POLICY BRIEF:
Incentives Could Improve Patient Health

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Executive Summary

Despite spending one of the highest amounts per capita in the developed world, Canada's health care system is in crisis.[1] Over six million Canadians do not have a family doctor, patients often face long wait times in emergency wards and wait times for surgery often exceed one year.[2] In some cases, patients even die while waiting for lifesaving operations.[3]

There are many reasons for Canada's health care woes, but health care reform discussions tend to focus on how to improve the services provided rather than reducing demand in the first place.

This policy brief examines the demand placed on Canada's health care system as a result of Canadians' unhealthy lifestyle decisions (e.g., problems caused by a poor diet, a lack of exercise, etc.) and how incentives could encourage them to improve their health.

Several studies have concluded that Canada's health care system spends billions of dollars each year treating lifestyle-driven diseases and conditions. At the same time, studies have found that financial incentives and other rewards can help improve patient health. Ultimately, a healthier population could free up resources in the health care system to better treat those with genetic and unavoidable conditions, rather than expend those resources treating preventable illnesses.

Some highlights from SecondStreet.org's examination into public and private sector incentive programs include:

- **Safeway** – The U.S. company saved on health costs by rewarding staff with upwards of $1,560 per family if they had a healthy weight, good blood pressure, didn't smoke, etc.;
- **Sweden** – Since 2001, Swedish health officials have been regularly prescribing exercise to patients. Sweden also allows exercise fees/memberships as a tax-free benefit;
- **Manulife** – The life insurance company allows users to track their fitness activities using smart watches and offers rewards and discounts off their premiums if they meet certain thresholds. Results showed significant improvements; and
- **Philadelphia Veterans Affairs Medical Center** – Two monetary incentives were tested separately against a control group to meet a 16-week weight-loss goal. The tests found that those who were offered an incentive were most likely to meet their weight loss target.

To be sure, Canada's health care system needs significant reform. Incentives for healthy living could complement other reform initiatives to improve services and patient health. Considering provincial governments spend over $218 billion each year on health care, the provinces would be wise to look at pilot projects to incentivize healthy behaviour in Canada.[4]

One option would be a program that rewarded participants with $250 for maintaining a healthy bodyweight, while those who significantly improved their weight received $150. If this incentive proved to be successful in influencing behaviour, it could be implemented more broadly – namely, by using a patient's annual physical to assess their weight. Successful participants could then use their results to receive compensation through a refundable tax credit.

By testing out different incentive models through pilot projects in multiple provinces, governments could develop effective tools to improve patient health without micromanaging people's lives.

Introduction

Repeated, unhealthy lifestyle decisions can harm patients' well-being and lead to significant costs for Canada's health care system.

For example, according to Obesity Canada, one in four Canadians are obese – a condition the organization identifies wherever an individual's excess weight is at a level where it is impairing their health. Obesity is a significant health problem, and according to the Mayo Clinic can cause heart disease, cancer, strokes, diabetes, high blood pressure, osteoarthritis and more.[5] While some factors that contribute to obesity can lie beyond a patient's control, such as genetics, there remain several factors that patients *can* influence, including exercise, diet and sleep levels, to name a few.

Similarly, the Centers for Disease Control and Prevention notes that a lack of exercise can contribute to significant health problems, including cancer, heart disease and type 2 diabetes.[6] A 2023 survey by Research Co. found three in 10 Canadians do not get enough exercise each week.[7] Moreover, research by Statistics Canada suggests that self-reporting exercise outcomes can be quite erroneous. Their 2018 study found that while Canadians reported an average of 49 minutes of activity per day, accelerometers worn by participants in the survey only recorded 23 minutes of activity per participant.[8]

While a lack of sleep is less commonly connected to poor health, a study published in the National Library of Medicine notes, "long-term consequences of sleep disruption in otherwise healthy individuals include hypertension, dyslipidemia, cardiovascular disease, weight-related issues, metabolic syndrome, type 2 diabetes mellitus, and colorectal cancer."[9] Research suggests a lack of sleep is a problem in Canada, with 13 million Canadians (about a third of the population) not getting enough sleep according to a report by Research Co. in 2019.[10]

Of course, obesity and lack of sleep and exercise are not the only significant lifestyle-driven pressures on Canada's health care system. A high-cholesterol diet can cause heart attacks, too much alcohol can lead to liver failure and smoking can cause lung cancer, to name only a few.

