



# Income and Health

Opportunities to achieve health equity in Ontario

*Let's make our health system healthier*

Health Quality Ontario is the provincial advisor on the quality of health care. We are motivated by this single-minded purpose: better health for all Ontarians.

## Who We Are

We are a scientifically rigorous group with diverse areas of expertise. We strive for complete objectivity, and look at things from a vantage point that allows us to see the forest and the trees. We work in partnership with health care providers and organizations across the system, and engage with patients themselves, to help initiate substantial and sustainable change to the province's complex health system.

## What We Do

We define the meaning of quality as it pertains to health care, and provide strategic advice so all the parts of the system can improve. We also analyze virtually all aspects of Ontario's health care. This includes looking at the overall health of Ontarians, how well different areas of the system are working together, and most

importantly, patient experience. We then produce comprehensive, objective reports based on data, facts and the voices of patients, caregivers and those who work each day in the health system. As well, we make recommendations on how to improve care using the best evidence. Finally, we support large scale quality improvements by working with our partners to facilitate ways for health care providers to learn from each other and share innovative approaches.

## Why It Matters

We recognize that, as a system, there is much to be proud of, but also that it often falls short of being the best it can be. Plus, certain vulnerable segments of the population are not receiving acceptable levels of attention. Our intent at Health Quality Ontario is to continuously improve the quality of health care in this province regardless of who you are or where you live. We are driven by the desire to make the system better, and by the inarguable fact that better has no limit.

## Performance Monitoring and Public Reporting

Since 2006, Health Quality Ontario has been creating a better health system by reporting on its performance. Our public reporting not only gives Ontarians the information they need to understand about their health system, it can also lead to direct improvements. Our public reporting products include: *Measuring Up*, our

yearly report on the health system's performance, theme reports that delve into focused topics and online reporting of health system indicators.

## The Common Quality Agenda

The Common Quality Agenda is the name for a set of measures or indicators selected by Health Quality Ontario in collaboration with health system partners to focus performance reporting. Health Quality Ontario uses the Common Quality Agenda to focus improvement efforts and to track long-term progress in meeting health system goals to make the health system more transparent and accountable. The indicators promote integrated, patient-centred care and form the foundation of our yearly report, *Measuring Up*. As we grow our public reporting on health system performance, the Common Quality Agenda will evolve and serve as a cornerstone for all of our public reporting products.

Learn more about *Health Quality Ontario* at [www.hqontario.ca](http://www.hqontario.ca)

ISBN 978-1-4606-7631-8 (Print)

ISBN 978-1-4606-7632-5 (PDF)

**Suggested citation:** Health Quality Ontario. *Income and Health: Opportunities to achieve health equity in Ontario*. Toronto: Queen's Printer for Ontario; 2016.

**On the cover:** From left to right, Jennifer, Louise, George and Jean, who generously shared their experiences with us for the stories throughout this report. (Cover photos by Roger Yip and James Hodgins)

# Table of Contents

Foreword	2
Executive Summary	4
Introduction	6
George's Story	7
1. Health of People in Ontario	11
Jennifer's Story	12
2. Prevention and Care	17
Jean's Story	18
3. Impact of Inequity	26
Louise's Story	27
4. The Road Ahead	31
Methods Notes	33
Acknowledgments	36
References	37



Photo of Jean taken by Roger Yip.  
See Jean's story on page 18.

# Foreword



Dr. Joshua Tepper  
President and CEO



Dr. Jeff Turnbull  
Chief, Clinical Quality

Our health is deeply intertwined with our economic status, and both are heavily influenced by social factors that are beyond our control. These factors, known as social determinants of health, include our ethnicity, sex, immigration status, and whether we live in a rural or an urban area. People in Ontario are a generally healthy population, with access to quality health care, who lead relatively long lives compared with other developed countries. But, as is the case in Canada as a whole and in other countries, when you look beyond the averages, it quickly becomes clear that all is not well for some people, who need help now.

*In **Income and Health: Opportunities to achieve health equity in Ontario**, we look at the connections between the income of people in Ontario and their health and health care. To illustrate just how powerful these connections are, imagine if income inequity were a treatable disease. If there were a new drug on the market that could increase life expectancy by two years for one-fifth of the people in Ontario, that drug would be a lifesaving blockbuster. Now think about a treatment that could reduce the smoking rate for one-fifth of the*

people in the province from 22% to the overall provincial rate of 18%. That program would be heralded as an incredible success, saving thousands of lives after only a few years. Or what if there were a new medication that resulted in a reduction in the number of visits to the emergency department for a mental illness or an addiction by 50,000 visits per year for a fifth of the people in the province? It would be remarkable.

These speculations sound far-fetched, but they actually represent real opportunities that exist for all people in Ontario when it comes to income inequity.

In this report we use a set of indicators that measure health risks, health care and health outcomes, and through these indicators we see the link between income and health – how income impacts health, and how health impacts income. The results reveal a tremendous opportunity to make life better – and longer – for everyone in Ontario. The good news is that health inequities can be fixed.

Poor people in Ontario pay for their low income with their health. The stories throughout this report from George, Jennifer, Jean and Louise powerfully illustrate the connections between health and income – how, when their income improves, their health improves; and how, when their health improves, their income improves.

We are pleased to introduce *Income and Health* as Health Quality Ontario's first public report focused on health equity.

It builds on very important work done in 2011, when a pledge was made by Canada, along with other members of the World Health Organization, to reduce health inequities by improving the

social determinants of health. It also builds on a recent report by the Canadian Institute for Health Information that found over the past 10 years income-related health inequalities did not change in Canada.

Clearly more work can be done, and we hope Ontario can provide significant leadership, starting with this report – because every person in Ontario deserves the opportunity to have the best health possible.

Sincerely,



**Dr. Joshua Tepper**  
President and CEO

**Dr. Jeff Turnbull**  
Chief, Clinical Quality

# Executive Summary

Does everyone in Ontario have the same opportunity for good health? Do people have fair access to quality health care? What happens to people if they don't have the opportunity for health or health care? There are many ways to look at whether particular groups of people in Ontario have fair opportunities for health and health care. *Income and Health* looks at one particular focus: income. What is the relationship between the incomes and health, health care and health outcomes?

The relationship between income and health risks and outcomes is well-established, and confirmed here. *Income and Health: Opportunities to achieve health equity in Ontario* shows that the poorer you are, the more likely you are to have health risks in your daily life, such as not having enough nutritious food. You're also less likely to access important health services, more likely to have multiple chronic conditions that can lead to further health problems (such as diabetes and heart disease), and more likely to die younger.

Quality in health care means achieving better health outcomes and better patient experiences in a sustainable way. *Income and Health* reveals

many opportunities for higher-quality health care, as well as more opportunities for better health. It also leads the way toward better reporting on equity as it relates to health and health care.

We look at the variation between the poorest people in Ontario and the richest, across five income levels.

The poorer you are in Ontario are, the more likely you are to have key health risks.

Examples include:

- The smoking rate among the poorest people in Ontario is 22.1%, compared with 14.4% for the richest people, and 18.2% for Ontario overall.
- The physical inactivity rate of 54.7% among the poorest people was substantially higher than among the richest people (32.1%), and 44.6% for Ontario overall.
- Inadequate fruit and vegetable intake among the poorest people in Ontario is 65.2%, compared with 56.7% for the richest people, and 60.8% for Ontario overall.

- The poorest people in Ontario are nearly twice as likely to report having multiple chronic conditions as the richest people – 23.5% compared with 12.4%, and 16.2% for Ontario overall.
- Rates of obesity, however, were similar across all income levels, at 17.0% for Ontario overall.

The poorer you are in Ontario, the less likely you are to get quality health care:

- Just over half (54.3%) of women living in the poorest urban neighbourhoods have had cervical cancer screening in the last three years, compared with two-thirds (66.7%) of women living in the richest urban neighbourhoods, and 61.8% for all women in the province.
- Nearly half (49.7%) of people living in the poorest urban neighbourhoods are overdue for colorectal cancer screening, compared with just over one-third (34.9%) of people living in the richest urban neighbourhoods, and 41.5% for Ontario overall.

- Nearly six out of 10 (58.0%) of the poorest people in Ontario report having prescription medication insurance, compared with almost nine out of 10 (87.3%) of the richest people, and 75.0% for Ontario overall.
  - People living in the poorest neighbourhoods in Ontario account for nearly twice the total number of visits to the emergency department for a mental illness or addiction compared with people living in the richest neighbourhoods – 104,494 visits versus 54,457 visits over a three-year period.
- The poorer you are in Ontario, the more likely you are to have worse health outcomes:
- Half (49.4%) of the poorest people in Ontario report their health status as excellent or very good, compared with nearly three-quarters (72.9%) of the richest people, and 61.9% for Ontario overall.

- The hospitalization rate for conditions that could be managed outside the hospital among people living in the poorest neighbourhoods in Ontario is almost 2.5 times that of people living in the richest neighbourhoods: 368 hospitalizations per 100,000 people compared with 150 per 100,000 people, and 233 per 100,000 people in Ontario overall.
- Women living in the poorest neighbourhoods in the province die, on average, more than two years earlier than women living in the richest neighbourhoods.
- Men living in the poorest neighbourhoods in Ontario die, on average, five years earlier than men living in the richest neighbourhoods.

In addition to the disparities we see between the poorest people in Ontario and the richest, we also see a consistent trend as incomes rise. As incomes increase, health risks decrease, access to high-quality health care quality gets better, and health outcomes, such as life expectancy, improve.

# Introduction

Photo of George taken by James Hodgins.  
See George's story on the next page.



# George's Story: The Art of Healing

George says he got sober in a “crack house.” The 48-year-old had tried to enter a rehab clinic in Sudbury but says they wouldn't let him in because he had gotten into fights there in the past. So back he went to his room in a run-down crack house, and asked a friend who lived across the hall – a woman who was working as a prostitute to support her own drug addiction – to watch over him as he went through withdrawal from alcohol.

“I said I would pay for her drugs if she took care of me during the night for four nights,” George says. “I paid for whatever drug she wanted and that's how I got sober.”

George has now been sober for six years and lives in an Aboriginal housing unit near Sudbury. He gets about \$1,000 a month from the Ontario Disability Support Program, and pays \$750 per month in rent and \$50 for a bus pass.

He has no TV, computer or home phone. The little bag of fruit and vegetables from the food bank only last a couple of days, and he lives on what he calls a “chicken feed” diet. “It's not enough to stay healthy,” George says. “It's very painful. New clothes are out of the question for me. I have only \$200 left for clothes and food and all of that.”

“

I don't know about health care. When you live on the street, you don't think about stuff like that.

”

Diagnosed with hepatitis C a few years ago after 20 years of living on the street, George doesn't have a family doctor, but sometimes visits walk-in clinics in Sudbury and also makes sporadic visits to a psychiatrist for his post-traumatic stress disorder.

After growing up in the Kashechewan reserve on James Bay, which in 2012 had an 87% unemployment rate, George became an Ontario Provincial Police constable and had a daughter. When his daughter died of leukemia at the age of 7, George's distraught girlfriend took her own life soon after. George was devastated.

“I decided that I didn't want this life, but I couldn't kill myself so I just went on the street,” George

says. “I took everything I could – pills, heroin, shooting up, drinking, a bit of everything.” He got into fights, which eventually landed him in prison for two years. Through it all, health was the last thing on his mind.

