

ONTARIO WOMEN'S  
HEALTH EQUITY REPORT

# Achieving Health Equity in Ontario: Opportunities for Intervention and Improvement *Chapter 13*



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Project for an Ontario Women's Health Evidence-Based Report

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# Executive Summary

## ISSUE

The Project for an Ontario Women's Health Evidence-Based Report (POWER) Study has produced a comprehensive Women's Health Equity Report.

The study examined gender, socioeconomic, race/ethnic, and regional differences in access, quality, and outcomes of care across the continuum of care for the leading causes of morbidity and mortality in the province. Using a community-engaged research model, the study was designed to provide actionable data for policy makers, providers, and consumers in their efforts to improve health and reduce health inequities in Ontario.

**The POWER Study has developed an approach that integrates clinical, public, and population health measures, emphasizing indicators that are modifiable and that can support efforts to link measurement to intervention and improvement.**

An overarching objective of the POWER Study was to use performance measurement and reporting as a mechanism for knowledge translation. Not only has the POWER Study contributed needed evidence for addressing health inequities in Ontario, our approach to health equity performance measurement and reporting serves as a model for other jurisdictions.

**The POWER Study identified many large and modifiable inequities in health and health care that are cause for concern.**

Lower-income Ontarians had worse health and functional status, had more chronic disease risk factors, received less preventive care, and had worse health outcomes than those with higher incomes. While there were large differences in health and functional status, we found fewer and smaller income-related differences in clinical management and quality of care, particularly in acute care settings. Although universal access to health care services is a fundamental

principle of the Canadian health care system, we also identified many inequities in access to care that were associated with income, race/ethnicity, immigration, and language. The [last section](#) of this report includes a summary of the most important findings from all POWER Study data chapters.

**The impact of health inequities is large.** If all Ontarians had the same health as Ontarians with higher income, an estimated 318,000 fewer people would be in fair or poor health, an estimated 231,000 fewer people would be disabled, and there would be an estimated 3,373 fewer deaths each year among Ontarians living in metropolitan areas. We also estimated that 30 percent of hospitalizations for four common ambulatory care sensitive conditions (ACSCs) (heart failure, chronic obstructive pulmonary disease, diabetes, and asthma)—or almost 16,000 hospitalizations a year—could potentially be avoided if the hospitalization rates observed among adults living in the highest-income neighbourhoods could be achieved across all neighbourhood income levels. These findings illustrate the enormous opportunities to improve overall population health while reducing health inequities in Ontario.

## BRIDGING THE GAPS

A number of important lessons emerged from the POWER Study analyses. First, we found that inequities in health and functional status were much larger than inequities in access to and quality of care. This finding underscores the importance of moving upstream to address the root

causes of health inequities, which are grounded in the social determinants of health. Second, inequities in access to primary care and chronic disease management were larger than inequities in treatment of acute conditions, highlighting the need to focus on primary care and community services. Third, the observed gender differences highlight the need for gender-sensitive solutions. Fourth, where there was an organized strategy for quality improvement in place informed by performance measurement, few inequities were observed.

Our health system is at a crossroads. Improving population health and reducing health inequities will reduce demand and health system utilization, thus fostering health system sustainability. Redesigning our health system to create an effective, integrated, efficient, and patient-centred health care delivery system, while at the same time creating cross-sectoral interventions to address the social determinants of health, can lead to both excellent health and excellent care for all.

### **Moving Upstream: Targeting the Social Determinants of Health**

It is well known that most of the determinants of health lie outside the health system. Our findings highlight the need to prioritize efforts that address the social determinants of health, including: poverty reduction, assuring food security, enhancing education, and fostering healthy communities and workplaces. By taking significant action to promote a healthy population and address the broader determinants of health, costs can be more effectively contained by reducing health care needs, ensuring the sustainability of the public health care system.

### **Chronic Disease Prevention and Management**

Chronic illness caused much of the illness burden reported in the POWER Study and chronic disease risk factors were common. Furthermore, many of the health inequities we identified are manifested by

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- Burden of Illness
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- Older Women's Health

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chronic diseases and their risk factors. Health system redesign, which prioritizes chronic disease prevention and management and targets populations at greatest risk, is central to health system sustainability, improving population health, and reducing health inequities. Optimum prevention and management of chronic diseases requires interventions to address the social determinants of health. Primary care is the cornerstone of chronic disease management and must be delivered in a manner that is effective and accessible to Ontario's diverse communities. Widespread implementation of the Ontario Ministry of Health and Long-Term Care's Chronic Disease Prevention and Management Framework would foster improvements in the province that are needed to reduce the burden of chronic illness and disability.

## Patient-Centred Care

Patient-centred models of care—which aim to address an individual's constellation of health problems and increase patients' access to and satisfaction with care—are central to equitably improving health status and health outcomes. POWER Study findings underscore the need for patient-centred care that addresses and integrates care for an individual's multiple risk factors and conditions and is sensitive to their social context. There are models to draw upon internationally and locally that, with wider implementation and adaptation to the needs of specific communities, can help meet this objective. Tailoring interventions to the needs of the community being served can help improve access to care, as well as experiences of care, among culturally diverse communities.

## Integration and Care Coordination

Individuals with chronic conditions are likely to be treated by multiple physicians across different settings of care. A number of our indicators revealed the current fragmentation of our health system. Lack of service integration and care coordination places patients at risk for adverse events as they move between specialists and settings of care. Interventions to improve integration and coordination during care transitions have been shown to be effective in a number of settings. Integrated, organized models of care can help to make our complex and often fragmented system easier for people to navigate.

## Innovation, Learning, and Research

Establishing learning networks for innovation and improvement can play an important role in health system transformation. While there is much known about patterns of health inequities and their causes, there is a critical need for evidence for how to most effectively and efficiently close existing gaps. Creation of a culture of innovation and learning across communities, sectors, and settings of care can play an important role in successfully implementing strategies

aimed at achieving health equity. It will be important to take a continuous quality improvement approach to implementing change by identifying specific interim points to evaluate progress and making adjustments based on these assessments.

## MONITORING HEALTH EQUITY

Performance measurement and reporting are effective tools for achieving improvements in access, quality, and outcomes of care, as well as for reducing inequities in health and health care; however, a specific focus on equity (across sex, socioeconomic status, demographic characteristics, and geography) can ensure that access to and quality of health care are being equitably delivered across the province.

Quality improvement activities can narrow, maintain, or widen health inequities depending on the relative improvement in advantaged compared to disadvantaged populations. For many reasons it may be easier to improve performance among those who are advantaged. Overall improvement on health indicators can mask inequities. Therefore, gender and equity analysis needs to be a routine component of health indicator monitoring.

## Leading Set of Health Equity Indicators

Through a consensus process, we identified a core set of health equity indicators for monitoring health equity in the province. Ongoing monitoring of these indicators can guide efforts to target areas where care is less than optimal or where inequities exist. These equity indicators can also play an important role in evaluating the effectiveness of interventions designed to improve health and health care.

The [Leading Set of Health Equity Indicators](#) includes 27 indicators: five of prevention and population health (including health status, health behaviours, chronic disease prevalence, and cancer screening); twelve of chronic disease management (including potentially avoidable emergency department visits and hospitalizations, diabetes complications, and depression

care); three of access to health care services (access to ongoing care, urgent non-emergent care, and dental care); four of reproductive and gynaecological health (including teen pregnancy, caesarean section rates, and type of hysterectomy); and three of the social determinants of health (income, education, and food insecurity).

These indicators represent a beginning. As we improve data capacity and availability, it will be possible to close current measurement gaps and to develop and measure indicators in important areas that cannot be assessed with current data.

### **Enhancing Measurement Capacity: Data Development**

There were many important areas we wanted to assess but could not due to insufficient depth or quality of available data. Many key opportunities for data development were identified repeatedly across POWER Study chapters. Key areas requiring data development are:

**Gender Relevant Measures:** Data are not routinely available on many important measurable factors that influence women's health or create barriers to accessing care among women, including care giving responsibilities, violence against women, working conditions, women's experiences with care, and the interpersonal quality of care received. There are also insufficient data on several health issues that specifically affect women, including prenatal care delivered in the community, menstrual disorders, pelvic pain, and family planning. These data gaps could be closed by adding gender-relevant items to population surveys, routinely administering gender-relevant patient experience surveys across the care continuum, and enhancing data collection in ambulatory care settings to capture data on care for common women's health conditions.

**Data on Ethnicity and Language:** Data on ethnicity and language are limited in Ontario. When data were available, sample size was often insufficient to assess gender differences or regional variation in performance. To assess these issues, populations that are underrepre-

sented in survey data could be oversampled to produce adequate sample size. Additionally, demographic data could be routinely collected in administrative databases (e.g., Ontario Health Insurance Plan) and clinical settings.

**Prescription Drug Data:** Comprehensive population-based drug data are only available for individuals eligible for the Ontario Drug Benefit (ODB). The ODB provides drug coverage for all individuals aged 65 and older and selected individuals under age 65 who meet eligibility criteria. Prescription drug data for individuals under age 65 is needed. Other provinces have created drug databases by including data from pharmacies. A similar approach in Ontario would greatly enhance our ability to assess the quality of chronic disease management.

**Primary Care Data:** Data on care provided in ambulatory care settings, including primary care, are extremely limited. Therefore, many quality indicators routinely measured in other jurisdictions related to chronic disease prevention and management cannot be assessed in Ontario. In the short term, there is opportunity to enhance the quality of administrative data. Ultimately, data from electronic health records would allow us to measure and improve the quality of care in these settings. As electronic health records are adopted in the province, capacity for performance management should be built in.

**Enriched Clinical Data:** There is a lack of sufficiently detailed clinical data in both the primary and acute care settings. While existing administrative data allowed us to assess a wide range of measures in acute care settings, important clinical detail on diagnoses, severity of illness, and comorbidity were often missing. Enhancements to administrative data, along with data from electronic health records designed for this purpose, can improve the accuracy and relevance of quality indicators.

**Patient-Reported Outcomes:** Patient-reported outcomes are not routinely captured in Ontario. Patient-reported outcome measures (PROMs) could provide a

powerful tool for assessing health system performance and stimulating action to improve the quality of care. Patient-reported outcomes can be collected through surveys, integrated into electronic health records, and added to administrative data. The International Classification of Functioning, Disability and Health—known more commonly as ICF and developed by the World Health Organization—is a classification system that can be used to add information on functional status to administrative datasets. Validated surveys such as the Consumer Assessment of Healthcare Providers and Systems (CAHPS) capture a broad range of patient experiences including interpersonal quality of care. These approaches would make it possible to use quality indicators based on PROMs to accelerate improvement.

**Dataset Linkage:** Linking datasets from different sources provides important information that cannot be obtained from a single source. While some datasets have been successfully linked for specific studies, there are many more opportunities where linked data could provide enriched data sources, facilitate development of meaningful indicators, provide new information on Ontario's diverse populations, and supply critical information on health needs and health system performance. Analyses of health data linked to data from other sectors (e.g., education, environment, transportation) can enhance our understanding of the social determinants of health, facilitate health impact assessment, and be used to foster cross-sectoral collaborations to improve health.

## MOVING FORWARD

Across POWER Study chapters, health inequities emerged as a major challenge in Ontario. However, there is also cause for optimism, as there are many opportunities for intervention and improvement. Innovative work is underway by many individuals and organizations across the province aimed at tackling these health inequities. We offer the [POWER Health Equity Road Map](#), a ten-point plan to move us forward. The road map emerged from our analyses and broad community consultation and dialogue.

The POWER Study findings underscore the value, both social and economic, of achieving health equity. While the social determinants of health are well recognized as the primary drivers of health status, as a society we still do not have a clearly defined strategy to address them. Approaches such as Health in All Policies and tools such as Health Impact Assessment can help us make progress towards creating a healthier and more productive society. Likewise, it is also well recognized that effective primary care that is patient-centred, culturally responsive, and linked to the community can improve individual and population health as well as reduce health inequities. Despite large investments in primary care, there is still much room for improvement. In summary, the POWER Health Equity Road Map recognizes the centrality of health equity to health system goals, the primacy of the social determinants of health, and the need for sustained primary care reform. Success will require approaches and interventions built on “outside the box” thinking coupled with incentives and mechanisms for accountability. The following themes, drawn from the road map, provide a summary of overarching approaches that can drive change. For more detail, see the full [POWER Health Equity Road Map](#).

**Integration and Coordination:** Across Ontario there is growing attention to the need to integrate and coordinate health care delivery across settings of care. However, health system integration is essential but not sufficient for improving health and reducing inequities. It will also be important to integrate and coordinate social and community services with primary, secondary, and tertiary care delivery. Similarly, coordinating population health, public health, and health system efforts will help accelerate progress.

**Innovation and Learning:** In our stakeholder consultations, we learned of many excellent innovations in diverse settings across the province and heard from many who are working to improve health and health care in their communities. There is a need to scale up effective interventions so that all may benefit. There is also a need to adapt effective interventions developed



in other contexts to the Ontario setting and evaluate them. Creation of learning networks, support for rigorous evaluation, and research on implementation are all needed.

**Measurement and Monitoring:** Performance measurement and monitoring are an essential element of health system transformation. The POWER Study findings illustrate why gender and equity analysis needs

to be a routine and integral component of health system performance measurement. Routine monitoring of the POWER Study Leading Set of Health Equity Indicators can provide a powerful tool for guiding interventions, evaluating their effectiveness, and monitoring progress.

The time to move forward is now. What is needed is the will and commitment.



# Introduction

The Project for an Ontario Women's Health Evidence-Based Report (POWER) Study was designed to provide actionable data for policy makers, providers, and consumers in their efforts to improve health and reduce health inequities in Ontario.

The study examined gender, socioeconomic, race/ethnic, and regional differences in access, quality, and outcomes of care across the continuum of care for the leading causes of morbidity and mortality in the province. The study explicitly examined differences between diverse groups of women associated with socioeconomic status, race/ethnicity, and geography, so that the heterogeneity of women's experiences and needs could be explored. Furthermore, as the study used a gender-based lens that allows examination of the health and health needs of both women and men, it has provided needed evidence for improving men's health as well. The POWER Study has developed an approach that integrates clinical, public, and population health measures, emphasizing indicators that are modifiable and that can support efforts to link measurement to intervention and improvement. An overarching objective of the POWER Study was to use performance measurement and reporting as a mechanism for knowledge translation.

The POWER Study was produced through the collaboration of a multidisciplinary team of over 60 researchers with expertise in health services research, medicine, nursing, public health, the social sciences, and health care policy. A community-engaged research model was employed and a diverse community of stakeholders including policy makers, providers, non-governmental organizations, and community-based organizations informed the indicator selection process, interpretation of findings, and messaging. An Advisory

Council provided strategic guidance on the study's development and execution. Many of our stakeholders have become partners in our knowledge translation and dissemination activities (see [Introduction to the POWER Study, chapter 1](#)).

Not only has the POWER Study contributed needed evidence for addressing health inequities in Ontario, our community-engaged approach to health equity performance measurement is relevant for other jurisdictions. The study serves as a model for:

- incorporating gender and equity analysis as an integral component of performance measurement and reporting,
- using a community-engaged research approach in the context of a quantitative indicator report, and
- including indicators that bridge population health, public health, and health care.

As a result, we have garnered much international attention. At the time this chapter was published, our website had visitors from more than 140 countries/territories, all 50 U.S. states, and 400 cities and towns across all Canadian provinces and territories. There have been over 50,000 downloads of our materials since the first release in June 2009.