The total cost of treating lifestyle-driven diseases isn't clear, but various studies suggest the number is substantial.

A 2013 paper by B.X. Tran et al reviewed various estimates of the total for obesity-driven costs in Canada, and found the aggregated total ranged anywhere from $1.27 billion to $11.08 billion.[11] The authors noted that upwards of 12% of Canada's total health expenditures were due to obesity.

Laurie Twells, an associate professor in the Faculty of Medicine at Memorial University of Newfoundland, told the Senate of Canada in 2016 that, "the economic burden due to direct health care costs and indirect costs due to lost productivity associated with obesity is estimated to be between $4.6 billion and $7.1 billion in Canada annually."[12]

However, if one looks strictly at diabetes, a more staggering figure emerges. According to Diabetes Canada, the disease "impacts more than 11.7 million people across Canada and costs the healthcare system almost $50 million to treat every day" (approx. $18 billion on an annual basis).[13] Readers should note that while type 1 diabetes is a genetic condition, it only represents nine per cent of diabetes cases in Canada.[14] Further, gestational diabetes represents just one per cent. Thus, the majority of Canadians living with diabetes is likely attributable to lifestyle choices.

The Chronic Disease Prevention Alliance of Canada (CDPAC) also came up with a sizeable figure related to the cost of treating unhealthy lifestyle decisions. They estimated that the cost of treating diet-related disease in Canada in 2015 was approximately $26 billion.[15] For perspective, according to the Canadian Institute for Health Information, total government spending on health care that year was $218 billion.

Turning to hypertension (high blood pressure), a 2015 study found that hypertension-related health problems cost the health care system $13.9 billion in 2010.[16] The study also estimated this annual cost to rise to $20.5 billion by 2020. The Mayo Clinic lists a number of factors that contribute to hypertension, including several that are due to lifestyle: diet, exercise, salt consumption, smoking or vaping, alcohol consumption, potassium levels, and stress.[17]

Speaking to the CBC about the 2015 study, co-author Norm Campbell noted that there was a growing need to implement policies focused on preventing hypertension, including "easy access to weight loss programs and healthy food, as well as reducing dietary salt."[18]

Another study examined the cost of smoking on the economy and the Canadian health care system. As of 2012, it found the habit cost the economy $16.2 billion, including costs related to "health care, tobacco enforcement, lost productivity and lost years of life attributable to smoking." The authors estimated a direct cost to the health care system of $6.5 billion per year.[19]

While there is some overlap between the estimates provided in the aforementioned studies, they certainly suggest that if Canadians lived healthier lives, they would suffer fewer lifestyle-driven diseases and illnesses. Fortunately, even small changes can help reduce this burden. For example, one study reviewed by SecondStreet.org noted that even as little as a 5% loss in weight "is associated with cardiovascular health benefits."[20]

A healthier population could also allow the health care system to reallocate resources towards treating patients facing unavoidable health care needs, including those with genetic conditions, patients who require care due to unforeseen circumstances (e.g., a car accident) and seniors coping with the effects of aging, to name a few.

Currently, Canada's health care system is structured so that there is a disconnect between patient behaviour and health care costs. A patient who regularly consumes large quantities of unhealthy food, alcohol or tobacco, and who lives a sedentary life, does not face additional financial charges from the health care system to account for the higher risk they present of developing a costly disease. This is a key difference from private insurance models.

In private insurance, higher risk behaviours lead to higher premiums. For example, a driver who receives several speeding tickets each year would see an increase in the cost of their insurance premiums due to the higher risk they present to the insurer. The added cost serves as a financial deterrent to high-risk behaviour.

