



Overview

Innovation is critical to ensure that Canadian patients benefit from cutting edge medical discoveries.

On November 17, 2015, more than 250 leaders from Canada's life sciences community gathered in Montreal for a discussion about how together we can ensure Canada has the necessary policies and programs to be a global leader in life sciences and health innovation.

Among these thought leaders were the CEOs of health services organizations and the pharmaceutical industry. They were joined by clinical experts, health policy analysts, patient advocates, university researchers, pharmacists, economists and those representing youth engagement in science and mathematics programs. Their focus: *Making Canada Better*.

Innovation Requires Collaboration

Making Canada Better was no typical conference. It was a collective discussion aimed at sparking innovative ideas and being a catalyst for future collaboration in Canada's life sciences and health sectors.

Rx&D is committed to engaging all partners in the life sciences community to generate broader, deeper and more meaningful collaboration. Through *Making Canada Better*, we brought together experts, advisors and thought leaders — recognizing that their collective input can help advance a critical public policy discussion on how we foster innovation in Canada's life sciences and health sectors.

Making Canada Better created an environment for leaders to connect on common ground. It also furthered the collaboration and cross-sectoral relationships that are necessary to ensure Canada's life sciences sector flourishes and our health sector continues to offer patients innovative solutions to their health care needs. *Making Canada Better* offered a snapshot of what is possible on a national scale — the ability to drive innovation at every stage of a patient's care.

We invite readers to use this report as a catalyst for further engagement with life sciences stakeholders, patient groups and governments. We must continue this dialogue into 2016 to ensure that Canada's life sciences sector has the necessary support to deliver innovation and improve the lives of Canadians.



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Key Factors in *Making Canada Better*

Throughout the conference, several key themes emerged — themes that highlight the support needed for Canada’s life sciences and health sectors to flourish.

- The patient must come first. Patient engagement is the key to better health outcomes, and patients are at the centre of Canada’s health system. They should be engaged throughout the innovation life cycle — from research and discovery, through clinical trial design and trials, to the dissemination of results. Deeper engagement requires that patients also learn more about the wider industry landscape, including government processes and health policy;
- We need to develop an ecosystem to support innovation. Canada has the infrastructure, talent and facilities to conduct life sciences research and clinical trials here at home. But research appears to be on the decline. We must create the right ecosystem to support pre-clinical and clinical research in Canada;
- Supportive policies and programs are needed but are not enough on their own. Canada must also foster a culture of innovation. We must have a common vision for Canada’s life sciences sector and must commit to ensure that innovation can make a difference to the lives of patients and to the Canadian economy;
- We cannot work in silos. Canada possesses a wealth of data and knowledge, but we need more and better collaboration — among academic institutions, patient advocacy groups, regulators, caregivers, industry and all levels of government. Canada is too small to be further fragmented. All of these groups must develop better and more effective ways to share information together and with the public;
- Canadians must support this goal. We must do a better job communicating the value of Canada’s life sciences sector — its value to patients, to the health care system and to the economy. Canadians are critical partners and beneficiaries of this sector. We must engage as partners in a dialogue about the future of Canada’s life sciences and health systems; and
- Patients must have access to the products and technologies that we create. Without access, we will have failed to create an environment that values and fosters innovation.

With these key themes in mind, we have collected what we heard at *Making Canada Better*. We share this report with you and with key government leaders so we can continue the discussion and begin to affect change together. We hope that you will share this report as well.

Session 1 – Innovation Integration – Implementing the Essential Components to Support Life Sciences Innovation in Quebec and throughout Canada

Much has been written about how Canada lags in terms of cultivating an environment that is truly supportive of innovation. While there are parallels with other sectors, life sciences innovation presents a unique set of challenges at each step of the innovative process from discovery to commercialization. In this session, a panel of government, legal, economic and venture capital leaders discussed the strengths and weaknesses of our environment, our performance relative to other jurisdictions and ways we can collectively improve. A number of key themes emerged.

