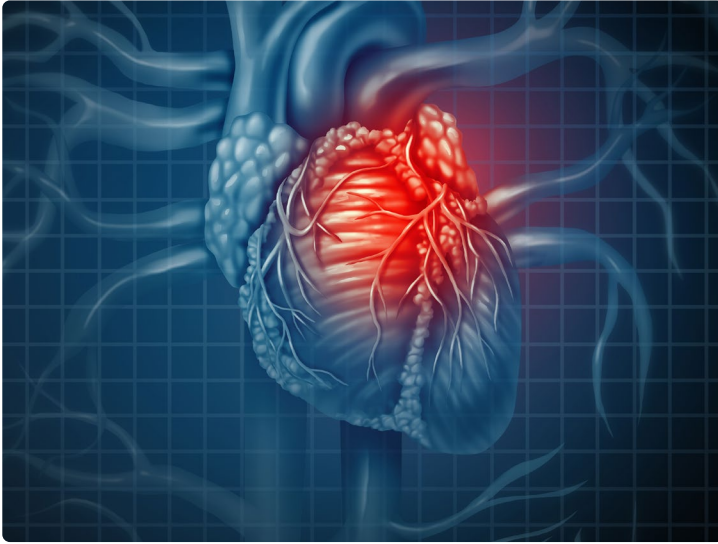


# POLICY BRIEF: Examining Cardiac Waiting List Deaths in Ontario

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## Executive Summary

Since 2019, SecondStreet.org has compiled data from government health bodies across Canada on the number of patients who died each year while waiting to receive necessary medical care. This data is released in annual “*Died on a Waiting List*” reports.<sup>1</sup>

Government data gathered by SecondStreet.org shows there have been nearly 60,000 waiting list deaths since 2018. Alarming as this number might seem, the true total is likely much higher, as not all health bodies track the information necessary to give a clear picture.<sup>2</sup> To be clear, these cases include procedures that could affect a patient’s quality of life (hip operation, cataract surgery, etc.) during their final years as well as procedures that could potentially save a patient’s life altogether (heart operation, cancer treatment, etc.).

This policy brief examines cases involving potentially life-saving procedures – specifically, data from Ontario Health on patients who died while waiting for cardiac treatment during the April 1, 2013 to March 31, 2024 period. This data is then analyzed to project cardiac waiting lists deaths over the next three years.

Highlights from this research include:

- 115 people died while waiting for cardiac surgery in 2023-24 – up from 101 the year before.<sup>3</sup> Of these cases, 41 patients (36%) waited longer than the maximum recommended wait time.
- Since 2013, 1,046 patients have died while waiting for cardiac surgery. Of these, 285 (27%) died after waiting longer than the recommended time frame.
- The annual number of patients dying while waiting for cardiac care in Ontario is expected to increase over the next three years, rising to 164 per year by 2026-27 if nothing is done to reduce wait times.
- The number of patients dying after waiting longer than the maximum recommended wait time for cardiac treatment in Ontario is also expected to continue to increase.

While the human stories behind the numbers in this report are confidential, the Ontario government could nevertheless analyze these cases and determine how many patients died each year because the health care system simply took too long to provide cardiac treatment. Conducting this analysis and disclosing its results to the public would be a good way to improve accountability and transparency in the health care system.

Beyond analyzing and disclosing this data, there is of course the need for governments to pursue health reform to improve patient outcomes. Switching to activity-based funding, replicating the European Union’s Cross Border Directive, and a greater focus on prevention are three solutions that could help reduce wait times and potentially save lives.