“I went into alcoholic seizures at the end part of my alcoholic career, as I call it,” George says. “They would just pick me up, watch me in the hospital overnight and then let me go. I don't know about health care. When you live on the street, you don't think about stuff like that. You think about your next hit or drink.”

Now George, who is fluent in Cree and Ojibway, volunteers as a translator at the hospital in Sudbury that cared for his daughter. They give him a small

honorarium for his time, but he donates it back to the hospital. He also works part-time as a groundskeeper at a healing lodge near Parry Sound, but chronic fatigue, nausea and bloating from the hepatitis C have stopped him from doing much work lately. He also has severe eczema that flares up into itchy sores and can't afford the medicated cream to treat it.

George thinks more about his health now, but it's a struggle. "Sometimes you don't feel like seeing the world, so you lay in your bed and sleep," he says. "It's what I fight every day. Then you start thinking

about negative [things]. You think about shooting up and going to drink." But George says he got healthy for a reason: "to help other people on the street."

As part of a documentary film project with Laurentian University, George has delivered presentations at high schools, drug addiction clinics and other venues in the north. It's never too late to get sober or clean. That's his message.

"It's the greatest feeling when my mom comes over and gives me a hug and thanks me for speaking in

front of the kids in high school," George says. "Now [those kids] are in college and they're doing great."

And the friend who helped George sober up in the crack house? "She sobered up six month later," George says. "Now she's off the streets, she's off whatever she was doing and living a better life. I think she's working in a Sudbury mall as a cashier."

Even as he helps others, George is still learning how to help himself. He does native artwork as part of his healing process. "I had to relearn everything," George says, "even loving my own humankind."

People in Ontario, on the whole, are generally healthier, receiving a higher quality of health care and living longer than ever.[1] But that's not the case for everyone. Some people in the province do not have the opportunity to be as healthy as others, do not get as effective health care as others, and have worse health outcomes.

If all people living in Ontario were able to reach their highest level of health – or full health potential – then we would achieve a state of health equity. Equity in health care means that everyone in the province would receive high-quality health care that is fair and

appropriate, no matter where they live, who they are, or what they have. There are many ways we can examine health equity and health care equity, many of which overlap and intersect. Examples include: age, sex, geography, Aboriginal status and immigration status. In this report, we focus solely on one of these factors: income. This report is not meant to provide a complete picture of health equity or health care equity in Ontario. It does, however, show clear and compelling evidence of inequities in health, health care, and health outcomes across income levels. It should be noted that the term "inequity" means unfair, avoidable,

systematic disadvantage – as opposed to the term "inequality" which just refers to differences. (See page 9 for more.)

The focus on income is timely because income inequality is a growing concern. The income gap has been steadily widening in Canada, and in most other developed countries, for the last 20 years.[2,3] Between 1995 and 2011, the after-tax family income for those in the highest one-fifth by income rose from \$101,600 to \$139,400, a gain of 37%, while those in the lowest one-fifth saw their income edge up from \$13,400 to \$15,100, a gain of 17% (all in 2011 constant dollars).[4]

Ontario has the second-highest income inequality among the provinces after British Columbia, with the top one-fifth of people by income having 9.6 times the income of the bottom one-fifth in 2011.[5]

We take a look at the association between people's income and their likelihood of having enough food for basic nutrition, having multiple chronic conditions, having health risks such as smoking, not getting enough exercise and not eating enough fruit and vegetables. We then look at illness prevention and health care by people's income level, and finally, health outcomes, such as life expectancy.

We only report results that are statistically significant. For more details about our data and methods, please see Methods Notes at the back of this report and our online Technical Appendix.

Throughout the report, we include personal stories from people in Ontario about their health and health care, and the association with their income. These stories reflect individual viewpoints and are not meant to be representative of everyone's experiences across the province.

## Inequality vs. Inequity

### What is health inequality versus inequity?

Inequality and inequity are two words that look very similar and sometimes get confused with being the same thing, but they, in fact, have very different meanings.

- **Health inequality** means there are differences in health experiences or outcomes between different populations.
- **Health inequity** is an inequality that is an unfair, avoidable, systematic disadvantage.

### What is the difference between health equity and health care equity?

- **Health equity** is the ideal state in which all people are able to reach their full health potential and receive high-quality care that is fair and appropriate from each person's perspective, no matter where they live, who they are or what they have.
- **Health care equity** is the aspect of health equity that focuses on the health system's ability to provide equitable health care services.

## How Do We Report Income?

This report focuses on indicators of health, health care, and health outcomes as they relate to people's income level. Income is measured in one of two ways, either based on household income or neighbourhood income. Neighbourhood income calculations are based on income, including income from government sources, such as the Ontario Disability Support Program, social assistance, child benefits, employment insurance, and pensions. Household income is calculated based on survey responses and includes all sources of income.

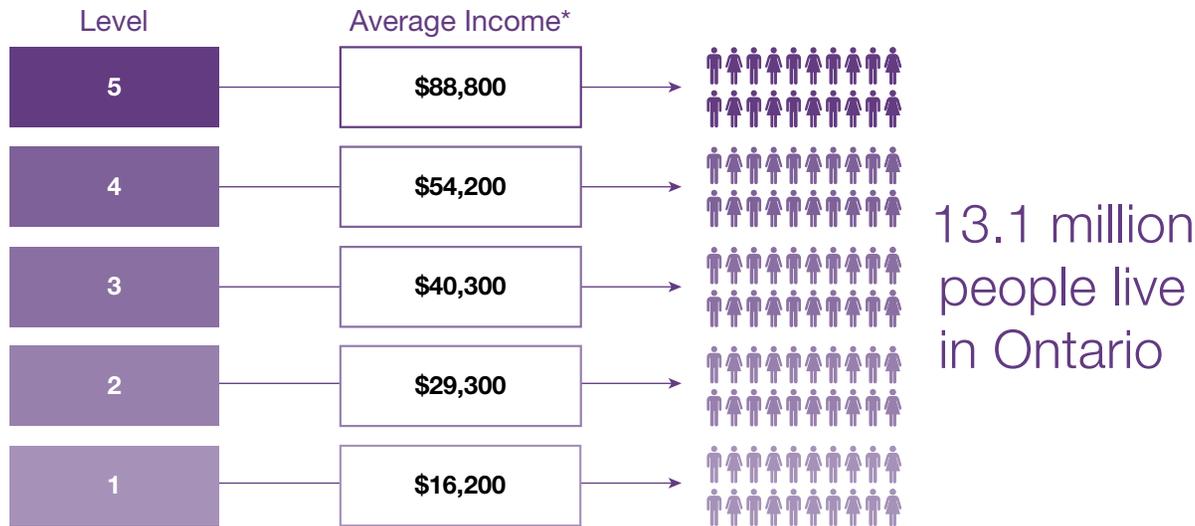
Most of the indicators that we report on group people in Ontario in one of five income levels – or quintiles – based on either household or neighbourhood income.

- We report five income levels – or quintiles – ordered from poorest to richest.
- Most of the indicators we report on group people in Ontario based on their income using the five income levels.

- To calculate these five income levels (for household or neighbourhood income level), the population of adults in Ontario is ordered from lowest to highest income and then divided into five equal groups, each representing one-fifth of the population. Each group is one income level (or quintile).

- The lowest-income level of the five represents the poorest one-fifth of people in Ontario, while the highest of the levels comprises the richest one-fifth of people.
- For cancer screening indicators, neighbourhood income levels are based on those living in urban areas only.

- Two of the indicators are based on self-reported income from the Health Care Experience Survey. For these, income ranges are noted on the graphs and are not based on quintiles.



**Poorest, richest, and three levels in between:**

Throughout the report, we compare the results between the one-fifth of people in Ontario in the lowest-income level with those in the highest-income level. For the sake of clarity, we refer to these two groups as “the poorest” and “the richest,” respectively. Whenever possible, we also compare those two levels with the data for Ontario overall. The graphs show the gradient of variation between all five of the income levels.

**Limitation:**

Neighbourhood income is a proxy measure for household income. It assigns an average income to everyone in a neighbourhood and cannot be applied to individuals. However, there is evidence to suggest that neighbourhood income is a reasonable proxy measure to use when household income is not available.[6]

\*Notes: Based on average after-tax household income per adult, 2011 constant Canadian dollars. As methods and data sources vary, the values associated with the income levels should be used only as context when reviewing the results presented in this report.



# 1. Health of People in Ontario

Photo of Jennifer taken by Roger Yip.  
See Jennifer's story on the next page.

# Jennifer's Story: The Burden of Debt

It was the happiest day of Jennifer's life. The notice came in the mail, a letter that said her student debt had been forgiven. When the 37-year-old Torontonian qualified for the Ontario Disability Support Program in 2009, a psychiatrist had filled out the paperwork for debt relief due to Jennifer's ongoing history of psychosis and mood disorder. "For some people, it's getting married," Jennifer says, "but that was my happiest day."

Jennifer paid for college herself, and scraped together a small income from a series of low-paying part-time jobs, but wasn't able to keep up with her university student loan repayments, which was a huge source of stress. "I was being harassed by collections agents and couldn't pay the minimum payments," she says. "That was horrible to deal with."

But even after the debt relief, Jennifer's money and health problems continued. She was forced to move a couple of times and ended up in a "totally horrible" shared apartment. There, she sank into a depression and a marijuana addiction. "That ate up a lot of my meagre or non-existent income," she says.

Debt mounted and Jennifer ended up owing \$5,000 on her credit card, despite never having



Don't blame me for my physical health problems. It's not my fault. I exercise, I try to eat healthy.



enough money to buy nutritious food. Years earlier, she had abandoned being a vegetarian because she had to live off whatever she got at the food bank – usually, she says, "white pasta, sugar-laden tomato sauce, boxed mac 'n' cheese, canned tuna, cans of beans, and sometimes hog dogs." She took a volunteer job at the food bank, and got the food there for free, supplementing it with small amounts of meat and fresh vegetables.

Over four years, Jennifer gained weight steadily, which she attributed to a high dose of antipsychotic medication for her psychosis, and a diet almost devoid of nutrients. She was recently diagnosed with pre-diabetes. At the same time, Jennifer paid out-of-pocket for psychotherapy sessions – but at a discount, from a student – to work through traumas she had experienced throughout her childhood and as a young adult.

In the last year, Jennifer's life began to improve. She started a full-time job as a peer support worker and may soon have access to private medical and dental insurance. She also had her medication dosage reduced. She was able to eat a healthier diet and continued cycling and doing power yoga at home and lost 25 pounds over four months. Jennifer also cut down on her cigarette smoking since she could afford nicotine replacement therapy.

But there are lingering frustrations about people who judge her. "Don't blame me for my physical health problems," Jennifer says. "It's not my fault. I exercise, I try to eat healthy. And if I don't have access to healthy food, it's not my fault that I don't have access to it. And also, it's not my fault that I'm on a medication that causes health complications."

This chapter covers six indicators of health risks, including certain chronic conditions that present further risks to health beyond the conditions themselves:

- The rate of food insecurity
- The rate of smoking
- The rate of physical inactivity
- The rate of inadequate fruit and vegetable intake
- The rate of obesity
- The rate of selected chronic conditions

People who experience certain health risks, such as not having enough food for basic nutrition, smoking, and not getting enough exercise, are more likely to have health problems, now or in the future. By contrast, if people are able to do things to improve their health, such as quitting smoking, their health risks diminish. There are many factors at play when it comes to health risks. We look at how being poorer or richer is associated with health risks.