Important patterns emerged as we reviewed the findings across all of the POWER chapters. This final chapter describes these patterns and uses evidence from the POWER Study to identify opportunities to improve health equity in Ontario. In the section on

Bridging the Gaps, we discuss common themes identified across chapters and how this information can be used to inform priority setting and drive change. These themes became apparent in synthesis of the key findings from each of the POWER Study's comprehensive data reports. A summary of the key findings from each of the POWER reports can be found in the section titled Chapter Highlights at the end of this document. The section on Monitoring Health Equity presents the POWER Study's proposed Leading Set of Health Equity Indicators and describes the structured process, including extensive stakeholder consultation, used to identify these indicators. These indicators can help guide and evaluate interventions and monitor progress toward achieving the important goal of health equity. We also outline key opportunities for improving data capacity in the province. Finally, we provide the POWER Health Equity Road Map, a ten-step plan to support efforts to achieve health equity in the province. This road map emerged from the themes identified across the POWER Study chapters and from broad community consultation and dialogue.

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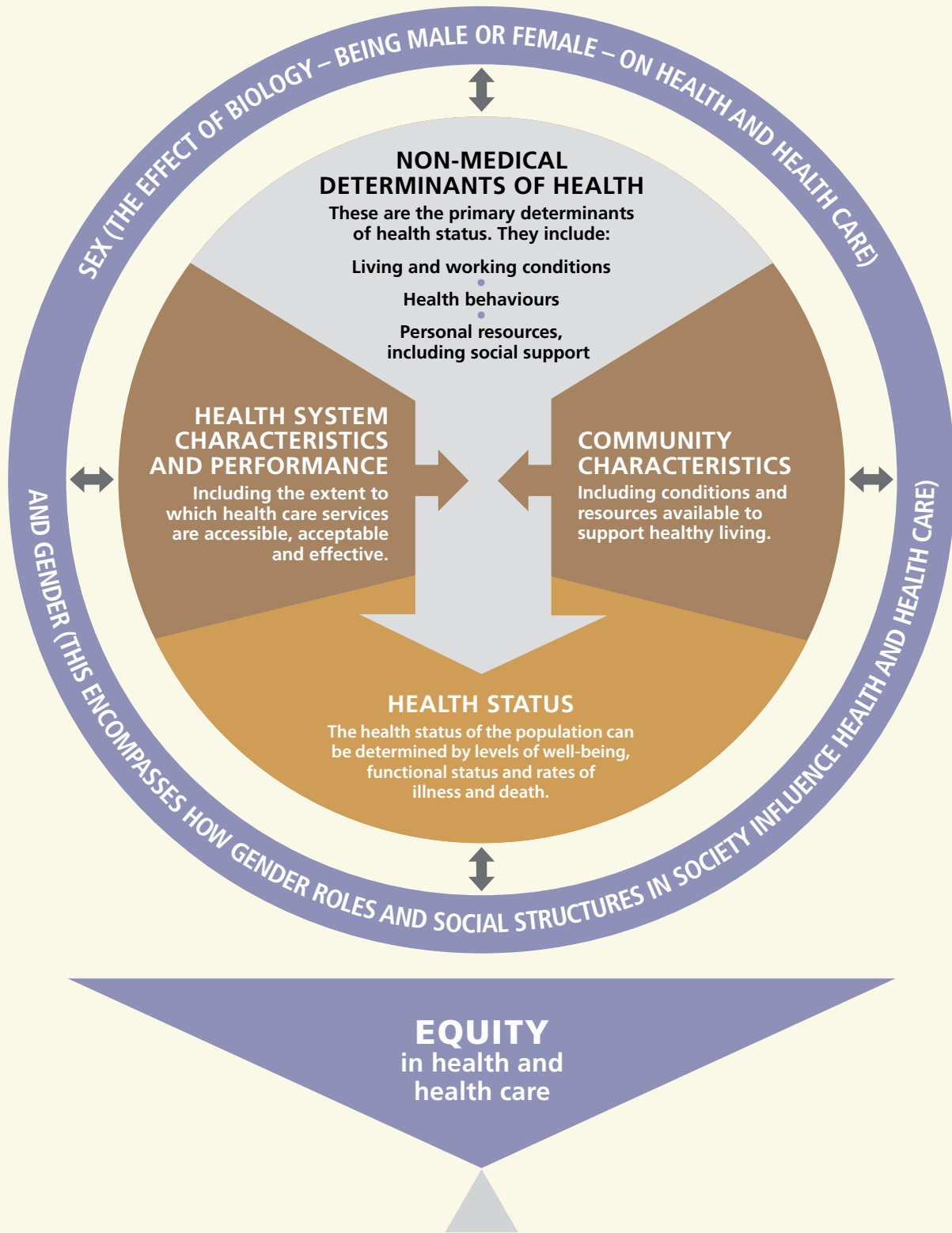
## THE POWER STUDY GENDER AND EQUITY FRAMEWORK

We set out to develop a Women's Health Equity Report that would be meaningful and actionable, both for decision makers and other stakeholders in women's health. To guide this process, we developed the POWER Study Gender and Equity Health Indicator Framework (Figure 13.1), which was built upon the Canadian Institute for Health Information (CIHI) health indicator framework. Women's health was conceptualized as holistic well-being determined by biology (sex) as well as by the social, political, and economic context of women's lives (gender). The framework recognizes that sex and gender influence how the framework domains impact on women's experiences and on their health outcomes (see [The POWER Study Framework, chapter 2](#)). The framework is dynamic, recognizing that the non-medical determinants of health are the primary determinants of health status, and that population and individual health outcomes are mediated by community characteristics and health system performance. Thus, while the social determinants of health increase the risk for poor health, effective health and community services can play an important role in reducing resultant health inequities, whereas inaccessible or ineffective services can exacerbate these inequities. For example, poverty

increases the risk of developing diabetes. Once a person develops diabetes, policies and services that improve access to healthy food and safe places to exercise, along with effective medical care, are needed to prevent complications from the disease. Health inequities are widened when these resources and services are not available.

The framework informed the selection and interpretation of a comprehensive set of evidence-based indicators for the leading causes of morbidity and mortality in the province. The framework also guided data analysis, interpretation of findings, reporting of results, and identification of gaps in existing data. In addition to being scientifically valid and feasible, selected indicators needed to be modifiable and able to assess differences between diverse groups of women. The indicators reported were the result of a rigorous selection process that included an extensive literature review of existing indicators, stakeholder consultation, and a series of technical expert panels using a rigorous modified Delphi process and well-defined selection criteria (see [Introduction to the POWER Study, chapter 1](#)).

**Figure 13.1** | POWER Study Gender and Equity Health Indicator Framework



**SOURCE:** Clark JP, Bierman AS. The POWER Study Framework. In: Bierman AS, editor. Project for an Ontario Women's Health Evidence-Based Report: Volume 1: Toronto; 2009.

POWER Study

# Bridging the Gaps: *Opportunities for Innovation and Improvement*

There is currently considerable focus on improving health and health care in Ontario.

The Excellent Care for All legislation enacted in 2010 provides a framework and support for improving the accessibility and quality of care for all Ontarians.<sup>1</sup> The Ministry of Health and Long-Term Care's new Action Plan for Health Care also emphasizes evidence-based reform and is aimed at improving access to and quality of care.<sup>2</sup> The Ontario Health Quality Council (now Health Quality Ontario) identified nine attributes of a high-performing health system: safe, effective, patient-centred, accessible, efficient, equitable, integrated, appropriately resourced, and focused on population health.<sup>3</sup> Indicators used in the POWER Study were strategically selected to reflect these attributes. One of the major goals of the POWER Study was to provide evidence that could be used to stimulate and inform health system change and promote greater accountability. The POWER Study findings and indicators can be used to inform priority setting, as well as support efforts to improve population health and reduce health inequities.

**The sizable health inequities identified in the POWER Study are cause for concern.** Lower-income Ontarians had worse health and functional status, had more chronic disease risk factors, received less preventive care, and had worse health outcomes than those with higher incomes. The impact of health inequities is large. If all Ontarians had the same health as Ontarians with higher income, an estimated 318,000 fewer people (166,000 women and 152,000 men) would be in fair or poor health, an estimated 231,000 fewer people (110,000 women and 121,000 men) would be disabled, and there would be an estimated 3,373 fewer deaths

each year (947 women and 2,426 men) among Ontarians living in metropolitan areas. We also estimated that 30 percent of hospitalizations for four common ambulatory care sensitive conditions (ACSCs) (heart failure, chronic obstructive pulmonary disease, diabetes, and asthma)—or almost 16,000 hospitalizations a year—could potentially be avoided if the hospitalization rates observed among adults living in the highest-income neighbourhoods could be achieved across all neighbourhood income levels. In Canada, it has been estimated that two-fifths of costs for acute care hospitalizations due to ACSCs could be avoided by narrowing income-related inequities.<sup>4</sup> These findings illustrate the enormous opportunities to improve overall population health while reducing health inequities in Ontario.

**While there were large differences in health and functional status, we found fewer and smaller income-related differences in clinical management and quality of care, particularly in acute care settings.**

Although the majority of Ontarians had a primary care provider, people living in lower-income neighbourhoods and recent immigrants were less likely to have one. Recent immigrants, certain racial/ethnic groups, and linguistic minorities were more likely to report difficulty accessing primary care and were less satisfied with their experiences getting care. Furthermore, low-income adults had less access to important services that are not universally insured. Performance on many indicators was worse for low-income and minority women, while low-income and minority men fared worse on other indicators.

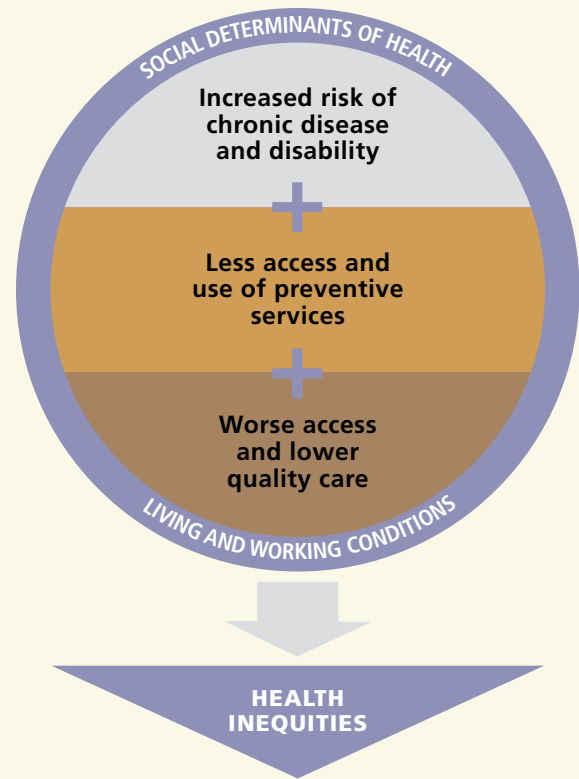
**Poor living and working conditions produce illness.**

Socioeconomically disadvantaged women and men are further disadvantaged if they encounter barriers to accessing care or receive care of suboptimal quality. [Figure 13.2](#) illustrates the pathway through which the increased risk of chronic illness and disability created by the social determinants of health is compounded by less access to and use of preventive services, together with worse access to and lower quality of care, to exacerbate health inequities.

**A number of important lessons emerged from the POWER Study analyses.** First, we found that inequities in health and functional status were much larger than inequities in access to and quality of care. This finding underscores the importance of moving upstream to address the root causes of health inequities, which are grounded in the social determinants of health. Second, inequities in access to primary care and chronic disease management were larger than inequities in treatment of acute conditions, highlighting the need to focus on primary care and community services. Third, the observed gender differences highlight the need for gender-sensitive solutions. Fourth, where there was an organized strategy for quality improvement in place informed by performance measurement, few inequities were observed.

**Targeting improvements to specific areas of identified inequity can help assure that high quality care is provided to, and meets the needs of, all of the diverse communities in Ontario.** Many of the health inequities we identified are attributable to chronic diseases and their risk factors, and generate preventable demand and costs for the health system. Thus, a strengthened focus on chronic disease prevention and management that targets populations at greatest risk is central to health system sustainability. There were notable areas where care was equitable—including acute cancer and stroke care—illustrating how organized systems of care that use evidence-based guidelines and ongoing performance measurement and improvement can help achieve health equity. Expanding these approaches to community settings and incorporating a focus on health equity into these efforts can help us accelerate progress in reducing inequities.

**Figure 13.2** | Pathway to Health Inequities



POWER Study

**Effective patient-centred primary care is central to making progress.** Progress will require removing barriers to accessing effective care. Our current system is fragmented. This fragmentation makes it hard for individuals to navigate the health system and often results in suboptimal health outcomes. It also can lead to duplication of services and increased costs. Patient-centred primary care can facilitate access to needed services and help individuals and their families navigate the health care system. Care coordination is an important function of high quality primary care. Care integration and coordination is needed not only within the health system, but also between health and community services.

**Creating a culture of innovation and learning can play an important role in successfully developing and implementing strategies aimed at achieving health equity.** While we now have evidence of the patterns of health inequities in Ontario, there is much less evidence about how to most effectively and efficiently close these gaps. There are many pockets of innovation and excellence across the system; however, effective models are not often widely implemented. Health equity policies, strategies, and interventions must be critically evaluated to determine what works and what doesn't work. The knowledge generated from these research and evaluation efforts will build the evidence base needed to accelerate progress and support wide-spread adoption of best practices. In order for this to happen, interventions need to be implemented so that they can be studied rigorously, and support for this research and evaluation must be made available.

In this section, we synthesize the common themes that emerged as we examined access, quality, and outcomes of care across all of our reports. We identified important gaps in the way health care is organized and delivered in the province along with approaches to bridge these gaps. Interventions to close these gaps may be implemented at the policy, population health, community, and practice levels. By coordinating these efforts, it will be possible to enhance their effectiveness and accelerate progress toward reducing health inequities. These themes guided the development of the [POWER Study Health Equity Road Map](#).

Our health system is at a crossroads. Improving population health and reducing health inequities will reduce demand and health system utilization, thus fostering health system sustainability. Redesigning our health system to create an effective, integrated, efficient, and patient-centred health care delivery system, while at the same time creating cross-sectoral interventions to address the social determinants of health, can lead to both excellent health and excellent care for all.

## MOVING UPSTREAM: TARGETING THE SOCIAL DETERMINANTS OF HEALTH

It is well known that most of the determinants of health lie outside the health system. In fact, it has been estimated that the health care system accounts for only about 25 percent of the factors that influence Canadians' health, while the other 75 percent of health determinants fall outside of the health care system.<sup>5</sup> Throughout our reports, we consistently found that people with lower income and less education had worse health and functional status than those who were more advantaged. The fact that inequities in health and functional status were much larger than inequities in access to and quality of care underscores the importance of tackling the upstream causes of health inequities. Our findings highlight the need to prioritize efforts that address the social determinants of health, including: poverty reduction, assuring food security, enhancing education, and fostering healthy communities and workplaces.

Policies that improve people's living and working conditions can improve health. Such policies include those aimed at ensuring housing is safe and affordable; healthy foods are affordable and conveniently accessible; appealing, affordable and safe opportunities for physical activity are readily available; and individual employment conditions provide sufficient money and time for healthy lifestyles and community engagement. Policy decisions and interventions—at the national, community, or workplace level—can affect health positively or negatively by reducing or increasing poverty rates and income inequality, facilitating or constraining people's ability to make healthy choices, and lessening or worsening social exclusion. The government of Quebec enacted strong legislation in 2002 to address these factors, and saw a decline in the number of adults and children living in poverty, as well as a reduction in the number of persons requiring social assistance.<sup>6</sup> While cross-sectoral collaboration has proved challenging, it is essential if we are to make progress in improving population health and



reducing health inequities. By taking significant action to promote a healthy population and address the broader determinants of health, costs can be more effectively contained by reducing health care needs, ensuring the sustainability of the public health care system.