Living an unhealthy lifestyle can also be a high-risk behaviour. One might assume that the widespread use of private health insurance in the United States would deter obesity through higher premiums. However, the *Affordable Care Act* in the U.S. does not allow health insurance providers to charge patients more in premiums due to their weight.[21] This could be one reason why the United States actually has a higher obesity rate than Canada.[22] (Note: Providers are, however, allowed to offer discounts for patients enrolled in wellness programs.)

It's probably reasonable to predict – at least for the foreseeable future – that no major political party in Canada would introduce new charges or premiums in the health care system that reflect the risks patients present due to their lifestyle choices. Such changes would be quite unpopular among many Canadians, to put it mildly. Further, even if a provincial government did want to introduce such changes, the *Canada Health Act* would likely need to be amended, or the government in question could face major funding cutbacks from the federal government.[23]

While financial disincentives are an unlikely health care policy option in Canada, SecondStreet.org decided to examine the opposite: incentives.

To what degree could incentives encourage healthy behaviour among Canadian adults?

Methodology

In order to research the burdensome health problems identified above, and potential incentive-based solutions, SecondStreet.org spoke with industry stakeholders and reviewed academic literature, government programs, private sector initiatives and news media.

This research was conducted in June and July of 2023. For additional information on the incentive programs cited in this report, please visit the respective organizations' websites.

Canadian Government Health Incentive Trials to Date

Over the past 20 years in Canada, various government bodies have funded incentive-based measures in an attempt to encourage healthy living.

For instance, in 2006, the Government of Canada introduced a $500 non-refundable "Children's Fitness Tax Credit" (CTFC).[24] The credit allowed parents "to claim eligible fees paid in the year for registration or membership for your or your spouse's or common-law partner's child in a prescribed program of physical activity."[25]

The CTFC was increased to $1,000 in 2015 and converted to a refundable tax credit. However, following a change in government, the 2016 federal budget began phasing out the tax credit and it was eliminated altogether the following year.

According to TurboTax, as of 2022, Quebec, Manitoba and Yukon offer provincial fitness tax credits.[26] The Newfoundland and Labrador government offers a 17.4% tax credit on up to $2,000 in costs for registration in a physical activity for any family member.[27]

While SecondStreet.org did not locate any analysis on the effectiveness of provincial fitness tax credits, federal research suggests the CFTC was ineffective.

The Government of Canada noted in 2017 that the "CFTC was ineffective at promoting greater children's participation in physical activities." Further, the government concluded that the effective benefits were relatively small and that taxpayers' decisions to place their children in physical activities are relatively "price-insensitive" – meaning the funds were a windfall for many parents who would have enrolled their children in sports even without the credit. That observation was also offered by a panel of international experts that was set-up to review the effectiveness of the tax credit, who noted that such credits "were deemed to provide windfall gains to those who already participate in physical activity."

Another shortcoming of the aforementioned fitness tax credits is that Canadians who engage in physical activities that do not have registration fees would not receive the same financial support. Thus, those who purchase shoes and equipment to engage in unorganized physical activities – such as running, street hockey and workouts in their homes – would not receive any support despite the fact they're potentially meeting the government's health objective. Making the situation even more inequitable is the likelihood that these lower-cost fitness options are more common among lower-income Canadians.

A second type of incentive-based healthy living initiative that governments supported in Canada involved an app called Carrot Rewards. The company behind the app received $5 million in funding from the Government of Canada in 2015 and $2.5 million from the British Columbia government.[28] Social Change Rewards, the Heart and Stroke Foundation, the Canadian Diabetes Association and YMCA Canada were also involved in developing the app.

By engaging in physical activities which are monitored in part through a step counter, users could earn points and redeem them for various goods and services. According to media reports, the app would "push Canadians to eat better, exercise more and live healthier lives, by rewarding them with various types of points."

