Key Messages

- Behavioural factors, such as prevalence of smoking and obesity, are key determinants of health status and have an impact on the health of individuals now and into the future. Compared with other countries, Canada has made significant progress in reducing the prevalence of smoking, having one of the lowest rates among countries in the Organisation for Economic Co-operation and Development (OECD) and also one of the largest decreases in prevalence since 2000. However, the prevalence of obesity and overweight in Canada, especially among children, is higher than in many OECD countries. Canada is one of the few countries with rates of obesity and overweight among both boys and girls greater than 25%.

- Results for cancer show promise, while still highlighting challenges in reducing mortality due to cancer. Canadian five-year relative survival rates for colorectal and breast cancers are among the highest in the OECD. Canada is also relatively successful with screening programs for cervical and breast cancers. However, overall incidence of cancer is relatively high in Canada. Even with successful screening programs and treatment, higher cancer incidence implies challenges in reducing mortality due to cancer. Although decreasing, cancer mortality among females remains high relative to other OECD countries.

- On many of the measures of quality of health care, Canadian results are in or near the top 25% of OECD country results. These include measures of hospital admissions for conditions, such as diabetes and asthma, that can often be avoided with good primary care in the community; occurrence of post-operative complications, such as sepsis; and coverage of cancer screening and influenza vaccinations. There are a handful of measures,
however, where results appear worse than those reported by other OECD countries. These include the occurrence of adverse events from surgical procedures, such as foreign body left in and accidental puncture or laceration, as well as obstetrical trauma. While the higher rates might be partly explained by differences in reporting practices and standards, these are key elements of patient safety and events that should not occur. The poor results should not be dismissed as merely differences in comparability.

Introduction

There is increasing interest in cross-country comparisons of the performance of national health systems. Enhancing accountability and promoting benchmarking and mutual learning are among the main reasons for looking at how health system performance varies across countries.\textsuperscript{1} Although there are methodological challenges in terms of having consistent and comparable data across countries, there is much to be gained from understanding how Canadian results compare with what is being achieved by other countries of similar economic size and income. These comparisons raise questions that can help us understand and determine the following:

• Benchmarks and targets: What might Canada be able to achieve?
• Options to improve health system performance: Which countries have the best results, what are they achieving and are there policy directions and strategies that we can learn from them?

Since 2000, CIHI has reported provincial and regional results for a number of health indicators, using a framework for measurement that covers health status, non-medical determinants of health, health system services, community and health system characteristics, and equity.\textsuperscript{2} Results for these indicators have shown wide variation across provinces and health regions and illustrate the benefit of using measurement to enhance accountability and support performance improvement efforts across the country. By examining the variation in results at an international level, we have an opportunity to consider how we might achieve the best results on an international scale.

The OECD publishes a biennial report called *Health at a Glance*,\textsuperscript{3} summarizing the results of a number of indicators of health system performance for the 34 OECD member countries as well as selected others.\textsuperscript{i} The report uses a framework that identifies seven dimensions of health systems, ranging from health system resources (expenditures and health human resources) to characteristics of health services (volumes, quality and access to services) to non-medical determinants of health (unhealthy lifestyle behaviours) to overall health status of the population.\textsuperscript{ii}

Four of the seven dimensions are related to health system performance. The measures for these dimensions are directional. We can state that higher results (as in the case of life expectancy, for example) or lower results (as in the case of prevalence of obesity, for example) reflect better performance. These four dimensions are health status, non-medical determinants of health, quality of care and access. The three other dimensions provide context and show differences across countries in how health systems are financed and resourced and in the use of health care services. For these dimensions more (or less) is not necessarily better; some countries might have more physicians per capita or more hospital admissions, but that does not mean that this level is desirable across all countries.

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\textsuperscript{i} A list of the 34 member states of the OECD can be found in *Health at a Glance* and in Appendix 2 of this report. *Health at a Glance* also includes, where available, results for Brazil, China, India, Indonesia, the Russian Federation and South Africa.

While *Health at a Glance 2011* provides a picture of results and trends across all OECD countries, the objective of this report is to focus on the results for Canada in the four dimensions that reflect health system performance. It provides a starting point for a high-level comparison and assessment of where Canada sits in relation to other countries on a number of indicators related to health system performance.

This focus on Canada shows that, in some areas, Canada’s results rank among the best across all OECD countries. These include a lower rate of smoking among adults, higher five-year survival rates for breast and colorectal cancers and lower rates of admission to hospital for chronic conditions that can often be managed in community settings.

**Who Do We Benchmark To?**

The OECD includes 34 member countries, and *Health at a Glance* reports results for all 34 where available. While these countries are united in their desire to share, use and analyze data and to be a part of a “forum in which governments can work together to share experiences and seek solutions to common problems,” they are a diverse group, varying significantly with respect to

- Demographic size;
- Size of the economy;
- Level of income (GDP per capita) and distribution of income;
- Geography, including size and characteristics such as climate, and degree of urbanization; and
- Culture, including common, accepted behaviours and cultural values.

These differences will have an impact on the resources that are available to be used for health care and that citizens want to see used for health care. The differences also mean variation in lifestyle behaviours, social supports and attitudes regarding responsibility for individual health, among other factors. These factors in turn have a significant impact on what can be achieved by a national health system.

No two countries are the same across the areas listed above, but when looking at how results for Canada compare with those of other countries, we would like to focus on results for those countries that are more similar to Canada. Results from all OECD countries have been used to determine averages and 25th and 75th percentiles; however, the comparisons in this report focus on the OECD member states that are part of the Group of Seven (G7). In addition to Canada, they are France, Germany, Italy, Japan, the United Kingdom and the United States. These countries are still different from Canada, but along with Canada they have the larger and more developed economies among the OECD countries, larger populations and comparable levels of resources to devote to health.

The results reported in *Health at a Glance* for all G7 countries on the measures in the four performance dimensions—health status, non-medical determinants of health, quality of care and access—are summarized in Appendix 1 of this report. This summary also shows how each country’s results place among all the OECD member states and helps to highlight where other G7 countries have better or worse results than Canada.

This comparison also highlights many areas where results from other countries suggest that Canada’s health system could be better. Not only are Canada’s results low in these areas compared with most OECD countries, but peer countries (see Who Do We Benchmark To?) do much better and are often among the best performers on these measures. (Appendix 1 summarizes performance for Canada and the peer countries.) Rates of overweight and obesity among adults and children, the prevalence of diabetes and the incidence of and mortality due to cancer are all aspects of health where the comparisons show that other countries do better and where we could learn lessons to support the development of our own strategies and policies.
There are also results that warrant further investigation to understand the extent to which reported performance that appears to vary substantially from other OECD countries may be due to differences in the way data is recorded and reported across different countries.

Canada’s results for the measures in the other health system dimensions—health human resources, health care activities and health expenditure and financing—are presented and reviewed briefly in the final section of this report.

Methods

This report presents a performance profile for each of the four dimensions in the OECD health system framework that measure health system performance. The performance profile shows, in a single picture, how results for Canada compare with the average and the 25th and 75th percentiles for all OECD countries for each of the indicators in the dimension. Highlights of the results are discussed for each section, as are limitations on comparability. The dimensions reviewed are

1. Health status;
2. Non-medical determinants of health;
3. Quality of care; and

The performance profile illustrates a standardized distance, or gap, between the Canadian result and the average of all OECD countries for each indicator. The distances for the OECD 25th and 75th percentiles are also included as reference points. (See the sidebar accompanying the first performance profile in the Health Status section for further explanation.)

