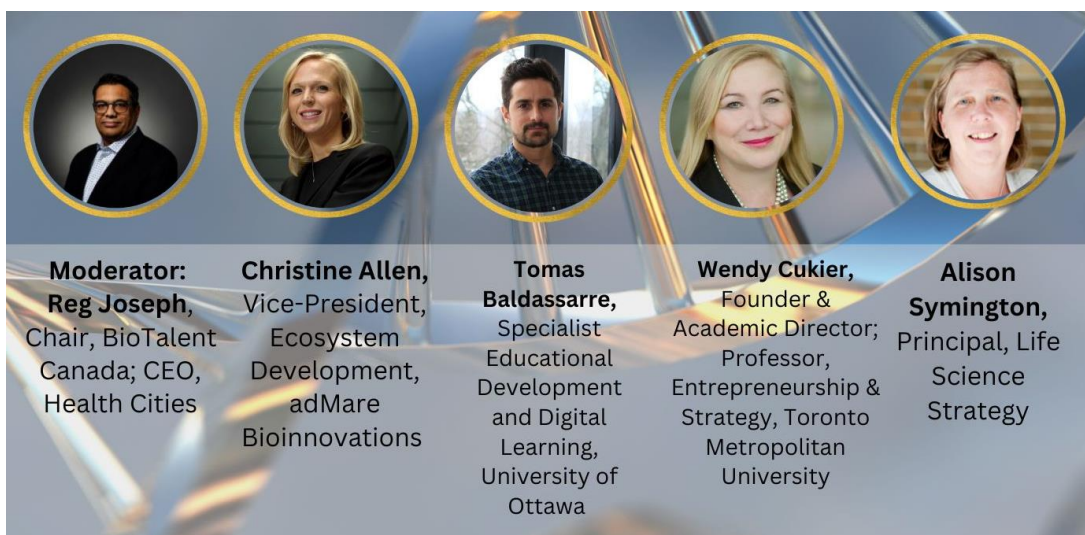
Action Items:

- Industry and academia come together to align on a shared strategy to confront gaps that the biomanufacturing and life sciences sector is facing with respect to skilled talent, and deliver a joint action plan (with specific, targeted initiatives) to address the shortfall over the next 10 years.
- Establish strong ecosystem collaboration and build upon partnerships forged during the pandemic. This includes continued industry engagement with governments to provide critical perspectives, including identification of high potential technologies for enhanced preparedness.
- Continued engagement with sector stakeholders, leaders and experts on federal and provincial life science strategies and activities to ensure comprehensive and cohesive outcomes.
- Enhance Canada's global position through a 'team Canada' vision for the sector, including the exploration of new approaches and potential mechanisms to ensure enhanced pandemic preparedness and sustainable growth.



Top (from left to right):
Khawar Nasim,
Jennifer Chan, Lesia
Babiak

Closing the Talent Gap Panel



BioTalent Canada predicts that more than 65,000 new life sciences workers will be needed in Canada by 2029. In order to meet this demand, Canada's life sciences sector must take steps to improve Inclusion, Diversity, Equity and Accessibility (IDEA). We need to train our young talent with the skills needed for the life sciences jobs of tomorrow and ensure that they have clear career development pathways to allow them to grow and succeed in the Canadian bioeconomy. This panel explored the actions needed to bridge the talent gap.

Key Takeaways:

- Canada needs a national strategy for talent and training development. Universities and colleges, government, and industry, all need to be involved in designing this strategy.
- Universities and colleges need to design programs that prepare students for industry roles. Programs should be evidence-based and reflect feedback from both students and industry. Work-integrated learning through co-ops and internships should be a part of student programs, yet we must ensure that students can receive financial support to participate in internships.
- It is equally important to develop and encourage alternative learning paths outside of universities.
- We need to be more intentional in our strategies to increase our representation of equity-deserving groups such as women, Indigenous people, people of color, and persons with disabilities. Demographics are changing. For example, most of Toronto's population is racialized. Indigenous youth are the fastest growing group in our population. We must understand the implications this has for talent and how we look at the life sciences.
- We need to make room for other disciplines, not just STEM. For example, "STEAM," includes art, in addition to science, technology, engineering, and math.
- We need to build capacity in SMEs to improve IDEA practices through hiring practices and culture.
- It is also important to imbed IDEA into research and development, product development, and marketing.

- Addressing the talent gap should start at the beginning of a child's education, from elementary through high school and beyond.
- We need accessible and affordable programs to train and recruit C-suite talent in Canada.