While the app eventually went bankrupt, the federal government's news release for the funding announcement noted that a previous, unnamed government project had demonstrated that incentive-based healthy living initiatives could be successful:

An existing program supported by the federal government through a partnership with the YMCA has shown that people engaged in a rewards program increased their physical activity 110 per cent and were active 2.8 times per week; up from 1.3 times per week. These types of programs have a track record of producing results that increase healthy behaviours, reducing the burden of cost on the health system for chronic disease.[29]

Select Incentive-Based Health Models

Government involvement in incentive-based programs to encourage healthy living has had mixed results in Canada.

However, SecondStreet.org identified a number of examples from around the world whereby private companies, government bodies and research studies have utilized incentives to promote physical activity and healthy living.

This section includes brief summaries of the examples we reviewed.

Safeway

In 2009, former Safeway CEO Steven Burd authored a column for the Wall Street Journal that described how his company introduced a health care plan for 74% of the company's insured, non-unionized workforce that featured incentives for healthy behaviour.[30]

Burd noted the plan, which began in 2005, included insurance premium discounts based on "tobacco usage, healthy weight, blood pressure and cholesterol levels". Safeway hired outside parties to privately collect data on these health indicators from staff. Individual data was not shared with company management.

According to Burd, if an employee passed all four tests, annual premiums were:

reduced $780 for individuals and $1,560 for families. Should they fail any or all tests, they can be tested again in 12 months. If they pass or have made appropriate progress on something like obesity, the company provides a refund equal to the premium differences established at the beginning of the plan year.

In fact, Burd argued for regulatory changes from the government so that his company could have the flexibility to increase incentives for employees. He noted that while they were able to reward employees $312 for not smoking, the annual cost of insuring a tobacco user was $1,400.

Burd argued the plan was an overall success, noting that the company's obesity rates were 30% below the national average and that the company's health care costs remained constant over the four years since its introduction while "most American companies' costs have increased 38%" over the same period.

According to the column, 78% of the company's employees in the plan rated it "good, very good or excellent", and 76% wanted even more incentives to encourage healthy behaviour.

Again, this data was derived from an unmediated column authored by Safeway CEO Steven Burd about the company's healthcare initiatives. While Burd was confident in the future of Safeway's policies, other health officials have noted that there has yet to be published any substantial data or studies to support the notion that their programs have reduced the incidence of chronic disease or utilization of services.

Sweden – *"Friskvård"*

In Sweden, the government has embedded a philosophy called *"friskvård"* ("self-care") in their approach to health care.

Since 2001, the government has encouraged physicians to prescribe exercise to overweight patients who are facing the risk of, or coping with, serious diseases and illnesses.[32] In 2023 alone, the government will spend SEK 37,000,000 (approx. $4.8 million CAD) towards helping the nation's 21 health regions prescribe custom exercise plans for patients and conduct necessary follow-ups.[33] Annual spending on this initiative is expected to nearly triple (SEK 100,000,000, or about $12.4 million CAD) by 2025.

According to a report from 2011, patients take the prescriptions for exercise they receive seriously. The study found that approximately 70% of patients who were prescribed exercise plans actually followed through with their prescription – even after six months. Swedish media noted how important it was for patients to receive an actual, physical prescription for exercise – much like a prescription for medicine – and not simply a verbal recommendation from the doctor:

But there is also something psychological going on here. Patients respond better when given a physical prescription, rather than just being told what to do. 'If you get a prescription and advice, it's more likely that an individual will increase their physical activity,' says Amanda Ek (an author of the study).

Another study looked at 444 patients who had been prescribed physical activity over a five-year period.[34] By year five, the researchers noted that among those who continued with the program, "the mean [physical activity] level had increased by ... 3 hours of moderate-intensity [physical activity]/week when compared to baseline."

Further, the report noted "we observed significant positive changes ($p \leq 0.05$) in 9 of 11 metabolic risk factors and [health-related quality of life] parameters: body mass index, waist circumference, systolic and diastolic blood pressure, fasting plasma glucose, triglycerides, cholesterol, high-density lipoprotein, and mental component summary."