The indicators for the four performance dimensions listed above are directional: depending on what is being measured, we can equate a lower result (or a higher result) with better performance. The scores shown on the graphs were adjusted so that a negative score always means a result is worse than the OECD average (poorer performance), while a positive score always means a result is better than average.

How Comparable Are Results From Different Countries?

The OECD’s Health at a Glance publications report the best available internationally comparable data. Where appropriate, results are age-standardized to improve comparability. While countries generally adhere, to the extent possible, to the OECD’s standards for reporting health information given their national health information systems, there are a number of general caveats to keep in mind when looking at the differences in results for measures of health system performance across countries.

- A number of the measures reported are derived from population or patient surveys. Survey questions used in different countries might be phrased or interpreted differently due to cultural differences (for example, the way in which “good health” or “unmet health care needs” is understood in different cultures) or might include different categories of responses. There can be variations in response rates and how representative samples are. Surveys are also subject to recall bias—respondents might not remember if they had a mammogram within the last year or three years ago.
- For the same measures, such as cancer screening, some countries might report results using surveys, while other countries report screening rates from national screening programs.

Continued on next page
How Comparable Are Results From Different Countries? (cont’d)

- Measures of mortality by cause (due to cancer, heart disease or stroke, for example) depend on the accuracy of recording and coding a cause of death. Some countries have well-developed systems and consistent rules for recording specific causes, while in other countries there may be many causes that are recorded as “unspecified.”

- Complications and adverse events resulting from hospital care, such as accidental punctures or lacerations, can be counted only if they are recorded on the hospital’s discharge abstract. We know the standards required of Canadian hospitals for recording and reporting complications resulting from hospital stays, and CIHI regularly reviews the quality of abstract coding. However, we do not have the same information to assess the quality of recording and reporting from hospitals in other countries.

- What is included or excluded for measures of health care activities and resources often depends on the organization of health care delivery. Some countries count all procedures, resources and activities, whether provided by the public or private sectors and whether provided in or outside of hospital. Other countries are more restricted in what they are able to count and might exclude privately funded activity. In counts of health human resources, some countries include physicians or nurses who work as managers, researchers or educators, while others might count only those actively practising full time. Some countries include hospital-born newborns in their counts of hospitalizations, while newborns are excluded by other countries.

All of the factors above have an impact on the comparability of results across countries. The OECD has been rigorous in its approach to understanding and documenting cross-country differences in methods. Limitations that could have an impact on interpreting Canada’s results are included in the notes for each of the performance profiles. However, we also need to be wary of dismissing or disregarding results simply because we think that they may not be comparable. Comparisons can flag results that require attention, whether that attention is more consistency in reporting or understanding the factors leading to relatively poor results.

Health Status

Measures of health status, such as life expectancy, infant mortality, prevalence of diabetes and mortality due to cardiovascular diseases, provide an overall indication of the health of a country’s population. While many factors that influence health status—such as education, environment and living conditions—are outside of the health system, the measures reported here give a general picture of how healthy people are.

These measures of health status are directional; for example, a higher result in the case of life expectancy and perceived health status or a lower result in the case of mortality rates and disease prevalence reflect better health status. In the performance profile below, a positive score above the OECD average indicates a better result, while a negative score below the OECD average indicates a poorer result.
Notes
Perceived health status: Canada is one of only four countries in the OECD that uses five categories of responses—excellent, very good, good, fair and poor—when asking individuals to rate their health; the result reported includes the percentage of those rating their health as excellent, very good and good. Other countries use four categories—very good, good, fair and poor; the result reported is the percentage of those answering very good and good. The difference in the scales biases the results upward: results from the four countries that use five categories are in the top five OECD results.

Mortality results: The most recently reported Canadian results are from 2004 or 2005, while results from most other countries are from 2007 or later. This may overstate Canada’s result relative to other countries, particularly for cancer mortality, where mortality rates have decreased substantially since 1990, a trend that likely continued from 2004 onwards.

Prevalence of diabetes: Rates in different countries were estimated by the International Diabetes Federation and were derived from published studies meeting criteria for reliability. However, results from several countries were based on self-reported data, while results from others (including Canada) were adjusted to account for undiagnosed diabetes.

F: females.
M: males.
MVA: motor vehicle accident.

Sources
Organisation for Economic Co-operation and Development, OECD Health Data 2011 (Paris, France: OECD, 2011);
With respect to health status, Canada’s relative scores cover the range from being below the 25th percentile for measures such as prevalence of diabetes, cancer mortality for females, cancer incidence and infant mortality to being among the best for stroke mortality and perceived health status. However, for many of the measures included here, Canada sits close to the average for the OECD countries, with results between the 25th and 75th percentiles.

Canada’s strongest results are for mortality from stroke and perceived health status. As noted in Health at a Glance, there has been marked improvement in stroke mortality across nearly all OECD countries. The mortality rate for Canada decreased 34% between 1990 and 2004,iii and based on the most recent year available it was within the top 25% of results for all OECD countries (but behind the rates of France and the U.S. among the G7 countries). Canada’s relatively low rate of smoking among adults (see the section Non-Medical Determinants of Health) is likely one of the factors contributing to the low rate of mortality from stroke.

While the high result for perceived health status may be due in part to differences in category scales used by different countries, along with cultural expectations about good health, nearly 90% of Canadian adults surveyed said they were in good, very good or excellent health, compared with 76% of adults in the U.K. who rated their health as very good or good.

Results for diabetes prevalence and for cancer incidence and mortality, however, are poor compared with other OECD countries. Although the estimates of diabetes prevalence are based on different national studies, Canada’s estimated prevalence is lower than that of only the U.S., Portugal and Mexico among the 27 countries with reported results. Among the G7 countries, France, Japan, Italy and the U.K. have lower prevalence, while the rate for Germany is closer to, but still below, the rate for Canada (8.9% and 9.2%, respectively).6

The cancer mortality rate for females in Canada is among the highest in the OECD, and all other G7 countries report better rates. However, as noted in Figure 1, Canada’s reported mortality rate is from 2004, while rates for most other countries are from 2007 to 2009. GLOBOCAN has developed international projections of cancer mortality for 2008. While Canada’s result is still worse than the OECD average for female cancer mortality, the 2008 estimate indicates some improvement in Canada’s rate in comparison with other G7 countries.7 Total cancer mortality in Canada decreased nearly 12% between 1990 and 2004. However, some of the other G7 countries—

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iii. Unless otherwise indicated, all results referenced in this report come from OECD Health Data 2011, which is also the primary source for Health at a Glance 2011.
the U.S., the U.K. and Germany—had decreases of more than 14% over the same period. As discussed in the section Quality of Care, Canada’s five-year survival rates for breast and colorectal cancers are relatively high, as is screening for breast and cervical cancers. So although Canadian results for measures of early diagnosis and treatment of cancer are good, the overall relatively high rate of cancer incidence in Canada appears to be contributing to higher mortality, especially among females. In 2008, Canada had the third-highest incidence of lung cancer in females among all 34 OECD countries. Both lifestyles and improved diagnostic methods in higher-income countries may lead to higher reported cancer incidence; however, the overall incidence rate for Canada is higher than that for G7 peers Germany, Italy, Japan and the U.K.

Canadian results for infant mortality are also below the 25th percentile. However, there is relatively little variability in this rate among many OECD countries. Advanced maternal age and multiple births have been identified as some of the factors contributing to premature and low-birth-weight infants\(^8-10\) and are more common in higher-income countries. In 1990, Canada had the second-lowest rate of infant mortality among the G7 countries, but in 2007, Canada’s rate was second-highest, lower than that of only the U.S.