## **CHRONIC DISEASE PREVENTION AND MANAGEMENT**

Chronic illness caused much of the illness burden reported in the POWER Study. With the aging of the population, the burden of chronic illness is expected to grow. Furthermore, women and socioeconomically disadvantaged individuals were more likely to have multiple chronic conditions and disability. They are therefore disproportionately affected by the mismatch between the way care is currently organized and the needs of those with chronic illnesses,<sup>7,8</sup> which contributes to worse health status and health inequities. Many of the health inequities we identified are manifested by chronic diseases and their risk factors. Therefore, health system redesign, which prioritizes chronic disease prevention and management and targets populations at greatest risk, is central to health system sustainability, improving population health, and reducing health inequities.

Chronic disease prevention is provided by both public health and clinical services. Prevention has been typically under-resourced, while there has been little coordination between community-based and health sector interventions. Optimum prevention and management of chronic diseases requires interventions to address the social determinants of health, together with the integration of population health, community, and clinical approaches to this problem.

There is considerable evidence that chronic disease prevention and management can be improved through implementation of the Chronic Care Model together with performance measurement and quality improvement.<sup>9-11</sup> The Ontario Ministry of Health and Long-Term Care has adopted a Chronic Disease Prevention and Management Framework based on the Chronic Care Model ([Figure 13.3](#)).

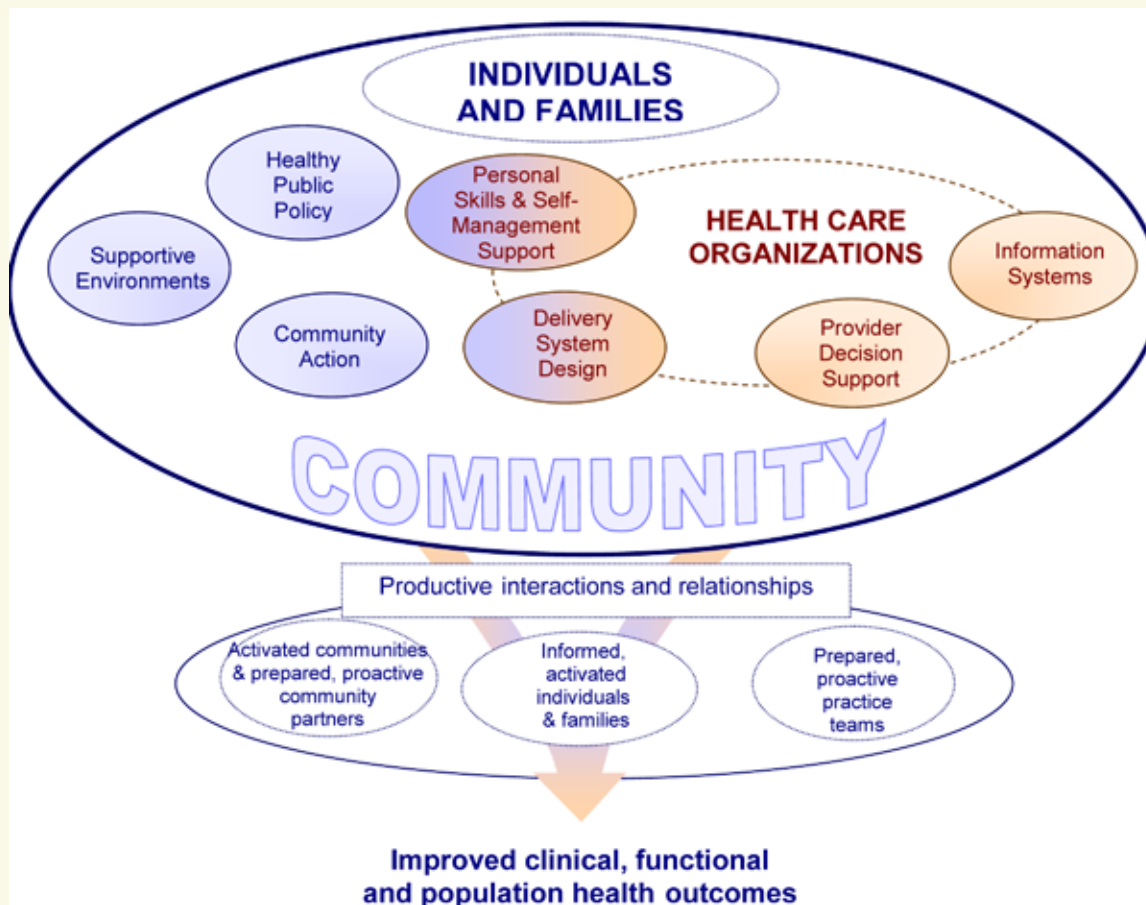
This framework provides a road map for creating a patient-centred delivery system that meets the needs of individuals with chronic illness. This model has guided efforts to improve healthcare quality using a health systems approach that includes the role of community resources and policy in improving health outcomes. It has been used to improve the quality of care in diverse practice settings in many countries. Primary care is at the centre of the chronic disease model. Widespread implementation of this framework would foster improvements in the province that are needed to reduce the burden of chronic illness and disability.

Strategies have already been established in some Local Health Integration Networks (LHINs) to improve and integrate chronic disease prevention and management. For example, the Champlain region has introduced a Cardiovascular Disease Prevention Network aimed at reducing the burden of cardiovascular disease through the implementation of evidence-based best practice approaches.<sup>12</sup> This strategy involves partners from public health, specialty care, primary care, hospitals, community health, and academia. Initiatives have targeted community-based health promotion; improved delivery of cardiovascular disease care in primary care; promoted secondary prevention through hospital-based smoking cessation programs; and improved care of acute coronary events through guidelines implementation in hospitals. This model can inform other efforts to implement integrated approaches to improving chronic disease prevention and management.

### **Health Promotion and Disease Prevention**

A high proportion of Ontarians across all levels of education and income reported having four major chronic disease risk factors: physical inactivity, inadequate fruit and vegetable intake, being overweight or obese, and smoking. These modifiable factors increase the risk for many chronic conditions, including hypertension and cardiovascular disease, arthritis and other musculoskeletal conditions, diabetes, depression, obstructive lung disease, and cancer. Reducing modifiable risks in the population

**Figure 13.3** | Ontario's Chronic Disease Prevention and Management Framework



**SOURCE:** Ontario Ministry of Health and Long Term Care-Chronic Disease Prevention and Management Framework

POWER Study

can greatly reduce the prevalence of chronic conditions. For example, lifestyle changes promoting weight loss have demonstrated the delay or prevention of diabetes onset in high-risk populations.<sup>13, 14</sup> Reducing modifiable risks in those who already have a chronic condition will prevent complications, improve health outcomes, and reduce the need for hospitalization and other costly medical services. Unfortunately, prevention through public health and clinical services has traditionally been under-resourced.

Ontario has had some success in health promotion. The Smoke-Free Ontario Strategy has achieved success by reducing the number of Ontarians who smoke, leading

to a 31.8 percent decline in tobacco consumption between 2003 and 2006.<sup>15, 16</sup> Nevertheless, we found that 40 percent of men and 20 percent of women with less than a secondary school education, as well as 39 percent of Aboriginal women and 43 percent of Aboriginal men (living off-reserve) were current smokers, suggesting that prevention and improvement efforts must specifically target vulnerable populations in order to be most effective. Such efforts must acknowledge and address the constraints to certain healthier behaviours that these populations are likely to experience.<sup>17</sup> To maximize the effectiveness of health promotion efforts, it is important to target population groups at elevated risk,

while addressing barriers to adopting healthy behaviour and using culturally-appropriate messaging.

### **Effective Primary Care**

Internationally, health systems centred around accessible primary care have been shown to both improve population health and reduce health inequities.<sup>18</sup> Effective primary care is the cornerstone of effective chronic disease management. Much attention has been focused on the role of primary care as a “medical home” that provides the majority of needed care, is responsible for the integration and coordination of care across specialists and settings, and delivers care through an interdisciplinary team. Effective primary care provides support to patients and their families and facilitates patient self-management skills. Effective primary care can reduce the rate of potentially avoidable hospital admissions and readmissions for common chronic conditions. Despite more visits to primary care physicians, adults with diabetes living in lower-income neighbourhoods suffered more complications from diabetes than those from higher-income neighbourhoods, suggesting that the care received by lower-income adults did not adequately optimize health outcomes. Community Health Centres (CHCs) provide comprehensive primary care to socioeconomically disadvantaged populations. Many CHCs have also implemented strategies to address the social determinants of health in the context of service delivery. In Ontario, CHCs have been found to provide higher quality of care than other primary care models, and result in lower than expected rates of emergency department use.<sup>19, 20</sup> Expansion of family health teams in the province provides an infrastructure upon which to further enhance the quality of primary care provided.

Other jurisdictions provide examples that Ontario can draw upon to improve the quality and accessibility of primary care at the system level. In the United Kingdom, the Quality and Outcomes Framework provides financial incentives for primary care physicians to improve quality of care as measured by a standard set of quality

indicators. This framework has led to overall improvement in chronic disease management while narrowing inequities in performance between practices in the most- and least-deprived communities.<sup>21</sup> The U.S. Department of Veterans Affairs dramatically improved the quality of care it delivers by linking performance measurement and reporting to targeted quality improvement activities. The Department of Veterans Affairs is now seeking further improvement through implementation and expansion of the medical home model. Regulatory approaches combined with guidelines have also been used to facilitate access to culturally and linguistically appropriate services for disadvantaged populations in the United States.<sup>22</sup>

### **Improved Access to Effective Care**

We found that certain population groups encounter greater barriers to access and are at greater risk for receiving less effective care. Women encounter barriers to care due to their lower incomes, competing demands on their time, and a mismatch between their needs and the way the health system is currently organized.<sup>23-25</sup> Immigrants who had been living in Canada less than 10 years, members of specific ethnic groups, and individuals who did not speak English or French were more likely to report difficulties accessing care. Of note, South and West Asian and Arab women were particularly likely to report difficulties accessing care on a number of measures. As noted earlier, there is opportunity to improve chronic disease outcomes among low-income and minority Ontarians by facilitating access to effective care.

There are many examples of interventions that facilitate access to effective care in diverse communities. A variety of different approaches being used across the province can help improve the accessibility and effectiveness of primary care. Community Health Centres in Ontario, such as Women’s Health in Women’s Hands,<sup>26</sup> have developed models of care that address the social determinants of health and foster cultural and linguistic access to services. Health Care Connect, a program of the Ontario Ministry of Health and Long-Term Care, aims to help people who

do not have a regular primary care provider to find one.<sup>27</sup> Ensuring this program reaches low-income individuals, recent immigrants, and others living in communities where access to a primary care provider is more challenging could help further reduce inequities in access. Practice-based measures such as advanced access and practice redesign can facilitate more timely access,<sup>28, 29</sup> while telemedicine can facilitate specialty outpatient consultation and help to improve chronic disease management.<sup>30, 31</sup> Providing accessible care of an evenly high quality is difficult where specific resources and expertise are unevenly distributed. Regions of Ontario that have smaller population densities, lower concentrations of health care professionals, and fewer institutions and practices providing specialized care experience distinct challenges in addressing barriers to care.

## PATIENT-CENTRED CARE

Patient-centredness, an important attribute of effective care, is recognized by Health Quality Ontario as one of the key attributes of a high-performing health system. POWER Study findings underscore the need for patient-centred care that addresses and integrates care for an individual's multiple risk factors and conditions (related to both physical and mental health) and is sensitive to their social context. This care needs to be culturally appropriate and linguistically accessible. Patient-centred models of care that integrate and coordinate care across care settings are central to equitably improving health status and health outcomes. A patient-centred model aims to address an individual's constellation of problems rather than being disease-specific, with the additional orientation of increasing patients' satisfaction with access to care and the care received. Social context can facilitate or inhibit proper management of chronic diseases and effective reduction of chronic disease risks. A patient-centred approach recognizes and addresses the social context of disease. Improving the patient-centredness of care may increase patient satisfaction, and higher patient satisfaction is associated with better adherence to treatment.<sup>32, 33</sup> In order to adequately meet patients' health care needs and ensure their satisfaction, providers

must be able to understand the diversity of these needs, communicate clearly with patients about their care, and ensure that patient values guide all clinical decisions.<sup>34</sup>

Factors such as linguistic access and cultural appropriateness may also influence patients' satisfaction with access to care and the effectiveness of care received. The POWER Study found that access to and satisfaction with care varied across racial/ethnic groups. Linguistic and cultural barriers to care affect the quality of care delivered, patient safety, and health outcomes. Even in densely populated urban centres, there are areas where a consistent source of primary care is unavailable, particularly to immigrants with language barriers or sociocultural preferences for male or female providers.<sup>35</sup> Use of walk-in clinics or emergency departments for an acute illness may lead to discontinuities in care and lost opportunities for health promotion.<sup>35</sup> Immigrant women or those from non-dominant ethnic groups describe a lack of fit between their own cultural health practices and beliefs and those of health providers; this undermines communication, information exchange, and satisfaction with care.<sup>36-41</sup> Providing patient-centred care includes "providing care that is respectful of and responsive to individual patient preferences, needs, and values, and ensuring that patient values guide all clinical decisions."<sup>42</sup> There are models to draw upon internationally and locally that, with wider implementation and adaptation to the needs of specific communities, can help meet this objective. For example, the U.S. National Standards on Culturally and Linguistically Appropriate Services (CLAS) have been developed to improve access to care for diverse populations.<sup>22</sup> Tailoring interventions to the needs of the community being served can help improve access to care, as well as experiences of care, among culturally diverse communities.

## INTEGRATION AND CARE COORDINATION

Individuals with chronic conditions are likely to be treated by multiple physicians across different settings of care. Lack of service integration and care coordination places

patients at risk for adverse events as they move between specialists and settings of care. A number of our indicators revealed the current fragmentation of our health system. For example, one in three adults hospitalized for major depression did not have a follow up visit within thirty days of discharge, many women did not receive recommended follow up of Papanicolaou (Pap) test results, and rates of potentially avoidable hospitalizations and readmissions for common chronic conditions were high. Commonly, there is a lack of integration of care for physical and mental health problems. Ideally, primary care should provide the locus of care coordination of individuals, their families, and their care givers.

Interventions to improve integration and coordination during care transitions have been shown to be effective in a number of settings. A number of interventions focused on the transition from hospital to home have shown improved outcomes and reduced readmission rates, specifically when particular at-risk groups are identified and targeted for support. One successful approach uses comprehensive discharge planning and home follow up, specifically targeting elderly patients; in this approach, an advance practice nurse coordinates care, monitors patients' status post-discharge, and educates patients in self-management.<sup>43, 44</sup> Another approach focuses on patient activation and empowerment; in a randomized control trial, intervention patients received tools to promote cross-site communication, encouragement to take a more active role in their care and to assert their preferences, and guidance from a "transition coach" to ensure continuity across settings. Intervention patients had lower readmission rates at 30 and 90 days post-discharge.<sup>45</sup> Integrated, organized models of care can also help to make our complex and often fragmented system easier to navigate.