To complement these efforts, Sweden has also embedded *friskvård* in its tax system by allowing Swedish employers to offer their employees a SEK 5,000 (approx. $600 CAD) tax-free wellness benefit, to encourage healthier lifestyles.[35]

Employees can apply the funds toward a wide range of wellness activities such as swimming, pilates, racquetball, CrossFit and exercise apps, to wellness practices such as massages or smoking cessation programs. Employers have the right to decide if they want to offer such benefits, but if they do, they are required to make them available to all employees. Employers also determine what kind of activities qualify under their policy.

As one example, the Swedish Agricultural University (SLU) offers employees up to SEK 2,000 per year for any activity that complies with the Swedish Tax Agency's guidelines.[36] SLU restricts the grant to staff who are permanently employed, have a fixed-term employment contract covering at least 6 months, are an hourly employee, or are a doctoral student; the grant does not apply if the employee is on full-time leave for more than 6 months. SLU has also implemented the use of Epassi, an app that allows employees to pay for activities and find information on where they can use their allowance.

Philadelphia Veterans Affairs Medical Center Study:

In 2008, a randomized controlled trial of three groups was conducted by the Philadelphia Veterans Affairs Medical Center, where 57 patients were tested to determine what strategies could be effective in weight-loss intervention.[37]

The first group was incentivized by deposit contracts in which participants put their own money at risk (matched 1:1 by the study), which they would lose if they didn't meet their weight loss target. However, if they met their weight loss goal, they would receive their deposit back – plus a reward equal to that amount.

The second group used a lottery-based incentive in which

participants who proved each day to have maintained or exceeded their weight loss target were entered into a draw, with both a 1-in-5 chance of winning a small reward ($10) and a 1-in-100 chance of winning a large reward ($100). All participants were challenged to lose 1 pound per week for 16 weeks.

The third group in the controlled trial did not receive any financial incentives but were challenged to meet the same weight loss goals as the others.

Overall, participants in both of the incentive groups lost significantly more weight than participants in the third (control group); 47.4% of deposit contract participants and 52.7% of lottery participants met the 16-week weight-loss goal, whereas only 10.5% of control participants did. This study demonstrates that incentive approaches have a much greater potential to influence an individual's motivation to lose weight and decrease their risk of obesity-related illness.

During a check-in approximately seven months post-trial, participants had gained substantial amounts of weight back. However, the groups that were offered financial incentives had gained less weight back than the control group.

Humana Health

Humana, the fourth largest health insurance provider in the U.S., has numerous programs that aim to encourage individuals to live healthier lives through incentives and rewards.

Their primary program is called Go365.[38] Humana employees and Medicare members can utilize this program directly by participating in disease-prevention activities such as screenings and tests, or by completing verified workouts. By doing these activities, members earn points that they can exchange for rewards such as gift cards to Shell, Walmart, Home Depot and more.

Humana also has a "Wellness Engagement Incentive Program" that is targeted at employers who utilize Humana health insurance for their company. The Engagement Incentive Program aims to encourage employers to get their employees engaged in Go365 by offering them status levels ranking from blue to platinum, which employees can achieve based on the number of points they earn from completing various activities.

When employees reach Gold Status or higher, the equivalent of 15% of the monthly medical premiums are applied to the employer's invoice. Similarly, when employees reach Silver Status, an incentive equal to 7% of the monthly medical premiums will be deducted from the employer's invoice. The employers can then pass some or all of the savings along to the employees.

Fierce Healthcare reported on a study that Humana conducted over five years to determine the effectiveness of Go365.[39] Humana tracked 1,000 employees and found that participants increased their intake of healthy foods, increased the time spent exercising weekly and saw improvements in their "good" cholesterol counts which lowers the risk of heart disease.