## Introduction

According to the Canadian Institute of Health Information, heart disease impacts more than 2.4 million Canadians.<sup>4</sup> This means it is rare to find a family in Canada that has not been affected by the disease. Included in these statistics are heartbreaking stories like that of David Lippert, a 68-year-old Ontarian who died of a heart attack while waiting in an emergency room.<sup>5</sup> Similarly, Judy Anderson, a retired Ontario nurse, described to SecondStreet.org how she has lost two daughters due to long waits for heart procedures. In both of her daughters' cases, the hospital phoned to schedule the life-saving procedure *after* they had passed away.<sup>6</sup>

Stories like these are why SecondStreet.org began using freedom of information (FOI) requests in 2019 to gather data on patients dying while waiting for treatment. The goal was to learn more about how often patients were dying before receiving the care they required – especially when waiting for potentially life-saving treatment.

Data gathered by SecondStreet.org shows 58,916 cases since April 2018 where health services were cancelled because the patient had passed away. To be clear, these cases include situations where patients were waiting for surgeries that could improve their quality of life (e.g., a hip operation, cataract surgery, etc.) as well as potentially life-saving surgeries (heart operation, cancer treatment, etc.)

With situations involving potentially life-saving surgery, it should be noted that some waiting list deaths may have occurred for reasons that are completely unrelated to the health care system. For example, the patient could have been killed in a motor vehicle accident, drowned in a swimming pool, etc. while on a waiting list for treatment.

Ideally, governments would carefully track details on waiting list deaths to identify problem areas and disclose the findings (minus the names of the patients). While death is the most significant possible consequence of long wait times, it is important to recognize that patients can suffer in many other ways, including permanent damage to their mobility, chronic pain, depression, income loss, and more. In some cases,

a patient may also die from other causes (such as a heart attack) after a year or two of being forced to live a sedentary lifestyle while waiting for their hip or knee operation. The recommendation to governments for greater tracking and disclosure of this problem has, unfortunately, fallen on deaf ears from governments.

Finally, readers should note that the number of waiting list deaths – 58,916 since April 2018 – is based on incomplete information. As stated in SecondStreet.org's 2023 *Died on a Waiting List* report, "most health regions in Quebec and some in British Columbia, Manitoba and Newfoundland and Labrador" do not track the number of patients that die while waiting for health services. The report goes on to note, "in other cases, some health regions only track this occurrence for surgical cancellations" (and not for diagnostic cases). For those reasons, the data is underreported.

Through FOI requests submitted in Ontario in 2023, SecondStreet.org obtained data on patients who died while waiting for cardiac care between April 1, 2013 and March 31, 2023. This data was alarming, showing 931 Ontario patients had died, 244 (26%) of whom had passed away after waiting longer for care than the recommended wait time.<sup>7</sup>

For this report, SecondStreet.org decided to focus on two aspects of the Ontario cardiac situation more closely: namely, by gathering additional cardiac waiting list data – including data for the 2023-24 fiscal year – and by using a linear regression model to project the next three years.

## Background

Canada compels people to rely on government-run health care. While providing broad coverage, this system comes with considerable drawbacks. Many Canadians who use the public system often face long wait times, including for life-saving procedures such as heart surgery.

When analyzing data on patients dying while waiting for care, it is important to consider various external factors – including shifting age demographics, the COVID pandemic, supply of health services, etc. – and how such factors impact mortalities that occurred while the patients were on waiting lists. For instance, Ontario has an aging population that will place additional strain on the health care system. It is well known that as people age, they tend to require more numerous and complex health services, including hip replacements, cataract surgeries, heart procedures, and others.

The government of Ontario projects that the percentage of senior citizens will rise from 18.4% of the population in 2022 to 20.3% by 2046.<sup>8</sup> Multiple studies have proven that older patients are considerably more vulnerable to heart disease than young people of comparable health.<sup>9</sup> A disproportionately older population likely means that more and more Canadians will need to turn to the medical system for cardiac treatment, meaning that waiting list deaths may become more common if the system doesn't adapt to rising demand.

