
Addressing a blind spot in Ontario's care for patients living with diabetes

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Lack of technology between family doctors and optometrists is leading to blindness for patients living with diabetes.

The COVID-19 pandemic revealed multiple strained layers of the Canadian healthcare system and its delivery, with [care coordination](#) and access to care being some of the top concerns. Two-thirds of [Canadians living with a chronic illness](#) have faced challenges accessing treatment and care. According to a [report by HealthPartners](#), 30% experienced a cancellation of their screening and diagnostic appointments and 43% had a cancellation or delay in their treatment. Chronic disease screenings took a back seat, including [diabetic retinopathy \(DR\) assessments, that plummeted](#) during the early phase of the pandemic. These delays have had a negative impact on patients' quality of life.



1 in 9 Canadian adults are diagnosed with
Diabetes Mellitus

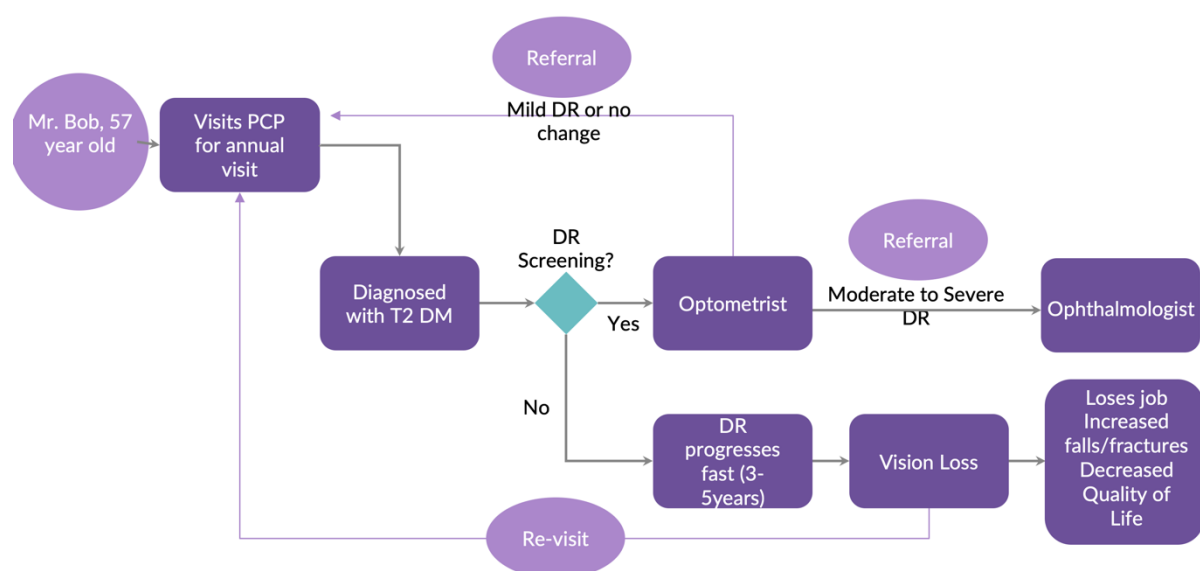
549 new cases diagnosed daily



20% - 65% Canadians not screened for DR

The Canadian Institute of Health Information (CIHI), Canada's government funded health data and statistics agency, recently reported that diabetes mellitus (DM) is one of the three most common chronic diseases in Canada. It is a growing burden and continues to put pressure on the Canadian healthcare system with an average increase of 3.3% in the number of people diagnosed with diabetes every year. Diabetic retinopathy (DR) is one of the most common complications of this chronic disease. People with DR form the bulk of candidates for vision loss and is the leading cause of blindness in people of working age. A recent study in Ontario revealed a sudden decline in diabetes screening due to the pandemic, anywhere from 20-65% based on age groups and income. 9 out of 10 times, catching the unscreened early and performing regular eye check-ups can prevent severe retinopathy conditions. Unchecked, this problem is associated with a massive cost for the government and society. Treating a patient with retinopathy can cost anywhere in the range of \$3000 to \$11000. This cost can be avoided with a proactive screening strategy.