## **INNOVATION, LEARNING, AND RESEARCH**

There is a great deal of local innovation across the province addressing the gaps identified by the POWER Study. Promising innovations in both health care delivery

and public health are also being implemented nationally and internationally. We now need to identify which innovations are most effective and promising for large scale adoption, and design them for "scale up and spread" and sustainability. Establishing learning networks for innovation and improvement can play an important role in health system transformation. Establishing health equity knowledge exchange networks could facilitate the spread of innovative ideas and accelerate the adoption of best practices. These networks will require commitment of adequate resources and an infrastructure to support their work.

While there is much known about patterns of health inequities and their causes, there is a critical need for evidence for how to most effectively and efficiently close existing gaps. Critically evaluating health equity policies, strategies, and interventions to determine what works and what doesn't work is required to build the evidence base needed to support wide-spread adoption of best practices. Creation of a culture of innovation and learning across communities, sectors, and settings of care can play an important role in successfully implementing strategies aimed at achieving health equity. Support for rigorous research, both on the effectiveness of specific interventions as well as for implementation strategies, is critical to building the evidence base. It will be important to take a continuous quality improvement approach to implementing change by identifying specific interim points to evaluate progress and making adjustments based on these assessments.

When aligned with strategic quality improvement interventions to target areas where care is suboptimal, performance measurement and reporting can provide a powerful tool to help achieve the objective of improving health while reducing health inequities. Our findings underscore the value of routinely incorporating gender and equity analysis into health system measurement and reporting. In the next section, we describe the development of a leading set of health equity indicators to facilitate this process and to drive needed change.

# Monitoring Health Equity: *Mainstreaming Gender and Equity Analysis into Performance Measurement and Reporting*

Ontario passed the Excellent Care for All Act in 2010 with the intent “to improve the quality and value of the patient experience through the application of evidence-based health care.”<sup>1</sup>

To ensure that this legislation is effective and that it is working for all Ontarians will require the identification of important quality indicators, standardization of the methods of measurement, and regular monitoring of indicators across gender, demographic, and socioeconomic characteristics of the population. Performance measurement and reporting are effective tools for achieving improvements in access, quality, and outcomes of care, as well as for reducing inequities in health and health care; however, a specific focus on equity (across sex, socioeconomic status, demographic characteristics, and geography) can ensure that access to and quality of health care are being equitably delivered across the province.

The Cancer System Quality Index<sup>46</sup> and Ontario Stroke System<sup>47</sup> are two recent examples of organized approaches to improving the quality of care across the province. In the Ontario cancer system, performance measurement and reporting provides baseline information on performance at the population level, identifying areas where cancer care has improved and where cancer care needs improvement, and provides an ongoing metric of how quality of cancer care is changing

in the province.<sup>46</sup> The Ontario Stroke Strategy has designated regional centres to coordinate and manage stroke care. Regional quality improvement initiatives coordinated with national and local evaluation bodies help advance strategic goals for continued improvement.<sup>47-49</sup> Our findings suggest that this focus on quality improvement resulted in more equitable care.

Quality improvement activities can narrow, maintain, or widen health inequities depending on the relative improvement in advantaged compared to disadvantaged populations. For many reasons it may be easier to improve performance among those who are advantaged. Overall improvement on health indicators can mask inequities. Therefore, gender and equity analysis needs to be a routine component of health indicator monitoring. Through a consensus process, we identified a core set of health equity indicators for monitoring health equity in the province. Ongoing monitoring of these indicators can guide efforts to target areas where care is less than optimal or where inequities exist. These equity indicators can also play an important role in evaluating the effectiveness of interventions designed to improve health and health care.

## POWER STUDY LEADING SET OF HEALTH EQUITY INDICATORS

Based upon POWER Study findings, chapter working groups used a set of explicit criteria to identify a short-list of 44 indicators that were important and relevant to be considered as candidates for ongoing monitoring. The indicators were grouped into broad domains:

- Prevention and population health (including cancer screening)
- Chronic disease management
- Access to care
- Reproductive health
- Social determinants of health

An online survey was then conducted in order to inform the selection of a leading set of equity indicators for routine monitoring. Sixty-seven participants (including policymakers, stakeholders, community members, and researchers) rated the short-list of indicators based on three indicator selection criteria (importance/usefulness, amenable to action, and consideration of equity and health disparities). Participants were then asked to identify if the indicator should be routinely monitored and how frequently. Finally, participants were asked to consider how the indicators would reflect the government's strategies, policies, and priorities; support health system performance management; integrate with current score cards; and be meaningful to end users of the data. Participants were able to limit their input to those for which they felt confident providing feedback. They were also provided with a reference manual that defined each indicator, presented a rationale for its inclusion, and described the POWER Study findings on that indicator. Stakeholders were invited to attend the POWER Study Summit in September 2010. Summit

participants also received the short list of 44 indicators and were asked to provide feedback in one of two different hour-long sessions. The final set of indicators was selected based on survey responses and consultation at the Summit.

The final set includes 27 indicators: five of prevention and population health (including health status, health behaviours, chronic disease prevalence, and cancer screening); twelve of chronic disease management (including potentially avoidable emergency department visits and hospitalizations, diabetes complications, and depression care); three of access to health care services (access to ongoing care, urgent non-emergent care, and dental care); four of reproductive and gynaecological health (including teen pregnancy, caesarean section rates, and type of hysterectomy); and three of the social determinants of health (income, education, and food insecurity). All of these indicators are modifiable. By bridging the gaps discussed in this report, it is possible to improve overall performance on these indicators while at the same time reducing inequities in performance. See [Table 13.1](#) for a full list of indicators. This leading set of health equity indicators has been incorporated into the Ontario Women's Health Framework, which was developed for the province by *Echo: Improving Women's Health in Ontario*.

These indicators represent a beginning. As we improve data capacity and availability, it will be possible to close current measurement gaps and to develop and measure indicators in important areas that cannot be assessed with current data. The next section discusses some straightforward approaches to closing current gaps in data capacity.

**Table 13.1 | POWER Study Leading Set of Health Equity Indicators†**

**Prevention and Population Health**

**1. Activity limitations**

Percentage of adults aged 25 and older who reported that their activities at home, school, or work had been limited due to a long-term physical condition, mental condition, or health problem

**2. Fall-related hospitalizations among seniors**

Rate of fall-related hospitalizations per 100,000 adults aged 65 and older

**3. Health behaviours that increase the risk of chronic disease**

Percentage of adults aged 25 and older who reported the following health behaviours that increase the risk of chronic diseases:

- Physical inactivity
- Inadequate fruit and vegetable intake
- Being overweight or obese
- Smoking

**4. Diabetes prevalence**

Prevalence of diabetes among adults aged 20 and older in Ontario

**5. Cancer screening**

• **Screening for breast cancer**

Percentage of women aged 50–69 with no history of breast cancer who had a mammogram in the last two years

• **Screening for colorectal cancer**

Percentage of adults aged 50–74 with no history of colorectal cancer who had one or more fecal occult blood tests (FOBT) in the last two years

• **Screening for cervical cancer**

Percentage of women aged 18–70 with no history of cervical cancer, and who have not had a hysterectomy, who had at least one Papanicolaou (Pap) test in the last three years

• **Follow up of abnormal Pap tests**

Percentage of patients whose Pap test showed a low-grade lesion (ASCUS or LGSIL) and who had either a repeat Pap test or colposcopy within six months of the initial Pap test

**Chronic Disease Management**

**6. Mental health: integrated depression care**

• **Physician visits for depression after a hospitalization for depression**

Percentage of patients aged 15 and older hospitalized for depression who had a physician visit for depression within 30 days of discharge

• **Emergency department visits for any reason within 30 days after a hospitalization for depression**

Percentage of Ontarians aged 15 and older who were hospitalized for depression who had an emergency department visit (but were not readmitted) within 30 days of being discharged

• **Hospital readmission for depression within 30 days after a hospitalization for depression**

Percentage of Ontarians aged 15 and older who were readmitted to hospital for depression in the 30 days post-discharge after a hospital stay for depression



**Table 13.1 | POWER Study Leading Set of Health Equity Indicators<sup>†</sup> (Continued)****Chronic Disease Management (continued)****7. Emergency department visits after a hospitalization for heart failure**

Percentage of patients aged 45 and older admitted to hospital for heart failure who visited an emergency department within 30 days and within one year following hospital discharge

- All-cause emergency department visits
- Cardiovascular disease-related emergency department visits
- Heart failure-specific emergency department visits

**8. Hospital readmission after a hospitalization for heart failure**

Percentage of patients aged 45 and older admitted to hospital for heart failure who had a non-elective readmission within 30 days and within one year following hospital discharge

- All-cause readmissions
- Cardiovascular disease-related readmissions
- Heart failure-specific readmissions

**9. Angiography for acute myocardial infarction**

Percentage of patients aged 45 and older admitted to hospital for an acute myocardial infarction who underwent or were referred for coronary angiography within three months of hospital discharge

**10. Hospital admission rates for ambulatory care sensitive conditions**

The rates of acute care hospitalizations per 100,000 adults aged 25 and older for the following conditions where effective ambulatory care can prevent or reduce the need for admission to hospital:

- Heart failure
- Chronic obstructive pulmonary disease
- Asthma
- Diabetes

**11. Emergency department visits for ambulatory care sensitive conditions**

The rates of emergency department visits per 100,000 adults aged 25 and older for the following conditions where effective ambulatory care can prevent or reduce the need for emergency care:

- Heart failure
- Chronic obstructive pulmonary disease
- Asthma
- Diabetes

**12. Specialist care for adults with rheumatoid arthritis**

Percentage of people aged 25 and older with rheumatoid arthritis who were seen by a specialist (rheumatologist, orthopaedic surgeon, general internist, or physical medicine specialist) in a one-year period

**13. Diagnosis and treatment post-fracture for older adults**

Percentage of adults aged 66 and older who suffered a low-trauma fracture who received neither a bone mineral density (BMD) test nor prescription drug treatment within one year after their fracture

**14. Baseline bone mineral density (BMD) testing in older adults**

Percentage of adults aged 68–70 who had not had a BMD test between the ages of 55–65 and who received a BMD test after they turned age 65

**Table 13.1 | POWER Study Leading Set of Health Equity Indicators<sup>†</sup> (Continued)**

**Chronic Disease Management (continued)**

**15. Eye examination for adults with new onset diabetes**

Percentage of adults aged 30 and older with newly diagnosed diabetes who had a visit to a general practitioner/family physician, optometrist, or ophthalmologist for an eye examination within two years of diagnosis

**16. Hospitalizations related to diabetes complications**

Number of adults (per 100,000) aged 20 and older with diabetes who had at least one hospitalization over a one year period for:

- Hyper or hypoglycemia
- Acute myocardial infarction
- Heart failure
- Stroke
- Major lower-extremity amputation (below hip and above ankle)
- Minor lower-extremity amputation (ankle or lower)

**17. Chronic dialysis for adults with diabetes**

Number of adults (per 100,000) aged 20 and older with diabetes who received chronic dialysis (dialysis duration of 90 days or more) over a one-year period

**Access to Care**

**18. Difficulty accessing routine or ongoing health care**

Percentage of the population aged 25 and older who reported no difficulties obtaining routine or ongoing primary health care for themselves or their family members over the past 12 months

**19. Difficulties accessing primary care for an urgent, non-emergent health problem**

Percentage of the population aged 25 and older who reported no difficulties making an appointment for immediate care for an urgent, non-emergent health problem from their family doctor over the past 12 months

**20. Dental care**

Percentage of the population aged 25 and older who did not visit a dentist in the past 12 months

**Reproductive Health**

**21. Rate of caesarean section**

Rate of caesarean section per 100 women:

- who gave birth
- who had a previous caesarean section
- with full-term (37 and more weeks of gestation), singleton, vertex deliveries

**22. Live births to teenage women**

Live births to teenage women (per 1,000 women aged 15–19)

**23. Proportion of hysterectomies for benign conditions that are performed vaginally or laparoscopically**

Percentage of women aged 15–84 who had a hysterectomy for a benign gynaecological condition who had either a vaginal or a laparoscopically-assisted hysterectomy

**Table 13.1 | POWER Study Leading Set of Health Equity Indicators<sup>†</sup> (Continued)****Reproductive Health (continued)****24. Obstetrical complications among pregnant women with diabetes**

Percentage of pregnant women aged 20 and older with pregestational diabetes, gestational diabetes, and no diabetes who delivered over a five-year period who had the following obstetrical complications:

- A diagnosis of hypertension (pre-existing or pregnancy-induced) in the six months before or at delivery
- Preeclampsia/eclampsia in the six months before or at delivery
- Any obstructed labour (including shoulder dystocia)
- Shoulder dystocia at delivery
- Caesarean section

**Social Determinants of Health****25. Low income**

Percentage of adults aged 25 and older who reported a low annual household income

**26. Low education**

Percentage of adults aged 25 and older who reported lower levels of educational attainment

**27. Food insecurity**

Percentage of adults aged 25 and older who reported food insecurity

<sup>†</sup> For detailed definitions of these indicators, please refer to the relevant POWER Study chapters.

POWER Study

## ENHANCING MEASUREMENT CAPACITY: DATA DEVELOPMENT

There were many important areas we wanted to assess but could not due to insufficient depth or quality of available data. Below we outline key opportunities for data development that were identified repeatedly across chapters, along with approaches to enhance data capacity and close identified data gaps.

**Gender Relevant Measures:** Data are not routinely available on many important measurable factors that influence women's health or create barriers to accessing care, including: care giving responsibilities, violence against women, working conditions, women's experiences with care, and the interpersonal quality of care received. There are also insufficient data on some health issues that affect women specifically including prenatal care delivered in the community, menstrual

disorders, pelvic pain, and family planning. A number of approaches could provide the data required to assess these issues. Inclusion of existing validated items to assess these factors on population surveys could provide critical information. While patient experience surveys are routinely administered in some settings, these surveys should be redesigned to ensure they capture factors that are important to women; additionally, the routine administration of gender-relevant patient experience surveys should be expanded across the care continuum. Finally, enhanced data collection in ambulatory care settings, as discussed below, could also serve to capture data on care for common health conditions specific to women.

**Data on Ethnicity and Language:** Where data were available, we identified important differences in health status, chronic disease risk factors, and access

to health care services associated with race/ethnicity, immigration, and language spoken. World region of birth was associated with cancer screening and birth outcomes. These findings underscore the importance of these data in understanding health and health system performance in order to optimize health and health care for all. However, data on ethnicity and language are limited in Ontario. When data were available, sample size was often insufficient to assess gender differences or regional variation in performance. A number of approaches could provide the data required to assess these issues. Populations that are underrepresented in survey data could be oversampled to produce adequate sample size. Demographic data could be added to administrative data routinely collected by the Ontario Health Insurance Plan (OHIP). Demographic data could also be routinely collected in clinical settings and included in electronic health records or patient charts.

**Prescription Drug Data:** In Ontario, comprehensive population-based drug data are only available for individuals eligible for the Ontario Drug Benefit (ODB). The ODB provides drug coverage for all individuals aged 65 and older and selected individuals under age 65 who meet eligibility criteria.<sup>50</sup> Therefore, while we were able to assess guideline concordant care for drug therapy for individuals aged 65 and older, we have no prescription drug data for individuals under age 65. This is a major data gap as pharmacotherapy plays a critical role in the management of chronic conditions. Lack of drug insurance coverage has been associated with decreased adherence to recommended drug regimens, which in turn is associated with suboptimal health outcomes. While we found few inequities in the use of recommended drugs for common chronic conditions, we do not know whether this would be the case for individuals under age 65. Other provinces have been able to create drug databases by including data from pharmacies. A similar approach in Ontario would greatly enhance our ability to assess the quality of chronic disease management for all Ontarians and to determine whether inequities exist.