Certain trends in public health are also making the Canadian population unhealthier, including being more prone to heart issues. Such trends include obesity, which affected 26.1% of all Ontarians in 2018; mental illnesses and mood disorders, which Statistics Canada has noted is on the rise across the country; and tobacco use and smoking, which remain a significant impact, with nearly 10% of Ontarians lighting up.<sup>10 11 12</sup> Consequences of the COVID-19 pandemic also continue to affect the health care system.<sup>13</sup>

## Methodology

SecondStreet.org obtained data on patients dying while waiting for cardiac care from the Government of Ontario (Ontario Health) through FOI requests. The data includes the total number of patients who died each year while waiting for treatment between the fiscal years 2013-14 and 2023-24. SecondStreet.org also obtained data showing the number of patients who passed away after waiting longer than the maximum recommended time frame for each of those years.

SecondStreet.org attempted to obtain data from the 2008-09 to 2012-13 period but was informed by the Ontario government that the information carried a \$1,800 price tag. SecondStreet.org declined to purchase the data.

The objective of this report was to use the eleven years of data to project what is likely to happen over the next three years. With this objective, SecondStreet.org does not intend to assert a causal relationship between total deaths and other variables. At this stage in our research, we are also not focusing on disentangling the marginal effects of variables like obesity, the nation's aging population, and others (although we hypothesize each of these variables would have a positive marginal effect on total future deaths). As such, SecondStreet.org did not control for any such variables in our forecasting model and chose to instead use  $x_{i,t} = t$  (trend) as our predictor variable.

We tested three predictive models for each variable: 1. Linear; 2. Piecewise - allowing the slope to change in the years 2020-21 and 2021-22 (two years predominantly affected by COVID); and 3. Exponential.

We selected the piecewise model to predict the future total number of patients who could die while waiting for treatment. We selected the linear model to predict the future number of patients who could pass away after waiting longer than the maximum recommended time frame. The model selected for each variable, had the lowest scoring for model selection criterion and the highest adjusted  $R^2$  values and the results from both models were statistically significant.

The data presented in this paper is a starting point for understanding where the health care system is generally headed in terms of deaths on waiting lists – using the cardiac surgery waiting list as our focus. As previously mentioned, this paper does not attempt to identify marginal effects of other variables that may positively or negatively impact total deaths, nor does it attempt to make any causal assertions about waiting list deaths. Deaths recorded by the Ontario government may be due to random events (e.g., a death from a car accident while on the waiting list for cardiac surgery) and not poor cardiac health. Until the Ontario government

improves their data tracking in this respect, random events causing death cannot be disentangled from this analysis.

## Research Findings

New data obtained from Ontario Health shows a continued increase in cardiac waiting list deaths coming out of the pandemic period – 115 patients died in 2023-24 with 41 of those patients dying after waiting longer than the recommended wait time.