Action Items:

- Post-secondary institutions (particularly research-based institutions over polytechnical schools) need to work with industry to ensure that their life science programming is geared towards industry needs not academia—most polytechnics are on the right path, but research-based institutions are lagging far behind.
- The government should work with all stakeholders to create a map of training and talent development offerings to guide learners as well as organizations, such that we leverage each other's offerings and don't duplicate efforts.
- Invest in the next generation of talent, from creating more paid internships to increasing the value of graduate and post-doctoral awards and fellowships.
- Ensure academic collaborations are integrated into the province's reformed life sciences talent development strategy.
- What gets measured, gets done: Set targets for representation and engagement of employees, for supplier diversity, for customer diversity.

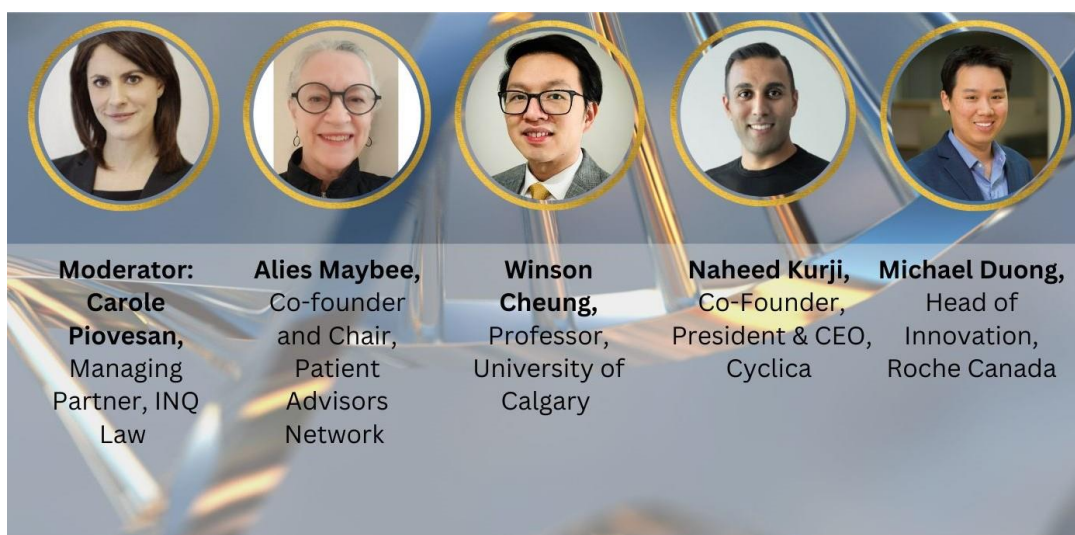


“Diversity is not something you bolt on. It is something that you imbed.” *Dr. Wendy Cukier*

“There is not one path fits all. There are many paths to get to the same place.” *Dr. Alison Symington*



Preparing for the Data Revolution Panel



Data and how we use it will fundamentally shape the life sciences sector in the immediate future. The potential for data to positively impact research, health systems, patients, government and industry hinge on the actions we take now. How do we build strong data partnerships between government, industry and the public? Do we have the right infrastructure and policy frameworks in place? Are we ready for the data revolution?

Key Takeaways:

- Although the public may assume that our data is being used for the public good of our healthcare system, the COVID-19 pandemic revealed many flaws in our data sharing.
- We need a person-centered integrative care over a provider-based system. To get there, we need to rethink the system. We cannot place digital care onto a historically disjointed system. We need the appropriate policies and architecture in place.
- Patient-centered means patients, as well as the community, need to be at the table.
- The pandemic has highlighted the issue of trust, which is built on material relationships with the public, including knowledge.
- There is a perceived disconnect among stakeholders (patients, clinicians, data custodians) about how data should be used.
- We must improve our knowledge translation and mobilization with the public. This includes improving the public's health and digital health literacy.
- We must be aware of biased data, which creates biased AI and results, and can neglect equity-deserving groups.
- Partnerships are key to the data revolution. This must include the public.

Action Items:

- As a sector, we must build an environment that encourages innovation in healthcare.
- For a common vision for health data, have all who collect and use health data adopt the Health Data Charter from the Pan-Canadian Health Data Strategy reports.
- The public and private sectors need to invest more money in areas related to data infrastructure, platforms, and governance beyond a project specific basis.
- No single entity or individual can solve big challenges like bringing the data revolution to healthcare. Let's lean on each other and start working together to accelerate impact.



“The data revolution needs the public at its heart—not just in its heart.” *Alies Maybee*



Investing in Life Sciences Infrastructure Panel



As jurisdictions around the world race to build strategies to grow investments in life sciences, are they overlooking the fundamental infrastructure needed support these investments and growth? Ontario is already struggling with access to wet lab space. Do we have other infrastructure to support increased life sciences research, biomanufacturing, clinical trials, and coordinated data systems? How do we ensure our infrastructure investments are sufficient to support our life sciences strategy goals?