## Health risks

### Problems affording food

The poorest people in Ontario face higher rates of food insecurity, meaning they often don't

FIGURE 1.1

### Percentage of the population\* who report not having access to enough food to meet their basic dietary needs†, in Ontario, by income level, 2013



**Data source:** Canadian Community Health Survey, 2013 provided by Institute for Clinical Evaluative Sciences. †Age-and-sex adjusted. **Notes:** Based on household income, the value for the 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> levels represent an average of the three proportions; small numbers for income levels 4 and 5 (72 and 15, respectively) and high coefficients of variation (18.9 and 32, respectively). \*Population aged 12 and older.

know whether they'll be able to afford to buy enough food to satisfy basic nutrition requirements. People with food insecurity tend to report poorer health, including long-term physical or mental disabilities.[7,8] Research also shows that food insecurity is associated with higher utilization of health services.[9]

More than a quarter (27.5%) of the poorest people in Ontario report having food insecurity, compared with less than 3% of the richest people, 10% among those in the second-poorest group (Figure 1.1), and 8.6% of people across the province.

## Smoking, inactivity, inadequate fruit and vegetable intake, and obesity

The poorer you are in Ontario, the less likely you are to have opportunities to seek out better health. The poorer you are in Ontario, the more likely you are to smoke, to be inactive, and to not have a healthy diet.

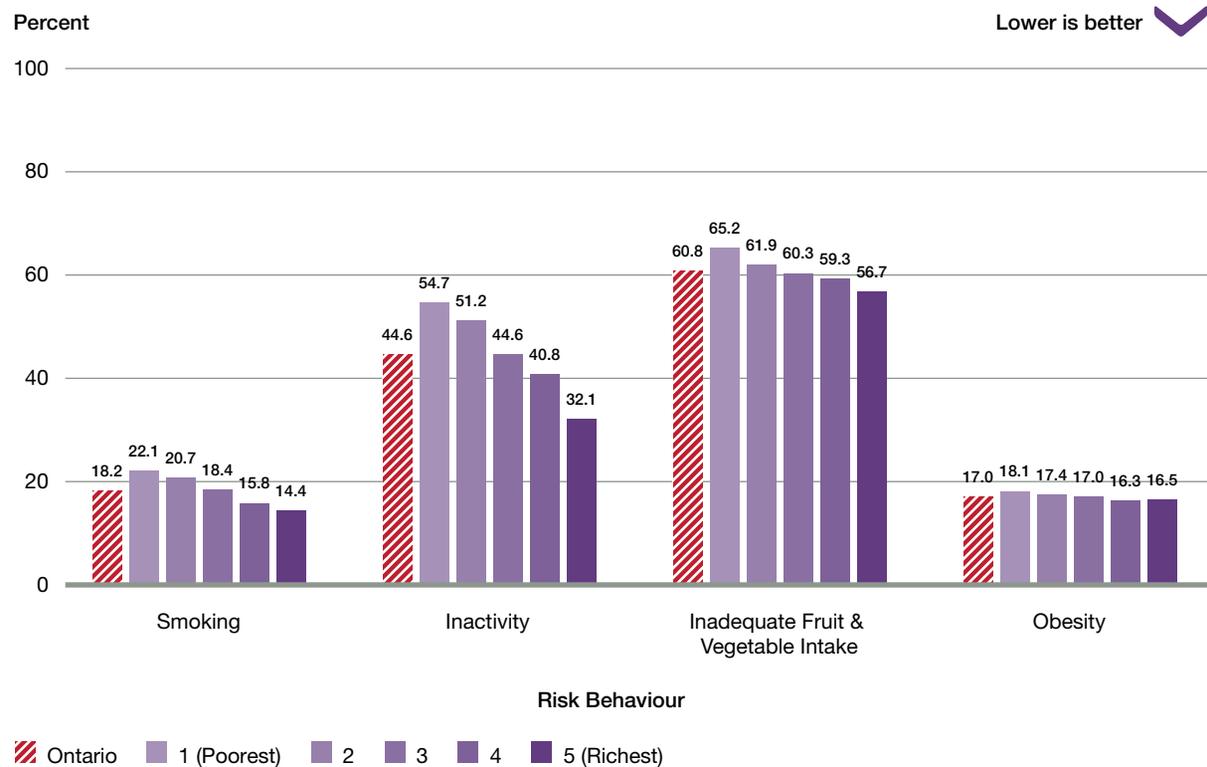
Smoking, which is responsible for about 13,000 deaths per year in Ontario[10], is much more common among the poorest people in the province than the richest – 22.1% compared with 14.4% – and 18.2% for Ontario.

Physical inactivity is associated with a higher risk of several major chronic diseases[11], and more than half (54.7%) of the poorest people in Ontario are physically inactive, compared with less than one-third (32.1%) of the richest people, and 44.6% for Ontario.

For inadequate fruit and vegetable intake, which is a proxy measure for not having a healthy diet, the differences by income are less pronounced but still evident, with nearly two-thirds (65.2%) of the poorest people in Ontario saying they didn't get enough fruit and vegetables in their diet, compared with 56.7% for the richest people, and 60.8% for Ontario.

The rate of obesity is the exception among our reported health risks. People in Ontario have a similar obesity rate across all five income levels at 17.0% in Ontario overall (Figure 1.2). These results are similar in other countries as well, including the U.S., where obesity also does not vary much by income overall, but where there are considerable differences based on gender, race, and ethnicity.[12] There are a number of possible explanations as to why obesity rates do not vary by income. The richer you are, the more money you have to pay for food, including pricier foods

**FIGURE 1.2**  
**Rates of smoking, inactivity, inadequate fruit and vegetable intake, and obesity†, in Ontario, by income level, 2013**



**Data source:** Canadian Community Health Survey, 2013 provided by Institute for Clinical Evaluative Sciences. †Age-adjusted.

**Note:** The measures of inactivity and inadequate fruit and vegetable intake are based on Health Canada cutoffs and do not capture peoples absolute circumstances. Population aged 12 and older for smoking, inactivity and inadequate fruit and vegetable intake; population aged 18 and older for obesity.

that are high in calories, but also potentially high in nutrients. The poorer you are, meanwhile, the more likely you may be to eat cheaper but

unhealthier foods that lead to similar weight gains as your richer counterparts, but without the nutrients.[13]

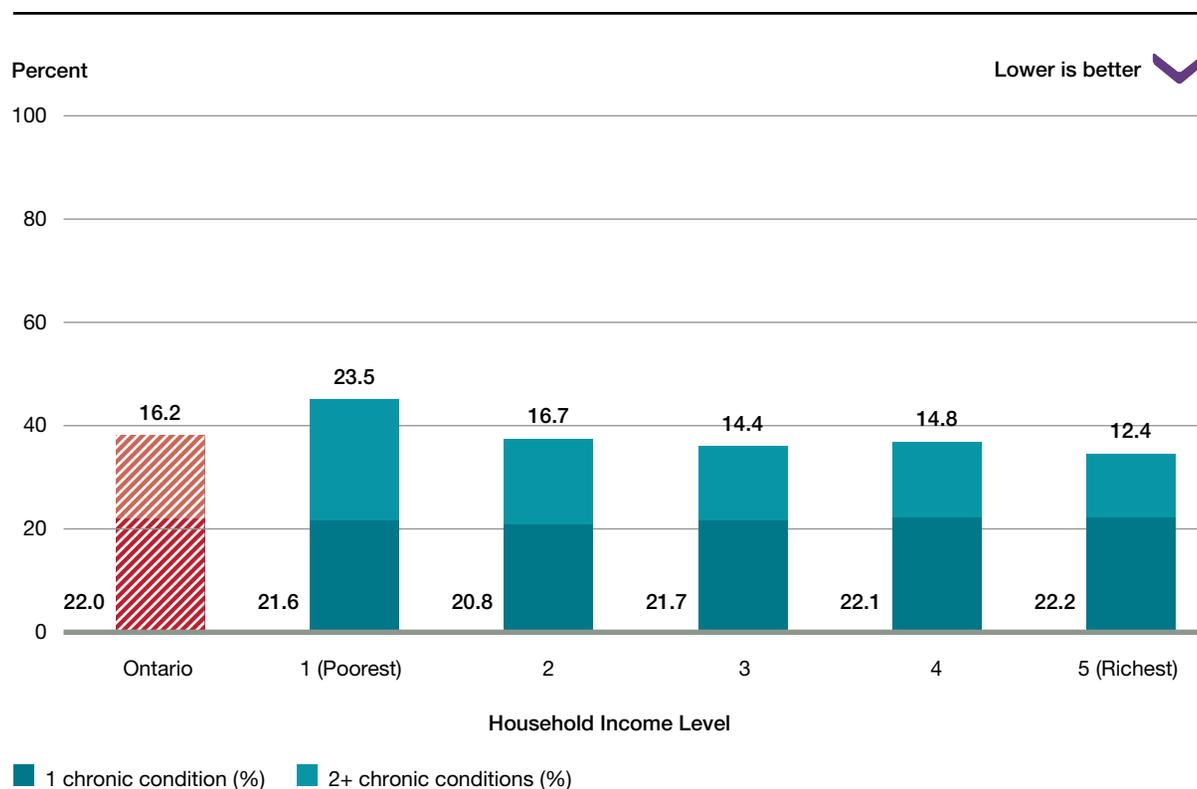
## Multiple chronic conditions

Having multiple chronic conditions, such as diabetes and cardiovascular diseases, is associated with a number of further health risks beyond the conditions themselves, including an increased risk of hospitalization and a higher use of health services.[14]

While the proportion of people in Ontario with one chronic condition doesn't vary by income (about one in five people across income groups), the likelihood of having multiple chronic conditions varies substantially by income. The poorest people in Ontario are nearly twice as likely as the richest people to report having multiple chronic conditions – 23.5% compared with 12.4%, and 16.2% for Ontarian overall (Figure 1.3).

FIGURE 1.3

**Percentage of the population\* who report the presence of chronic conditions†, in Ontario, by number of conditions and income level, 2013**



**Data source:** Canadian Community Health Survey, 2013 provided by Institute for Clinical Evaluative Sciences. †Age-and-sex adjusted.

**Notes:** Chronic conditions include anxiety disorder, arthritis, asthma, chronic bronchitis, emphysema, chronic obstructive pulmonary disease, diabetes, heart disease, hypertension, and mood disorders. \*Population aged 12 and older.

## Summary

The poorer you are in Ontario, the less opportunity you have for better health and the greater your chance of having health risks in your life, including food insecurity, smoking, inactivity, and inadequate fruit and vegetable intake. The same pattern emerges when it comes to multiple chronic conditions, which also pose further health risks.

Almost a quarter of the poorest people in Ontario have two or more chronic conditions, which can lead to health complications and hospitalizations, and this rate is nearly twice that of the richest people in the province. It is critical that people with health risks receive quality health care services where and when they need them. Income should not be a barrier to quality health care.



## 2. Prevention and Care

Photo of Jean taken by Roger Yip.  
See Jean's story on the next page.

# Jean's Story: No Choice

Jean is supposed to be taking four medications, but can't afford any of them. "I was on an anti-depressant and scrounged for beer empties to pay for that because I needed it," says the 60-year-old from the town of Parry Sound. "But now I can't afford that one, either."

Post-traumatic stress disorder disrupted Jean's plans to go to medical school. Instead, she now works as a volunteer with several health care organizations. She can't afford the basics of daily living, like fresh fruit and vegetables, nor the medication she needs for asthma, allergies, digestive issues and depression.