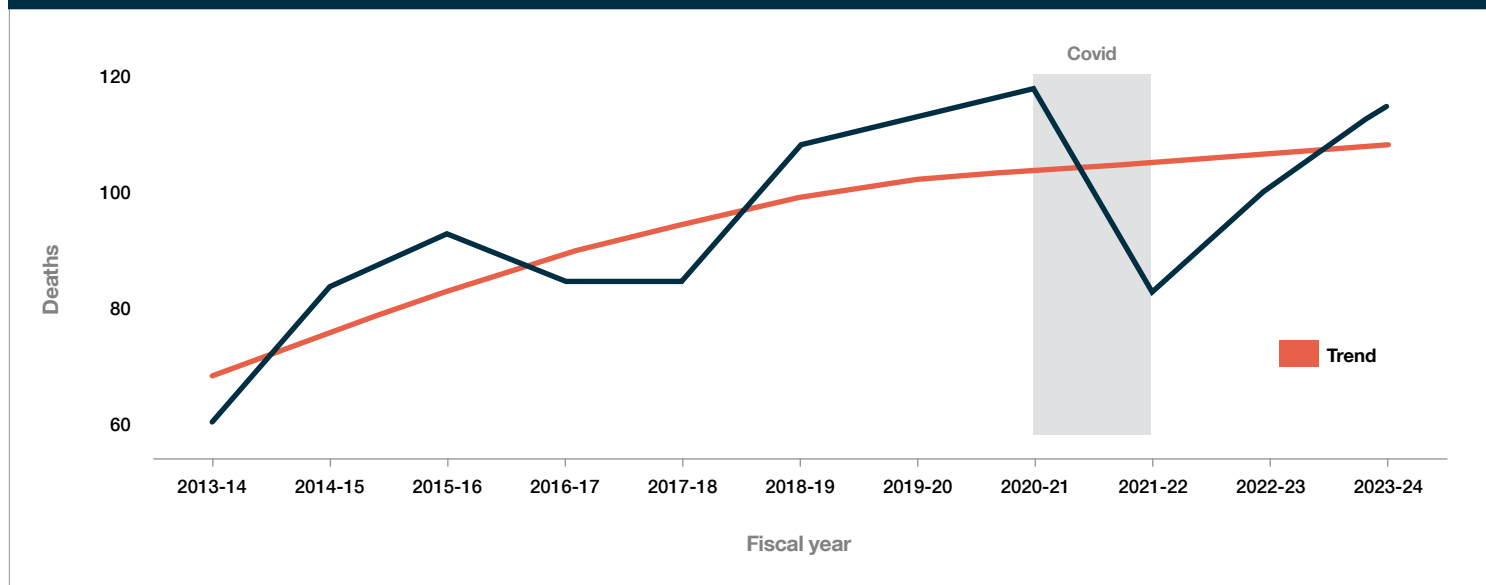
Overall, from 2013-14 through 2023-24, the number of patients who died in Ontario while waiting for cardiac treatment ranged from a low of 61 to a high of 118 deaths. Plotting total deaths between 2013-14 and 2020-2021, the trend for total deaths appears to be increasing but at a decreasing rate. Since the pandemic, however, total deaths have been

increasing at a such a rapid rate that Ontario has quickly returned to pre-pandemic levels. If nothing changes, the province is on track to increase well beyond that in the next three years.

There does appear to be an anomalous drop in total deaths during the height of the COVID-19 pandemic. However, this could be explained by a trend seen around the world; during the pandemic, many patients who may have otherwise sought medical attention avoided doctors' offices and hospitals out of fear of becoming exposed to COVID. In Ontario, a 2021 *Canadian Medical Association Journal* study reported a 25-50% drop in emergency department visits for non-COVID related issues during the first wave of the pandemic. Thus, patients who would have normally met with a specialist and been placed on a waiting list for cardiac treatment may have never had such a meeting and were never placed on the waiting list.

Fig. 1

### Patient deaths while waiting for cardiac surgery



In terms of the proportion of deaths that occurred while waiting longer than the recommended time period, in the years leading up to COVID, this proportion increased rapidly then started decreasing during the COVID years. However, this proportion post-COVID is still much higher than pre-COVID years.

Looking ahead to the three-year period from 2024-25 through 2026-27, SecondStreet.org forecasts patient deaths to continue to increase, rising to 164 by 2026-27. Again, this projection is based on the past trend and assumes no material changes to the government's delivery of cardiac services.

Fig. 2

Percentage of patients that died after waiting longer than the maximum recommended wait time