1. Building the Necessary Eco-system

Canada needs the right policies and programs to support our innovation sector.

If Canada is to become a leader in life sciences innovation, we need to start in our schools, boosting interest in science, technology, engineering and mathematics (STEM) subjects that are essential to advancing life sciences. Within our academic institutions and organizations, we need to explore new structures — including beneficial public-private partnerships — in order to create the kinds of talent clusters that generate new ideas.

From ideas come projects and products, but only if we create a robust intellectual property environment conducive to research and development. We must also build a vibrant financing ecosystem in which companies can co-finance at different stages of their investments, bridging the current gap between early-stage research and venture capital-stage research. To do this, we must overcome the aversion many of our Canadian institutions and governments have towards risk — an aversion which often keeps venture capital out of the life sciences sector.

As products move to market, we must find new and better ways to communicate the value of innovation in various fields. This means breaking down the silos that prevent industry, government and other stakeholders from engaging in meaningful dialogue. It also means that we must find a balance between rigorous approvals systems and earlier access to medicines and therapies that benefit Canadian patients.

2. Making policy innovation-friendly

Governments can play a critical role in encouraging innovation. *Making Canada Better* panelists offered legislators the following suggestions:

- Engage the Ministries of Finance and Health to formulate new reimbursement policies and agreements for clinical studies in order to give patients earlier access to medicines and therapies that are still in trial phases;
- Explore a system of progressive and provisional integration of medicines and therapies, measured and coordinated in real time. For instance, value-based pricing for medicines that may be expensive in the early stages but cost less in the long run;
- Look to other countries for inspiration on initiatives that can get medicines into patients' hands faster — initiatives such as risk-sharing agreements;
- Continue and enhance the Venture Capital Action Plan, a program crucial to fostering innovation in the life sciences sector;
- Approach a national pharmacare strategy with caution and care. It is critical that we maintain a high quality of access to medicines for all Canadians: in both the public and private markets. National programs can often be a race to the bottom; and
- We must catch up with other competitor jurisdictions on intellectual property — properly implementing the changes in the CETA treaty would be a good start. We must also pay attention to the role of the courts with respect to intellectual property, since they have significant influence over its interpretation and scientific expertise is required.

Session 2 – Ensuring the Patient Voice Informs Healthcare Policy Decisions

In order to better understand the key issues that impact patient access to innovative medicines and vaccines, this session asked panelists and participants to identify common barriers to access faced by patients, lessons learned in patient advocacy, how to strengthen the impact of patient associations and the potential of patient coalitions to break down barriers to access. Key thoughts on how to ensure patients can better inform healthcare policy decisions across the country included:

1. Adding Patients’ Voices to Healthcare Policy Decisions

Participants noted a shared responsibility to ensure patients’ voices are included in healthcare policy decisions. Patient advocates must, themselves, collaborate to share knowledge among the patient community in a positive, ethical and reliable fashion. They must create a networking environment that is transparent, accountable, respectful and appreciative. In addition, other members of the life sciences and health communities must identify more effective, inclusive and responsive ways to disseminate research findings and other information to patients and the public and to ensure patient voices are included in policy decisions.

2. Listen to and learn from patients

We must incorporate patient voices and experiences in clinical trial design, in private drug plan policy-making and in government processes, including the pan-Canadian Pharmaceutical Alliance. Collecting, aggregating and analyzing patient information and views can be difficult and time-consuming, but patients bring a unique and necessary perspective to health policy issues — the perspective of the person who is actually ill and experiencing the treatment. These experiences matter and should be critical in decisions about which medicines are reimbursed and which are not.

“Real-life patient input isn’t just politically correct or a demonstration of engagement. It leads to decisions that improve health outcomes and overall health care savings.”

3. Consider quality of life issues

Innovations in medicines and other therapies are prolonging lives and changing our approach to patient care. A patient diagnosed with cancer needs, and expects, access to the latest treatments as soon as possible.