Key Takeaways:

- SMEs in Ontario and Canada currently face a lack of wet lab space to develop and commercialize their products.
- We need to build a pipeline of companies backed by a steady stream of capital.
- Everyone needs to be involved, including city governments in Ontario (Toronto, Hamilton, etc.) and academic institutions, to make land available for lab space.
- Having a cluster of lab space, rather than spaces isolated from each other, can produce greater innovation.
- Ontario is losing companies to the United States, which has more lab space and capital.
- We need to strengthen our community hospitals' capacity to perform clinical trials to compare to that of our research institutions and hospitals who have more resources and expertise to conduct clinical trials.
- We must ensure that our clinical trials are inclusive and represent diverse populations.
- Clinical trials are a form of public-private partnership, which includes patients, clinicians, researchers, industry, payers, and health policymakers.
- The environment surrounding clinical trials, including regulations, ethics, and other requirements, is becoming increasingly complex.

Action Items:

- Have the Canadian Infrastructure Bank expand the definition of infrastructure to include life sciences and labs.
- Have the government provide support programs for companies looking to develop accelerator/step-up operations, which will facilitate the growth of early-stage life sciences companies.
- Launch an inclusive and collaborative process (involving all applicable provincial ministries, hospitals, industry, innovation/supporting organizations) to review what resources hospitals and health care practitioners need to advance their engagement in clinical trials and health research.
- Create an environment for rapid evaluation and adoption of health care technologies for Ontario's health care system.



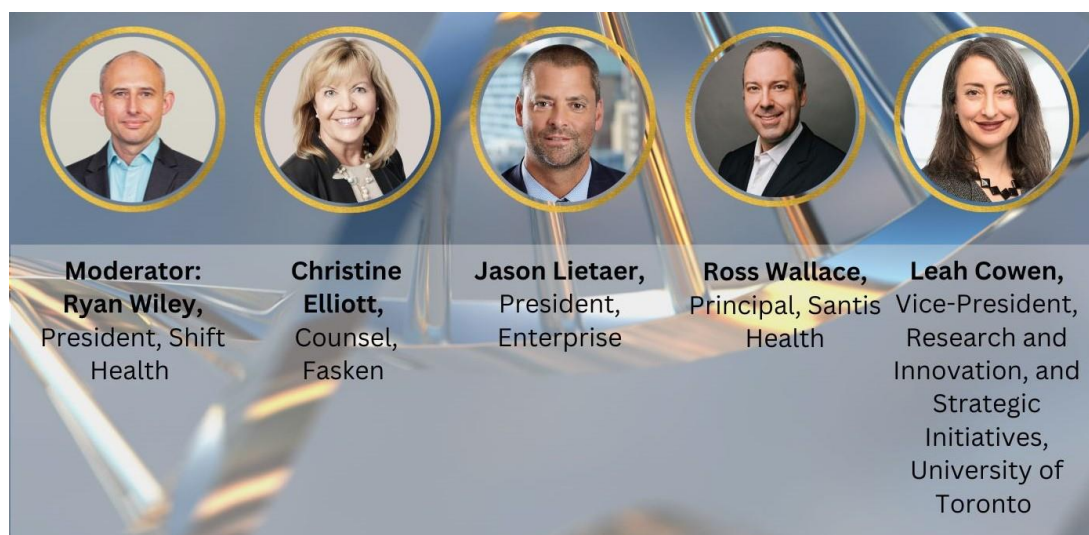
“Until we do things well all across Canada, we are not going to realize the potential we have for clinical trials.” *Susan Marlin*



Top (from left to right): Bill Mantel, Susan Marlin, Daniel Lacey

Bottom: Maura Campbell

Turning Ideas Into Action Panel



This fireside chat with life science leaders and strategists explored where we can go from here. How do we action the ideas presented at this forum? How do we engage government, industry, academia and other stakeholders to ensure meaningful implementation of life sciences strategies and beyond?

Key Takeaways:

- From a government perspective, it is important to have internal structure in place to move plans forward.
- To best position our advocacy, we must consider public opinion. Due to the pandemic, the public is now more engaged on life sciences and health issues.
- Universities are the hub of our research and innovation ecosystem and are essential to recruiting and developing talent. As we develop life sciences strategies, we must continue to engage universities and their networks.
- Ontario needs the tools to be able to compete globally for talent. Compared to our competitors, such as the United States, this will require a concentrated effort and investment from government.
- Once we have invested in innovation, we need to be able to adopt and optimize that innovation.
- The government's response to the COVID-19 pandemic demonstrated that government ministries can work together.
- Trust is important to encouraging coordination and dialogue among life sciences stakeholders. Aligning goals and interests is one way to encourage this.
- Current examples of cross-stakeholder coordination include the Resilient Healthcare Coalition, which is focused on improving health outcomes through better optimization of healthcare data and accelerated access to innovative health technologies.