**Primary Care Data:** Effective primary care is associated with improved health outcomes and a reduction of health inequities. Currently, data on care provided in ambulatory care settings, including primary care, are extremely limited. Therefore, many quality indicators routinely measured in other jurisdictions related to chronic disease prevention and management cannot be assessed in Ontario. Inequities in access to and quality of care in these settings have been well documented. In the short term, there is opportunity to enhance the quality of administrative data, including more specific diagnoses, markers of illness severity, and multiple conditions in diagnosis fields from primary care and ambulatory care settings. Inclusion of codes for functional status would allow better assessment of disease severity and health outcomes. Ultimately, data from electronic health records would allow us to measure and improve the quality of care in these settings. Standardized data collection within electronic health records to measure and improve quality has been successfully implemented in the UK through the Quality and Outcomes Framework.<sup>21</sup> As electronic health records are adopted in the province, capacity for performance management should be built in.

**Enriched Clinical Data:** There is a lack of sufficiently detailed clinical data in both the primary and acute care settings. While existing administrative data allowed us to assess a wide range of measures in acute care settings, important clinical detail on diagnoses, severity of illness, and comorbidity were often missing. For example, recommendations for treatment of heart failure vary depending on whether the patient has heart failure with impaired or preserved systolic function. These diagnoses cannot currently be distinguished in administrative data. Similarly, it is currently not possible to distinguish between two types of myocardial infarction (STEMI/nonSTEMI) with different management recommendations. Efforts are underway to better capture data on the stage of cancer at diagnosis, another important type of information for performance measurement and quality improvement.

Many conditions that are common in older adults—such as dementia, falls, and urinary incontinence—are also difficult to assess reliably from administrative data, and alternative data sources are not available. An example of the availability of better clinical data is the Ontario Stroke Audit. At specified intervals, the Ontario Stroke Audit provides enhanced clinical data through chart audits of a random sample of 20 percent of all patients with stroke or transient ischemic attack who were seen in an emergency department or admitted to hospital at any acute care institution across the province.<sup>51</sup> Enhancements to administrative data, along with data from electronic health records designed for this purpose, can improve the accuracy and relevance of quality indicators.

**Patient-Reported Outcomes:** A major objective of health care, particularly for individuals with chronic disease and disability, is to improve health-related quality of life (including functional status) and to maintain independence with age and disease progression. Patient reports of their symptoms and functional status over time can allow us to assess the effectiveness of care over time. Quality indicators based on these patient-reported outcome measures (PROMs) capture unique dimensions of quality and also can reflect the effectiveness of care provided for multiple conditions by multiple providers in multiple settings. In addition, patient reports of their experiences with care can provide critical information to help us redesign the health system to reduce barriers to care, facilitate system navigation, and provide culturally sensitive care for diverse communities. However, patient-reported outcomes are not routinely captured in Ontario. Patient-reported outcome measures could provide a powerful tool for assessing health system performance and stimulating action to improve the quality of care. Patient-reported outcomes can be collected through surveys, integrated into electronic health records, and

added to administrative data. The International Classification of Functioning, Disability and Health—known more commonly as ICF and developed by the World Health Organization—is a classification system that can be used to add information on functional status to administrative datasets. Validated surveys such as the Consumer Assessment of Healthcare Providers and Systems (CAHPS) capture a broad range of patient experiences including interpersonal quality of care. These approaches would make it possible to use quality indicators based on PROMs to accelerate improvement.

**Dataset Linkage:** Linking datasets from different sources provides important information that cannot be obtained from a single source. Some datasets have been successfully linked for specific studies. For example, by linking Cytobase—a dataset that includes results of Pap tests—to administrative data, we were able to determine that many women were not receiving indicated follow up of abnormal or unsatisfactory tests within the recommended time frame. Linking the Landed Immigrant Data System (LIDS) to administrative data provided important information on how cancer screening, diabetes prevalence, and birth outcomes varied among immigrants from different world regions. However, there are many more opportunities where linked data could provide enriched data sources. There are often many barriers to accessing and linking datasets for analysis. Facilitating access and data linkages for the purposes of public health and quality improvement can facilitate development of meaningful indicators, provide new information on Ontario's diverse populations, and supply critical information on health needs and health system performance. Analyses of health data linked to data from other sectors (e.g., education, environment, transportation) can enhance our understanding of the social determinants of health, facilitate health impact assessment, and be used to foster cross-sectoral collaborations to improve health.

# Moving Forward: *The POWER Health Equity Road Map*

Across POWER Study chapters, health inequities emerged as a major challenge in Ontario. However, there is also cause for optimism, as there are many opportunities for intervention and improvement.

Innovative work is underway by many individuals and organizations across the province aimed at tackling these health inequities. We offer the [POWER Health Equity Road Map](#), a ten-point plan to move us forward. The road map emerged from our analyses and broad community consultation and dialogue.

The POWER Study findings underscore the value, both social and economic, of achieving health equity. While the social determinants of health are well recognized as the primary drivers of health status, as a society we still do not have a clearly defined strategy to address them. Approaches such as Health in All Policies and tools such as Health Impact Assessment can help us make progress towards creating a healthier and more productive society.<sup>52, 53</sup> Likewise, it is also well recognized that effective primary care that is patient-centred, culturally responsive, and linked to the community can improve individual and population health as well as reduce health inequities. Despite large investments in primary care, there is still much room for improvement.<sup>20</sup> In summary, the POWER Health Equity Road Map recognizes the centrality of health equity to health system goals, the primacy of the social determinants of health, and the need for sustained primary care reform. Success will require approaches and interventions built on “outside the box” thinking coupled with incentives and mechanisms for accountability. The following themes, drawn from the road map, provide a summary of overarching approaches that can drive change.

**Integration and Coordination:** Across Ontario there is growing attention to the need to integrate and coordinate health care delivery across settings of care. However, health system integration is essential but not sufficient for improving health and reducing inequities. It will also be important to integrate and coordinate social and community services with primary, secondary, and tertiary care delivery. Similarly, coordinating population health, public health, and health system efforts will help accelerate progress.

**Innovation and Learning:** In our stakeholder consultations, we learned of many excellent innovations in diverse settings across the province and heard from many who are working to improve health and health care in their communities. There is a need to scale up effective interventions so that all may benefit. There is also a need to adapt effective interventions developed in other contexts to the Ontario setting and evaluate them. Creation of learning networks, support for rigorous evaluation, and research on implementation are all needed.

**Measurement and Monitoring:** Performance measurement and monitoring are an essential element of health system transformation. The POWER Study findings illustrate why gender and equity analysis needs to be a routine and integral component of health system performance measurement. Routine monitoring of the POWER Study Leading Set of Health Equity Indicators can provide a powerful tool for guiding interventions, evaluating their effectiveness, and monitoring progress.

The time to move forward is now. What is needed is the will and commitment.

## **POWER HEALTH EQUITY ROAD MAP**

### **1. Equity, a major attribute of high-performing health systems and important dimension of health care quality, is key to health system sustainability and needs to be a priority.**

- Progress in achieving health equity can make important contributions to health system sustainability by reducing the incidence of costly and preventable illnesses such as late stage cancer (identified through screening) or hospitalizations for diabetes or heart failure (through better chronic disease management).
- Health systems can make important contributions to efforts to reduce inequities in health through health system redesign aimed at meeting the needs of populations at risk for poor health, as well as through cross-sectoral partnerships aimed at addressing the social determinants of health.

### **2. Health equity cannot be achieved without moving upstream and addressing the root causes of disease in the social determinants of health.**

- Focusing efforts upstream through cross-sectoral collaboration to address the root causes of health inequities (i.e., income, education, food security, housing, and environment) while reducing the burden of illness in the population is essential. A multifaceted approach is required to tackle the many complex problems which contribute to greater chronic disease prevalence and poorer health outcomes in these groups.
- Policy approaches such as Health in All Policies encourage the consideration of the health impact of policies across all sectors. Tools to accomplish this, such as Health Impact Assessments, are available and currently being used by the Ontario Ministry of Health and Long-Term Care, some Local Health Integration Networks, and hospitals. These efforts should be encouraged.

### **3. Prioritize chronic disease prevention and management to improve overall population health and reduce health inequities.**

- Because chronic diseases and their risk factors contribute greatly to health inequities, the implementation of a comprehensive and coordinated chronic disease prevention and management strategy—one that addresses the needs of at-risk populations—is the key to improving population health and achieving health equity.
- Because socioeconomically disadvantaged populations have a higher burden of chronic illness and disability, the current mismatch between the way care is organized and the needs of people with chronic illness disproportionately impacts those who are disadvantaged. Health system redesign that supports chronic illness care and fosters patient empowerment and community partnership is an important strategy for driving health equity.

### **4. Focus on patient-centredness to improve access to, satisfaction with, and outcomes of care for all.**

- Patient-centred care is care that is respectful of and responsive to individual patient preferences, needs, and values and ensures that patient values guide all clinical decisions. It is care that addresses an individual's constellation of problems rather than being disease specific. Patient-centred models of care that address the multiple health care needs of individuals and are sensitive to gender and cultural differences can improve patients' experiences with care and increase satisfaction with access to care and the care received. Patient-centred models of care that integrate and coordinate care across care settings are central to improving satisfaction with health care access.

- Chronic disease management must also take into consideration that many Ontarians have multiple chronic conditions in part due to common risk factors for many of these conditions such as diabetes, heart disease, cancer, and arthritis. The adoption of a more patient-centred focus to chronic disease management that acknowledges this high prevalence of comorbidity and integrates care is essential. This can be accomplished through primary care-based medical homes with strong linkages to speciality services and community care.
- Improving access to and quality of care is dependent upon understanding access barriers as experienced by populations at risk and developing effective interventions to address them. Our findings highlight the need to address cultural and linguistic barriers to care among Ontario's diverse population. There are models to draw upon internationally and locally that, with wider implementation and adaptation to the needs of specific communities, can help meet this objective. Because barriers encountered by women and men in cultural and linguistic minority communities differ, these interventions need to be gender sensitive. Community engagement and partnership along with increased diversity in the health care workforce, with the explicit goal of addressing these barriers, can help to ensure access to effective care among Ontario's diverse communities.

**5. Province-wide, integrated, organized models of care delivery can improve health outcomes and reduce inequities in care.**

- We found few inequities in the delivery of acute cancer and stroke care—areas where organized, integrated, and coordinated strategies for guideline implementation, as well as quality improvement using performance measurement and feedback with validated quality

indicators, have been implemented. Expanding this approach across other health care sectors and especially to primary care practices can help foster health equity.

- Integrated, organized models of care can also help to make our complex and often fragmented system easier to navigate.

**6. Coordinate population health, community, and clinical responses.**

- There are many important ongoing activities aimed at improving health in the province including: targeting population-based health promotion, enhancing the quality and capacity of community-based services, and improving the quality of care delivered in clinical settings. Efforts to integrate and coordinate these efforts could produce synergies to accelerate progress in improving health and reducing health inequities among Ontarians.
- It is especially important to identify specific opportunities to improve quality of life and functional status through both community-based and health care interventions. For example, community-based interventions combined with clinical preventive services, such as for tobacco control and smoking cessation, together can be more effective. Falls prevention interventions in clinical practice can address medical factors to reduce falls, while community-based interventions such as activity promotion can also reduce the risk of falls.

**7. Link community and health services to optimize outcomes and improve efficiency.**

- Both health services and community services are vital for maintaining and improving health. Strengthening linkages between these sectors can help assure that people can readily access needed care and services to promote, maintain, and improve health.



**8. Implement a health equity measurement and monitoring strategy and routinely include gender and equity analysis in health indicator monitoring.**

- Equity analysis and reporting should be integrated into ongoing measurement efforts. We have identified a leading set of health equity indicators based on POWER Study findings and broad-based consultation that can be used for this purpose. Adoption of these indicators can provide the needed information to effectively target gender, socioeconomic, and ethnic inequities in health. Monitoring these indicators over time will allow us to assess progress in improving health and reducing inequities.
- Incentives to foster health equity can be created. For example, health equity indicators and targets can be included in accountability agreements for Local Health Integration Networks, hospitals, family health teams, and other care providers.
- Improvement in data quality, availability, and timeliness is needed to support monitoring and reporting strategies. There is a particular need for data on ethnicity to improve the capacity to measure, monitor, and improve health for Ontario's diverse communities.

**9. Develop strategies for effective implementation by creating learning networks and designing innovations for scale up and spread.**

- There is a great deal of local innovation aimed at tackling the issues reported by the POWER Study. We now need to identify which innovations are most effective and promising for large scale adoption and design them for "scale up and spread" and sustainability.
- Support of a health equity knowledge exchange infrastructure by creating learning networks for innovation and equity can accelerate the adoption of best practices.

**10. Create a culture of innovation and learning while building the evidence base for accelerated improvement through rigorous evaluation and research.**

- Creation of a culture of innovation and learning across communities, sectors, and settings of care can play an important role in successfully implementing strategies aimed at achieving health equity.
- While there is much known about patterns of health inequities and their causes, there is a critical need for evidence specific to what works to close existing gaps. Critically evaluating health equity policies, strategies, and interventions to determine what works and what doesn't work is required to build the evidence base needed to accelerate progress and support wide-spread adoption of best practices.
- It will be important to take a continuous quality improvement approach to implementing this road map by identifying specific interim points to evaluate progress and making adjustments based on these assessments.

# Chapter Highlights

Throughout the POWER Study, we found many large and modifiable differences in health and health care associated with gender, income, education, age, race/ethnicity, immigration status, and geography. There were also several important areas where we found no differences.

This section highlights important findings from each of the POWER chapters. As we summarize each chapter, we also discuss relevant findings from other chapters in order to integrate findings and provide context. To illustrate the key findings, we reference exhibits (which show graphs, tables, or maps) from previous POWER chapters. Note that the first digit in the exhibit number refers to the chapter in which the exhibit was presented and the letter refers to the section (i.e., Exhibit 3C.7 can be found section C of chapter 3).

To create the Women's Health Equity Report, POWER Study researchers used a variety of secondary data sources. Data were drawn from routinely collected administrative health care databases (such as those which track hospitalizations and visits to doctors), population health surveys, vital statistics datasets, and disease registries. For further detail on indicators and their data sources, study limitations, and important areas that we could not measure, please refer to the relevant POWER chapters.

The full chapters, as well as shorter English and French-language highlights documents, can be downloaded from [www.powerstudy.ca](http://www.powerstudy.ca).

## BURDEN OF ILLNESS (CHAPTER 3)

The ultimate goal of health care is to improve the health and functional status of the population. The burden of illness in the population is influenced by social factors. In this chapter, we assessed the burden of illness in the Ontario population and how it varies by gender, socioeconomic status, ethnicity, and where one lives.

**We found important sex and gender differences in burden of illness.** Overall, women were more likely to report comorbidity (multiple chronic conditions) (Exhibit 3C.7), disability (Exhibit 3A.12), and chronic pain than men (Exhibit 3A.16), while men had higher rates of potentially avoidable mortality (Exhibit 3E.1) and premature death (Exhibit 3E.2). Women were also more likely to have low incomes than men (Exhibit 3B.1), further increasing their risk for chronic illness and disability. Importantly, health and functional status differed greatly between diverse groups of women. The differences in health status between women who

### The impact of health inequities was large.

**If all Ontarians had the same health as Ontarians with higher income, it is estimated that:**

- 318,000 fewer people (166,000 women and 152,000 men) would be in fair or poor health,
- 231,000 fewer people (110,000 women and 121,000 men) would be disabled, and
- 3,373 fewer deaths would occur each year among Ontarians living in metropolitan areas (947 women and 2,426 men).

had different incomes, levels of education, or ethnic and racial backgrounds were often larger than the overall differences between women and men.