We need to better define what patient value means by making it measurable — assigning a numeric value in order to inform and enhance expert committee decisions during health technology assessments. With a better definition and appropriate metrics, we can better incorporate patient value in the decision-making process. In terms of methodology, any effective assessment tool must work with today’s technology — smartphones, tablets and other such devices — to produce a report on value and weight.



4. Lobby smarter, not harder

Advocacy groups must take care to consider how their message will be viewed, not just by governments and corporations, but also by the public. Too often patient advocacy can take on a negative tone. Effective advocacy is about educating people — presenting facts and raising issues others may not have known or considered. In this regard, patient groups should increase their sophistication in using media intelligently and convincingly both to celebrate triumphs and expose failings. Finally, advocacy groups must remember that many of their policy goals often involve funding decisions. Decisions about money are seldom made quickly, making it important for advocacy groups to present arguments based on credible data and aim for long-term results.

5. Collaborate to magnify impact

In a time of cutbacks and shrinking resources, collaboration is key. Patient advocacy groups could benefit from work together to:

- Present a united voice — this can increase effectiveness of individual patient groups and level the playing field between them and more powerful and well-funded organizations;
- Address common issues — many stakeholders share an interest in promoting access, defending the right to healthcare and putting patients first;
- Pool resources and expertise — this amplifies organizations' effectiveness and impact; and
- Get results — working together patient groups can better identify lessons learned and plan for more effective next steps.

In order to collaborate effectively, groups need to develop a strong media presence and always be ready to back up claims with compelling evidence. They need to produce clear and persuasive reports to effect change in policy and legislation. They must bring together stakeholders, including government representatives and patients, by organizing conferences and symposia. Most importantly, they must take action — including legal action if necessary — to advocate for their members by mobilizing stakeholders and resources.

Session 3 – Clinical Research – Improving the Environment for Canada

Canada has been facing mounting challenges from both traditional and emerging countries for clinical research. Declining clinical research activity in Canada means lost opportunities for Canadian researchers, patients and the Canadian economy. A number of initiatives both Canada-wide and at the provincial level are working to reverse this trend by reducing barriers and creating efficiencies to attract more clinical research. Clinical research is global and highly competitive. This panel asked the important question: How can Canada attract and keep clinical trials and researchers?

1. Grow the field

As in every sector and industry, success for Canada's life sciences sector depends on fostering, recruiting and retaining top talent. We need to grow the field and attract new talent by promoting pharmaceutical and clinical science as a profession. We can also "hire smarter" by creating more robust provincial and national recruitment strategies and databases.



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2. Engage patients

We must also empower patients by involving them in every step of the clinical trials process, from trial design and faster patient selection to data gathering and results sharing.

3. Think strategically

The life sciences sector can create a national environment that supports clinical trials by reducing start-up times and coordinating national initiatives in order to better deliver on important metrics. We must also develop a national strategy for regulatory pre-approval that eliminates regional silos and values patient outcomes.

Every clinical trial depends on results: attaining, analyzing and applauding them. The industry must work to restore the numbers of qualified monitors and investigators across Canada. We also need to learn to resist our Canadian humility and be bold in announcing successes across the life sciences sector.

Plenary – Tomorrow’s innovative medicines: Is Canada’s new research model the path to success? Session co-produced with the NEOMED Institute

Canada is home to some of the best researchers, scientists and research infrastructure in the world. Universities, research centres and industry form partnerships across the country to leverage expertise and push the boundaries of medical innovation. This session asked panelists and participants if this research model is designed to ensure we attract research and development investments, support patients and achieve success. Several ideas and initiatives were explored.

1. Bridging industry and academia

One panelist spoke about the NEOMED Institute, a translational research centre created in reaction to change in the existing industry business model. Serving as a bridge between industry and academia, the NEOMED business model offers two integrated research and development facilities that generate collaboration, innovation and creativity. The facilities are discovery hubs for contract research organizations (CROs), biotechnology companies, start-ups, investors, law firms and intellectual property specialists, making NEOMED a giant tool box that helps transform research into medicines. Through this business model, NEOMED offers more than just funds — it also offers expertise.