Humana also noted cost benefits in its analysis. By the fifth year, the members most active in the program spent on average $116 less per month on insurance compared to members who were less engaged with the program. Highly engaged members also had 35% fewer emergency room visits and 30% fewer hospital admissions.[40]

BestLifeRewarded

BestLifeRewarded Innovations (BLR) is part of the People Corporations Company, operating out of Canada since 2010 and now internationally. BLR's mission is to advance a "coordinated assault" to improve the health of Canadians.[41] They have created a proprietary wellness rewards program that they distribute to companies and institutions across Canada to promote employee wellness and financial awareness.

Plan members are awarded points for their engagement in the platform which they can use to get perks and wellness-focused offers. The program has been implemented at the City of Hamilton, Sun Life Financial, Green Shield Canada, Trillium Health Partners and more. BLR reports a 14% reduction in the volume of medical claims, and a 12% increase in physical activity among members.[42]

BLR tailors their model to each business uniquely to suit its specific needs; however, each organization is provided with a library of health education, health tracking tools, and technology that integrates with Fitbit and other wearables. The reward structure is similar to other wellness programs; participants select their reward from a variety of tangible options once points are accumulated.

In October of 2021, Alberta Blue Cross – another one of BLR's clients – was the focus of a study by the Institute for Health Economics. The purpose of the study was to determine the impact of the benefit provider's digital wellness programs on cost and volume of claims, as well as changes to health factors when engaging with the programs.[43] The institute found that the Alberta Blue Cross digital wellness programs brought measurable improvements to participants' health, specifically those that utilized the program to improve cardiac, respiratory, mental and physical health. Further, 81.5% of participants experienced improvements across 30 months following the program's implementation for a range of health indicators including tobacco use, heart rates, stress levels, asthma, sleep patterns, physical activity levels and more.

Participants can earn points by signing up for an activity tracker or medication reminder, reading and rating a news article pertaining to healthy living, or completing a Health Risk Assessment (HRA). Points can be redeemed in exchange for entries into reward draws of your choice, or gifts from retailers such as Tim Hortons, Canadian Tire or Amazon.

Vitality (Manulife / Discovery Health)

Similar to Canada, South Africa had also experienced an increase in obesity rates and corresponding strains on its health care system. In response, Discovery Health, South Africa's largest private health insurer, created an incentivized health promotion program called Vitality.

Wellness activities in the Vitality program included health risk assessments, regular organized or unorganized exercise and smoking cessation or weight-loss specific programs.[44] The corresponding incentives included cash back on purchases of healthy foods, discounts on airline flights and subsidized gym memberships.

The program saw a strong correlation between an individual's participation in wellness activities and lower health care expenditures.

Participation in fitness-related activities increased over time in the Vitality program, with the number of gym memberships increasing and inactive members decreasing. Highly engaged members who were hospitalized had lower average claims and reduced lengths of stay than those who were less active. More than two-thirds of members still failed to use the exercise benefits meaningfully, but those who did showed promising results.

Discovery Health expanded its operations through subsidiaries into the US, Canada, China and the United Kingdom.

In Canada, the insurance company Manulife adopted the Vitality program. Manulife Vitality offers rewards and benefits that range from gift cards and discounts on purchases to life insurance savings (Manulife advertises that an individual can receive up to 15% off of their insurance premiums subject to participation levels).[45] Manulife Financial Corporation has reported positive results – "nearly one in three members with elevated blood pressure improved their readings to normal levels within one year," and more than half of members with somewhat at-risk psychological distress significantly improved their mental state."[46] In a separate advertisement,

the insurance company noted, “11 per cent [of Vitality users] improved their body mass index into a healthy range, 23 per cent did so with their cholesterol, 28 per cent with their glucose readings and 29 per cent with their blood pressure.”

North Carolina Study

In 2007, a group of economists sought to examine how different levels of financial incentives might encourage weight loss among overweight or obese employees at four post-secondary institutions in North Carolina.[47] The researchers recruited 207 participants for their study, consisting of men and women of various ages and races.

