

# MANITOBA DIABETES FORUM REPORT

Prepared by the Life Science Association of Manitoba  
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## Background - Diabetes In Manitoba

Manitoba is faced with profound health and socio-economic issues directly related to diabetes. While all demographic groups in the province are affected, indigenous populations in the northern region have reported a significantly higher incidence of Type 2 diabetes when compared to the national average. In one study examining the incidence for Type 2 diabetes in children alone, the rates in Manitoba were nearly ten times higher than those in other provinces. The rate of children with Type 2 diabetes in Manitoba rose exponentially from 1986 to 2011 (source: S Amed Diabetes Care 2010). The increased rate is attributed to a number of factors: including lower insulin production and “post colonization” factors such as obesity, lower insulin action, earlier onset of Type 2 diabetes, diabetes in pregnancy and lower breast feeding rates. What’s even more troubling is renal survival decreased to over 50% at approximately 20 years post diagnosis, with a 21% mortality rate (source: *Dart et al*).

Obviously, diabetes in Manitoba is a serious health issue that is related to genetic factors and lifestyle choices, but it is further complicated by shortcomings and failures in medicine, technology, public health, awareness and communication.

## THE MANITOBA DIABETES FORUM

On September 13, 2012 the Life Science Association of Manitoba (LSAM) hosted the Manitoba Diabetes Forum, the first event of its kind focused on bringing together Manitobans working on Type 1 and Type 2 diabetes.

The Forum brought together individuals practicing medicine with those responsible for patient and government programming, conducting scientific and clinical research, and those working in industry. Attendees heard from community leaders in pediatric care, health and food research, and medical devices and then participated in breakout sessions to build on the topics raised in the presentations.

The keynote address, *Decade of Discovery*, was delivered by Dr. Steve Smith from the Mayo Clinic, who described a collaboration between the University of Minnesota and Mayo Clinic with the goal to prevent, treat and ultimately cure Type 1 and Type 2 diabetes. Recognizing the combined strengths of the University and Mayo Clinic in diabetes research, it creates a focused goal of better health outcomes, reduced health care costs and enhanced economic opportunity.

The purpose of the Manitoba Diabetes Forum was to initiate dialogue on Manitoba’s strengths in diabetes, to recognize the challenges in bringing new technologies that could better manage and potentially cure the disease to market and to identify opportunities. This report provides a synopsis of the outcomes from the various roundtable discussions at the event.

## Roundtable Direction

All roundtable participants were tasked with addressing key items in their overall discussions:

1. What are Manitoba’s strengths in business, research and care around diabetes?
2. What are the major gaps in the diabetes commercialization pipeline in Manitoba?
3. What opportunities do we have to grow the economy and improve the health of people with diabetes?
4. What can we learn from other regions?

*Diabetes in Manitoba is a very serious issue that is related to genetic factors and lifestyle choices, but it is further complicated by shortcomings and failures in medicine, technology, public health awareness and communication.*

## FINDINGS

Three key themes emerged from roundtable discussions: commercialization opportunities, patient care and partnerships. Highlights and summaries from each topic area are outlined below along with proposed next steps.

### COMMERCIALIZATION OPPORTUNITIES

Commercialization of medical technologies is a long and difficult process that begins with identifying an unmet healthcare need and ends in a new technology that saves lives or improves quality of life.

- **Risk aversion**

Round table discussions around commercialization showed that the Manitoba health care community is resourceful and highly motivated to make a difference in the lives of patients suffering with diabetes. But, this same community is less focused on commercialization of innovation solutions and on providing access to innovative products/ technologies. In short, they are risk averse. Participants believed that by creating a culture of early adoption for locally developed products, whether through incentives or changes in policy by the health care system, would go a long way to closing the loop on the commercialization process and in the final analysis improve the health of Manitobans.



- **Industry vs. academia**

Discussions highlighted a belief that there is a clear disconnect between the way academia and industry operate. Possible explanations discussed included the differences in culture between scientists conducting basic research and business leaders, or simply a lack of communication between the two groups.

There were numerous examples given of applied research occurring in Manitoba institutions where advancements never make it to patients. Feedback from the roundtable suggested that compared to universities in other regions Manitoba is lacking in entrepreneurial spirit. Participants were of the opinion that local researchers are risk averse, which could stem for a number of different reasons which were not discussed at this session.

In addition, finding highly qualified personnel with the right skill set can be a challenge in Manitoba. Post-secondary institutions need to work more closely with industry in order to produce a highly skilled workforce, capable of meeting industry expectations and needs.

Participants suggested that creating incentives could encourage students and researchers to work towards commercialization. There was a general feeling that an incentive program would be a useful tool to drive commercialization of new technologies out of post-secondary institutions and create a stronger entrepreneurial culture.

- **Access to capital**

Access to capital continues to be a significant challenge for companies and university professors developing innovative products. Although there are programs to facilitate investment, the reality is that Manitoba is falling behind other regions. These funding gaps exist throughout the commercialization process.

- **Lack of local support**

It was discussed that even when a company had a finished product, the lack of support for Manitoba-made technologies in the local healthcare system was a barrier to success locally and beyond.