In 1961, Canada had the highest life expectancy at birth of the current G7 countries. Although Canadian life expectancy has increased since 1961, it has not kept pace with the increases in other G7 countries, and Canada dropped to fourth for the most recent year available. There is a similar pattern for premature mortality: although Canada has experienced substantial improvement since 1970, it has not kept pace with four of its G7 peers or with the OECD average.

Making a difference in health status can be difficult, given the cumulative impact of many years of what we now know to be unhealthy behaviours, including smoking and poor diet. However, taken together, the results in this dimension suggest that it may be possible to improve overall health status through long-term strategies to address cancer incidence where feasible, especially among females, and prevalence of diabetes. In particular, although smoking rates have dropped substantially over the past decade, the rate of lung cancer in women was a significant factor in the relatively high incidence of all cancers in women.

There are examples of systems that can be used to assess progress toward improving health status in a shorter time frame. The Department of Health in England recently proposed a national public health outcomes framework, which outlines a system of local and national indicators for measuring progress and establishing goals to improve the health status of citizens.\(^{11}\) This system aims to develop the tools and indicators to assess progress toward improving health status by measuring and managing performance at the local and national levels, not limited to the health care system only, but across a number of areas that contribute to health status.

Non-Medical Determinants of Health

Non-medical determinants of health are the behavioural and lifestyle factors, as well as the social, economic and physical environmental factors, outside of the health care system that have a significant impact on the health of individuals. Behavioural factors include smoking, diet and physical activity; environmental factors include air pollution, sanitation and water quality. \textit{Health at a Glance} reports measures of some of these behavioural factors: smoking rates, alcohol consumption and obesity and overweight. These are known determinants of a number of diseases and chronic conditions, such as diabetes, cancers and cardiovascular diseases. An understanding of Canada’s relative performance on these measures can help us determine what might be achieved in improving healthy behaviours and where to focus strategies for change.
Notes

Obesity among adults: There are differences in the methods used for reporting rates of obesity among adults. Measured rates (actual height and weight measurements taken of a sample of adults) generally result in higher estimated rates of obesity than rates determined using self-reported height and weight. Measured rates are available for only a limited number of countries. To increase the number of countries with which results can be compared, the self-reported rate for Canada of 16.5% is used here.

Childhood obesity and overweight: Rates of childhood obesity and overweight were estimated by the International Association for the Study of Obesity (IASO) based on latest available national studies measuring height and weight, as reviewed by the IASO. Studies for some countries are quite dated (from the 1990s). Although age- and sex-specific cut-off points are used to determine overweight and obesity for children, there are some differences in the way this has been done for different groups of countries.

M: males.
F: females.

Sources


Results in this dimension are at two extremes—prevalence of overweight and obesity, where Canada has rates among the highest for both adults and children, and smoking, where rates for Canada are among the lowest reported.
With respect to prevalence of smoking among adults, Canada’s relatively low rate places it in the top 25% of
the OECD and is essentially tied with the U.S. as the lowest rate among G7 countries (16.2% for Canada and
16.1% for the U.S.). Canada is also one of only five OECD countries with a decrease in the rate of smoking
since 1999 of greater than 30%. Health Canada’s 2006 report on the implementation and successes of the
national strategy on tobacco control lists initiatives and strategies across all provinces and territories to put
in place policies, legislation and public education programs, such as smoke-free places, health care cost
recovery and increased taxation of tobacco products, that have contributed to this reduction in smoking.13

When examining results for overweight and obesity among both children and adults, it is difficult to place
Canada appropriately due to differences in measurement and reporting methods. However, the rates reported
from the best available sources suggest that Canada sits in the group of countries with higher rates. If self-
reported rates (which tend to underestimate body mass index compared with actual measurement) of adult
obesity are considered, Canada’s rate of 16.5% would place it as the second-highest of the G7 countries. If
prevalence is estimated using actual measurements of weight and height, Canada’s rate is 24.2%, less than
that of the U.S. (33.8%), but close to that of the U.K. (23.0%). Between 2003 and 2009, Canada’s self-reported
rate of obesity increased by 15%, a rate similar to other G7 countries. A report on obesity in Canada identified
physical inactivity (especially screen time), diet, socio-economic status and community factors as contributors
to the increasing rate.12

Although there are differences in the timing, ages and methods of studies estimating overweight in childhood
that limit comparability, Canada is in the highest (worst) quartile for prevalence of overweight among both boys
and girls, with estimated rates for both sexes above 25%.14 Of the G7 countries, only Italy and the U.S. also
have rates for both boys and girls of more than 25%, while Germany, France and Japan all have rates of less
than 25% for children of both sexes. These results show that there are opportunities to reduce the prevalence
of overweight and obesity across all ages, and they emphasize the importance of forming healthy behaviours
during childhood.

Quality of Care

In 2001, the OECD embarked on a project to develop a set of indicators to measure quality of health care that
could be reliably reported across member countries. This is an ongoing collaborative project that now involves
23 countries, including Canada. The project included development of a conceptual framework to guide the
dimensions of quality that would be measured and how they would be measured.15 The conceptual framework
for quality of care is set within the larger OECD health indicators framework and focuses on the attributes of
quality care—effectiveness, safety and responsiveness to patients. Indicators of quality of care were first
reported in the 2007 release of Health at a Glance. As new indicators have been selected and comparability
of data improved, additional indicators have been reported, and the 2011 release includes 26 measures of
quality of care, of which 21 were reported for Canada. Issues affecting the comparability of measures across
countries are documented in Health at a Glance as well as in a number of OECD working papers.15, 16

The measures of quality of care reflect the effectiveness, safety and responsiveness of care. Examples include
rates of hospital admissions for selected chronic conditions, such as chronic obstructive pulmonary disease
(COPD), asthma and diabetes, as well as measures of coverage for effective and beneficial procedures, such
as screening for certain cancers and vaccinations. These measures are directional; for example, higher rates
of coverage for vaccination and screening programs are better results, and lower rates of hospital admissions
for chronic conditions are better results. The direction of the indicator is reflected in the performance profile,
where a negative score is worse than the OECD average and a positive score is better than average.
Notes
Measures of quality of care were first introduced in the 2007 publication of Health at a Glance. The 2009 and 2011 publications expanded on the number of quality measures reported. As the reporting of many of these measures is relatively new, there may be more inconsistencies in the way individual countries report results relative to indicators in other dimensions. Many of the indicators used to measure quality of care depend on accurate and complete recording and reporting of diagnoses, procedures and adverse events that occur in hospital settings. There are differences in hospital recording practices and completeness across countries that will affect the comparability of results for many of these indicators. Health at a Glance notes some specific issues that would have an impact on results for individual countries. Additionally, there are a number of indicators where comparator countries are limited—certain key data needed to determine a result may not be recorded at all or may be of questionable accuracy; results for these countries are not reported in Health at a Glance.

Immunization and screening: With respect to indicators of immunization and screening, some countries report these based on information available from specific programs, for example, a breast or colorectal cancer screening program. Other countries use surveys of individuals for reporting screening or immunization rates. Results from surveys may reflect variation due to recall error.

COPD: chronic obstructive pulmonary disease.
Post-op: post-operative.
DVT: deep vein thrombosis.
AMI: acute myocardial infarction.