Most of Jean's conditions are mild to moderate, and not severe enough to qualify for Ontario Disability Support Program payments, she says. Not having enough money leads to more stress, more health problems, and makes it harder to work, she says, causing a downward spiral of both poor health and low income.

“

If you're living in poverty, you're living in the tyranny of the moment. You can't be proactive – it's always reactive.

”

"If you're living in poverty, you're living in the tyranny of the moment," Jean says. "You can't be proactive – it's always reactive. And you're too busy reacting to do anything else. How can you be mentally well when you don't have the financial safety and security?"

Jean has noticed that people like herself, who live on a very low income in small communities, don't have access to some of the same services as people in bigger cities. And when there are

services available, people often don't know how to find them. "There's a communication disconnect," she says.

Although she's doing the best she can for her health and well-being, Jean says she sees people judging her and making assumptions. "People think they know you," she says. "It's not bad choices. Sometimes it looks like we have a choice, but we don't really."

This chapter covers seven indicators related to care and illness prevention:

- The percentage of people in Ontario who report having a regular doctor
- The percentage of people in Ontario who waited less than 30 days to see a specialist doctor
- The screening rate for cervical cancer
- The rate of people in Ontario overdue for colorectal cancer screening
- The rate of people in Ontario living with diabetes who received an eye exam
- The percentage of people in Ontario who report having prescription medication insurance
- The number of visits to the emergency department for a mental illness or addiction and the number of those visits that were the first point of contact for people with a mental illness or addiction

People who have access to comprehensive care from a regular family doctor, or other primary care provider, tend to have better health.[15,16] But simply having a regular primary care provider is not enough to lead to equitable health care for the poorest people in Ontario.

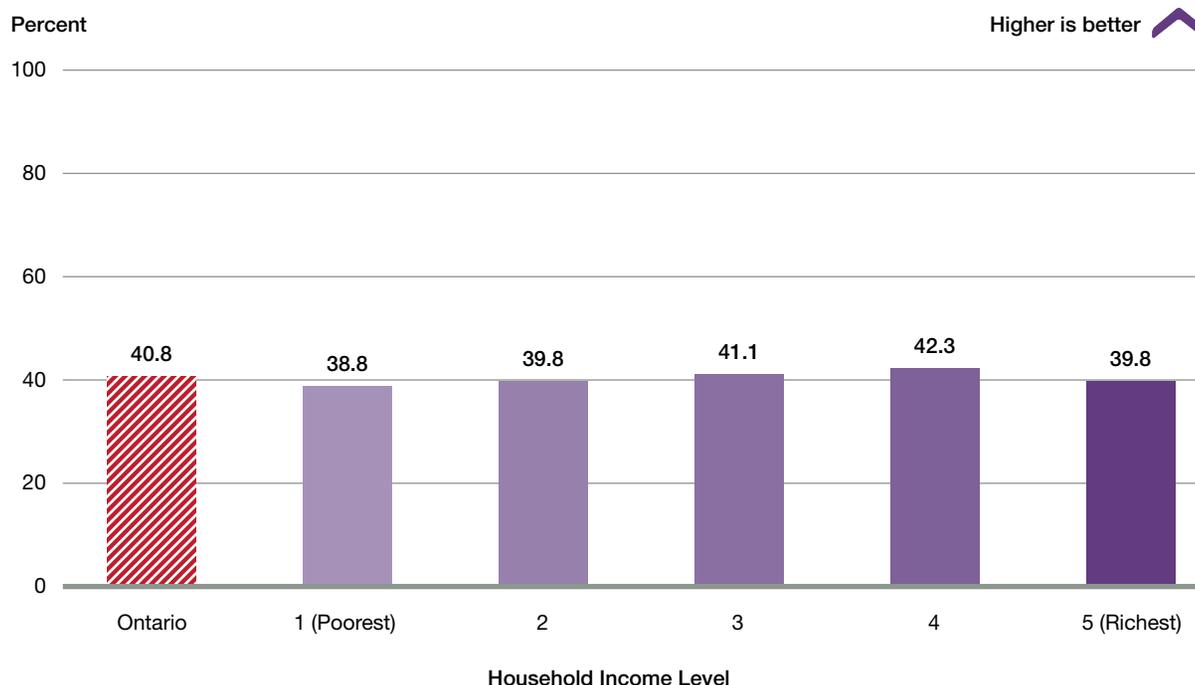
## Access to primary and specialty care

The vast majority of people in Ontario, regardless of their income, report having a regular doctor or other primary care provider, although for some people they might not be accessible or acceptable. Nearly 93% of the poorest people in Ontario say they have a regular primary care provider, compared with just over 95% of the richest people.

Notably, among people in Ontario who saw a specialist in 2014/15, there was no difference in their wait times based on their income level. Across all income levels, people in Ontario who have been referred to see a specialist (and who have gone on to see that specialist) also have similar wait times to see those specialists. Among the poorest people in Ontario, 38.8% waited less than 30 days for an appointment with a specialist, compared with 39.8% for the richest people, and 40.8% for Ontario overall, (People in the second-richest income level actually had the highest percentage who waited less than 30 days – 42.3%.) (Figure 2.1).

FIGURE 2.1

### Percentage of adults\* who reported waiting less than 30 days for a specialist appointment, in Ontario, by income level, 2014/15



**Data source:** Health Care Experience Survey, Ministry of Health and Long-term Care. **Notes:** The household income levels above are as follows: 1=less than \$20,000, 2=\$20,000–\$39,999, 3=\$40,000–\$59,999, 4=\$60,000–\$79,999, 5=\$80,000 or more. \*Population aged 16 and older.

But despite the similarities by income level in having a regular primary care provider and wait times for specialists, the poorer you are in Ontario, the less likely you are to receive quality care and illness prevention.

## Screening tests

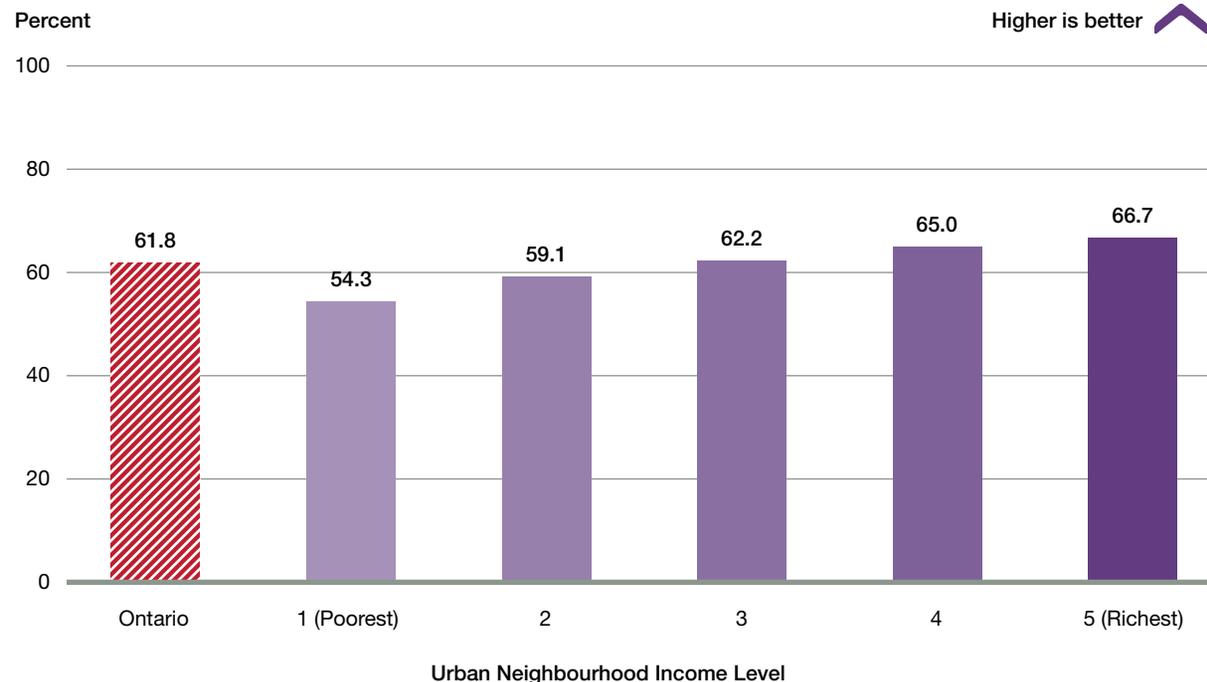
In primary care, patients receive recommended screening tests to detect illnesses or complications from some diseases. Despite the fact that more than nine out of 10 of the poorest people in Ontario report having a regular doctor – a similar rate to the richest people in Ontario – screening rates for certain types of cancer vary by urban neighbourhood income level.

## Cancer screenings

Just over half (54.3%) of women living in the poorest urban neighbourhoods have had cervical cancer screening, compared with two-thirds (66.7%) of the women living in the richest urban neighbourhoods (Figure 2.2), and 61.8% for all women in Ontario who are eligible for this screening.

FIGURE 2.2

### Percentage of women\* who had cervical cancer screening†, in Ontario, by urban neighbourhood income level, 2011–2013

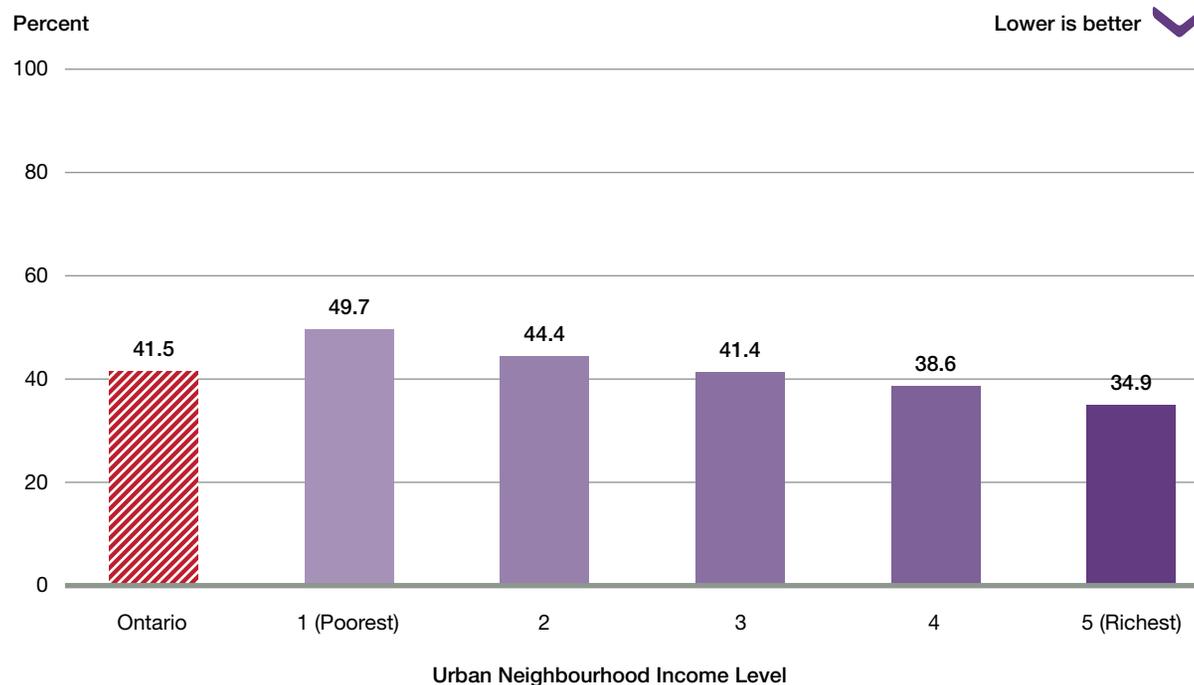


**Data source:** Ontario Health Insurance Plan Claims History Database, Ontario Cancer Registry, Registered Persons Database, Postal Code Conversion File version 6A, CytoBase, provided by Cancer Care Ontario via Cancer System Quality Index. †Age adjusted. **Notes:** For cancer screening, income levels are only calculated for urban neighbourhoods. \*Women aged 21–69.