**Ontarians of lower socioeconomic status have a disproportionately high burden of illness.**

Low-income women and men were more likely to report fair or poor health (Exhibit 3A.1), chronic conditions (Exhibit 3C.1), comorbidity (Exhibit 3C.8), activity limitations (Exhibit 3A.9), disability (Exhibit 3A.12), and chronic pain (Exhibit 3A.17) than those with higher incomes. Lower-income adults also had higher mortality rates (Exhibits 3E.1, 3E.2). Low-income women were particularly at risk for disability, chronic pain, and comorbidity, while low-income men were particularly at risk for premature mortality. Since health and functional status tend to decline with age, low-income women aged 65 and older had the highest burden of illness. For example, 52 percent of low-income women aged 65 and older reported disability and 35 percent reported that their activities were prevented due to pain or discomfort.

**Women and men with lower levels of income and education have higher levels of modifiable chronic disease risk factors,**

including lack of physical activity, inadequate fruit and vegetable intake, being overweight or obese, and smoking (Exhibit 3B.5). It has been well-established that these risk factors are heavily influenced by one's living and working conditions.<sup>54</sup> For example, food insecurity is clearly linked to one's ability to obtain a healthy diet. Yet, in Ontario, one in four low-income women and men reported that they did not have enough to eat, worried about there not being enough to eat, or did not eat the quality and variety of foods desired due to a lack of money (Exhibit 3B.4). Therefore, general population-based interventions to improve health behaviours may be less effective in disadvantaged populations. Despite progress in reducing overall smoking rates in Ontario, women and men with less than a secondary school education were three times more likely to smoke than those who had a

Bachelor's degree or higher. Thus, prevention and health promotion efforts must specifically address social contexts and target at-risk populations.

**Ethnicity and language are also associated with health and functional status and chronic disease risk factors.**

In particular, Aboriginal women and men (living off-reserve) were more likely to report fair or poor health and activity limitations (Exhibits 3A.4, 3A.10) than other ethnic groups. Aboriginal women and men also reported the highest smoking rates (39 percent of Aboriginal women and 43 percent of Aboriginal men living off-reserve) (Exhibit 3B.6). Ontarians who spoke French only or who spoke neither French nor English also reported worse health than those who spoke English only or were bilingual (French and English) (Exhibit 3A.5). See the [Social Determinants of Health and Populations at Risk Chapter Summary](#) for more information.

## **CANCER (CHAPTER 4)**

Cancer is a leading cause of illness and death among the women and men of Ontario. This chapter focused on the two most common cancers affecting both sexes (lung and colorectal), as well as common cancers that occur primarily or only in women (breast, cervical, ovarian, and uterine). We reported indicators across the continuum of care—from cancer screening to end-of-life care.<sup>55</sup>

**There are income disparities in rates of cancer screening for all indicated screening tests.**

Province-wide screening rates for colorectal (fecal occult blood test), breast, and cervical cancers were all below provincial targets.<sup>56</sup> Ontarians living in lower-income neighbourhoods had lower rates of screening for colorectal, breast, and cervical cancers than those living in higher-income neighbourhoods (Exhibits 4B.1, 4B.3, 4B.5). For example, 61 percent of screen eligible women living in the lowest-income neighbourhoods were screened for cervical cancer in the last three years compared to 75 percent among those in the highest-

income neighbourhoods. Among all women there was suboptimal follow up of Papanicolaou (Pap) tests that showed a low-grade lesion or that had inadequate samples. Less than half of women with such results received a repeat Pap test or colposcopy within the recommended time frame (Exhibits 4B.8, 4B.11).<sup>57</sup> Low-income women were somewhat less likely to receive follow up for a low-grade, abnormal Pap test result than higher-income women.

**Many of the risk factors for cancer, including smoking, sedentary lifestyle, unhealthy diets, and obesity, are the same as for other common chronic conditions.** Thus, coordinated strategies to reduce population risk may contribute to reducing the incidence of common cancers.<sup>58</sup> As noted in the Burden of Illness chapter, these risk factors were more prevalent among women and men with low levels of income and education than those with higher levels of income and education (Exhibit 3B.5). Not surprisingly, we found higher rates of lung cancer among women and men living in the lowest-income neighbourhoods (who also had much higher rates of smoking) compared to those living in higher-income neighbourhoods (Exhibit 4A.4). Higher rates of lung cancer incidence were also noted in regions with higher rates of smoking prevalence (Exhibits 3B.10, 4A.5). To be effective, health promotion interventions must address the contextual factors that influence these behaviours (including socioeconomic, social, and environmental factors) and target the specific needs of at-risk communities.

**While there are disparities in cancer screening, the quality of acute cancer care following diagnosis varies little by sex and income.** Unlike specialty referral for other conditions (diabetes, heart disease, rheumatoid arthritis) that varied by income, referrals to oncology and/or radiation therapy for rectal, colon, and breast cancer (Exhibits 4E.4, 4E.6) did not vary by income. Most cancer treatment indicators did not vary by income; while a few sex differences were observed, these differences were not pronounced. Most measures

of end of life care did not vary by neighbourhood income, although women and men living in low-income neighbourhoods were less likely to have a physician house call in the last two weeks of life than those living in higher-income neighbourhoods (Exhibit 4G.12).<sup>59</sup>

**There are many challenges to optimizing care for the growing number of cancer patients aged 80 and older.** Cancer patients aged 80 and older were less likely to receive radiation or chemotherapy for specific cancers (Exhibits 4C.2, 4C.3, 4D.7, 4E.5, 4E.7, 4F.3) and had lower survival rates (Exhibits 4A.11, 4A.12, 4A.15). This may be due to higher death rates from other causes, patient preferences (i.e., some older patients may choose not to have aggressive treatment), and informed decision making. However, undertreatment of those who could benefit from treatment may also contribute.<sup>60</sup> Emerging data suggest physicians may have a bias toward undertreating the elderly, perhaps due to a lack of direct evidence that the treatment will be beneficial (most clinical trials enrol younger and fitter patients) or out of concern that treatments may be more harmful to older patients.<sup>61</sup> While more evidence is needed to determine optimal management of older cancer patients, current evidence suggests the relative benefits of treatment for the elderly are similar to those seen for cancer patients in general. Decision making for treatment becomes more complex in the very old as life expectancy, co-existing illnesses, and functional status all need to be considered.<sup>62</sup>

**Where you live in Ontario affects all aspects of cancer care.** Rates for all types of cancer care, from screening to treatment to end of life care, varied depending on where one lived in the province. For example, regional differences were seen in surgical treatment and referral to medical oncology (Exhibits 4C.4, 4D.3, 4E.2, 4F.2). The percentage of breast cancer patients who were seen by a medical oncologist within three months of diagnosis ranged from 51 percent to 83 percent across Local Health Integration Networks (LHINs) (Exhibit 4E.8).

## DEPRESSION (CHAPTER 5)

Depression—a leading cause of disease-related disability among women<sup>63</sup>—places a large financial, emotional, and health burden on the people who experience it, their families, and society. This chapter examined the need and use of health care services in Ontario, as well as the patterns and quality of depression care in outpatient and inpatient settings.

**Women have a higher prevalence of depression than men; rates of probable depression are highest among low-income women.** Overall, 7.4 percent of Ontario’s population aged 15 and older had probable depression and the rate of probable depression was twice as high among women as men. Among women, those living in lower-income neighbourhoods had higher rates of probable depression than those living in higher-income neighbourhoods (Exhibit 5A.1). Probable depression was assessed using the Composite International Diagnostic Interview-Short Form for Major Depression, which was included in the Canadian Community Health Survey.

**Patterns of mental health service use and supply do not match the patterns of need.** Despite having a higher prevalence of probable depression, women living in lower-income neighbourhoods had similar usage rates of core mental health services that are covered by Ontario Health Insurance Plan (OHIP) (Exhibit 5A.5) and lower core mental health costs per capita (Exhibit 5A.6) compared to those from higher-income neighbourhoods. These patterns suggest underuse of these services by women living in lower-income neighbourhoods.

**There are also large differences in use of depression care depending on where one lives** (Exhibits 5A.10, 5A.13); again, these differences did not reflect differences in need (Exhibit 5A.2). Women and men living in rural areas were less likely to have had OHIP core mental health visits, but more likely to be hospitalized for depression than those living in urban areas (Exhibit 5A.10). In the 30 days following a hospitalization for depression, rural residents were less likely than urban

residents to visit a physician for depression (Exhibit 5C.2) and more likely to visit an emergency department. In addition, the number of general practitioners/family physicians (GP/FPs) and psychiatrists varied by Local Health Integration Networks (LHINs) (ranging from 72 to 168 GP/FPs per 100,000 population aged 15 and older and 6 to 72 psychiatrists per 100,000 population aged 15 and older) (Exhibit 5A.11).

**Suboptimal follow up care after a hospitalization for depression suggests inadequate integration and coordination of mental health services for all Ontarians.** More than a third of those who were hospitalized for depression did not have a follow up physician visit within 30 days of being discharged (Exhibit 5C.5). Among those hospitalized for depression, 17 percent were seen in an emergency department within 30 days of hospital discharge (Exhibit 5C.8) and an additional 7.6 percent were readmitted to hospital for depression (Exhibit 5C.12). There were significant geographic differences in 30-day readmission rates for depression among patients aged 15 and older admitted to hospital for depression, ranging from 2.9 percent in the Erie St. Clair LHIN to 11.9 percent in the North East LHIN (Exhibit 5C.13). Those living in higher-income neighbourhoods were more likely than those living in lower-income neighbourhoods to have a post-discharge physician visit for depression (Exhibit 5C.1) and to do so within a shorter period of time (Exhibit 5C.6).<sup>64</sup>

## CARDIOVASCULAR DISEASE (CVD) (CHAPTER 6)

CVD is a leading cause of death and disability among Canadian women and men.<sup>65, 66</sup> While CVD-related mortality rates have been declining in recent decades, women account for a growing proportion of these deaths.<sup>67</sup> The prevention and treatment of CVD is of major importance to women’s health. This chapter examined the health and functional status of women and men with CVD, as well as the clinical management and health outcomes of people with heart failure (HF), ischemic heart disease, and cerebrovascular disease.

**Lower socioeconomic status is associated with a higher prevalence of CVD and its modifiable risk factors.** Low-income women and men were about twice as likely to report having heart disease or having had a stroke as higher-income women and men (Exhibit 3C.1). Low socioeconomic status was also associated with physical inactivity, inadequate fruit and vegetable intake, being overweight or obese, and smoking (Exhibit 3B.5)—all of which contribute to higher rates of CVD. Irrespective of income, the prevalence of these risk factors was high among women and men with CVD (Exhibit 6A.11), underscoring the need for secondary prevention (lifestyle modification among those who have CVD). Lower-income adults with CVD were less likely than higher-income adults with CVD to have made changes to improve their health in the previous year (Exhibit 6A.12). Among adults who had heart disease or experienced a stroke, women were more likely to report lower income and lower educational attainment than men (Exhibit 6A.8). Lower socioeconomic status can create barriers to accessing health care services and effective chronic disease management.

**While there are few disparities in acute care for CVD, there are important sex and income-related differences in health and functional status among people with CVD.** Among those who reported heart disease or stroke, women consistently reported worse functional status and higher disability rates than men (Exhibits 6A.4–6A.7). Individuals with CVD who had low levels of income or education were more likely to report fair or poor health compared to those with higher levels of income or education (Exhibits 6A.1, 6A.2). Low income was also associated with worse functional status, with income differences greater among men (Exhibits 6A.4–6A.6). Lower levels of income were associated with worsening health (Exhibit 6A.3).

**Rates of potentially avoidable emergency department use and hospital readmission are high for both women and men after a hospital admission for HF.** Within 30 days of discharge, 30 percent of patients hospitalized for HF visited an emergency

department (Exhibit 6B.15) and 20 percent were readmitted to hospital (Exhibit 6B.17). Within one year, 75 percent visited an emergency department and 59 percent were readmitted. About a third of all hospital readmissions were for non-CVD related causes. Implementation of effective chronic disease management programs that are integrated across settings of care could reduce emergency department use and hospital admissions, relieving the burden on hospitals and contributing to health system sustainability.

**Despite progress, gender gaps in care persist.**

There were several areas where there were no sex differences in the quality of cardiovascular care. Women and men were equally likely to see a physician within four weeks of discharge after a hospitalization for HF or acute myocardial infarction (AMI) (Exhibits 6B.4, 6C.5) and had similar wait times for cardiac procedures (Exhibits 6C.18, 6C.20, 6C.21). There were also no sex differences in the majority of acute stroke care quality indicators (Exhibits 6D.1, 6D.2, 6D.13, 6D.18, 6D.19, 6D.21, 6D.23).<sup>68</sup> Medication use for chronic disease management generally did not vary by sex among people aged 65 and older with HF, AMI, or a history of stroke (Exhibits 6B.5, 6B.8, 6B.9, 6C.8, 6C.9, 6D.5, 6D.12) with the exception of statin use. Women were less likely than men to fill a prescription for a statin following an AMI or stroke (Exhibits 6C.6, 6D.10). Despite progress in many areas, some notable sex differences were observed. Women with CVD were less likely than men to be seen by a cardiologist (Exhibits 6B.1, 6B.26, 6C.1). Women were also less likely than men to undergo specific cardiac testing for HF (Exhibits 6B.10–6B.13) or to undergo or be referred for an angiography following an AMI (Exhibit 6C.11). Additionally, women who had an AMI had higher hospital readmission rates than men (Exhibit 6C.14). Following an AMI, women had higher unadjusted mortality rates than men, but this sex difference disappeared after adjusting for risk (Exhibit 6C.15).

**Quality of care for CVD varies across the province** (Exhibits 6B.3, 6B.7, 6B.14, 6B.28, 6C.4, 6C.7, 6C.13, 6C.19, 6C.25, 6D.7, 6D.9, 6D.13, 6D.15, 6D.18, 6D.20,

6D.22, 6D.25, 6D.26, 6D.28). For example, less than one percent of patients in the Toronto Central Local Health Integration Network (LHIN) were under the sole care of a general practitioner/family physician during a hospitalization for AMI compared to 36 percent of patients in the North West LHIN (Exhibit 6C.4), which reflects regional differences in the types of physicians providing in-hospital care, as well as access to cardiologists. While most measures of medication management for HF and AMI did not differ by sex or income, there were regional variations in use of these medications (Exhibits 6B.7, 6C.7). While development and implementation of the Ontario Stroke System has improved stroke care in the province, regional variations have persisted for many indicators of stroke care including access to stroke units (Exhibit 6D.18), medication management (Exhibit 6D.9), referral to stroke prevention clinics (Exhibit 6D.26), and access to rehabilitation (Exhibit 6D.28). There is a need to develop, implement, and evaluate innovative interventions to standardize care across the province, taking into account regional needs and differences.

## **ACCESS TO HEALTH CARE SERVICES (CHAPTER 7)**

Universal access to health care services is a fundamental principle of the Canadian health care system. While the system is based on the premise of equal access for all people, there are a wide range of constraining, enabling, and need-related factors that affect access to care. This chapter examined access to health care in Ontario and assessed how access to care differed between diverse population groups.