Action Items:

- As a sector, we need to decide on two or three asks for government that will make the biggest, collective impact.
- Place universities at the center of research and innovation hubs.
- We must include the public in our communications and advocacy.
- The government must work with companies, academia, patients, and more to prioritize the life sciences sector and recognize its contributions to our health and economy.



“We are in a window of real opportunity, but it is a finite window.” *Ross Wallace*



Top (from left to right): Ross Wallace, Leah Cohen, Jason Lietaer, Christine Elliott

Bottom: Ryan Wiley

Keynote Closing

Celebrating Alexion's 30 Years of Innovation in Rare Diseases



Following the release of our 2021 report, “Cast Our Pebble Into The Pond,” LSO has continued to advocate for a provincial rare disease strategy. A rare disease strategy will place patients with rare diseases and their families at the center and improve access to life-saving medicines and treatments.

To close our Ideas to Action forum, we were pleased to feature Kathleen Wheelan from Alexion, who highlighted Alexion as an innovator in the rare disease space for the past 30 years. We were also honoured to feature Durhane Wong-Rieger from the Canadian Organization for Rare Disorders (CORD), who called for a national rare disease strategy.

Key Takeaways:

- For 30 years, Alexion’s mission has been to serve patients and families affected by rare disease and to develop and deliver lifesaving medicines, technologies, and services.
- We need to put patients and their families first to understand their unique challenges.
- We need investment in rare disease infrastructure and research & development in Canada.
- Every Canadian should be able to access a rare disease specialist through their local health provider.

Action Item:

Ontario needs to develop a provincial rare disease strategy. In doing so, Ontario can play a leadership role in shaping and aligning with the federal government’s commitment to a Rare Disease Strategy.



“If we get can get the Rare Disease Strategy right, Canada can be number one.” *Durhane Wong-Rieger*

Pre-Forum Event

October 5, 2022

Creating A Robust Life Sciences Strategy: Best Practices Sharing Between Denmark, Ontario, and Quebec

[Watch Here](#)

Speakers

Christina Kibsgaard, Chief special adviser, Life Science team, Ministry of Industry, Business and Financial Affairs of Denmark

Frank Béraud, Président & CEO, Montréal InVivo

Andrew Guy, Director, Ministry of Economic Development, Job Creation and Trade

Summary

On October 5th, LSO hosted a pre-forum virtual event in the lead up to our Ideas to Action Forum. Hosted on behalf of the Royal Danish Embassy, the Danish Life Sciences Forum, and Life Sciences Ontario, the pre-forum event focused on best practices for developing a strong life science strategy. What can Ontario and Quebec learn from life sciences strategies in Denmark?

Denmark provides a rich source of insights to support the growth of an expanded life science industry in Ontario and Quebec. Denmark is home to global companies such as Novo Nordisk, LEO Pharma, Lundbeck, and Coloplast. Life science is one of the largest sectors in the Danish economy, comprising almost 1,500 companies, with the value of the industry nearly doubling in the past decade. Last year, Denmark unveiled a 2021-23 strategy for the Danish life science industry, composed of 38 new initiatives across seven domains. Developed together with industry partners, the initiatives aim to improve conditions for R&D, expand the use of health data, secure a highly skilled workforce, and deliver on international partnerships and market access for the benefit of patients, healthcare system sustainability, and the economy.

Key Takeaways:

- Denmark's life sciences strategy is rooted in a shared belief that long-term investment in the life sciences can benefit society, especially in terms of health outcomes.
- There are opportunities for growth in Denmark's life sciences sector due to demographic changes, such as a growing middle class, aging population, and an increase in chronic diseases.
- Denmark's health data system has been collecting and using health data for years. Denmark plans to build upon this system to create one common entry for health data.

- Global health diplomacy has allowed Denmark to promote Danish life sciences companies and increase their exports. Strong public-private partnerships allowed Danish companies and government to work together to promote Danish innovation and research globally.
- Denmark's National Life Science Council brings together public and private partners from pharmaceutical companies, medtech, public healthcare, patients, life science associations, and government ministries to improve outcomes for patients and the healthcare system.
- Ensuring inclusiveness, dialogue, and internal organization were important to developing Denmark's life sciences strategy.
- Similar to Denmark, the Ontario government designed its Life Sciences Strategy, announced in 2022, with a common understanding that health and wealth are connected.
- Ontario's life sciences strategy includes both short term and long-term goals, with a short-term goal to strengthen domestic PPE supply and manufacturing capacity. In the long-term, Ontario needs to boost its commercialization and adopt made-in-Ontario innovation.
- Like Denmark, Quebec's life sciences strategies value inclusiveness, dialogue, and international promotion of Quebec.
- For implementation, it is important to have a government system that is built on transparency and trust. Additionally, metrics are important for accountability and measuring progress.
- The public, especially patients, need to be involved in innovation processes. This will also strengthen public awareness of the life sciences sector.
- Ontario needs more medium and large size companies that can grow and stay in Ontario.

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