We see similar variation for colorectal cancer screening, which is measured by the percentage of people who are overdue for the screening (a lower percentage is better). Nearly half (49.7%) of the people living in the poorest urban neighbourhoods in Ontario are overdue for colorectal cancer screening. Performance improves steadily as urban neighbourhood income increases, with just over one-third (34.9%) of the people living in the richest urban neighbourhoods in Ontario overdue for screening, and 41.5% for all people in Ontario who are eligible for this screening (Figure 2.3).

FIGURE 2.3

### Percentage of people\* overdue for colorectal cancer screening†, in Ontario, by urban neighbourhood income level, 2013



**Data source:** Colonoscopy Interim Reporting Tool, Laboratory Reporting Tool, Ontario Health Insurance Plan Claims History Database, Ontario Cancer Registry, Registered Persons Database, Postal Code Conversion File version 6A; provided by Cancer Care Ontario. †Age adjusted.

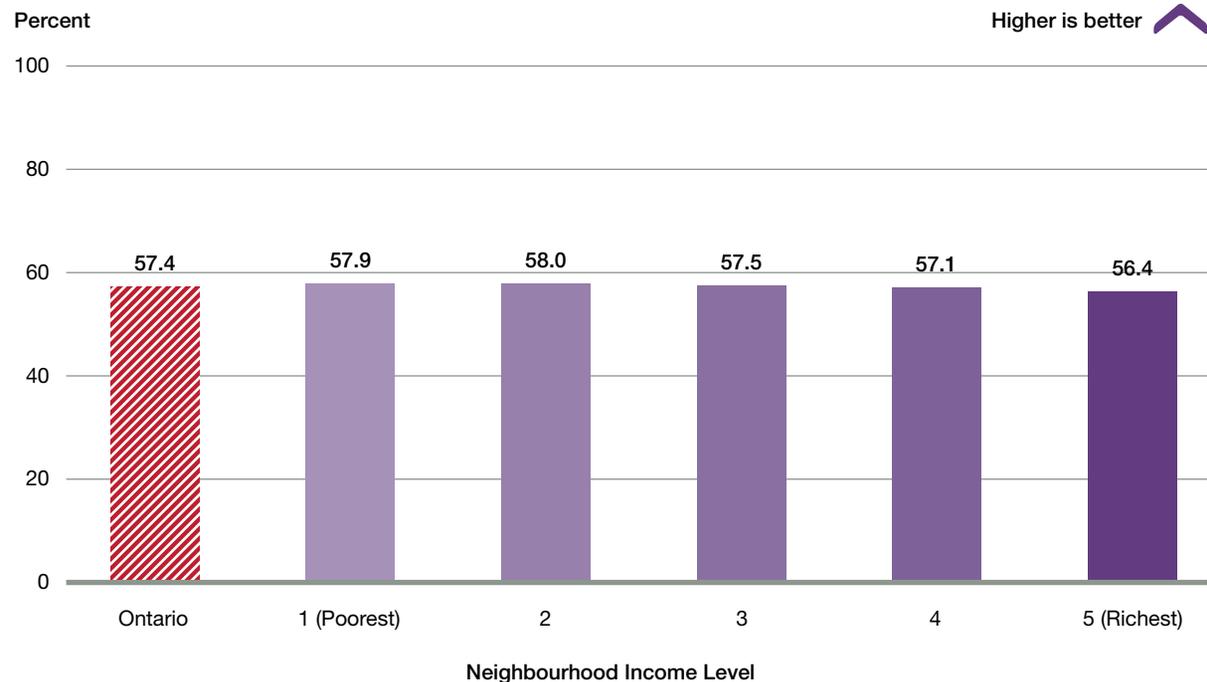
**Notes:** \*People aged 50–74. For cancer screening, income levels are only calculated for urban neighbourhoods.

## Diabetes eye exams

While cancer screening rates vary by urban neighbourhood income, people diagnosed with diabetes do not have variable screening rates for visual complications by neighbourhood income. For people with diabetes, regular eye exams are an effective way to detect the early onset of diabetic retinopathy, a preventable condition among diabetics that can lead to vision loss and blindness.[17,18] Diabetes eye exams do not show any meaningful variation by neighbourhood income (Figure 2.4).

FIGURE 2.4

**Percentage of people\* with diabetes aged 20 to 64 who received an eye exam, in Ontario, by income level, 2012/13**



**Data source:** Ontario Health Insurance Plan Claims History Database, Ontario Diabetes Database, Registered Persons Database, provided by the Institute for Clinical Evaluative Sciences. **Note:** \*People aged 20–64.

## Paying for medication

The ability to afford medication is an important aspect of care, especially among people with multiple chronic conditions.[19] Ontario's Trillium Drug Program assists people with high prescription medication costs relative to their income. Despite the availability of this program, prescription medication coverage is much lower among the poorest people in Ontario, who may, in fact, be most in need of insurance coverage compared with the richest people in Ontario, who have more money to pay out-of-pocket for medication. Among the poorest people in Ontario, 58.0% report having prescription medication coverage, and this percentage increases steadily by income level, up to 87.3% of the richest people, and 75.0% for the population overall (Figure 2.5).

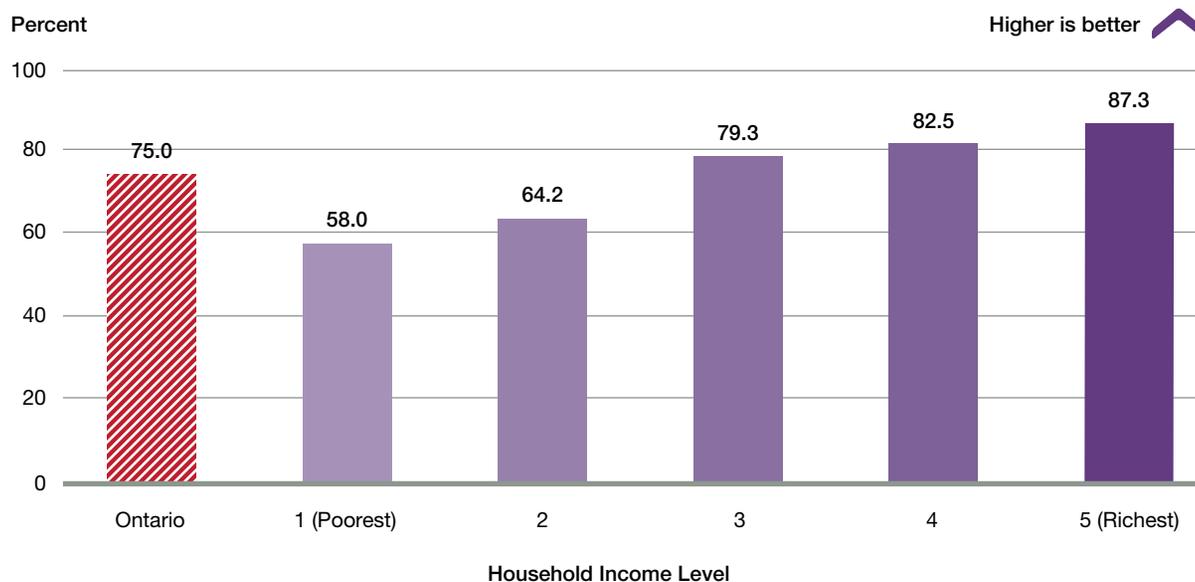
## Mental illness and addictions

The rate of mental illness, such as major depression, is higher among the poorest people in Ontario compared with the richest.[20] In Canada, the percentage of adults who rate their mental health as poor or fair has been increasing in recent years among the poorest Canadians, but not among the richest.[21]

One way of assessing the quality of care for people who experience a mental illness or an addiction

FIGURE 2.5

**Percentage of people\* who report having prescription medication insurance†, in Ontario, by income level, 2013**



**Data source:** Canadian Community Health Survey, 2013 provided by the Institute for Clinical Evaluative Sciences. †Age- and sex-adjusted.

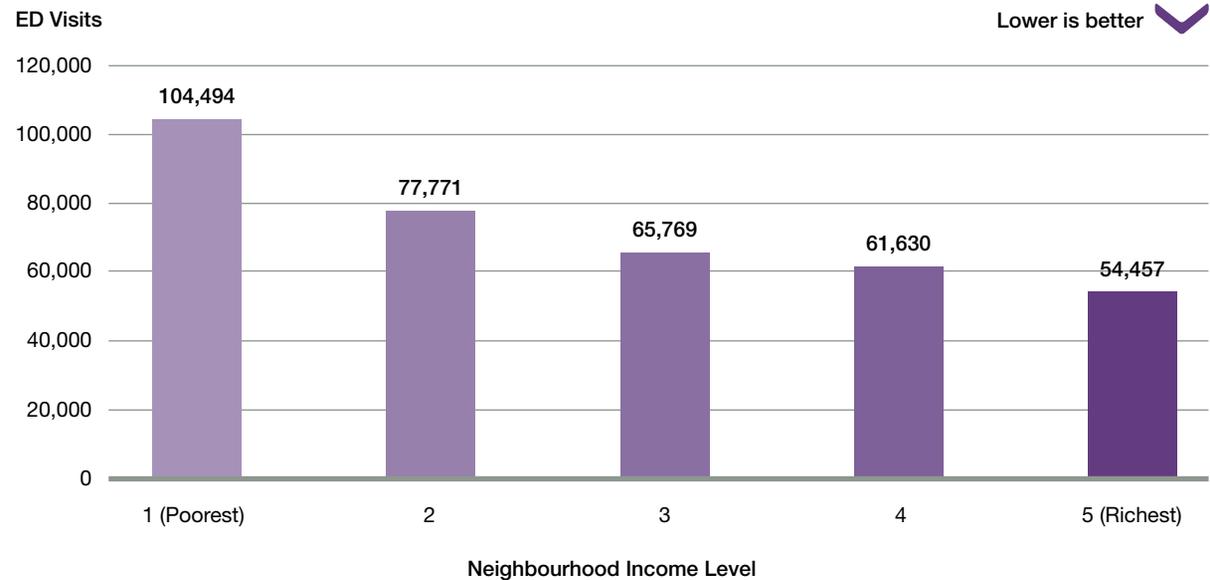
**Note:** \*People aged 12–64.

is to look at how many people end up in the emergency department for a mental illness or an addiction. There are times when the emergency department is the right place for someone with a mental illness or addiction, such as a crisis situation, but more frequent emergency department visits can be a sign that some people are not getting the help they need elsewhere, such as through primary care, psychiatrists, psychologists, or social workers.

People living in the poorest neighbourhoods in Ontario who have a mental illness or an addiction are more likely to get care in the emergency department, accounting for nearly twice as many visits to the emergency department for a mental illness or addiction compared with people living in the richest neighbourhoods – 104,494 visits versus 54,457 visits over a three-year period (Figure 2.6). We do not know to what extent this may be due to mental illness and addictions being more prevalent in Ontario's poorer neighbourhoods, or whether people in poorer neighbourhoods are more likely to go to the emergency department for help instead of elsewhere in the community.