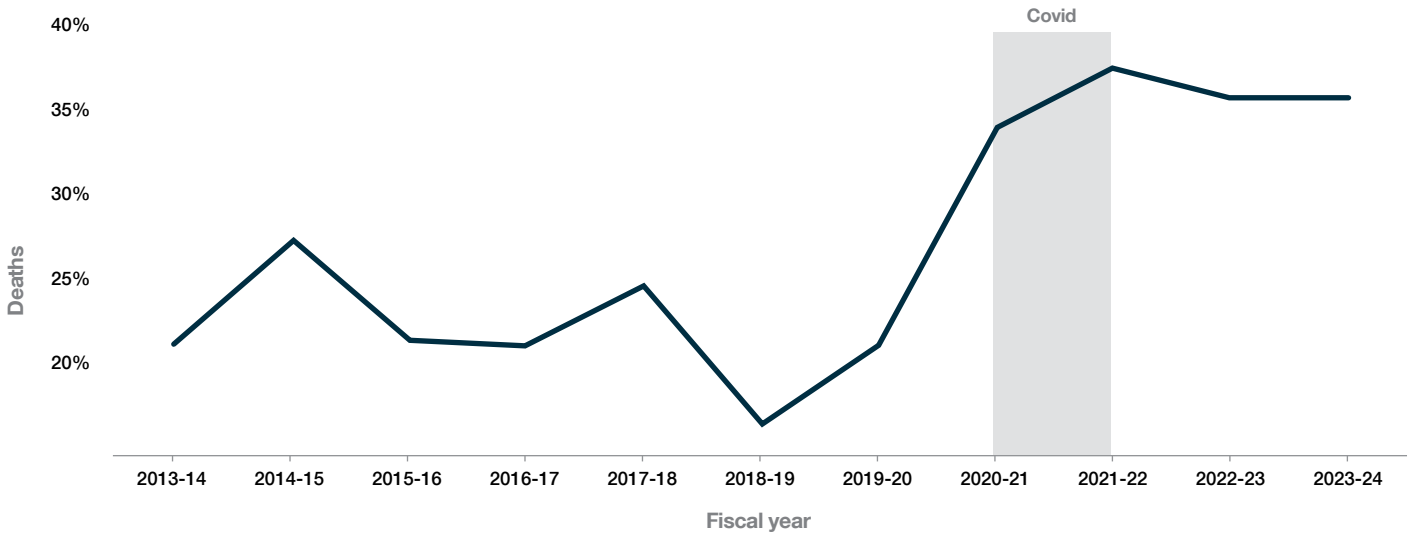
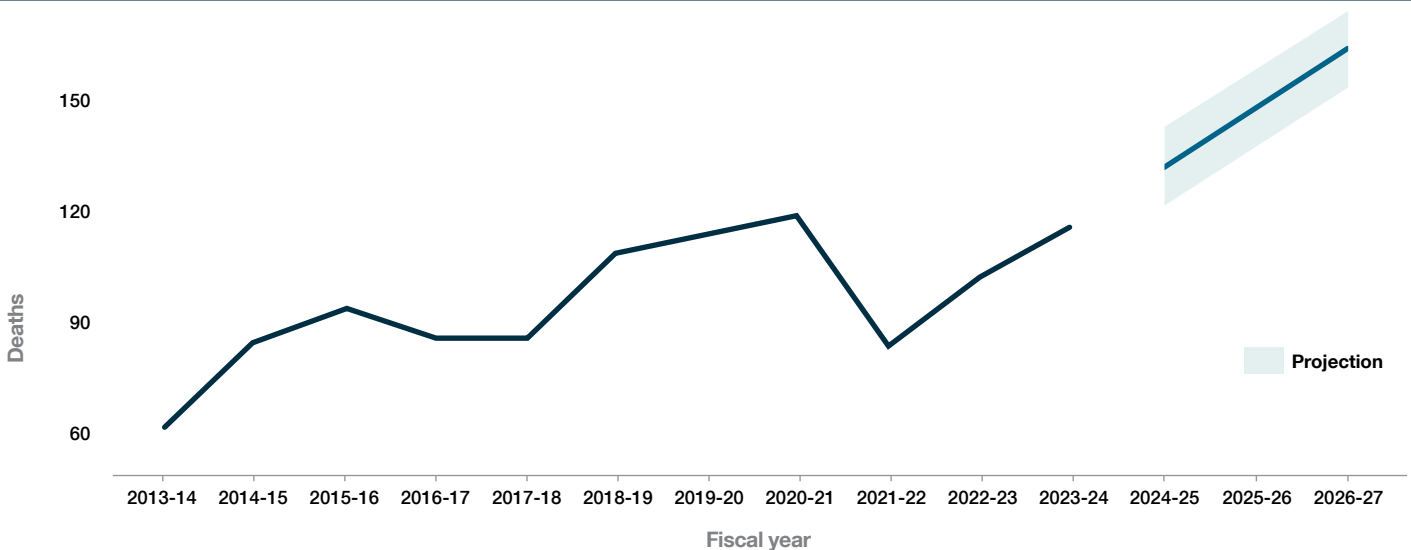