- **Resource issues**

One roundtable participant indicated that there is an absence of a central resource that could provide advice and guidance to companies looking to enter the local Canadian market. It was also noted that nationally there is a lack of consistency when it comes to reimbursement for medical devices and formulary bodies. This presents challenges for companies entering the local market; as it can be costly and time consuming to secure access across

the provinces. A common reimbursement body could be a solution as companies incur substantial costs trying to satisfy different criteria. Participants agreed that addressing resource issues would go a long way to improving the environment for fostering innovation in Manitoba. If commercialization is not supported through the entire process then the best companies and brightest researchers will be attracted to other regions that appreciate the significance of their work.

### Major Opportunities

There is a variety of research in diabetes involving new models and novel approaches going on in Manitoba. Examples cited included research into biomarkers for Type 2 diabetes in youth and the experiments conducted in food and bioactives. St. Boniface Research Centre, Health Sciences Centre and the Richardson Centre for Functional Foods and Nutraceuticals all have the capability to conduct clinical trials on novel health technologies. There are also a number of contract research organizations in the province that can support access to special populations.

The two major areas identified as opportunities were personalized medicine and functional foods. Manitoba has an abundance of agriculture related industries, including institutions researching bioactives and producing consumer products. The strong links that exist in the agriculture community should continue to be utilized and further expanded. There is an opportunity here for Manitoba to be a leader in food security and access.



### PATIENT CARE

Dealing with the unique local challenges, including the high prevalence of Type 2 diabetes has enabled the province to be a forerunner in patient care and research. This leadership has been driven by local champions that are recognized for their contributions locally and internationally.

#### • Manitoba's opportunity

Manitoba has a diverse population with unique characteristics that could be targeted for studies focused on improving care and treatment for diabetes. For example, given the high incidence of Type 2 diabetes in youth, participants believe there is an opportunity for Manitoba to

conduct significant scientific research and develop innovative products. From a population health perspective, this could lead to opportunities for specialized and larger scale studies, provided there is access and compliance. The participants felt that this is an opportunity for Manitoba that could enhance innovation.

#### • The economics of prevention

At the broadest level there was a belief that focus should be placed on preventative strategies, treatments and interventions in diabetes. Areas of interest included food, lifestyle choices, and medical diagnostics. It was suggested that a blend of different interventions with education could be an effective strategy in optimizing treatment.

Participants believed that, ultimately, a business case must be made for preventative measures in order to demonstrate economic value. Predicting health care trends in a desired system or country is an important component in identifying economic opportunities. They discussed that once established, a new model for payment reform would emerge. The model would reimburse prevention, - not from new revenue streams, but rather payment from health care cost savings.

#### • Representing patients

Manitoba has an established support system comprised of integrated groups that represent the best interests of patients. This is crucial to initiating and driving the demand for better practices and technologies. Each organization's goals and activities should provide a continuous road to better interventions and healthier communities.

## PARTNERSHIPS

A key strength identified by the group was willingness of Manitoba organizations to form partnerships in the region. Manitoba is a small community where it is fairly easy to connect and partner with both large and small organizations.

### • Manitoba's leaders

Participants recognized that Manitoba is home to visionary leaders in diabetes that support patient initiatives and research: D'Youville Clinic/ Maestro, The Health Sciences Centre Diabetes Education Centre, the Canadian Diabetes Association, Juvenile Diabetes Foundation, National Aboriginal Diabetes Association, The Assembly of Manitoba Chiefs, The Winnipeg Regional Health Authority, The Aboriginal Diabetes Initiative and The Diabetes Integration Project.

### • Improving communications

Roundtable discussions highlighted an opportunity to improve communication between industry and academia. In addition to items discussed earlier it was noted that the Technology Transfer Office at the University of Manitoba is currently being re-organized to focus more on partnerships. This will help researchers patent new concepts and give them more flexibility to work with industry. This should remove barriers that currently exist in obtaining subsequent funding (who controls the patent) and open discussion with industry.

### • Access to government

Manitoba, it was discussed, is fortunate to have good access to government officials. This open mindset can provide further opportunities for optimizing care and economic benefits. The community needs to seek out success stories and share them with the community so that government officials can see the short term value of this work, the bigger picture and the whole story.

## ACTION ITEMS AND NEXT STEPS:

There were a number of discussions that created some immediate action items.

### • Communication

A key weakness identified in the discussions was the lack of dialogue between groups working in diabetes. Participation in the Manitoba Diabetes Forum alone demonstrated an eagerness for this community to connect. The forum drew people from industry, academia, patient groups, health care professionals, food, and government. To encourage more information sharing and informal networking it is recommended that future meetings, both for diabetes and other chronic disease states, should be coordinated to continue to break down communication barriers.

### • Needs assessment

A needs assessment should be conducted to help identify the gaps that impede novel treatments from moving forward in the province. The result of this exercise will clearly identify community needs. One of Manitoba's greatest strengths is the willingness to collaborate and partner. This will be critical to filling the resource gaps on the road to new innovations and optimizing patient care. This information will be valuable in developing training programs to improve skill development.

### • Connecting outside the province

LSAM can use the information gathered from these initiatives to connect Manitoba's resources to other regions, encouraging partnerships and business opportunities. Seeking out success stories and sharing them within the community and with other regions would have a positive impact. Having a better understanding of strengths and capabilities in the region provides the opportunity to market the sector to outside partners.



## Works Cited:

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