Action is Needed to More Effectively Prevent Type 2 Diabetes in Manitoba

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In 1996, diabetes was formally called an epidemic provincially in Manitoba. Sadly, in the 29 years since then it has never been treated like an epidemic. It needs to be treated as seriously as COVID was in the funding, the implementation of a central effective leadership structure to prevent type 2 diabetes and in actions taken. More people have died from diabetes and its complications than died from COVID-19!

There is a fundamental problem with how the type 2 diabetes epidemic has been approached in Manitoba. While there was strong evidence by the year 2001 that the development of diabetes could be prevented in 60% of individuals with pre-diabetes[51], this evidence was not translated into a

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Prior to starting a career as a politician, he obtained a Bachelor of Arts in economics from the University of Saskatchewan (1967) and a medical degree (MD) from McGill University (1971). After that, he specialized in pediatrics and oncology, earned a Doctor of Philosophy from the University of Minnesota (1976), and he worked as a pediatrician primarily at the University of Minnesota in Minneapolis.

He started working at Cancer Care Manitoba in 1980, caring for children with blood problems and cancer. He served as the head of Pediatric Hematology-Oncology at the University of Manitoba from 1985 to 1992.

51 J Tuomilehto et al., "Prevention of type 2 diabetes mellitus by changes in lifestyle intervention or metformin" (2001) 344:18 New England J Medicine1343.

similar reduction of diabetes in communities. Today, the state of evidence is that we are probably able to prevent up to 90% of type 2 diabetes, but we still have not developed effective ways of preventing diabetes in communities.[52]

A straight-forward approach to finding ways to drastically reduce diabetes in communities would be to test various approaches in 10 different communities.[53] These could be geographic or ethnic communities. Leaders in each community could be involved in the design of the approach to be taken in their community. Having buy-in from communities would be critical to success. With 10 different communities involved, there would be varied approaches taken and so it would be possible to evaluate these options and see which ones work best. The best approaches found could then be used more broadly.

An alternative approach which has been used to address problems which are difficult to solve has been called the power of positive deviance.[5] In this approach, instead of looking at individuals with diabetes, individuals are asked to find individuals in their community who have not developed type 2 diabetes and ask what it is that they are doing that is keeping them from developing diabetes. This approach has been shown to be effective when other approaches have failed in part because it involves people in looking at what is happening in their own community and in part because they are looking for solutions which can be effective in their own community.

Drugs are now emerging which may have considerable potential to reduce the incidence of diabetes. Glucagon-like peptide–1 (GLP-1) agonists

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52 Jon Gerrard & L Gonsalves, "Diabetes in Manitoba: A Plan to Address the Epidemic" in V Mohan et al., eds, *Current Trends in Diabetes: Focus on South Asians.* (New Delhi: Jaypee Brothers Medical Publishers, 2021) 74 at 74-94 [Gerrard & Gonsalves, "A Plan to Address the Epidemic]; Jon Gerrard & E Gonsalves, "Diabetes Pandemic in Manitoba: An Update on Prevention of New Cases" in Gundu HR Rao & Undurti N Das, eds, *Cardiovascular Diseases: Molecular Basis, Early Detection of Risks and Management* (London, Academic Press, 2024) 379 at 379-386 [Gerrard & Gonsalves, "An Update on Prevention"]; Jon Gerrard, "The impact of diabetes on Manitoba health care" *Winnipeg Free Press* (19 April, 2024), online: <https://www.winnipegfreepress.com/opinion/analysis/2024/04/19/the-impact-of-diabetes-on-manitoba-health-care> [perma.cc/9F4H-7SSZ] [Gerrard, "Impact of Diabetes"].

53 Gerrard & Gonsalves, "A Plan to Address the Epidemic", *supra* note 2; Gerrard & Gonsalves, "An Update on Prevention", *supra* note 2.

have to date been used primarily for those with obesity or with diabetes because they are expensive and may have some side effects. It remains to be seen the extent that they are effective and cost-effective in the prevention of diabetes.