FIGURE 2.6

### Number of visits to the emergency department for a mental illness or an addiction\*, in Ontario, by income level, over the three-year period of 2010/11–2012/13



**Data source:** National Ambulatory Care Reporting System, and Registered Persons Database, provided by the Institute for Clinical Evaluative Sciences. **Note:** Patients aged 16 and older.

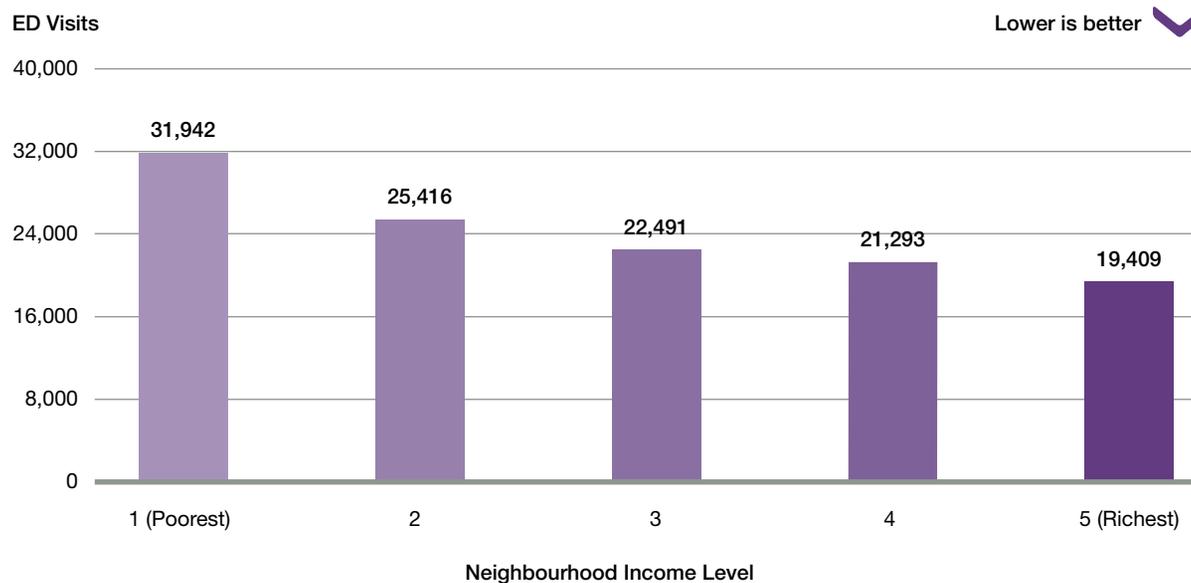
People living in the poorest neighbourhoods in Ontario also account for more visits to the emergency department as their first point of contact for a mental illness or addiction (and not, for example, a primary or community care visit) (Figure 2.7). In the three-year period of 2010/11 to 2012/13 people living in the poorest neighbourhoods in Ontario made nearly 32,000 visits to the emergency department as their first point of contact for a mental illness or addiction, compared with less than 20,000 visits by people living in the richest neighbourhoods in Ontario.

## Summary

Almost everyone in Ontario reports having a regular primary care provider, regardless of their income level. Despite this, people living in the poorest urban neighbourhoods are less likely than those in the richest urban neighbourhoods to receive recommended screening tests for certain cancers, which are considered part of high-quality primary care. Also, people living in the poorest neighbourhoods are more likely to visit the hospital emergency department as the first point of contact with the health system for a mental illness or addiction, and account for more visits to the emergency department for a mental illness or addiction compared with people living in the richest neighbourhoods in the province.

FIGURE 2.7

**Number of first-contact visits to the emergency department for a mental illness or an addiction\*, in Ontario, by income level, over the three-year period of 2010/11–2012/13**



**Data source:** National Ambulatory Care Reporting System, Discharge Abstract Database, Ontario Mental Health Reporting System, Ontario Health Insurance Plan Database, and Registered Persons Database, provided by the Institute for Clinical Evaluative Sciences. **Note:** \*Patients aged 16 and older.

This suggests that it is not enough to have a primary care provider, or to have similar wait times to see a specialist. There are other income-related

barriers to disease screening and health care quality, which can potentially lead to worse health outcomes.

# 3. Impact of Inequity

Photo of Louise taken by Roger Yip.  
See Louise's story on the next page.



# Louise's Story: Proving Herself

Louise, 55, has used a wheelchair for 20 years as a result of a movement disorder and nerve damage in her legs, which she says was the result of high doses of psychiatric medications. Although her mental illness diagnoses went away once she got off the medications, Louise now faces challenges with the health system to maintain her physical health.

The hardest part, Louise says, is constantly trying to demonstrate that she requires assistance to overcome the physical and financial barriers to remain independent and healthy. For her degenerative spine and other problems with her shoulders, Louise used to qualify for 150 physiotherapy sessions per year, but a few years ago, coverage was cut back to just six visits per condition, each of which required a doctor referral.

"I'm highly functional and happy when I'm living as normal a life as possible. I get emotionally distressed when I have to constantly keep proving myself as deserving of physical assistance," Louise says. "In fact, I do a lot of 'ostrich' putting my head in the sand. The most upsetting thing is dealing with the systems."

When she used to live in Kingston, Louise's motorized wheelchair died and she had to go two years with a manual chair as the repairs were not covered. "I had to put a board across the seat

“

I get emotionally distressed when I have to constantly keep proving myself as deserving of personal assistance.

”

because the upholstery was ripped, and toughed it out," she says. "There was no coverage for it, period. So you just do without."

Louise, who now lives in Toronto, volunteers and gets out of the house as much as possible and also keeps her place tidy, which she says works against her favour to qualify for home care. Because she didn't need the personal care services, she didn't qualify for physical assistance to clean her apartment, cook meals or do laundry.

"Why should a person who is disabled and living on social assistance be forced to do without these very basic services – the kind that can keep one healthy as well?" Louise asks.

With two torn rotator cuffs and a kitchen that is not accessible, Louise has to order food using an online delivery service, even though she can't

afford the extra charges. Always tight on money, Louise has to decide whether to buy fresh fruit and vegetables which she's not able to chop up, or buy pre-prepared food which is more expensive and sometimes less healthy.

"I know what I want to make, but I can't cut it up in my non-accessible kitchen," Louise says. "Sometimes you don't eat the diet you're supposed to, and that adds to your health issues."

Louise says she knows people who decide that they can't get the support they need, so they don't even try to go out anymore. "I know so many people who have prematurely died because they just didn't have anything to give them the quality of life, and they just slowly got more and more unhealthy and that was it," she says. "My goal is doing what it takes to stay healthy."

This chapter covers four indicators related to health outcomes of the people in Ontario.

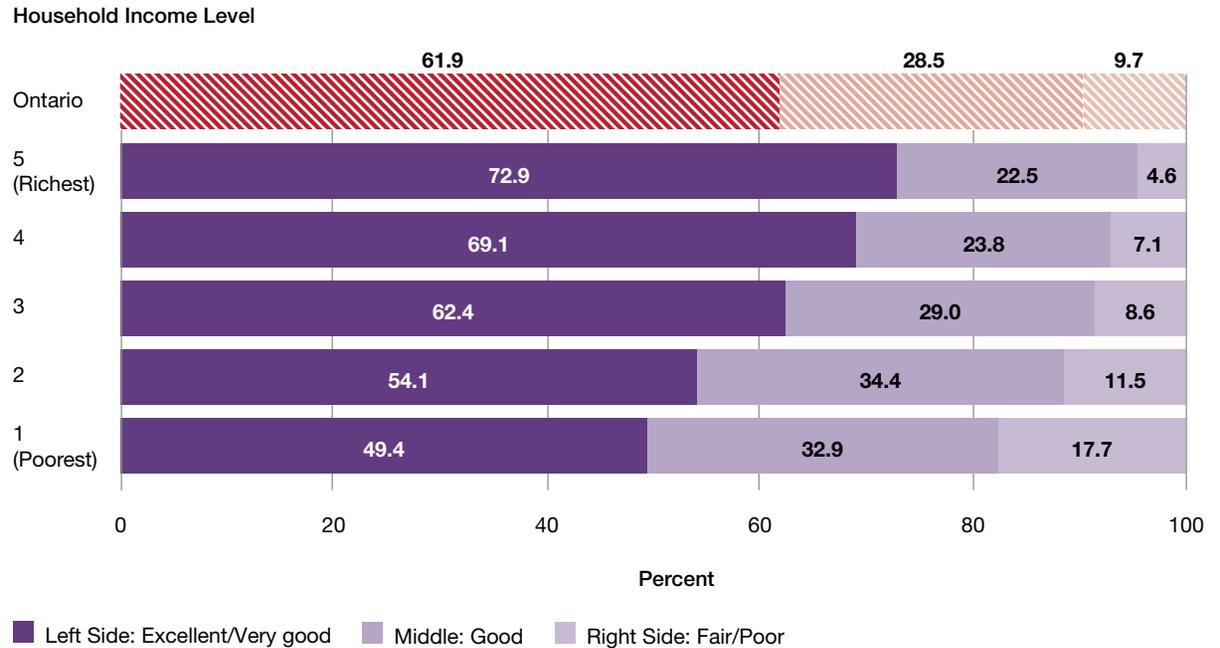
- Self-reported health status
- Life expectancy
- Potential years of life lost
- The hospitalization rate for ambulatory care sensitive conditions (i.e., medical conditions that can be managed outside of the hospital)

The poorer you are in Ontario, the more likely you are to experience health risks, the more likely you are to visit the emergency department as a first point of contact with the health system for a mental illness or addiction, the less likely you are to be screened for certain cancers, and the less likely you are to have prescription medication insurance coverage. So how does that affect people’s health? The poorer you are in Ontario, the worse your health outcomes.

## Health status

Self-reported health status, a self-assessment of one’s health, is an accurate predictor of actual health and life expectancy.[22,23] The poorer you are in Ontario, the worse your self-reported health status. Almost 18% of the poorest people in Ontario report their health status as fair or poor, compared with under 5% of the richest people and just under 10% for the province overall (Figure 3.1).

**FIGURE 3.1**  
**Self-reported health status for the population<sup>†</sup>, in Ontario, by income level, 2013**



**Data source:** Canadian Community Health Survey, provided by Institute for Clinical Evaluative Sciences. <sup>†</sup>Age adjusted. **Note:** <sup>†</sup>Aged 12 and older.