Fig. 3

Projected waiting list deaths



As illustrated in the table below, the number of patients dying while waiting longer than the recommended wait time for cardiac treatment is also expected to continue to increase through 2024-25 and 2026-27 period.

**Table 1**

**Ontario Patients Who Died While Waiting for Cardiac Treatment**

Year	Cardiac Waiting List Patient Deaths	Cardiac Patients Deaths After Maximum Recommended Wait Time	%
2013-14	61	13	21%
2014-15	84	23	27%
2015-16	93	20	21%
2016-17	85	18	21%
2017-18	85	21	25%
2018-19	108	18	16%
2019-20	113	24	21%
2020-21	118	40	34%
2021-22	83	31	37%
2022-23	101	36	36%
2023-24	115	41	36%
2024-25	132	41	31%
2025-26	148	43	29%
2026-27	164	46	28%

*\*Data for the years 2024-25 through 2026-27 are projections.*

While the findings contained in this report seem bleak, this research nevertheless demonstrates the importance of tracking this health data so Canadians can understand the severity of the situation – namely, that long wait times for treatment are likely costing some Ontario cardiac patients their lives. In addition, this research highlights the importance of tracking illness-specific mortality, as Canadians deserve to have access to similar analysis when it comes to cancer care, diagnosis, and treatment of autoimmune diseases like Lupus, Multiple Sclerosis, and other chronic illnesses.

Something important to consider that this research project did not examine is the impact on the quality of life for those stuck on waiting lists and unable to access care. Heart disease, when left untreated, can significantly impact many different aspects of a patient’s life, from mobility and exercise to sleep and relaxation.

While there is some information about the number of those patients dying prior to receiving care – as well as a linear regression model which projects what this trend will continue to look like without action – we have little data available about the long-term impacts for those patients who waited longer than the medically recommended wait times before receiving care.

Ultimately, this model demonstrates that without meaningful reform, Ontario’s health care system will likely see a growing number of patients die on waiting lists before ever receiving the health care they need.

### Policy options

A number of policy options should be considered by decision makers in Ontario.

First, the government could routinely analyze and disclose data related to cases where patients die while waiting for cardiac treatment. Disclosure would improve accountability and transparency, as a patient dying on the government’s watch is the ultimate mistake a government could make in terms of health care.

The fact that SecondStreet.org faced a \$1,800 bill for the government to gather the data suggests that the information is not currently gathered and analyzed internally. Ultimately, the government should be able to estimate just how many patients’ lives are lost each year due to delays in the health system. It’s one thing for the public not to have access to such data, but it’s quite another that this information is not even currently provided to the Minister of Health.

At the very least, the government could hold itself to the same standard as the province's *Health Protection and Promotion Act*, which requires regular inspections of restaurants and businesses that sell food to the public, and for health infractions to be posted publicly at each business. Just as restaurants are required to post infractions onsite, hospitals could be required to provide regular disclosure on the number of patients dying while waiting for care at their facility.

Second, the government could follow in Quebec's footsteps and utilize an alternative approach to funding hospitals and health facilities – "activity-based funding" (known as patient-based funding in Quebec). This model is also used widely in Europe and involves governments funding hospitals not with annual cheques (as is common in Canada) but based on the output of their services. By shifting to activity-based funding, governments incentivized hospitals to increase output as it results in additional funding. At the same time, hospitals become focused on delivery care more efficiently and working collaboratively to improve operations.