Source
There are a number of indicators of quality of care where Canada has relatively good results. These include measures of care for chronic conditions where good primary care in the community may reduce the need for hospital admissions. Canada has the second-lowest rate among OECD countries and the lowest of the G7 countries for hospital admissions for asthma. Results for admissions for COPD are not as striking, but Canada’s result is still better than the OECD average and ranks ahead of results for Germany, the U.K. and the U.S. As well, Canada has the best rate among G7 countries for hospital admissions for uncontrolled diabetes, despite having one of the highest prevalence rates of diabetes among adults.

Although not the best, Canada is included among the countries with higher rates of screening for breast and cervical cancers. Five-year relative survival rates\textsuperscript{iv} for cancers reflect the impact of both early diagnosis and quality of treatment. Results for Canada are generally good, with five-year relative survival rates close to the OECD average for cervical cancer, above average for colorectal cancer and behind only the U.S. and Japan for breast cancer. Despite the successes in this area, as noted in the Health Status section, mortality due to cancer is relatively high in Canada, reflecting a higher incidence of cancer and, in particular, of cancers that are difficult to screen for and treat, such as lung cancer. Together, these results suggest that further improvement in reducing cancer mortality may depend more on primary prevention to reduce incidence, while continuing to support strong performance in diagnosing and treating cancers.\textsuperscript{17, 18}

Results for measures of 30-day in-hospital mortality following stroke and acute myocardial infarction (AMI) are mixed. Canada’s rate of mortality following AMI is second-best to only Italy’s among the G7 countries and is above the OECD average. Although Canada’s overall mortality due to stroke is low (see the section Health Status), the rate of 30-day in-hospital mortality following an ischemic stroke is among the highest of the OECD countries, and a number of G7 countries—Germany, Italy, the U.S. and Japan—have substantially better results. With respect to mortality following hemorrhagic stroke, Canada’s results are close to the OECD average and are comparable to results for the U.S., the U.K. and Italy. The rates of 30-day mortality for AMI and ischemic stroke for Canada have improved substantially since 2000, but most other countries have seen a similar level of improvement.

One area where some of the results look to be of concern is in-hospital adverse events. These include measures of obstetrical trauma, foreign body left in during a procedure, accidental puncture or laceration, post-operative pulmonary embolism/deep vein thrombosis and post-operative sepsis. It is important to note that these measures depend on the accurate recording of diagnoses and procedures in hospital records. The coding standards that have been developed by CIHI and that are mandated by provincial ministries of health, together with practices in most Canadian hospitals, may lead to more complete recording and reporting of some of these events relative to other countries. Additionally, the information required to report results for these measures is not available from a number of OECD countries. Canada had relatively low (better) rates compared with other OECD countries for post-operative sepsis and pulmonary embolism/deep vein thrombosis. However, the reported rate of accidental puncture or laceration was the highest among the 17 countries where results were reported, and at 525 per 100,000 hospitalizations was more than twice as high as the rates of 174 for the U.K. and 166 for the U.S., the G7 countries with the next-highest rates. The rate of foreign bodies left in during a procedure was the third highest of the OECD countries, and again, at 9.7 per 100,000 hospitalizations, was well over the next-highest G7 result of 5.7 (for the U.K.).

It is important to develop a better understanding of the extent to which Canada’s coding practices and standards and those of other countries might be contributing to Canadian rates that appear high compared with other countries. Regardless of the reason, the differences highlighted in \textit{Health at a Glance} merit further attention and an understanding of whether there are specific strategies or initiatives focusing on reducing adverse events that could be useful in improving results for Canada.

\textsuperscript{iv} A five-year relative survival rate is the ratio of the observed survival for a group of persons five years after a diagnosis of cancer to the survival expected for people in the same general population.
Access to Care

*Health at a Glance* examines measures of access to care with respect to equity in access; it includes indicators of measured differences in access to or use of health care services on a geographic and socio-economic (that is, income-level) basis. Measures of access to care also examine the impact of out-of-pocket expenditures (costs paid by patients at the point of care, such as copayments and costs for laboratory tests or prescription medications) and the proportion of the population covered by various health care insurance schemes.

Equitable access to care does not imply that all individuals should have the same level of health care service use. Most countries aim to have a health system that provides equal access for people with equal health care needs (horizontal equity), while people with higher levels of health care need would be expected to have greater use of services (vertical equity). This definition of equity in access to health services means that it is important to understand assumptions of health care needs when interpreting results. However, for the measures reported in this dimension, a direction can be assigned, as shown on the performance profile. Waiting times for health care services are another important factor in access to care, and in this case shorter waiting times are considered a better result.
A number of the measures reported look at the use or non-use of services by income level (as a proxy for socio-economic status). However, this data is usually obtained only through population surveys that include questions about both health service use and socio-economic factors. Not all OECD countries regularly undertake such surveys, and there are inconsistencies in the way questions are asked and in the most recent survey years. This limits the results that can be reported for Canada and for many other OECD countries.

Although insurance coverage for health services is one of the measures reported in *Health at a Glance*, results are not included in the performance profile, as the wide variation in public and private insurance regimes limits the countries with which Canadian results can be compared.

Waiting times: Although data on waiting times for procedures is often collected and publicly reported in many countries, waiting time definitions and the procedures for which they are measured are inconsistent. To maximize comparability, self-reported waiting times from an international survey of selected countries were used in *Health at a Glance*; these results are shown in the performance profile.

Sources

Although the number of comparison countries is limited to those participating in The Commonwealth Fund’s survey, the results show that waiting times to see a specialist and for elective surgery as reported by Canadian patients are the highest of the 11 OECD countries included in the survey. Fifty-nine percent of those surveyed in Canada reported waiting four weeks or more to see a specialist, compared with less than 50% of respondents in 8 of the 10 other countries. Twenty-five percent of Canadians surveyed reported

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v. The Commonwealth Fund, together with participating countries, conducts an annual international health policy survey. The results reported are from the 2010 survey of adults from 11 countries: Australia, Canada, France, Germany, the Netherlands, New Zealand, Norway, Sweden, Switzerland, the United Kingdom and the United States. The comparison is limited to these countries.
waiting four months or more for elective surgery, compared with less than 20% of respondents in 7 of the 10 other countries. Also of note is that in surveys from earlier years, the U.K. and New Zealand had wait time results for elective surgery similar to Canada’s. However, since 2005, Canada’s results have improved only marginally, while the rates of long wait times for these other two countries have shown more substantial improvement.

Among countries where results are reported, Canada had the fifth-highest (-worst) score of 15 countries on an index of horizontal inequity for the probability of a visit to a physician. This means that lower-income individuals had a lower probability of having made a physician visit over the past year than individuals with higher income, given similar levels of health care need. The index calculated for Canada was 0.019 (a result of 0 for this index would represent no differences based on income level) and, while close to 0, the indices for France, Germany and the U.K. were lower and were statistically significantly\(^{vi}\) better than Canada’s result.

Canada’s universal, publicly funded health care system has helped to remove financial barriers to accessing services. Indeed, Canada has relatively good results for the proportion of income that households devote to out-of-pocket health spending and is average with respect to the percentage of lower-income individuals reporting unmet health care needs. However, measures of horizontal inequity in the probability of a physician visit suggest that there may be more barriers to access (non-financial as well as financial) for lower-income individuals in Canada than in other countries where results are reported. Canada has established evidence-based benchmarks and standards for wait times that prioritize access to key services based on assessed need for identified wait time priority procedures, and roughly 8 out of 10 Canadians receive surgery within the established benchmark.\(^{20}\) However, Canadians report much longer waits to access services overall, especially when compared with countries that have had recent successes in decreasing wait times.