Participants were placed into three different groups during the study period and each group was given a different weight loss incentive:

Group 1: $14 after three months for every 1% of their baseline weight lost (“front loaded”)

Group 2: $14 after six months for every 1% of their baseline weight lost (“back loaded”)

Group 3: $7 for every 1% of their baseline weight lost (steady payment)

The researchers took precautions to make sure that suitable participants were enrolled in the study (e.g. No pregnant women, cancer patients, etc.) and monitored patients regularly to make sure participants did not lose weight at an unhealthy rate.

After three months, front loaded patients lost almost 5 pounds, steady payment participants lost approximately 3 pounds and back loaded patients lost 2 pounds. The study notes that after six months, “when the financial gains were equalized, weight losses were similar across groups.”

Ultimately, researchers concluded, “this study revealed that modest financial incentives can be effective in motivating overweight employees to lose weight.” Overall, the program was popular with participants – more than 90% indicated they were in favour of employers or insurers implementing incentive-based programs to encourage weight loss.

Finally, the researchers also used analysis from other studies to estimate that obesity-attributable medical expenditures and absenteeism cost a typical company with 1,000 workers $285,000 (USD) each year. After extrapolating the findings from their weight-loss study, the authors concluded that the small incentive weight loss program they tested could be implemented at that same company on an annual basis for approximately $88,000 (USD).

Iran

A 2021 study in Kermanshah, Iran examined to what degree financial incentives could contribute to weight loss.[48] The study involved 103 randomly selected women from two health centres with a body mass index (BMI) of ≥ 30 kg/m^2. Participants were given nutritional educational information, a low-calorie diet and recommended 45 minutes of physical activity three times a week.

Further, the study notes, “participants received local currency for each 3% of weight reduction in the first phase equal to $30, in the second $50, in the third $70 and in the fourth, fifth and sixth phases $100. After the end of the sixth phase, participants had to maintain their weight constant for the next 6 months.”

Those conducting the study noted, “this study showed the positive effect of financial incentives on weight loss and maintenance of weight in obese women. The average BMI decreased by almost 3 units using monetary incentives over the 12-month follow-up of obese women. The average weight of the participants decreased about 8 kg over the 12-month [period].”

However, the report describes the research as a "quasi-experimental study". No control group was identified, perhaps leaving the possibility that some of the weight loss may have occurred more so due to the education, diet plan and exercise program created for participants.

The report did cite several other studies and ultimately concluded that, *"[f]inancial incentives can effectively help to [sic] weight loss and maintenance of weight, and improve lipid profiles; blood sugar and liver enzymes."*

Observations

The studies and material reviewed by SecondStreet.org demonstrate that incentives can lead to various health benefits, including: weight loss, lower cholesterol, lower blood pressure, reduced tobacco usage and improved mental health to name a few.

The incentive programs differed in many different ways. For instance, some programs rewarded outcomes (e.g., weight loss) while others rewarded participation (e.g., funding registration costs for physical activities). In fact, there is some debate about which method is more effective.

For example, the aforementioned North Carolina study notes:

For the past two decades, Jeffery et al have studied the ability of financial incentives to influence health behavioral change. Consistent with economic theory, their research suggests that linking incentives directly to outcomes is a more effective approach to promoting weight loss than linking incentives to program participation. More recent reviews of the literature support this finding (see Kane et al and Goodman and Anise).

However, the Harvard T.H. Chan School of Health recommends tying rewards to behavioural change not to weight loss.[49]

The value of the incentives also differed greatly – from $7 per 1% of weight loss in the North Carolina study to $1,570 in health care premium savings for families covered under Safeway's plan. Research by the Rand Corporation in 2015 found that employers with larger incentives ($100 or more) had higher participation (51%) in wellness activities than employers with smaller incentives (36%).[50]

In a public policy setting, lawmakers may wish to consider whether or not a proposed incentive can be accessed by most members of society. This is one shortcoming of the former Children's Fitness Tax Credit at the federal level, and of fitness tax credits currently offered by some provincial governments. Walking, hiking, running, street hockey and using home exercise equipment can all support individuals to achieve better health – but they do not qualify for credits if they do not typically require registration fees.