Quebec's 2024 budget notes that activity-based funding has helped improve output while reducing costs per procedure.<sup>14</sup> Specifically, the Quebec government notes:

*During fiscal year 2024-2025, patient-based funding will be deployed, in particular, in the medicine, emergency, neonatal and dialysis sectors. Note that patient-based funding began to be implemented in radiation oncology, then in imaging and, as of 2018-2019, in the colonoscopy and digestive endoscopy sector.*

*In radiation oncology, patient-based funding has increased productivity by 26%, while the average cost of operations has decreased by 7% over the same period. In other words, this funding approach grants better access to radiation oncology services at a lower unit cost. Similar observations can be made in the imaging and colonoscopy and digestive endoscopy sectors.*

*In imaging, patient-focused funding increased the volume of procedures in magnetic resonance imaging technical units by 22%, while the unit cost of these procedures declined by 4%.*

*Expanding patient-based funding to the colonoscopy and digestive endoscopy sector resulted in a 14% increase in productivity and a 31% decline in the case backlog. Furthermore, the addition of the medicine, emergency, neonatal and dialysis sectors will relieve hospital congestion and provide faster service to patients.*

A third policy option worth considering is known as the "Cross Border Directive", and it too comes from the European Union (EU).<sup>15</sup> In short, the policy gives all EU patients the right to travel to another EU country, pay for surgery, and then be reimbursed by their home government for up to the same amount the patient's home country would have paid to provide treatment locally. This option is completely voluntary.

While cardiac patients are not always able to travel, some might be able and willing to travel for surgery if local wait times are long and if the government is providing at least partial reimbursement for their costs. When this happens, even patients who choose not to travel benefit each time a patient ahead of them in line leaves the waiting list.

Finally, prevention is an important factor that does not receive enough attention in Canada. According to the Heart and Stroke Foundation, "almost 80% of premature heart disease and stroke can be prevented through healthy behaviors. That means that habits like eating healthy, being active and living smoke free, have a big impact on your health."<sup>16</sup>

Ultimately, patients need to take responsibility for their health. It is not the role of government to wake people up in the morning to exercise or to tell someone it's time to avoid dessert. However, Sweden has pioneered a preventative health care policy that walks the line between helping patients and avoiding intrusion in their daily lives.

Known as “Physical Activity on Prescription” (PAP), the Swedish health care system’s program involves helping patients who could benefit from more exercise, with developing a custom exercise plan. The plans are then provided as physical prescriptions – just like a patient would receive a prescription for medication. One study found that Sweden’s PAP approach helped reduce blood pressure, body weight and cholesterol – three risk factors for heart attacks.<sup>17</sup>

## Conclusion

Ontario Health data shows that over 1,000 Ontario patients have died over the last 11 years while waiting for cardiac treatment. Over one in four of those patients died after waiting longer than the maximum recommended wait time.

Sadly, this research shows that without action, the annual number of cardiac waiting list deaths in the province is expected to grow – so too will the percentage of patients dying while waiting longer than the maximum recommended wait time.

Fortunately, there are several proven solutions that Ontario could implement that are currently working in better-performing universal health systems in Europe. Switching to an activity-based funding model and implementing a “cross-border directive” policy are two such examples that could help save lives in Ontario. On the demand side, prevention programs like Sweden’s PAP approach could help ease the need for cardiac treatment in the first place.

## About the Author

Harrison Fleming is Legislative and Policy Director at SecondStreet.org. He has spent more than a decade working in political offices across Canada, serving in several senior roles. His firsthand knowledge of government operations and barriers to change drove him to pursue reform. His columns on health and education reform are frequently seen in newspapers and media outlets across Canada.

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## Data Analysis

Rebekah Swistun holds a masters degree in Economics from the University of Calgary, and a Bachelor of Arts degree (Political Science and Economics) from the University of Winnipeg. She completed the Data Analytics program from Cornell University and has helped public and private sector clients using predictive analytics. Her main (and most important) role is mother to Jane and Jack, but in her free time she is working on her own project to predict political support using collaborative filtering methods.



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