Whatever approach is used, there needs to be overall province-wide (and perhaps country wide) approaches used. With heart disease, there has been a major effort to communicate risk factors and preventative factors in relation to heart disease. We need to better communicate the findings for diabetes.[54] With diabetes, too much of the attention has been on sugar and on calorie counting, with not enough information being provided about evidence in relation to risk and preventive factors. While sugar sweetened beverages have been associated with an increased risk of diabetes, much more is now known about risk and preventive factors. While eating ultra-processed foods has been associated with an increased risk of diabetes, not all "natural" foods are equal. Simplistic messages to eat more fruit and vegetables are not enough when the evidence is showing that consuming some vegetables (white potatoes is an example) increase diabetes risk while consuming others (most green vegetables like peas, beans etc) will decrease the risk of diabetes. Similarly for fruits the evidence would suggest that consuming some fruits (notable berries like blueberries) has an impact to decrease diabetes while others are much less effective. Consuming white bread increases the risk for diabetes, while eating whole wheat bread decreases the risk of diabetes. Switching from the former to the latter has the double effect of removing a risk factor and adding a preventive factor. Consuming white rice and white pasta have also been shown to increase diabetes risk. Consuming yoghurt or nuts is associated with a decrease in diabetes risk.

While most of the attention with respect to diabetes has been on concern over an excess of sugar, and it is important to reduce consumption of sugar and sugar loaded drinks, there is evidence that diabetes, in some circumstances may be due to a deficiency. This has been shown with respect to an inherited deficiency in intracellular thiamine (vitamin B1), and in the

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[54] Richard Pascale, Jerry Sternin & Monique Sternin, *The Power of Positive Deviance: How Unlikely Interventions Solve the World's Toughest Problems* (Boston: Harvard Business Review Press, 2010).

case of hypothyroidism, a deficiency in thyroid hormone levels or activity.[55] It has been postulated that the impact of drinking tea on reducing diabetes may be due to the presence of antioxidants in the tea. It is possible that a deficiency of such anti-oxidants in the diet may contribute to diabetes.[56]

It should also be noted that Manitobans have contributed new ideas to the understanding, the prevention and the treatment of type 2 diabetes, including evidence that a liver peptide, hepatalin, may play an important role.[57]

I have raised concerns about the lack of effective action to prevent diabetes under both PC and NDP governments. These concerns have been raised numerous times in the legislature, in reports, in multiple presentations and in written articles.[58] The lack of action by PC and NDP governments in Manitoba has been costly (the extra cost of not acting has been between 5 and 6 billion dollars) and in the full hospitals and emergency rooms we are experiencing.[59] I am not alone in my calling for action over many years. Gifford Jones has long predicted that "obesity and diabetes would bring the health care systems of both Canada and the U.S.

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55 Jon Gerrard, Margaret England, "Hypothyroidism, Diabetes and Cardiovascular Disease" in Gundu HR Rao & Undurti N Das, eds, *Cardiovascular Diseases: Molecular Basis, Early Detection of Risks and Management* (London, Academic Press, 2024) 239.

56 Jon Gerrard, *The Diabetes Epidemic in Manitoba*, Manitoba Liberal Caucus Report (2014), online(pdf): <https://www.jongerrard.ca/wcm-docs/news/thediabetesepidemicinmanitoba_20231218155639.pdf> [perma.cc/9C7E-UZW6] [Gerrard, "Diabetes Epidemic in Manitoba"].

57 W Wayne Lautt, "Hepatalin, the missing link in prediabetes, obesity and type 2 diabetes" (2023) 101 Can J Physiology & Pharmacology 117.

58 Gerrard & Gonsalves, "A Plan to Address the Epidemic", *supra note* 2; Gerrard & Gonsalves, "An Update on Prevention", *supra* note 2; Gerrard, "Impact of Diabetes", *supra* note 2; Gerrard & England, *supra* note 5; Gerrard, "Diabetes Epidemic in Manitoba, *supra* note 6; Jon Gerrard & Kevin Lamoureux, *Six Lost Years It's Time for Action*, Liberal Party Report on Healthy Kids: Healthy Futures, (2006), online (pdf): <https://www.jongerrard.ca/wcm-docs/news/healthy_kids_minority_report_20231218155455.pdf> [perma.cc/78QF-KHA5]; Jon Gerrard, "A financially sustainable health care system is vital to a financially sustainable democracy" in AM Herzberg, ed, *Statistics, Science and Public Policy* [forthcoming in 2024] [Gerrard, " A financially sustainable health care"].

59 Gerrard & Gonsalves, "An Update on Prevention", *supra* note 2; Gerrard, "Impact of Diabetes", *supra* note 2; Gerrard, "A financially sustainable health care", *supra* note 8.

to their knees."[60] Health care in Manitoba is in a crisis. We need action now to help people who live in Manitoba and Canada and to help save our health care system.

[60] W Gilford-Jones, MD, "Poverty and the Failure of Medical Care in North America" (19 October 2024), online: <https://www.docgiff.com/article/poverty-and-the-failure-of-medical-care-in-north-america/> [perma.cc/8P2S-QK2P].