Let's take a look at a patient's journey:



Bob, a patient with diabetes, is advised by his doctor to complete a retinopathy screening at the time of diagnosis. However, this is generally

verbal advice given to the patient by their doctor. There is no formal, structured referral system to refer to and follow up with an optometrist. A bidirectional flow of health information is vital for a family physician to offer continuity of care to their patients. Lack of information exchange between clinicians has resulted in no less than . [Evidence](#) suggests that strategies which increase uptake of screening appointments can reduce the risk of onset of referable retinopathy and consequently early vision loss. Clear communication and real-time [inter-professional collaboration](#) in primary care settings can prove eye-saving, and this can be driven [using digital health solutions](#).

"In the early stages of diabetic retinopathy there may be no symptoms which is why it is especially important for people living with diabetes to have regular eye exams," says Dr. Jan Hux, President of Diabetes Canada."

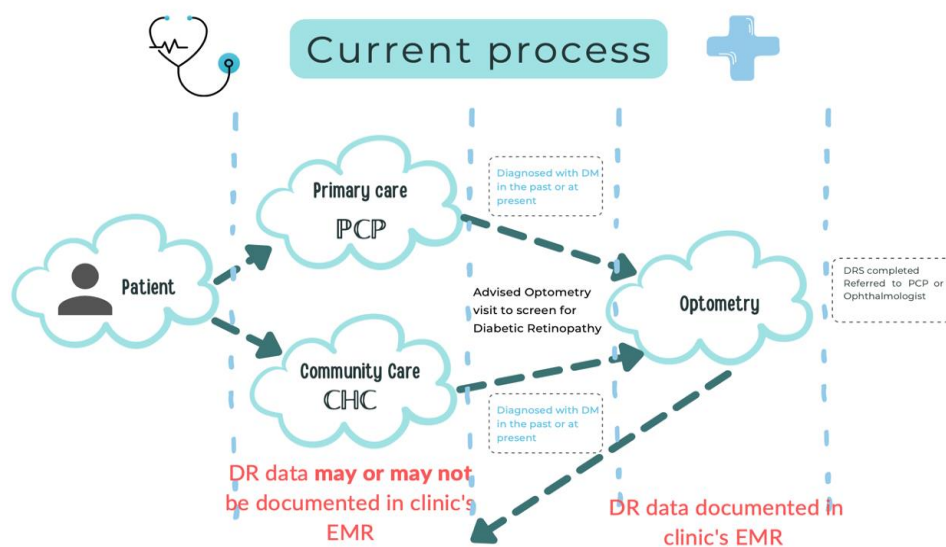
Database	Primary Care	Optometry
Who has Diabetes?	✓	X
Who is screened for DR?	X	✓

A disconnect in information sharing is costing Ontarians

Data about screened individuals is siloed and trapped in patient records.

If a patient consults an optometrist for retinopathy screening, their screening status is recorded in their optometrist's electronic medical record (EMR). Documentation of this information rarely makes it back to their family doctor. Data may be shared within an integrated practice that comprises physicians, optometrists, and ophthalmologists, but this is a rare combination in Ontario. Most of the time information is stuck in silos and

care coordination is broken, thus increasing the risk of early vision loss and consequent increased healthcare costs. Equity seeking populations with lower social determinants of health, gendered individuals, indigenous populations, young adults, immigrants, those not under the care of family physicians, as well as racialized and ethnic marginalized populations such as Black, Asian, Middle Eastern, Hispanic people are the most likely to miss being screened.



Proposed solution: Research has shown that regular screening plays a vital role in preventive medicine, as it leads to early detection of treatable retinopathy, thus preventing debilitating vision loss. Optometrists play a crucial role in a diabetic's circle of care. Exchanging the relevant data from an Optometrist's EMR to a family doctor's EMR can save thousands from severe retinopathy.

"I'm open to sharing my patient's screening information if it is an easy & reliable digital tool, as it is additional work for my staff. But we do not have any specific billing code for it", says an optometrist from Toronto

Interoperability and data exchange is possible using [clinical communication and collaboration tools](#) that are now increasingly used in practices. Communicating a patient's screening status to the family doctor will enable tracking of unscreened patients who can then be informed of the need to visit an optometrist. Tools such as eReferral, Secure-Mail, and Health Report Manager, which already exist in Ontario, can enable optometrists to share a patient's screening data.