In fact, Swedish Doctor and researcher Stefan Lundqvist noted in a presentation to the American College of Sports Medicine that the most common physical activity prescribed to Swedish patients was walking – a low-cost activity that many people can participate in without having to buy new shoes, clothes, etc.[51]

It is also important to note that without proper incentives and motivation, healthy people often become unhealthy over time. For that reason, policymakers may want to consider incentives that reward improvements among unhealthy citizens but also maintenance among those deemed healthy.

Finally, while this study focused on adults, there are benefits to working to ensure children maintain healthy lifestyles throughout their lives. Research by Alghannam et al found that simple measures such as mandatory physical education classes in schools can improve health outcomes for students.[52]

Policy Considerations

This policy brief demonstrates that a large portion of health care spending in Canada is used for treating avoidable, lifestyle-driven diseases and other health epidemics.

There exists an opportunity to use a proven method – incentives – to improve the overall health of Canadian citizenry. This would also reduce the strain on health care, allowing system administrators to direct more resources towards treating patients with unavoidable health conditions.

With this in mind, government bodies should initiate pilot projects that test using incentives to encourage healthy behaviour and measure outcomes accordingly. Such programs should avoid micromanaging the lives of citizens, be administratively simple to run and cover most Canadians.

One option could be to copy the approach used by Safeway and introduce a pilot project that rewards Canadians for either maintaining a healthy weight or achieving significant improvements. For example, if a Canadian had a healthy weight during their annual physical, or during an appointment at a doctor's office, they could be given a simple, signed form that could then be used when filing their taxes to receive, say, a $250 refundable tax credit. Similarly, if a patient improved their body mass index (BMI) by, perhaps, five points or more, they could be rewarded with a refundable tax credit worth $150. To protect patients' personal information, these forms could be structured merely to note whether a healthy BMI was achieved, and not the number value of the improvement itself.

Governments could pilot this approach by using multiple test groups, each with different reward levels to determine the most effective threshold compared with potential savings to the health care system (e.g., test a second set of participants who are given $300 and $200 respectively).

If this approach proved to be successful, the tax benefit could potentially be expanded to cover additional healthy outcomes such as having a healthy blood pressure level.

Clearly, this option is voluntary, is administratively simple and does not micromanage patients' lives. This incentive-based model does not prescribe how participants achieve a goal; it merely offers a financial benefit if they reach it. How they achieve that outcome is entirely up to patients. Thus, unlike with the previous Children's Fitness Tax Credit, bureaucracies do not have debate over whether an activity is eligible to be rewarded or not. Further, patients who are low income and do not participate in registered sports but choose to maintain a healthy lifestyle through other means, are able to participate.

To be sure, this model is imperfect. Rewarding a patient once a year is not as effective as more timely payments – such as bi-annual or quarterly – but this approach is relatively easy to administer.

Further, a shortcoming with using BMI is that it does not distinguish fat from fat-free mass such as muscle and bone. Thus, lean bodybuilders could be classified as "overweight" simply because they have a high weight to height ratio. One solution would be to allow doctors the latitude to certify patients as having a healthy BMI when the standardized scoring tool is clearly inapplicable.

Overall, this model allows for widespread voluntary participation and leaves it up to patients to decide how to achieve healthy outcomes. Further, the administrative requirements are minimal – no new bureaucracies are needed.

Conclusion

Canada's health care system is in crisis. Without reform, this crisis will persist for years as Canada's population continues to grow older and requires more frequent, and more costly health services.

It's important to examine how to improve service delivery, but policymakers should also look at opportunities for prevention, in particular through incentivizing healthy living. This would not only improve the lives of patients who participate in activities

to improve their health, but it would also allow the health care system to focus more resources on patients who require unavoidable health services.

Considering Canada spends over $218 billion each year on health care, policymakers would be wise to contemplate running pilot projects to try to incentivize healthy behaviours in Canada.

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