Measures of Health System Structure and Organization

The health system framework used in *Health at a Glance* includes three dimensions that encompass important contextual information about the differences in the structure and organization of the health systems of the OECD member states. The measures in these dimensions do not reflect the performance of health systems but rather provide information about how the context of a country’s health system—the levels and sources of health care expenditure, the levels and use of health human resources and the volumes of health care services delivered—differs from that of other countries. These dimensions include the following:

- **Health workforce**: This dimension includes measures that help us understand the size and composition of a country’s health human resources and the relative human resources that are devoted to providing health care services. Examples of these measures include physicians or nurses per capita as well as indicators related to remuneration.

- **Health care activities**: Measures of health care activities help us understand the differences in utilization of various health care services. These measures of utilization include hospitalizations (discharges), magnetic resonance imaging (MRI) and computed tomography (CT) exams, cardiac procedures and hip and knee replacements, among others.

- **Health expenditure and financing**: Measures of expenditure on health provide information about the level of financial resources devoted to health care in OECD countries and how those resources are used. Measures of health expenditure by financing source break down the sources of funds for those expenditures—how much of the total comes from public sources and how much from private sources, including out-of-pocket payments (payments at the point of care for drugs and medications, laboratory tests, copayments, etc.) by individuals and families.

\(^{vi}\) P<0.05.
For these measures, neither higher nor lower results imply better performance; they simply describe how health systems and health care delivery are structured in different OECD countries. Table 1 below lists the measures that were reported in *Health at a Glance*, showing Canada’s result and the OECD average result and noting whether Canada’s result is higher or lower than the average.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Canada’s Result</th>
<th>OECD Average</th>
<th>Higher/Lower Than Average</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Health Workforce</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employment in the health and social sectors as percentage of total civilian employment</td>
<td>11.6</td>
<td>10.1</td>
<td>Higher</td>
</tr>
<tr>
<td>Practising doctors per 1,000 population</td>
<td>2.4</td>
<td>3.1</td>
<td>Lower</td>
</tr>
<tr>
<td>Medical graduates per 1,000 physicians</td>
<td>29.7</td>
<td>32.5</td>
<td>Lower</td>
</tr>
<tr>
<td>Gynecologists and obstetricians per 100,000 females</td>
<td>14.3</td>
<td>26.8</td>
<td>Lower</td>
</tr>
<tr>
<td>Registered midwives per 100,000 females</td>
<td>4.5</td>
<td>69.8</td>
<td>Lower</td>
</tr>
<tr>
<td>Psychiatrists per 100,000 population</td>
<td>15.4</td>
<td>15.4</td>
<td>Same</td>
</tr>
<tr>
<td>Practising nurses per 1,000 population</td>
<td>9.4</td>
<td>8.4</td>
<td>Higher</td>
</tr>
<tr>
<td>Nursing graduates per 1,000 nurses</td>
<td>40.5</td>
<td>58.1</td>
<td>Lower</td>
</tr>
<tr>
<td>Hospital nurses’ remuneration, ratio to average wage</td>
<td>1.2</td>
<td>1.2</td>
<td>Same</td>
</tr>
<tr>
<td><strong>Health Care Activities</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doctor consultations per capita</td>
<td>5.5</td>
<td>6.5</td>
<td>Lower</td>
</tr>
<tr>
<td>Magnetic resonance imaging exams per 1,000 population</td>
<td>43.0</td>
<td>46.6</td>
<td>Lower</td>
</tr>
<tr>
<td>Computed tomography exams per 1,000 population</td>
<td>125.4</td>
<td>131.8</td>
<td>Lower</td>
</tr>
<tr>
<td>Hospital beds per 1,000 population</td>
<td>3.3</td>
<td>4.9</td>
<td>Lower</td>
</tr>
<tr>
<td>Hospital discharges (hospitalizations) per 1,000 population</td>
<td>84</td>
<td>158</td>
<td>Lower</td>
</tr>
<tr>
<td>Average length of stay (days per admission) in hospital for all causes</td>
<td>7.7</td>
<td>7.2</td>
<td>Higher</td>
</tr>
<tr>
<td>Coronary angioplasty (hospital inpatient only) per 100,000 population</td>
<td>105</td>
<td>188</td>
<td>Lower</td>
</tr>
<tr>
<td>Hip replacement surgery per 100,000 population</td>
<td>123</td>
<td>154</td>
<td>Lower</td>
</tr>
<tr>
<td>Knee replacement surgery per 100,000 population</td>
<td>143</td>
<td>118</td>
<td>Higher</td>
</tr>
<tr>
<td>Prevalence of patients treated for end-stage renal failure per 100,000 population</td>
<td>113.1</td>
<td>101.7</td>
<td>Higher</td>
</tr>
<tr>
<td>Caesarean sections per 100 live births</td>
<td>26.6</td>
<td>25.8</td>
<td>Higher</td>
</tr>
<tr>
<td>Cataract surgery procedures carried out as day cases as percentage of all cataract surgery procedures</td>
<td>99.6</td>
<td>85.3</td>
<td>Higher</td>
</tr>
</tbody>
</table>

*Continued on next page*
Table 1: Summary of Results for Measures of Health System Structure and Organization (cont’d)

<table>
<thead>
<tr>
<th>Measure</th>
<th>Canada’s Result</th>
<th>OECD Average</th>
<th>Higher/Lower Than Average</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Health Expenditure and Financing</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total health expenditure per capita (U.S. PPP)</td>
<td>4,363</td>
<td>3,224</td>
<td>Higher</td>
</tr>
<tr>
<td>Average annual growth rate (percentage increase), 2000 to 2009, in health expenditure per capita in real terms</td>
<td>3.7</td>
<td>4.0</td>
<td>Lower</td>
</tr>
<tr>
<td>Total health expenditure as percentage of GDP</td>
<td>11.4</td>
<td>9.6</td>
<td>Higher</td>
</tr>
<tr>
<td>Expenditure on health care administration and insurance as percentage of current health expenditure</td>
<td>3.7</td>
<td>3.0</td>
<td>Higher</td>
</tr>
<tr>
<td>Expenditure on pharmaceuticals per capita (U.S. PPP)</td>
<td>692</td>
<td>487</td>
<td>Higher</td>
</tr>
<tr>
<td>Public expenditures on health as percentage of total health expenditure</td>
<td>71</td>
<td>72</td>
<td>Lower</td>
</tr>
</tbody>
</table>

Notes
Health workforce: The numbers of physicians and nurses used to calculate the indicators represent head counts and do not take into account the extent to which people are working part time or their intensity of activity, which might vary significantly across countries. There are some inconsistencies across countries in the inclusion of physicians and nurses who work as managers, educators and researchers, resulting in over-estimation compared with the countries that have not counted these workers. There are also differences across countries in the inclusion/exclusion of lower-level nursing graduates in the counts of nursing graduates and in the calculation of remuneration of nurses.

Health at a Glance 2011 includes an indicator showing remuneration of physicians compared with a country’s average wage. Although results were reported for Canada, this measure is not included in the performance profile, as the total number of countries with results was limited and there are significant differences in physician remuneration methods as well as in methodologies for calculating average physician remuneration across countries. Health care activities: There are inconsistencies in the methods that different countries have used to count numbers of services. These include, for example, inclusion/exclusion of services delivered in hospital outpatient departments and whether privately delivered and funded services are included for countries that have mixed public/private funding of services. For doctor consultations, while most countries report results using administrative data, some countries used health interview surveys to estimate utilization of services, which may result in lower estimates due to incorrect recall and response rates.