**While the overwhelming majority of Ontarians have a primary care physician, many do not.** Based on survey data collected between 2006 and 2008, 93 percent of Ontarians reported having a primary care doctor. However, some groups had worse access to primary care: only 85 percent of recent immigrants (less than five years in Canada) (Exhibit 7A.4) and 87 percent of men living in low-income neighbourhoods (Exhibit 7A.1)

reported having a primary care physician. There was also regional variation in the percentage of adults who reported having a primary care doctor (Exhibit 7A.5).

**Women and men who have a regular primary care provider report difficulty getting care when they needed it.** Immigrants who had lived in Canada for less than 10 years (Exhibits 7A.9, 7A.16, 7A.21, 7A.25, 7A.28), certain racial/ethnic groups (Exhibits 7A.8, 7A.15, 7A.20, 7A.24, 7A.27), and those who spoke a language other than English or French most often at home (Exhibits 7A.10, 7A.17, 7A.26, 7A.29) were more likely to report difficulty accessing primary care and were less satisfied with their experiences getting care. In addition, one in four women and men who required specialist care reported difficulty accessing this care (Exhibit 7C.1). Immigrants who had lived in Canada less than ten years (Exhibit 7C.3), as well as East and Southeast Asian and Aboriginal adults (living off-reserve) (Exhibit 7C.2), were more likely to report difficulty accessing specialized services than their counterparts. Access to specialized services also varied across Local Health Integration Networks (LHINs) (Exhibits 7C.4, 7C.6, 7C.9). Finally, unmet health care needs were reported more often by women, individuals with lower income (Exhibit 7A.33), immigrants who had lived in the country for less than 10 years, and Aboriginal adults (living off-reserve) (Exhibit 7A.35).

**Access to dental care, a service not covered by the Ontario Health Insurance Plan (OHIP), is a problem for many Ontarians,** particularly for low-income women and men, older adults, immigrants, and certain racial/ethnic groups. Oral health is an important component of general health and well-being. Poor oral health can lead to systemic infections, and has been associated with chronic diseases (e.g., heart disease) and poor pregnancy outcomes.<sup>69, 70</sup> More than half of lower-income adults had not seen a dentist in the last year compared to one in five higher-income adults (Exhibit 7A.38). The percentage of adults who had not seen a dentist in the previous 12 months also varied significantly by time since immigration (Exhibit 7A.40).

About half of women who had been living in Canada for less than 10 years reported not having seen a dentist in the previous 12 months. Access to dental care also varied across racial/ethnic groups (Exhibit 7A.39).

**There was substantial variation in hospitalization rates for the four Ambulatory Care Sensitive Conditions (ACSCs) examined.**

**There were 51,930 hospital admissions for these conditions in 2006/07.**

- If people from all income groups had the same admissions rates as those from the highest-income group, there would have been **15,709 (30.3 percent) fewer** hospitalizations for ACSCs.
- If all LHINs had achieved the same admissions rates as the LHINs with the lowest rates, there would have been **15,482 (29.8 percent) fewer** hospitalizations for ACSCs.

**Low income is associated with higher rates of potentially avoidable hospitalizations.** Effective primary care—which provides opportunities for chronic disease prevention, disease management, and patient education—is associated with reduced hospitalization rates for many chronic conditions. High hospitalization rates for these ambulatory care sensitive conditions (ACSCs) suggest suboptimal chronic disease management.<sup>71</sup> This chapter examined hospitalization rates for four ACSCs: heart failure (HF), chronic obstructive pulmonary disease (COPD), asthma, and diabetes. For all four ACSCs, women and men living in the lowest-income neighbourhoods were significantly more likely to be hospitalized than those living in the highest-income neighbourhoods (Exhibits 7B.5, 7B.9, 7B.13, 7B.17). For example, women and men from the lowest-income neighbourhoods were over 50 percent more likely to be hospitalized for HF than those from the highest-income neighbourhoods. In Canada, it has been estimated that two-fifths of costs for acute care hospitalizations due to ACSCs could be avoided by narrowing income-related inequities.<sup>4</sup> Potentially avoidable hospitalization rates also varied by sex; women had higher rates of hospitalization for asthma

than men, while men were more likely than women to be hospitalized for HF, COPD, and diabetes.

**Most potentially avoidable hospitalizations for HF and COPD occur in people aged 65 and older.**

Hospitalization rates for ACSCs increased significantly with age for HF, COPD, and diabetes (Exhibits 7B.6, 7B.10, 7B.14, 7B.18); age variation was most pronounced among women and men hospitalized for HF or COPD. Among women, 90 percent of HF admissions (Exhibit 7B.7), 78 percent of COPD admissions (Exhibit 7B.11), and 50 percent of diabetes admissions (Exhibit 7B.19) occurred among those aged 65 and older. Among men, 81 percent of HF admissions, 80 percent of COPD admissions, and 42 percent of diabetes admissions occurred among those aged 65 and older. Conversely, most asthma admissions occurred among those under age 65 (Exhibit 7B.15).

## MUSCULOSKELETAL (MSK) CONDITIONS (CHAPTER 8)

MSK conditions include diseases that affect the bones, ligaments, tendons, muscles, and joints. MSK conditions limit physical functioning, impose significant pain and suffering, and are the number one cause of disability for Ontarians. In this chapter, we looked at MSK conditions as a group, as well as at the most common MSK conditions: osteoarthritis, rheumatoid arthritis, osteoporosis, and back pain.

**MSK conditions are a significant cause of pain and disability in Ontario.**

MSK conditions affect over one-third of Ontario adults (Figure 4 in the MSK chapter). These conditions have a considerable impact on functional status: half of women and men who reported having an MSK condition reported limitations in their activities at home, work, or school (Exhibit 8A.6). While proper management can lessen their effects, MSK conditions are often suboptimally managed. Management of these conditions is complicated by high rates of comorbidity (Exhibit 8A.1) and depression (Exhibits 8A.4), which can impact the management of both the MSK condition and coexisting illnesses.



**Women are disproportionately affected by MSK conditions.** Women were more likely than men to have an MSK condition. Moreover, among those with an MSK condition, women were more likely than men to have a disability (Exhibit 8A.9). Not unexpectedly, the prevalence of MSK conditions increased with age (Exhibits 8B.2, 8B.12, 8C.1, 8D.2). Women aged 65 and older with an MSK conditions had the highest rates of disability (Exhibit 8A.11).

**Low-income adults have a high prevalence of MSK conditions and encounter barriers to accessing needed care.** Low-income women and men were more likely to report having MSK conditions than those with higher incomes (Exhibits 8B.1, 8B.11, 8D.1); they were also more likely to report disability (Exhibit 8A.10). These income disparities may indicate differential risk for developing these conditions (e.g., due to exposure to occupational risk or obesity), differences in disease severity or the availability of social support, or inequities in access to and quality of health care. Low-income adults with MSK conditions had less access to important services that are not covered by universal health insurance. Over one-third of low-income Ontarians under age 65 with an MSK condition did not have prescription drug coverage to offset the cost of needed prescription drugs (Exhibit 8A.37). Half as many lower-income people with an MSK condition visited a physiotherapist or chiropractor in the previous year as those with higher incomes (Exhibit 8A.32).

**Rheumatoid arthritis is a serious MSK condition that is undertreated in Ontario.** Rheumatoid arthritis is a chronic, systemic, autoimmune disease characterized by joint swelling, joint tenderness, and destruction of synovial joints, leading to severe disability and premature mortality.<sup>72-74</sup> An estimated 0.9 percent of Ontarians aged 25 and older had rheumatoid arthritis and the rate among women was twice that among men (Exhibit 8C.1). Only 40 percent of people with rheumatoid arthritis had been seen by a specialist during a one-year period, likely representing a

substantial care gap for these individuals. Adults living in low-income neighbourhoods were less likely to receive care from a specialist than those from higher-income neighbourhoods (Exhibit 8C.2). Among people aged 65 and older with rheumatoid arthritis, many were not receiving currently recommended first line therapy for this condition (Exhibit 8C.4).

**There are substantial gaps in care for osteoporosis.** Within a year of experiencing a low-trauma fracture, only one-third of women and men aged 66 and older received a bone mineral density test to assess for low bone mass and fracture risk or a prescription for an effective bone-sparing agent (Exhibit 8D.6). Even among those for whom treatment was initiated, only 38 percent of those aged 66 and older remained continually on medication one year following first prescription (Exhibit 8D.10).

## DIABETES (CHAPTER 9)

Diabetes is one of the leading causes of blindness,<sup>75</sup> the most common cause of end-stage renal disease in the developed world,<sup>76</sup> and a major cause of cardiovascular complications such as heart attack and stroke.<sup>77, 78</sup> The number of people with diabetes has increased dramatically over the last 20 years.<sup>79-81</sup> This chapter examined the burden of diabetes in Ontario, with a focus on indicators of diabetes care and potential gender, income, and regional disparities.

**Prevalence of diabetes is high and people with diabetes have worse health and functional status than those without diabetes.** Nearly one in ten Ontario adults had been diagnosed with diabetes. People who reported having diabetes were more likely to report being in fair or poor health (Exhibit 9A.7), having limitations in activities of daily living (ADLs) and/or instrumental activities of daily living (IADLs), and multiple chronic conditions (Exhibit 9A.4). This higher burden of illness among people with diabetes increases the complexity of care delivery.

**Sex matters when it comes to diabetes prevalence and complications.** Overall, men were more likely than women to have diabetes (Exhibit 9A.1). Men also had higher rates of diabetes complications than women, including hospitalizations for acute myocardial infarction (AMI), heart failure (HF), and stroke (Exhibits 9E.8, 9E.11); amputations (Exhibit 9E.14); and chronic dialysis (Exhibit 9E.16). While men had higher rates of diabetes and diabetes complications, women with diabetes reported higher rates of comorbidity (at least two additional chronic conditions) (Exhibit 9A.4), depression (Exhibit 9A.5), and disability (Exhibit 9A.8) than men.

**Income matters when it comes to diabetes prevalence and complications.** Lower-income Ontarians had higher rates of diabetes than those with higher incomes (Exhibit 9A.1). Furthermore, among those with diabetes, lower-income adults had worse health and functional status (Exhibits 9A.7, 9A.8) and more diabetes complications (Exhibits 9E.1, 9E.5, 9E.7, 9E.13, 9E.16). Income differences were more pronounced among men for hyper- or hypoglycemic emergencies (Exhibit 9E.1), amputations (Exhibit 9E.13), and end-stage renal disease requiring dialysis (Exhibit 9E.16). For example, among adults with diabetes aged 20 and older, 827 per 100,000 men and 567 per 100,000 women living in the lowest-income neighbourhoods received chronic dialysis compared to 512 per 100,000 men and 421 per 100,000 women living in the highest-income neighbourhoods.

**Diabetes prevalence also varies by race/ethnicity and immigration status.** The prevalence of self-reported diabetes was almost twice as high among Black, Aboriginal (living off-reserve), and South and West Asian and Arab adults compared to White adults. In the Social Determinants of Health and Populations at Risk chapter, the prevalence of diabetes (based on physician diagnosis) was examined among urban-dwelling immigrants, with diabetes prevalence varying greatly by world region of birth (Exhibit 12C.21).

**Performance on many measures varies across the province.** In addition to regional variation in diabetes prevalence (Exhibit 9A.3), we found that where you live

in Ontario matters with respect to the risk of diabetes complications. The highest rates of complications were found in northern and rural areas of the province where access to care is more challenging (Exhibits 9E.4, 9E.9, 9E.15, 9E.18). In addition to regional differences in prevalence, population characteristics and risk factors may have contributed to these findings. The proportion of people with no visits to a primary care physician or specialist within a two-year period varied across Local Health Integration Networks (LHINs) (Exhibit 9B.7).

**Diabetes in pregnancy is associated with higher rates of complications.** Pregestational and gestational diabetes significantly increased the risk of complications for mother and fetus (Exhibits 9F.4, 9F.8). These complications can be largely prevented through optimal control of glucose and blood pressure at the time of conception and during pregnancy. Infants born to women aged 20–29 with pregestational diabetes experienced the highest rates of fetal complications (Exhibit 9F.10), reflecting a need in this group for more targeted pre-pregnancy counselling and better pregnancy care.

**Despite growing evidence on best practices for diabetes, gaps in care persist.** Lower-income women and men with diabetes had more visits to primary care physicians than those with higher incomes (Exhibit 9B.2). However, lower-income women and men with diabetes income were as likely to visit a specialist as those with higher incomes, despite potentially higher need. Additionally, eight percent of men with diabetes living in the lowest-income neighbourhoods did not receive any primary or specialist care within a two-year period (Exhibit 9B.5). Among adults with diabetes, the percentage who received a recommended foot exam from a health professional was suboptimal (Exhibit 9C.4). Rates of eye examination in the two years following diagnosis of diabetes were low in women and men (Exhibit 9C.2). The percentage who reported receiving dental care was also low, particularly for older, lower-income, and less educated groups (Exhibit 9C.5).

## **REPRODUCTIVE AND GYNAECOLOGICAL HEALTH (CHAPTER 10)**

This chapter focused on the health of women as it specifically relates to their reproductive system. Unlike other POWER chapters that have focused on the differences in care between women and men, this chapter looked predominantly at care provided to women and how it varied by income, education, and where one lives. The issues covered in this chapter span the life course from teenage pregnancy to hysterectomy.

**Ontario is a safe place for women to give birth and babies to be born.** Overall rates of adverse outcomes related to childbirth were low and did not vary by neighbourhood income or average neighbourhood educational attainment (Exhibits 10B.16, 10B.19, 10B.20). Among women who gave birth in an Ontario hospital, 80 percent received prenatal care from obstetricians, 27 percent from general practitioners/family physicians, and six percent from midwives (women may have received care from more than one type of provider) (Exhibit 10A.1).

**Caesarean section rates are high.** Caesarean sections were performed in 28 percent of all hospital deliveries and 23 percent of deliveries among women who had full-term, singleton, vertex presentations. Women who delivered by caesarean section had higher maternal readmission rates than women who delivered vaginally (Exhibits 10C.4, 10C.7). While caesarean sections are necessary in specific clinical situations, in many cases, the use of these interventions involves complex trade-offs between risks and benefits.

**Low income is associated with higher rates of teenage pregnancy and abortion.** The rate of live births to teenage women (aged 15–19) was over five times higher (Exhibit 10B.1) and the induced abortion rate was more than two times higher (Exhibit 10D.1) among women living in the lowest-income neighbourhoods compared to the highest-income neighbourhoods.

**There is regional variation on most measures of gynaecologic and reproductive health.** Across Local Health Integration Networks (LHINs), we observed differences in the type of health care professionals providing prenatal care and attending in-hospital births (Exhibits 10A.2, 10B.5); the use of childbirth interventions (Exhibits 10B.7, 10B.9, 10B.11); maternal and neonatal health outcomes (Exhibits 10B.15, 10B.18); postpartum care (Exhibits 10C.3, 10C.6, 10C.8, 10C.10); abortion rates (Exhibits 10D.4, 10D.8); hysterectomy rates for benign gynaecological conditions (Exhibit 10E.4); and the type of hysterectomy procedure used (Exhibit 10E.6). Part of the regional variation in reproductive care in Ontario may be the result of differences in women's health needs or preferences; however, it is unlikely that these differences explain all the observed variation. Other factors, such as access to care or provider practice patterns, likely contribute to regional variation.