## Life expectancy and potential years of life lost

Someone born today in Canada can expect to live about 20 years longer than they would if they were born in 1920.[24] But current data for Ontario show that life expectancy varies by neighbourhood income. Men living in the poorest neighbourhoods in Ontario have a life expectancy of 77.0 years, compared with 82.0 years for men living in the richest neighbourhoods, a five-year difference. Women living in the poorest neighbourhoods in the province have a life expectancy of 82.8 years, compared with 85.0 years for women living in the richest neighbourhoods, a difference of 2.2 years. [25]

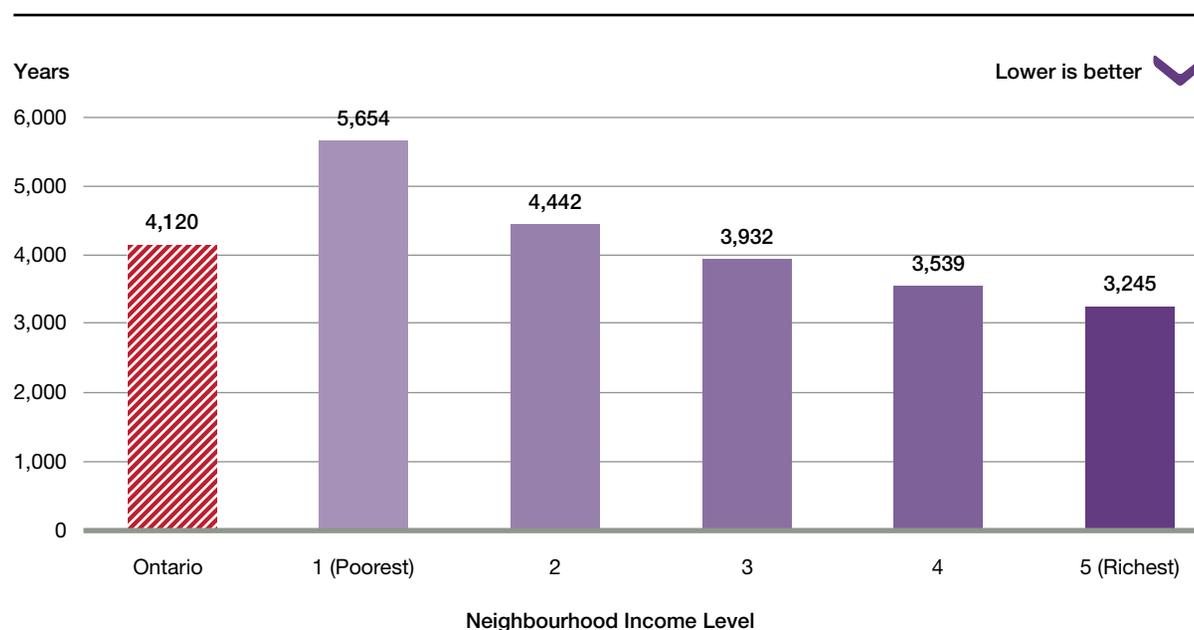
We can also calculate the number of potential years of life lost when people die prematurely (that is before age 75). If a younger person dies, the number of potential years of life lost would be higher than for an older person. People living in the poorest neighbourhoods in Ontario have a substantially higher total number of potential years of life lost per 100,000 people (5,654 potential years lost for every 100,000 people) than people living in the richest neighbourhoods in Ontario (3,245 potential years lost per 100,000 people), and 4,120 years per 100,000 people for Ontario overall (Figure 3.3).

The difference of more than 2,400 potential years lost per 100,000 people between those living in the richest and poorest neighbourhoods in Ontario

is the equivalent of about 30 complete lifetimes' worth of years lost from dying prematurely for every 100,000 people.

FIGURE 3.2

### Potential years of life lost per 100,000 population<sup>†</sup>, in Ontario, by income level, 2009–2011



**Data source:** Canadian Mortality Database, sourced from the Public Health Agency of Canada's Health Inequalities Data Cube. <sup>†</sup>Age adjusted.

## Managing health conditions outside the hospital

Medical conditions that can typically be managed outside of the hospital are known as ambulatory care sensitive conditions. Examples of these conditions include diabetes, asthma, epilepsy, and chronic obstructive pulmonary disease. If people have adequate access to community-based services and care for these types of health conditions, some hospitalizations could be avoided. Hospitalizations for these conditions can indicate a possible lack of proper access to community-based care (although sometimes it's necessary and appropriate to be admitted to hospital for these conditions).

The hospitalization rate for ambulatory care sensitive conditions among people living in the poorest neighbourhoods in Ontario is almost 2.5 times the rate of the people living in the richest neighbourhoods: 368 per 100,000 compared with 150 per 100,000. The overall Ontario rate is 233 per 100,000 people.

## Summary

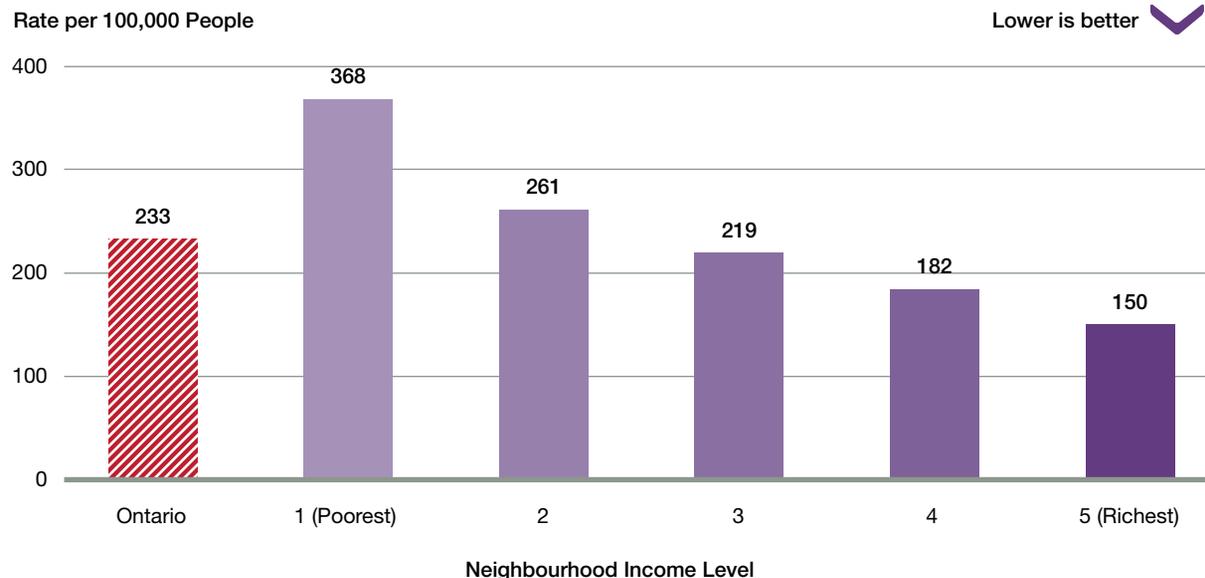
When it comes to living a long and healthy life, the poorer you are in Ontario, the worse you fare.

The poorest people in the province are more likely to report their health as fair or poor compared with the richest people. People living in the poorest neighbourhoods in Ontario also have higher rates of potential years of life lost due to premature death,

they don't live as long, and are much more likely to be hospitalized for a condition that could be managed outside the hospital.

FIGURE 3.3

### Hospitalization\* rate for ambulatory care sensitive condition†, in Ontario, by neighbourhood income level, 2013/14



**Data source:** Discharge Abstract Database and Registered Persons Database, provided by the Institute for Clinical Evaluative Sciences.

\*Age adjusted. **Note:** †Hospitalizations for patients aged less than 75.



## 4. The Road Ahead

Photo of Jennifer taken by Roger Yip.  
See Jennifer's story on page 11.

## The peril of averages

Consistently in Ontario, the poorer you are, the poorer your health, the less likely you are to have quality health care, and, overall, the worse you fare in your health outcomes.

Income is just one of many interconnected components of health equity, and even through this single lens, we can see that there are many areas where the province should strive to improve opportunities for better health. Our health system can also do better to move toward equity in health care by removing the barriers to care so that everyone can have access to the same level of high-quality care based on their needs, regardless of their income.

*Income and Health: Opportunities to achieve health equity in Ontario* highlights the danger of averages. We cannot accurately assess health risks for the people in Ontario, nor the quality of their care, nor their health outcomes, based solely on provincial averages of the indicators in these categories. We've seen how someone's chances for better health and better health care increase up each step of the income ladder, from the first level to the fifth.

Furthermore, each of the five income levels is itself an average, and there could be even more

pronounced problems at, say, the level of the poorest 1% of the people in Ontario, or among those who are not even included in the data, such as homeless people.

Strategies going forward must recognize the value of reducing income-related inequities in health and health care. Investing in strategies to improve the health and wealth of those who are below the overall rates for Ontario, could result in cost savings that far outweigh the initial costs.

## Work underway and next steps

A lot of work is underway across Ontario to address health inequities, but that work is taking place in pockets, without cohesive province-wide reporting or strategy. Health Quality Ontario's approach is to frame equity as a "dimension" of quality. We will continue to expand the measures in the Common Quality Agenda (a set of indicators we use to measure the performance of Ontario's health system overall) to look at health equity through different lenses, building on the work we have done in this report related to income groups, and expanding it to include others, such as immigration status, sex, and education.

Guided by the Health Equity External Advisory Committee, consisting of thought leaders in the health care community, professional experts, patients, caregivers, and other people with lived experiences from across the province, Health Quality Ontario also began work in the field with external partners by holding a summit on equity. To date we have consulted more than 300 people.

The summit and consultations marked a first step in developing a roadmap for equity, starting with two big questions:

1. What does the system need to do about health and health care inequity?
2. What can Health Quality Ontario do to support system change?

Ontario is a large and diverse province, and Health Quality Ontario is committed to achieving better health quality for every person living in Ontario. The equity roadmap will guide all of our work at Health Quality Ontario, including reporting, patient and public engagement, communications, partnerships, quality improvement, and evidence development and standards.

# Methods Notes

The Methods Notes provide a brief description of the methods used in this report. For more details, please see the Technical Appendix on Health Quality Ontario's website.

## Indicator selection

This report includes equity-sensitive indicators from the Common Quality Agenda, as well as some additional indicators with a focus on variation by income quintile.

## Data sources

The data presented in this report were supplied by a variety of data providers, including the Institute for Clinical Evaluative Sciences, Statistics Canada, the Ontario Ministry of Health and Long-Term Care, and Cancer Care Ontario.

Survey, clinical and administrative data were used for the analysis from the following databases:

- Canadian Morbidity Database
- Colonoscopy Interim Reporting Tool
- CytoBase
- Discharge Abstract Database (DAD)
- Health Care Experience Survey (HCES)
- Laboratory Reporting Tool (LRT)
- National Ambulatory Care Reporting System (NACRS)
- Ontario Cancer Registry (OCR)
- Ontario Diabetes Database (ODD)
- Ontario Health Insurance Plan Claims History Database (OHIP claims)
- Ontario Mental Health Reporting System (OMHRS)
- Ontario sample of the 2013 Canadian Community Health Survey (CCHS)
- Postal Code Conversion File version 6A (PCCF+6A)
- Registered Persons Database (RPDB)
- Vital Statistics Database

## Analysis

To enable appropriate and fair comparisons of performance, some indicators were age- or age- and-sex-adjusted to the 1991 Canadian census population. This is the population standard specified by Statistics Canada.[26] The 2011 Canadian census population was used to calculate age-standardized rates for the colorectal cancer screening and cervical cancer screening indicators.[27]

Survey data were weighted to reflect the design characteristics of the survey and the population of Ontario. For further details on which indicators were adjusted, which were weighted, and the methodology used, please see the individual indicator templates in the Technical Appendix.

Income analyses for the colorectal cancer screening and cervical cancer screening indicators are based on residents living in urban areas only. Income analyses for all other indicators include residents of both rural and urban Ontario.