Health at a Glance 2011 includes a measure of pharmaceutical consumption per capita, but results for Canada for this measure are not available. There are some differences across countries in the methods used to estimate spending on long-term care and in the allocation of spending between health and social care.

PPP: purchasing power parity.

Source

Health Workforce

- Compared with the OECD average, Canada has fewer physicians per 1,000 population, particularly physicians specializing in obstetrics and gynecology. Canada’s result includes physicians working as managers, educators and researchers; these physicians are not included by some of the other countries that make up the OECD average.

- The number of nurses per 1,000 population for Canada is somewhat higher than, but very close to, the OECD average.

Health Care Activities

- The utilization of health care services should be related to the need for services. Other things being equal, a healthier population would have less need for services than an unhealthier one. However, utilization may also be limited by a supply of health care services that does not meet needs.

- The pattern of acute care hospitalization capacity and usage in Canada is quite different from the OECD average. Canada has a relatively low number of hospital beds along with a low rate of hospitalizations (the Canadian result excludes discharges of both healthy and unhealthy babies, accounting for approximately 12% of all discharges). On the other hand, the average number of days that individuals stay in the hospital is relatively high in Canada.
• Although the number of angioplasties\textsuperscript{vii} per population is lower than average, the numbers reported in \textit{Health at a Glance} include only those done on hospital inpatients. Canadian hospitals also perform a large number of angioplasties on a day surgery basis, without an overnight hospital stay.

• Canada has a higher-than-average prevalence of patients being treated for end-stage renal failure (ESRF).\textsuperscript{viii} As described in the section Health Status, Canada has one of the higher rates of prevalence of diabetes among the OECD countries; diabetes contributes to ESRF.\textsuperscript{22} The prevalence of individuals living with a transplanted kidney is also higher than the OECD average.

• Almost all cataract surgery procedures are now performed as day surgery in Canada. Eleven of the OECD countries had rates higher than 95%.

\section*{Health Expenditure and Financing}

• As described in \textit{Health at a Glance}, “OECD countries vary enormously in how much they spend on health and the rate at which health spending grows. This reflects a wide array of market and social factors, as well as countries’ diverse financing and organisational structures of their health systems.” There is also a significant correlation between income (GDP per capita) and health expenditure as a percentage of GDP among the 34 OECD countries.\textsuperscript{ix}

• Canada’s health care expenditure is greater than the OECD average, on both a per capita basis and as a percentage of GDP; the average annual growth in health expenditures between 2000 and 2009 was close to, but just less than, the average for OECD countries.

• Just more than 70\% of health care expenditures in Canada come from public (government) sources, very close to the OECD average of 72\%.

• CIHI’s report \textit{National Health Expenditure Trends, 1975 to 2010}\textsuperscript{23} includes a section addressing comparisons of Canada’s results with OECD comparator countries. It provides a reference for additional information about how Canada’s health spending and financing compares with that of other OECD countries.

\section*{Conclusion}

There is considerable variation in results for measures of health system performance across all of the OECD countries. For Canada, relatively good results on some measures in some dimensions of performance are found together with results on other measures that are among the worst when compared with other countries. Canada has a relatively low prevalence of smoking but very high rates of overweight and obesity. Survival rates for colorectal and breast cancers are relatively good, and Canada has good coverage of screening for breast and cervical cancers; however, mortality due to cancer in Canada is higher than in many OECD countries, likely due in part to a higher rate of incidence of cancer. On many other measures of quality of care, such as hospital admissions for chronic conditions that can often be avoided through good primary and community care, Canada’s results are better than the OECD average and often at or above the 75th percentile. However, there are other areas of quality of care—some related to patient safety, such as foreign body left in after procedure, obstetrical trauma and accidental puncture or laceration—where results are below average and below the 25th percentile.

\textsuperscript{vii} Angioplasty is a type of revascularization procedure that is used to open blocked coronary arteries. The other main revascularization procedure is coronary artery bypass graft, where a vein from the patient’s leg is surgically grafted to a coronary artery to replace the blocked vessel.

\textsuperscript{viii} The kidneys of patients with ESRF can no longer function. Patients require treatment with either dialysis or kidney transplants. Kidney transplantation is generally the preferred method for treatment, as dialysis tends to result in a poorer quality of life. The capacity for kidney transplantation is often limited by the supply of kidney donors.

\textsuperscript{ix} P<0.05.
This variation points to the need to understand the differences and to learn how these can be used to support the development of strategies to address areas where Canada’s health system is not achieving results that some other countries achieve. Given the importance of health and the health system to Canadians, international comparisons are an opportunity for decision-makers and health system managers in Canada to learn from the best and strive to be among the best across all areas.

Acknowledgements

CIHI would like to acknowledge and thank the individuals and organizations that contributed to the development of this report, in particular the staff at the Health Division, Directorate for Employment Labour and Social Affairs at the OECD, who provided useful information as well as feedback and advice on the development of the report and analysis. It should be noted that the analyses and conclusions in this report do not necessarily reflect the opinions of the OECD or the staff who contributed to this report.

The project team would like to acknowledge and thank the members of CIHI’s National Health Expenditure team for their contributions in providing guidance on the use of OECD data and feedback and comments on the report. We are also grateful to the Health Indicators and Health Human Resources teams and other reviewers at CIHI for their useful feedback during the development of the report.

CIHI team members that contributed to this report include Ali Moses McKeag, Ben Reason and Brenda Tipper.
## Appendix 1: Performance of G7 Health Systems