## **HIV INFECTION (CHAPTER 11)**

The Human Immunodeficiency Virus (HIV) attacks and kills vital white blood cells leading to immune suppression. Left untreated, HIV will lead to premature mortality. However, clinical advances in the last 15 years have resulted in markedly improved survival, functional status, and quality of life for those living with HIV.<sup>82</sup> This chapter addressed access and quality of care issues for women and men living with HIV infection or at risk for HIV infection.

**Women accounted for nearly one-quarter of all new HIV infections.** In 2008, an estimated 4,750 women were living with HIV in Ontario (representing 18 percent of the population living with HIV); most of these women acquired HIV through heterosexual contact (Exhibit 11A.1). Between 2006 and 2008, it was estimated that women who immigrated to Canada from a country where HIV is endemic accounted for 58 percent of all new infections among women, 35 percent were attributed to heterosexual non-endemic exposure, and seven percent were attributed to injection drug use

(Exhibit 11A.4). Despite the fact that women accounted for only 18 percent of the HIV-positive population in Ontario, approximately one-third of the users of community-based HIV services were women (Exhibits 11B.2, 11B.3), suggesting that women are higher users of community-based services than men.

**Women report lower rates of condom use and riskier injection behaviour than men.** Among those aged 15–49 with multiple sex partners in the past year, women reported lower rates of condom use than men. Younger women and men (aged 15–24) (Exhibit 11A.6), certain racial/ethnic groups (Exhibit 11A.7), and recent immigrants (less than 10 years in Canada) (Exhibit 11A.8) reported higher rates of condom use than their counterparts. Women who inject drugs reported riskier injection behaviours than men (Exhibit 11A.9) and had the highest population-specific incidence of HIV (Exhibit 11A.4).

**People living with HIV have worse health-related quality of life than the general population, especially with respect to mental health.** Among participants in the Ontario HIV Treatment Network Cohort Study, mean physical and mental health summary scores from the Medical Outcomes Survey Short Form 12 varied by educational attainment (Exhibit 11C.5), age (Exhibit 11C.6), and HIV exposure category (Exhibit 11C.7). Overall, women with HIV reported a higher symptom burden than men (Exhibit 11C.8); for example, 45 percent of women with HIV reported being bothered by sadness compared to 31 percent of men with HIV (Exhibit 11C.9).

**A significant proportion of people living with HIV do not receive recommended viral load testing.** Following HIV diagnosis, timely and ongoing viral load testing is necessary in order to track the course of infection. Almost 20 percent of those newly diagnosed with HIV had not had a first viral load test within three months of testing positive; seven percent of women and ten percent of men had not had a viral load test within 12 months of testing positive for HIV (Exhibit 11C.13). HIV-positive women waited longer on average for their first viral load test than men. Furthermore, nearly one in five HIV-positive adults did not undergo viral load

testing at recommended intervals (Exhibit 11C.15), suggesting that many people who are HIV-positive do not receive guideline-concordant health care for their HIV infection on a regular basis.

**The vast majority of pregnant women are screened for HIV and most HIV-positive women received antiretroviral therapy during pregnancy.** Ninety-five percent of pregnant women in Ontario were screened for HIV in 2009 (Exhibit 11C.1), and over 90 percent of those who tested positive received antiretroviral therapy to prevent mother-to-child transmission (Exhibit 11C.3). The very high testing rates during pregnancy and the dramatic fall in the number of infants born with HIV infection in Ontario indicate important areas where coordinated intervention and clinical practice guidelines have changed care and improved health outcomes.

## SOCIAL DETERMINANTS OF HEALTH AND POPULATIONS AT RISK (CHAPTER 12)

It is well-known that social factors—rather than medical care or health behaviours—are the primary drivers of health and health inequities.<sup>83–88</sup> Furthermore, the social determinants of health, which work through many complex and intertwining pathways, are not evenly distributed across the population. In this chapter, we synthesized prior analyses that examined the health of low-income, ethnic and racial minority, and immigrant populations, and enriched these data by reporting additional indicators of the social determinants of health and immigrant women's health.

**The social determinants of health—the root causes of health inequities—are not evenly distributed throughout Ontario's population.** We found that women, people with lower levels of education (Exhibit 12A.1), certain racial/ethnic groups (Exhibit 12A.3), recent immigrants (Exhibit 12A.4), and linguistic minorities (Exhibit 12A.5) tended to have lower annual household income. Similarly, people with lower levels of education (Exhibit 12A.15) and certain

racial/ethnic groups (Exhibit 12A.16) had lower rates of employment. Recent immigrant women (less than five years in Canada) had lower employment rates than Canadian-born women, but employment rates were similar between immigrant women who had been in Canada for 10 or more years and Canadian-born women (Exhibit 12A.17). Among those aged 65 and older, women were much more likely than men to report lower levels of educational attainment (Exhibit 12A.9). About one-quarter of low-income women and men experienced food insecurity compared to one percent of those with higher income (Exhibit 12A.24). Households headed by single mothers were twice as likely to have lower income as those headed by single fathers (Exhibit 12A.22). The unequal distribution of these social determinants of health—along with many other important social factors that were not examined in this chapter, such as housing, neighbourhood characteristics, racism and discrimination, etc.—contributes to the health inequities observed in Ontario.

**Income-related differences in health and functional status were much greater than income-related differences in quality of care.** Lower-income Ontarians had worse health and functional status (Table 12B.1), more chronic disease risk factors (Table 12B.2), less preventive care (Table 12B.2), and worse health outcomes (Table 12B.5) than those with higher incomes. However, there were fewer and smaller income-related differences in clinical management and quality of care, particularly in acute care settings (Table 12B.4). We found fewer income differences in care when system-level reforms to improve the quality of care were in place, such as for cancer and stroke. Despite the Canadian health care system being based on the premise of equal access for all, income-related disparities in access persist (Table 12B.3). While the majority of Ontarians had a primary care provider, low-income adults were more likely than those with higher incomes to report difficulties accessing care—particularly for urgent, non-emergent health problems (Exhibit 12B.14)—and unmet health care needs

(Exhibit 12B.18). Low-income Ontarians were more likely to be hospitalized for common chronic conditions that can often be managed effectively in primary care (Exhibits 12B.28, 12B.29). Furthermore, low-income adults had less access to important services that are not universally insured (Exhibits 12B.16, 12B.17).

**Race/ethnicity, time since immigration, and languages spoken are associated with differences in health status and access to care.**

In particular, Aboriginal women and men (living off-reserve) were more likely to report worse health and functional status than other ethnic groups. However, members of some racial/ethnic groups had better health and functional status than the White population (Exhibit 12C.1). Consistent with the “healthy immigrant effect,” we found that recent immigrants were less likely than Canadian-born adults to have activity limitations, multiple chronic conditions (Exhibit 12C.2), or adverse birth outcomes (Exhibit 12C.28), while immigrants who had been in Canada for 10 or more years had more similar (or worse) health outcomes than their Canadian-born counterparts. Recent immigrants were also less likely to be overweight or obese or to be current smokers than Canadian-born adults; however, they were more likely to be physically inactive (Exhibit 12C.5). In contrast to the “healthy immigrant” phenomenon, many immigrant groups were found to have higher rates of diabetes compared with the general Ontario population (Exhibit 12C.21). Immigrant women also reported lower rates of cervical cancer screening (Exhibits 12C.24, 12C.25). Access to health care services also varied by race/ethnicity and time since immigration. Recent immigrants were less likely to have a primary care physician, less likely to be satisfied with care, and more likely to report difficulties accessing care compared to those who had been in Canada longer (Exhibits 12C.8, 12C.10, 12C.13). Compared to other racial/ethnic groups, South and West Asian and Arab women were most likely to report difficulties accessing needed services (Exhibit 12C.12). Linguistic minorities reported being in worse health (Exhibit 12C.3) and were

less satisfied with their access to and experience with primary care than their counterparts (Exhibit 12C.11). Efforts to improve health among immigrant and minority populations must take into account the considerable heterogeneity in risk factors, health needs, and cultural practices observed across these diverse groups. Development of culturally-appropriate interventions and models of care that address the specific issues and needs of these communities is essential to reducing health inequities.

## OLDER WOMEN'S HEALTH

Aging is an important women's health issue. Women comprise the majority of the older population and have different patterns of illness and health needs than men. We reported selected indicators from previous POWER Study chapters, as well as new indicators on home care and long-term care. Bringing together and synthesizing findings from across POWER Study chapters allowed us to paint a picture of the health needs of older women so as to inform needed changes in practice and policy.

**Women are disproportionately represented in the older population and have unique needs.** Older women outnumber older men, particularly in the oldest age groups and among those living in long-term care homes.<sup>89, 90</sup> Therefore, even when rates of an event were similar between women and men (or in some cases higher in men than in women), the predominance of women in the older population meant that more women than men in the population experienced the event. Additionally, women and men experience different health needs. Older women were more likely than older men to have multiple chronic conditions, disability, and chronic pain (Exhibits A.4, A.17 in the Older Women's Health report). Older women were more likely than men to use home care services and to report unmet need for these services (Exhibits C.2, C.6).

**Most older adults report modifiable risk factors for developing chronic conditions and their associated complications.** A healthy lifestyle is important for people of all ages, including older adults.

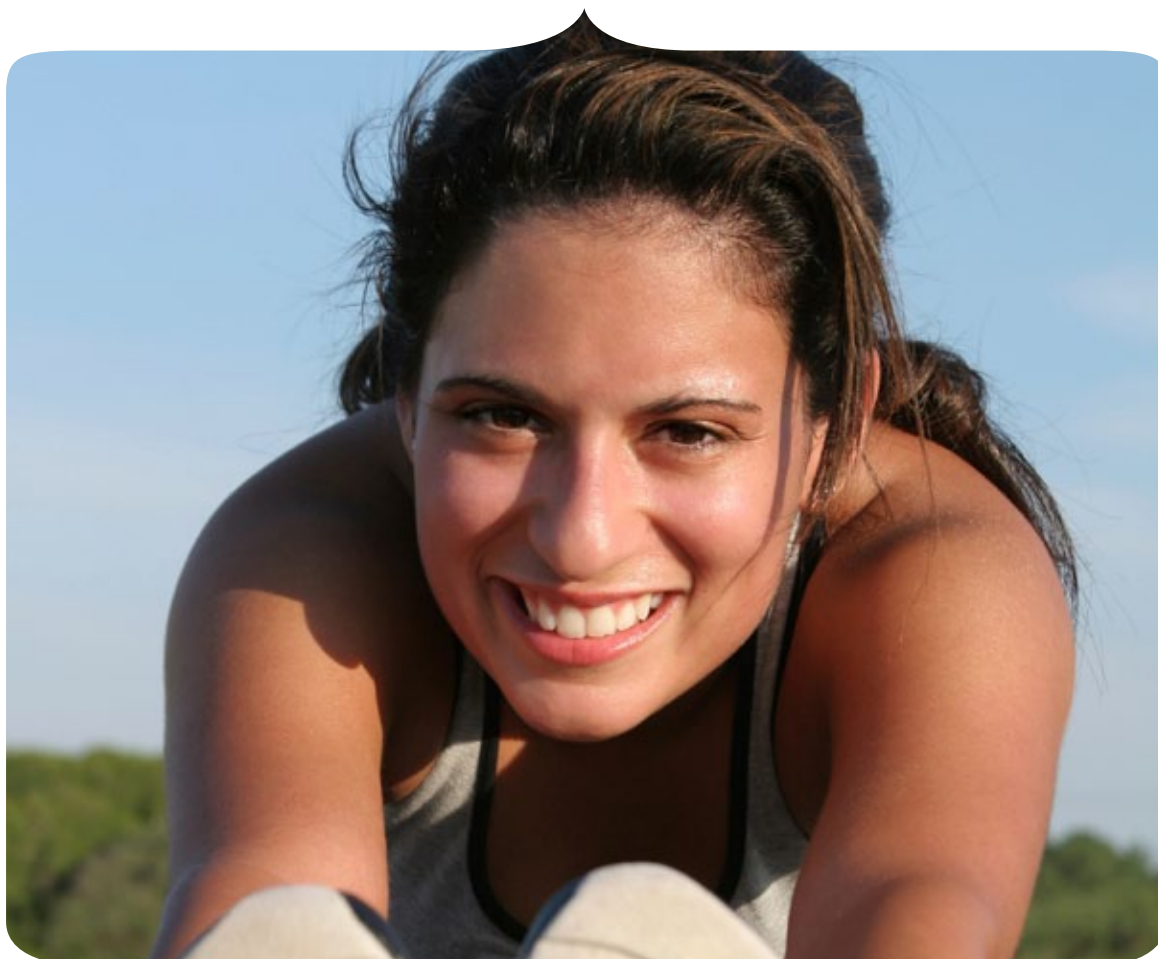
For example, exercise and physical activity can maintain or improve functional status, preserve independence, and prevent falls among older adults.<sup>91, 92</sup> However, the prevalence of physical inactivity, inadequate fruit and vegetable intake, and being overweight or obese was high among older adults, and less than half of adults aged 65 and older (45 percent) reported taking steps to improve their health in the past year (Exhibit A.13). Additionally, many older adults had low incomes, which are strongly associated with poor health, functional limitations, and barriers to accessing care. While the prevalence of these risk factors was high for everyone, there were important differences related to sex and income. For example, older women were more likely than older men to report physical inactivity (Exhibit A.10) and low income (Exhibit A.8). Among older women, those with lower household income were more likely to report health behaviours that increase the risk of chronic disease compared to those with higher household income (Exhibit A.11). Additionally, poor oral health in older adults is associated with poor health outcomes, malnutrition, and chronic pain,<sup>69</sup> but close to half of older adults (45 percent) did not visit a dentist in the past 12 months; this percentage rose in the older age group (to 55 percent of women and 54 percent of men aged 80 and older) (Exhibit A.20).

**Among those receiving home care, there are opportunities to improve care for both women and men.** An important goal of home care is to optimize independence and to decrease the rate of both physical and cognitive decline. In unadjusted analyses among home care clients, women were more likely than men to experience inadequate pain control (Exhibit C.10) and injuries (Exhibit C.13). Meanwhile, men were more likely than women to experience a new ADL impairment or one that failed to improve (Exhibit C.7). Men were also more likely to experience a new cognitive impairment or one that failed to improve (Exhibit C.12). Women aged 65–79 were more likely to have depressed mood than men, but these differences narrowed among those aged 80 and older (Exhibit

C.11). These differences were eliminated with risk adjustment, indicating that women and men receiving home care have different health needs, but experience similar health outcomes when these differences are taken into account. Therefore, gender-sensitive interventions that account for differences in these underlying factors may be needed to improve health outcomes in the home care setting.

**There are also many opportunities to improve care in long-term care homes.** Potentially preventable emergency department visits were common among long-term care residents aged 65 and older, with men having higher rates than women (27 emergency department visits per 100 men per year versus 19 emergency department visits per 100 women per year) (Exhibit C.15). Improvements to chronic disease management in long-term care could

help prevent some of these emergency department visits. Antipsychotics and anti-anxiety or hypnotic drugs were frequently prescribed to long-term care residents aged 65 and older: antipsychotic use without a diagnosis of psychosis was recorded on almost a third of assessments (Exhibit C.23) and use of anti-anxiety or hypnotic drugs was recorded on almost a quarter (Exhibit C.24). Further, nearly one in five assessments among long-term care residents showed that the resident was in daily physical restraints (Exhibit C.22). This represents an opportunity for intervention, as physical restraints have been linked to an increased risk of falls, behavioural problems, and even death.<sup>93, 94</sup> Given that women outnumber men in long-term care homes, there are far more women than men affected by all of these issues, which makes these issues a particular concern for older women.



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## FUNDER

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