## Income levels

In this report, the umbrella term “income levels” describes two methods of income analyses, described below:

### Neighbourhood Income quintiles:

Neighbourhood income is based on census data and attributes an average household income to individuals within an area. This method of analyzing income is based on dissemination area-level average household income values from census files. A dissemination area is a small area composed of one or more neighbouring dissemination blocks, with a population of 400 to 700 people. Each person within a dissemination area is assigned the average household income of the dissemination area. These dissemination areas are then rank-ordered and divided into five equal population groups called quintiles. Quintile 1 refers to the least affluent neighbourhoods, while quintile 5 refers to the most affluent. The quintiles were constructed according to the methods developed at Statistics Canada.[28]

**Household income:** Household income is based on a respondent’s self-reported income and is collected through surveys.

- For indicators from the Health Care Experience Survey, household incomes are categorized within the survey itself. In this case, household income categories are defined within the report.
- For indicators based on the Canadian Community Health Survey, Statistics Canada prepares a derived income variable based on information from multiple questions from the survey. The derived variable is a ratio of the total gross annual household income to the corresponding low-income cut-off for their household and community size and specific to their community. Adjusted ratios are then ordered from smallest to largest, and grouped into approximately equal deciles. Deciles are rolled into quintiles for reporting purposes. This results in a relative measure of income for all respondents.

For more information on which indicators used either of the above methods, please refer to the Technical Appendix.

## Significance testing

Statistical significance was determined by comparing the 95% – confidence intervals for each value. A value is said to be significantly different from another if the confidence intervals for the two values do not overlap. The report states an increase/decrease or higher/lower result only when results are statistically significant based on this method of testing.

## Limitations

There are certain limitations of the analysis that should be considered when interpreting the results. Some of the limitations are specific to the data source, the indicator, and the methodology used to calculate it. The main limitations for this report include:

- Findings in this report are associative. Causal links cannot be drawn based on the analyses used in this report.
- While many of the results presented in this report are adjusted for age and sex, other factors which may confound results are not accounted for.
- Neighbourhood-level income does not take into account people with a missing or invalid postal code, those who are unstably housed, and those living in institutions such as long-term care facilities. Neighbourhood-level income is also less accurate for rural areas as postal codes in rural regions cover larger geographical areas.[28] In addition, as neighbourhood-level income assigns an average income to everyone in a dissemination area, it cannot be applied to individuals.
- Income is a continuous variable. By categorizing income into groups or quintiles, the impact of within – category differences cannot be assessed.

- Indicators that are dichotomized (e.g., screened or not screened) do not capture the magnitude of differences across the continuum of performance. For example, the percentage of people aged 50–74 overdue for colorectal cancer screening indicator only reveals whether or not people were overdue. It cannot be used to discern how overdue for screening certain populations are or if these populations have ever been screened.

For more details on indicator-specific limitations, please see the individual indicator templates in the online Technical Appendix.

# Acknowledgments

## Health Quality Ontario

### Management

Joshua Tepper, President and Chief Executive Officer

Anna Greenberg, Vice-President, Health System Performance

Irfan Dhalla, Vice-President, Evidence Development and Standards

Mark Fam, Vice-President, Corporate Services

Lee Fairclough, Vice-President, Quality Improvement

Jeff Turnbull, Chief, Clinical Quality

Jennifer Schipper, Chief, Communications and Patient Engagement

Biographies are posted at: <http://www.hqontario.ca/About-us/Our-Mandate-and-Our-People/Executive-Team>

## Report development

Health Quality Ontario thanks the many people who contributed to this report, including:

The members of Health Quality Ontario's expert review panel, who provided advice on quantitative research and analysis:

Laura Anderson, Marie DesMeules, John Frank, Doris Grinspun, Jean Harvey, Raymond Pong, Penny Sutcliffe, Adrianna Tetley, Seong-gee Um, Walter Wodchis, as well as Health Quality Ontario's Health Equity Advisory Committee.

The following organizations which provided reviews or data for the report:

The Association of Ontario Health Centres, the Canadian Institute for Health Information, Cancer Care Ontario, the Institute for Clinical Evaluative Sciences, the Ministry of Health and Long-Term Care, the Public Health Agency of Canada, the Registered Nurses' Association of Ontario, Statistics Canada, and the Wellesley Institute.

Parts of this material are based on data and information supplied by a variety of data providers including the Institute for Clinical Evaluative Sciences, Cancer Care Ontario, Statistics Canada, and the Ministry of Health and Long-Term Care. However, the analyses, conclusions, opinions and statements expressed herein are those of the authors, and not necessarily those of the data providers.

At Health Quality Ontario, a multidisciplinary team led the development of the report, including:

Heather Angus-Lee, Susan Brien, Kristan Chamberlain, Gail Dobell, Naushaba Degani, Ryan Alexander Emond, Louise Grenier, Michal Kapral, Isra Khalil, Sandra Kerr, Reena Kudhail, Ryan Monte and Amira Salama.

Special thanks to George, Jean, Jennifer and Louise for sharing their experiences to bring the data in this report to life, as well as Jennefer Laidley of the Income Security Advocacy Centre and Corey Bernard at Health Quality Ontario for helping to connect us with those who have shared their stories.

# References

- [1] Health Quality Ontario. Measuring Up 2015: A yearly report on how Ontario's health system is performing. Toronto: Queen's Printer for Ontario, 2015.
- [2] Osberg L, Sharpe A. Beyond GDP: Measuring Economic Well-Being in Canada and the Provinces 1981–2010 [Internet]. Centre for the Study of Living Standards; 2011 [cited 2016 Feb 22]. Available from: <http://www.csls.ca/reports/csls2011-11.pdf>
- [3] Organisation for Economic Co-operation and Development. Growing income inequality in OECD countries: What drives it and how can policy tackle it? [Internet]. Paris: OECD; 2011 [cited 2016 Feb 22]. Available from: <http://www.oecd.org/els/soc/47723414.pdf>
- [4] Government of Canada. Financial security – Income distribution [Internet]. Ottawa: Government of Canada; 2016 [cited 2016 Feb 22]. Available from: <http://well-being.esdc.gc.ca/misme-iowb/.3ndic.1t.4r@-eng.jsp?iid=22>
- [5] Che J, Chen J. Food insecurity in Canadian households. Health R ep. 2001;12(4):11-22. (Statistics Canada Catalogue no. 82-003-X).
- [6] Mustard, C.A., Derksen, S., Berthelot, J.M., & Wolfson, M. (1999). Assessing ecologic proxies for household income: a comparison of household and neighbourhood level income measures in the study of population health status. Health & place, 5(2), 157-171.
- [7] Vozoris NT, Tarasuk VS. Household food insufficiency is associated with poorer health. J. Nutr. 2003 Jan; 133(1):120-6.
- [8] Desilver, D. Obesity and poverty don't always go together [Internet]. Washington: Pew Research Center; 2013 [cited 2016 Feb 22]. Available from: <http://www.pewresearch.org/fact-tank/2013/11/13/obesity-and-poverty-dont-always-go-together/>
- [9] Tiffany Fitzpatrick, MPH, Laura C. Rosella, PhD, MHSc, Andrew Calzavara, MSc, Jeremy Petch, PhD, MA, Andrew D. Pinto, MD, MSc, Heather Manson, MD, MHSc, Vivek Goel, MD, MSc, Walter P. Wodchis, PhD, MAE, MA, Looking Beyond Income and Education: Socioeconomic Status Gradients Among Future High-Cost Users of Health Care, Am J Prev Med 2015;49(2):161–171).
- [10] Lung Association of Ontario, Smoking and Tobacco: Smoking and Health Facts, 2011 August 18, 2011.
- [11] Darren E.R. Warburton, Crystal Whitney Nicol, Shannon S.D. Bredin, Health benefits of physical activity: the evidence, CMAJ March 14, 2006 vol. 174 no. 6 doi: 10.1503/cmaj.051351.
- [12] Huang TT-K, Glass T: Transforming research strategies for understanding and preventing obesity. JAMA 2008;300:1811–1813.
- [13] Gortmaker SL, Swinburn BA, Levy D, et al: Changing the future of obesity: science, policy, and action. Lancet 2011;378:838–847.

- [14] Boyd C, Fortin M. Future of multimorbidity research: how should understanding of multimorbidity inform health system design. *Public Health Rev.* 2010;32(2):451-74.
- [15] Starfield B, Shi L, Macinko J. Contribution of primary care to health systems and health. *Millbank Quarterly.* 2005;83 (3):457-502.
- [16] Macinko J, Starfield B, Shi L. The contribution of primary care systems to health outcomes within the Organisation for Economic Cooperation and Development (OECD) Countries, 1970–1998. *Health Services Research.* 2003;38(3):831-65.
- [17] Canadian Diabetes Association, Clinical Practice Guidelines 2013; Available from <http://guidelines.diabetes.ca/Browse/Chapter30>.
- [18] Public Health Agency of Canada. *Diabetes in Canada: Facts and Figures from a Public Health Perspective.* Ottawa, ON 2011.
- [19] Law MR, Cheng L, Dhalla IA, Heard D, Morgan SG. The effect of cost on adherence to prescription medications in Canada. *CMAJ* 2012;184: 297-302.
- [20] Canadian Mental Health Association. *Advancing equity in Ontario: understanding key concepts* [Internet]. CMHA; 2014 [cited 2016 Feb 22]. Available from: <http://ontario.cmha.ca/files/2014/05/Advancing-Equity-In-Mental-Health-Final1.pdf>
- [21] Canadian Institute for Health Information. *Trends in income-related health inequalities.* CIHI; 2015 [cited 2016 Feb 22]. Available from: [https://secure.cihi.ca/free\\_products/trends\\_in\\_income\\_related\\_inequalities\\_in\\_canada\\_2015\\_en.pdf](https://secure.cihi.ca/free_products/trends_in_income_related_inequalities_in_canada_2015_en.pdf)
- [22] Idler EL, Kasl SV. Self-ratings of health: Do they also predict change in functional ability? *Series B: J. Gerontol. Ser. B-Psychol. Sci. Soc. Sci.* 1995; 50B(6):S344-S353.
- [23] DeSalvo KB, Blose N, Reynolds K, He J, Muntner P. Mortality prediction with a single general self-rated health question. *J. Gen. Inter n. Med.* 2006; 21(3):267–275.
- [24] Statistics Canada, Table 102-0512 – Life expectancy, at birth and at age 65, by sex, Canada, provinces and territories, annual (years), CANSIM (database); [cited 2016 Feb 22]. Available from: <http://www5.statcan.gc.ca/cansim/a26?lang=eng&id=102051>
- [25] Centre for Chronic Disease Prevention, Public Health Agency of Canada (2014). *Health Inequality Data Cube, Canadian Mortality Database (2009-2011).*
- [26] Statistics Canada. *Deaths 1991–1999: Definitions (Archived Content).* Available from: <http://www.statcan.gc.ca/pub/84f0211x/1999/4067936-eng.htm>
- [27] Cancer Quality Council of Ontario. *Technical Information: Colorectal Cancer Screening Percentage Overdue for Screening: Technical Specifications.* Available from: <http://www.csqi.on.ca/cms/One.aspx?portalId=327483&pageId=335155>
- [28] Canadian Institute for Health Information. *Health Indicators 2013: Definitions, Data Sources and Rationale, May 2013.* Ottawa, ON: CIHI; 2013

Health Quality Ontario  
130 Bloor Street West  
10th Floor  
Toronto, ON M5S 1N5

Telephone: 416-323-6868  
Toll-free: 1-866-623-6868  
Email: [info@hqontario.ca](mailto:info@hqontario.ca)  
[www.hqontario.ca](http://www.hqontario.ca)