### OECD Health at a Glance Results for G7 Countries

<table>
<thead>
<tr>
<th>Indicator Label</th>
<th>Indicator Description</th>
<th>Canada</th>
<th>France</th>
<th>Germany</th>
<th>Italy</th>
<th>Japan</th>
<th>United Kingdom</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Health Status Performance Dimension</strong></td>
<td></td>
<td>Greenland</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LE at Birth</td>
<td>Life expectancy at birth</td>
<td>80.7</td>
<td>81.5</td>
<td>80.3</td>
<td>81.8</td>
<td>83.0</td>
<td>80.4</td>
<td>78.2</td>
</tr>
<tr>
<td>Premature Mortality (M)</td>
<td>Potential years of life lost per 100,000 population before the age of 70; reported separately for males and females</td>
<td>4,168</td>
<td>4,459</td>
<td>4,044</td>
<td>3,518</td>
<td>3,287</td>
<td>3,988</td>
<td>6,133</td>
</tr>
<tr>
<td>Premature Mortality (F)</td>
<td></td>
<td>2,554</td>
<td>2,202</td>
<td>2,212</td>
<td>1,882</td>
<td>1,763</td>
<td>2,479</td>
<td>3,555</td>
</tr>
<tr>
<td>Heart Disease Mortality</td>
<td>Mortality due to ischemic heart disease per 100,000 population</td>
<td>88</td>
<td>32</td>
<td>93</td>
<td>58</td>
<td>26</td>
<td>77</td>
<td>95</td>
</tr>
<tr>
<td>Stroke Mortality</td>
<td>Mortality due to stroke per 100,000 population</td>
<td>31</td>
<td>26</td>
<td>40</td>
<td>44</td>
<td>40</td>
<td>41</td>
<td>31</td>
</tr>
<tr>
<td>Cancer Mortality (M)</td>
<td>Mortality due to cancer per 100,000 population; reported separately for males and females</td>
<td>205</td>
<td>221</td>
<td>202</td>
<td>212</td>
<td>189</td>
<td>199</td>
<td>185</td>
</tr>
<tr>
<td>Cancer Mortality (F)</td>
<td></td>
<td>143</td>
<td>111</td>
<td>124</td>
<td>117</td>
<td>93</td>
<td>141</td>
<td>130</td>
</tr>
<tr>
<td>MVA Mortality</td>
<td>Mortality due to transport accidents per 100,000 population</td>
<td>8.8</td>
<td>6.8</td>
<td>6.1</td>
<td>9.3</td>
<td>4.1</td>
<td>4.0</td>
<td>14.6</td>
</tr>
<tr>
<td>Suicide</td>
<td>Mortality due to suicide per 100,000 population</td>
<td>10.2</td>
<td>13.8</td>
<td>9.1</td>
<td>4.9</td>
<td>19.7</td>
<td>6.2</td>
<td>10.5</td>
</tr>
<tr>
<td>Infant Mortality</td>
<td>Deaths of children younger than one year per 1,000 live births</td>
<td>5.1</td>
<td>3.7</td>
<td>3.5</td>
<td>3.7</td>
<td>2.4</td>
<td>4.6</td>
<td>6.5</td>
</tr>
<tr>
<td>Low Birth Weight</td>
<td>Infants weighing less than 2,500 grams at birth as a percentage of live births</td>
<td>6.0</td>
<td>6.6</td>
<td>6.9</td>
<td>7.0</td>
<td>9.6</td>
<td>7.4</td>
<td>8.2</td>
</tr>
<tr>
<td>Perceived Health Status</td>
<td>Percentage of population rating their own health as very good or good</td>
<td>88.5</td>
<td>72.4</td>
<td>64.7</td>
<td>63.6</td>
<td>32.7</td>
<td>76.0</td>
<td>90.0</td>
</tr>
<tr>
<td>Diabetes Prevalence</td>
<td>Estimate of the number of adults age 20 to 79 with diabetes as a percentage of population</td>
<td>9.2</td>
<td>6.7</td>
<td>8.9</td>
<td>5.9</td>
<td>5.0</td>
<td>3.6</td>
<td>10.3</td>
</tr>
<tr>
<td>Cancer Incidence</td>
<td>Number of new cancer cases diagnosed in a year per 100,000 population</td>
<td>296.6</td>
<td>300.4</td>
<td>282.1</td>
<td>274.3</td>
<td>201.1</td>
<td>269.4</td>
<td>300.2</td>
</tr>
<tr>
<td>AIDS Incidence</td>
<td>Number of new cases of AIDS per 1 million population</td>
<td>6.6</td>
<td>11.4</td>
<td>2.8</td>
<td>14.3</td>
<td>3.4</td>
<td>8.9</td>
<td>122.2</td>
</tr>
</tbody>
</table>

### Legend

- **Country Result Below OECD 25th Percentile**
- **Country Result Between OECD 25th Percentile and Median**
- **Country Result Between OECD Median and 75th Percentile**
- **Country Result Above OECD 75th Percentile**
- **Country Result Not Reported**
## OECD Health at a Glance Results for G7 Countries (cont’d)

### Non-Medical Determinants of Health Performance Dimension

<table>
<thead>
<tr>
<th>Indicator Label</th>
<th>Indicator Description</th>
<th>Canada</th>
<th>France</th>
<th>Germany</th>
<th>Italy</th>
<th>Japan</th>
<th>United Kingdom</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tobacco Consumption</td>
<td>Percentage of adult population reporting smoking daily</td>
<td>16.2</td>
<td>26.2</td>
<td>21.9</td>
<td>23.1</td>
<td>23.9</td>
<td>21.5</td>
<td>16.1</td>
</tr>
<tr>
<td>Alcohol Consumption</td>
<td>Average annual alcohol consumption in litres per capita (age 15 and older)</td>
<td>8.2</td>
<td>12.3</td>
<td>9.7</td>
<td>7.4</td>
<td>10.2</td>
<td>8.8</td>
<td></td>
</tr>
<tr>
<td>Obesity Among Adults</td>
<td>Percentage of adults who are obese (body mass index higher than 30), self-reported</td>
<td>16.5</td>
<td>11.2</td>
<td>14.7</td>
<td>10.3</td>
<td></td>
<td>27.7</td>
<td></td>
</tr>
<tr>
<td>Overweight Children (M)</td>
<td>Percentage of children age 5 to 17 considered overweight (including obese); reported separately for males and females</td>
<td>28.9</td>
<td>13.1</td>
<td>22.6</td>
<td>32.4</td>
<td></td>
<td>22.7</td>
<td>35.0</td>
</tr>
<tr>
<td>Overweight Children (F)</td>
<td></td>
<td>26.1</td>
<td>14.9</td>
<td>17.6</td>
<td>30.9</td>
<td></td>
<td>26.6</td>
<td>35.9</td>
</tr>
</tbody>
</table>

### Quality of Care Performance Dimension

| Avoidable Admissions: Asthma | Number of hospital discharges for asthma of people age 15 and older per 100,000 population | 15.7   | 43.4   | 20.8    | 19.2  |       | 73.7          | 120.6         |
| Avoidable Admissions: COPD  | Number of hospital discharges for COPD of people age 15 and older per 100,000 population | 183.3  | 79.1   | 200.6   | 126.2 |       | 213.4         | 229.8         |
| Avoidable Admissions: Diabetes | Number of hospital discharges for diabetes of people age 15 and older per 100,000 population | 15.2   | 50.3   | 33.1    | 23.9  |       | 21.2          |               |
| 30-Day Fatality: AMI        | Percentage of patients who die in hospital within 30 days of being admitted for AMI       | 3.8    | 6.8    | 3.7     | 9.7   | 5.2   | 4.3           |               |
| 30-Day Fatality: Ischemic Stroke | Percentage of patients who die in hospital within 30 days of being admitted for ischemic stroke | 6.3    | 4.0    | 3.4     | 1.8   | 6.7   | 3.0           |               |
| 30-Day Fatality: Hemorrhagic Stroke | Percentage of patients who die in hospital within 30 days of being admitted for hemorrhagic stroke | 20.6   | 13.8   | 17.6    | 9.7   | 19.3  | 21.0          |               |
| OBS Trauma: Instrument      | Percentage of vaginal deliveries with obstetric trauma; reported separately with instrument and without instrument | 13.67  | 2.05   | 7.53    | 2.78  |       | 6.32          | 12.46         |
| OBS Trauma: No Instrument   |                                                                                       | 2.67   | 0.37   | 2.13    | 0.74  |       | 2.15          | 2.05          |

**Legend**

- Country Result Below OECD 25th Percentile
- Country Result Between OECD 25th Percentile and Median
- Country Result Between OECD Median and 75th Percentile
- Country Result Above OECD 75th Percentile
- Country Result Not Reported

*Continued on next page*
### OECD Health at a Glance Results for G7 Countries (cont’d)