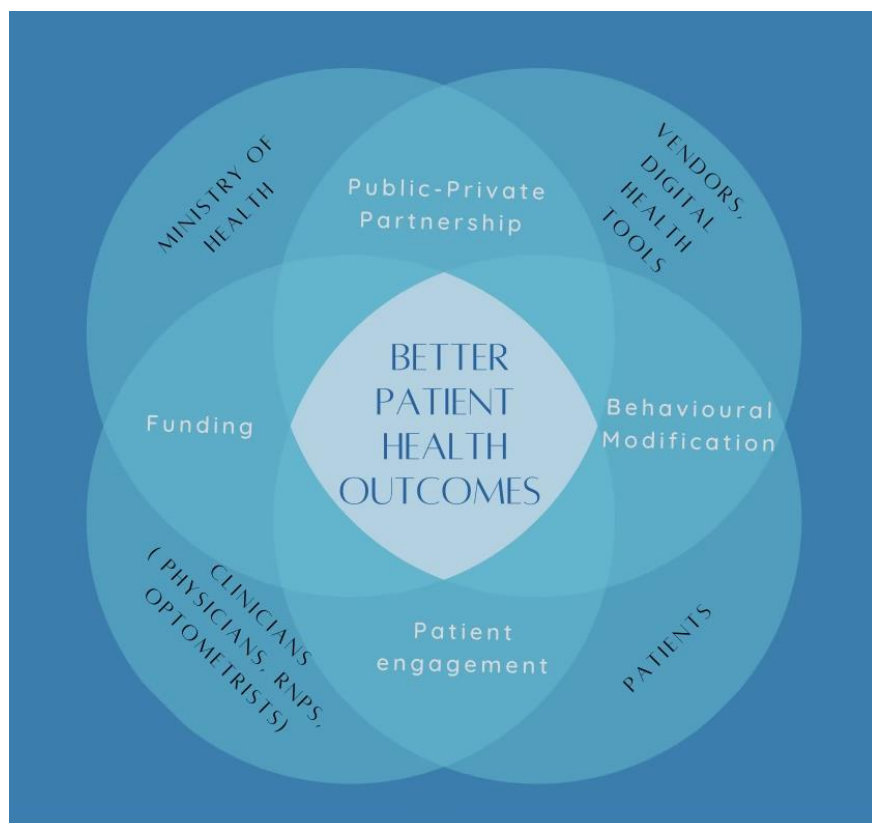
Digital health solutions can enable better care coordination, improve the patient experience, improve population health outcomes, and lower costs to the healthcare system, without increasing clinician effort.

Recently, the [Ontario Health Data Council](#) shared a report with recommendations for responsible use of health data to establish a sustainable, learning health data ecosystem that benefits the people of Ontario. Our use case fits their vision and high-value system-level recommendations such as an integrated and accountable care approach between providers of different care settings, population health management that identifies specific strata of our society, and the unique needs of patients with diabetic retinopathy. An interoperable digital tool that connects physicians to optometrists and vice-versa will enable timely retinopathy monitoring and management.

Canada witnessed a rapid digital transformation over the past two years. Simple innovations offer new possibilities for prevention of DR, its early treatment, improvement in quality of life and better patient care. Nevertheless, challenges persist in implementing interoperability due to reasons beyond technology, such as health system policies, incentives, user adoption and influence of governance & regulatory frameworks.

We recommend that Ontario Health prioritize this simple form of interoperability between optometrists and family doctors. The cost will be low, since only 3-4 pieces of information need to be shared. Adoption of this interoperability will be relatively easy for both parties as only a small number of data points are being exchanged. The benefits will be in the hundreds of millions of dollars, since the number of patients affected is very high.

Saving money by providing patients with high quality care is possible. High rates of screening for diabetic retinopathy have been achieved in England and Scotland to great effect. It's time Ontario became one of the success stories.



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