2. Accelerating along an “innovation continuum”

Another panelist described the model of an “innovation continuum,” which attempts to address funding challenges that often exist in the early stages of life sciences development. An example is the Accel-Rx Health Sciences Accelerator — a national organization focused on maximizing new health sciences company creation, and ensuring start-ups have the resources they need to enable them to stay and grow in Canada and become a new generation of strong health sciences anchor companies. On the continuum, they work with partners, catalyzing early-stage investor capital. From there, companies can raise the next level of funds to investigate the therapeutic



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potential of a discovery. This model considers innovation as a broad spectrum of opportunity. It casts a wide net to fund the best companies and provides access to expertise, seed capital, and a network of investors.

3. Aggregating expertise to fill gaps

A third panelist presented the Université de Montréal's Institute for Research in Immunology and Cancer (IRIC) as an innovative model. IRIC was created as an elite research centre in biology. It accelerates projects of commercial value, brings discovery to the commercialization stage and trains a new generation of researchers in state-of-the-art facilities. IRIC was created to fill gaps, aggregate expertise and build a portfolio of innovative projects. It boasts a network of 20 partners and has served 280 different groups, from here and abroad, both big and small. IRIC's fields of focus include stem cell, cancer and rare diseases.

Celebrating Canadian Achievement in Life Sciences

Following the successful completion of *Making Canada Better*, the Rx&D Health Research Foundation (HRF), in partnership with Prix Galien Canada and Research Canada, recognized some of the greatest achievements in Canada's life sciences ecosystem.

Recipients of the HRF's Medal of Honour, the Prix Galien Canada awards and the Research Canada Leadership Award included:

- The Health Research Foundation Medal of Honour — awarded to Dr. Norman Campbell, who led the creation of a clinical guideline program that has been associated with a five-fold increase in the control of hypertension in Canada;
- The Research Canada Leadership Award — presented to Dr. John Bergeron for sharing his knowledge and passion for health research with others through writing and speaking, and for his lead role in growing community, provincial and national awareness related to health research;
- The Prix Galien Research Award — presented to Dr. John Kelton and Dr. Theodore Warkentin of McMaster University for their extensive studies of the mechanisms, manifestations, diagnosis and possible treatments of heparin-induced thrombocytopenia; and
- The Prix Galien Innovative Product Award — presented to Boehringer-Ingelheim (Canada) Ltd. for afatinib (Giotrif). Giotrif is a second generation tyrosine kinase inhibitor that differs from first-generation tyrosine kinase inhibitors by irreversibly inhibiting HER2 and HER4 receptors in addition to the tyrosine kinase activity of EGFR, and, in non-small cell lung cancer clinical trials, demonstrating prolonged progression-free survival, improved quality of life and an overall survival benefit compared with standard chemotherapy in patients harbouring an EGF Del19 mutation.



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Conclusion

Canada has the potential to be a global leader in life sciences and to develop a world-class innovation sector for the benefit of Canadians.

Through the discussion generated at *Making Canada Better*, we have gained a better understanding of how to reach this goal. *Making Canada Better* was intended to be a catalyst for future collaboration in Canada's life sciences sector.

Going forward, we must continue this collaboration and ensure we put in place the necessary measures to achieve excellence, including:

- Putting the patient first;
- Developing an ecosystem to support innovation;
- Fostering a culture of innovation;
- Breaking down our innovation and healthcare silos;
- Engaging Canadians to support this goal; and
- Ensuring patients have access to the products and technologies we create.

We encourage all participants at *Making Canada Better* to use the key findings and summaries contained in this conference report to continue this discussion and to work together to create a smarter, healthier nation in which innovation, research and people thrive.