<table>
<thead>
<tr>
<th>Indicator Label</th>
<th>Indicator Description</th>
<th>Canada</th>
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<th>Italy</th>
<th>Japan</th>
<th>United Kingdom</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Foreign Body</strong></td>
<td>Number of cases of foreign body left in during procedure per 100,000 hospital discharges</td>
<td>9.7</td>
<td>5.5</td>
<td>3.4</td>
<td>3.3</td>
<td>5.7</td>
<td>4.9</td>
<td></td>
</tr>
<tr>
<td><strong>Accidental Puncture or Laceration</strong></td>
<td>Number of cases of accidental puncture or laceration per 100,000 hospital discharges</td>
<td>525</td>
<td>155</td>
<td>73</td>
<td>114</td>
<td>174</td>
<td>166</td>
<td></td>
</tr>
<tr>
<td><strong>Post-Op Pulmonary Embolism/DVT</strong></td>
<td>Number of cases of post-operative pulmonary embolism or DVT per 100,000 hospital discharges</td>
<td>566</td>
<td>902</td>
<td>378</td>
<td>536</td>
<td>812</td>
<td>1019</td>
<td></td>
</tr>
<tr>
<td><strong>Post-Op Sepsis</strong></td>
<td>Number of cases of post-operative sepsis per 100,000 hospital discharges</td>
<td>769</td>
<td>858</td>
<td>541</td>
<td></td>
<td></td>
<td>1077</td>
<td></td>
</tr>
<tr>
<td><strong>Bipolar Disorder Readmissions</strong></td>
<td>Readmission within 30 days of initial admission as percentage of total admissions; reported separately for schizophrenia and bipolar disorder</td>
<td>10.5</td>
<td>9.5</td>
<td>10.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Schizophrenia Readmissions</strong></td>
<td></td>
<td>11.1</td>
<td>14.0</td>
<td>8.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cervical Cancer Screening</strong></td>
<td>Percentage of women age 20 to 69 receiving cervical cancer screening (Pap smear)</td>
<td>75.3</td>
<td>72.4</td>
<td>39.0</td>
<td>24.5</td>
<td>78.7</td>
<td>85.9</td>
<td></td>
</tr>
<tr>
<td><strong>Cervical Cancer Survival</strong></td>
<td>Five-year relative survival rate for cervical cancer</td>
<td>64.9</td>
<td>62.9</td>
<td>70.2</td>
<td>58.6</td>
<td>64.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Breast Cancer Screening</strong></td>
<td>Percentage of women age 50 to 69 receiving breast cancer screening (mammography)</td>
<td>72.5</td>
<td>54.5</td>
<td>53.6</td>
<td>60.0</td>
<td>74.0</td>
<td>81.1</td>
<td></td>
</tr>
<tr>
<td><strong>Breast Cancer Survival</strong></td>
<td>Five-year relative survival rate for breast cancer</td>
<td>86.6</td>
<td>83.3</td>
<td>81.1</td>
<td>89.3</td>
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</tr>
<tr>
<td><strong>Colorectal Cancer Survival</strong></td>
<td>Five-year relative survival rate for colorectal cancer</td>
<td>63.4</td>
<td>60.4</td>
<td>53.2</td>
<td>64.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Childhood Vaccination: Measles</strong></td>
<td>Percentage of children who have received vaccination for measles by age 2</td>
<td>92.7</td>
<td>90.0</td>
<td>95.9</td>
<td>89.9</td>
<td>93.0</td>
<td>87.0</td>
<td>90.0</td>
</tr>
<tr>
<td><strong>Influenza Vaccination: 65+</strong></td>
<td>Percentage of adults age 65 and older who received an influenza vaccination</td>
<td>66.5</td>
<td>71.0</td>
<td>61.1</td>
<td>66.3</td>
<td>50.0</td>
<td>73.3</td>
<td>66.7</td>
</tr>
</tbody>
</table>

**Legend**

- Orange: Country Result Below OECD 25th Percentile
- Dark Orange: Country Result Between OECD 25th Percentile and Median
- Yellow: Country Result Between OECD Median and 75th Percentile
- Green: Country Result Above OECD 75th Percentile
- Grey: Country Result Not Reported
### OECD Health at a Glance Results for G7 Countries (cont’d)

<table>
<thead>
<tr>
<th>Indicator Label</th>
<th>Indicator Description</th>
<th>Canada</th>
<th>France</th>
<th>Germany</th>
<th>Italy</th>
<th>Japan</th>
<th>United Kingdom</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Access to Care Performance Dimension</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unmet Health Care Needs</td>
<td>Percentage of low-income individuals who report unmet need due to cost</td>
<td>18</td>
<td>17</td>
<td>27</td>
<td></td>
<td></td>
<td>4</td>
<td>39</td>
</tr>
<tr>
<td>Out-of-Pocket Spending</td>
<td>Out-of-pocket spending on health care as percentage of total household spending</td>
<td>2.9</td>
<td>1.6</td>
<td>2.4</td>
<td>3.1</td>
<td>2.4</td>
<td>1.6</td>
<td>3.1</td>
</tr>
<tr>
<td>Inequality in Physician Visits</td>
<td>Inequity index for probability of visit (0 = no difference in probability based on income)</td>
<td>0.019</td>
<td>0.013</td>
<td>0.010</td>
<td></td>
<td></td>
<td>0.004</td>
<td>0.060</td>
</tr>
<tr>
<td>Waiting Time: Specialist</td>
<td>Percentage of population reporting waiting time of four weeks or more for specialist appointments</td>
<td>59</td>
<td>47</td>
<td>17</td>
<td></td>
<td></td>
<td>28</td>
<td>20</td>
</tr>
<tr>
<td>Waiting Time: Elective Surgery</td>
<td>Percentage of population reporting waiting time of four months or more for elective surgery</td>
<td>25</td>
<td>7</td>
<td>0</td>
<td></td>
<td></td>
<td>21</td>
<td>7</td>
</tr>
</tbody>
</table>

#### Legend
- Country Result Below OECD 25th Percentile
- Country Result Between OECD 25th Percentile and Median
- Country Result Between OECD Median and 75th Percentile
- Country Result Above OECD 75th Percentile
- Country Result Not Reported

#### Notes
- COPD: chronic obstructive pulmonary disease.
- AMI: acute myocardial infarction.
- DVT: deep vein thrombosis.
Appendix 2: Methodology Notes

Figures

Data Sources

For variables cited in Health at a Glance as OECD Health Data 2011, we used tables downloaded from the OECD’s StatExtracts website. For some measures, data was unavailable online. For these variables, we used supporting data tables that were supplied to us from the OECD via email. Data for variables cited as OECD Health Quality Indicators was taken from tables provided to us by the OECD. Data from The Commonwealth Fund, the International Association for the Study of Obesity and the International Diabetes Federation was taken directly from Health at a Glance.

Calculations

For each indicator, we used the most recent data from each country from the period 2007 to 2010. Countries that did not report data in that period were excluded from our calculations. In cases where Canada’s value was older than 2007, we used data from that year onward. The mean and standard deviation of all included countries were calculated to present normalized scores for Canada and OECD 25th and 75th percentiles.

Table 1

This table of non-performance (non-directional) indicators presents Canadian scores and OECD averages directly from Health at a Glance without regard to the year of the data.

Appendix 1

The 25th, 50th and 75th percentiles were calculated using the same data sources and inclusion criteria as the figures.

Member States of the OECD

- Australia
- Austria
- Belgium
- Canada
- Chile
- Czech Republic
- Denmark
- Estonia
- Finland
- France
- Germany
- Greece
- Hungary
- Iceland
- Ireland
- Israel
- Italy
- Japan
- Korea
- Luxembourg
- Mexico
- Netherlands
- New Zealand
- Norway
- Poland
- Portugal
- Slovak Republic
- Slovenia
- Spain
- Sweden
- Switzerland
- Turkey
- United Kingdom
- United States

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References


