Our Vision
Better data. Better decisions.
Healthier Canadians.

Our Mandate
To lead the development and maintenance of comprehensive and integrated health information that enables sound policy and effective health system management that improve health and health care.

Our Values
Respect, Integrity, Collaboration, Excellence, Innovation
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Acknowledgements

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Thank you to the following advisory panel members for their guidance and contributions:

**Dr. Bachir Belhadji**
Senior Policy Advisor  
Health Canada

**Dr. Richard Birtwhistle**
Director, Centre for Studies in Primary Care  
Queen’s University

**Ms. Lisa Grandy**
Director of Primary Health Care  
Nova Scotia Department of Health and Wellness

**Dr. Jeannie Haggerty**
McGill Research Chair  
McGill University

**Dr. William Hogg**
Professor and Senior Research Advisor  
University of Ottawa

**Dr. Brian Hutchison**
Professor Emeritus  
McMaster University

**Dr. Alan Katz**
Research Director, Department of Family Medicine  
University of Manitoba

**Dr. Jean-Frédéric Levesque**
Scientific Director, Health Systems Analysis and Evaluation  
Institut national de santé publique du Québec

**Mr. Tom Fogg**
Primary Care Network Consultant  
Manitoba Health

**Ms. Kristin Anderson (alternate)**
Director  
Manitoba Health
Dr. Patrice Lindsay  
Director, Performance and Standards  
Canadian Stroke Network

Ms. Michelina Mancuso  
Executive Director  
New Brunswick Health Council

Ms. Margaret Miller  
Manager, Data Development and Research Dissemination Division  
Health Canada

Ms. Marci Scott  
Primary Health Care Strategic Planner  
Regina Qu’Appelle Health Region

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- Li Dong, Senior Analyst, CIHI  
- Jennifer D’Silva, Project Lead, CIHI  
- Olga Krylova, Senior Analyst, CIHI  
- Michael Terner, Project Lead, CIHI  
- Brenda Tipper, Senior Program Consultant, CIHI

Additional support and guidance for this report was provided by

- Alison Bidie, Project lead, CIHI  
- Ali Moses McKeag, Project Lead, CIHI  
- Kathleen Morris, Director, CIHI  
- Ben Reason, Senior Analyst, CIHI  
- Mary Spayne, Axiom Writing Services  
- Patricia Sullivan-Taylor, Manager, CIHI  
- Greg Webster, Director, CIHI  
- Centre for Effective Practice
About CIHI

The Canadian Institute for Health Information (CIHI) collects and analyzes information on health and health care in Canada and makes it publicly available. Canada’s federal, provincial and territorial governments created CIHI as a not-for-profit, independent organization dedicated to forging a common approach to Canadian health information. CIHI’s goal: to provide timely, accurate and comparable information. CIHI’s data and reports inform health policies, support the effective delivery of health services and raise awareness among Canadians of the factors that contribute to good health.

For more information, visit our website at www.cihi.ca.
Executive Summary

In 2006, CIHI released a set of 105 pan-Canadian primary health care (PHC) indicators that was identified through a consensus process as being necessary to measure and compare PHC performance at multiple levels within and across jurisdictions in Canada. The indicators were developed through an extensive collaborative process, soliciting expert advice and stakeholder participation through consensus conferences, working groups, Delphi processes and consultations. The indicators identified through the consensus process were chosen based on what was deemed important to measure; identification was not limited to indicators for which data sources were currently available. At the time this first set of PHC indicators was released, only 18 of the original 105 indicators could be derived from existing data sources.

Since the initial release, interest and use of the indicators among jurisdictions and researchers has been high and is increasing. During this period, clinical guidelines have evolved and significant progress has been made on addressing PHC data gaps in priority areas with sources of PHC data expanding since 2006. With this in mind, CIHI led a project in 2011 and 2012 to update a subset of the original PHC indicators. To update the pan-Canadian PHC indicators, CIHI used broad stakeholder consultations to inform changes to the indicators and ensure that:

- They are measurable and operational across Canada;
- They align with current clinical practice guidelines and available data sources; and
- They are reflective of priority aspects of PHC performance in Canada.

In 2011, CIHI surveyed stakeholders across Canada to identify two priority subsets of the PHC indicators—30 indicators per set—for measuring and improving PHC in Canada. One set was intended to meet the needs of policy-makers and the other set to meet the needs of providers of PHC at the practice and organization level. Indicators within the two priority sets were mapped to data sources in order to assess feasibility of measurement. Data sources with pan-Canadian coverage were used as much as possible to ensure that the indicators could be operational across Canada. Additional considerations included the availability and quality of data for indicator reporting and the frequency of data collection.

- Preferred data sources within the policy set included population- and patient-level surveys for 15 indicators, provider- and organization-level surveys for 6 indicators, and clinical and administrative data for 6 indicators.
- Preferred data sources within the provider set included clinical data, specifically electronic medical records (EMRs), for 16 indicators, provider- and organization-level surveys for 6 indicators, and patient-level surveys for 3 indicators.

The indicators within each priority set reflect key domains of PHC, including acceptability, accessibility, appropriateness, comprehensiveness, coordination, effectiveness, efficiency, expenditure, governance, health status, information technology infrastructure, safety and workforce. Among the two sets of priority indicators, nine indicators were deemed not measurable across Canada with any existing or near-term developing data source. This gap
in PHC data indicates that, despite recent progress in expanding and developing new sources of PHC data, more effort is required for Canada to have the PHC information necessary for effective health system management and population health improvement.

The pan-Canadian PHC indicators were developed and updated to increase standardized PHC measurement across Canada. Jurisdictions, regions and other stakeholders are encouraged to use these consensus- and evidence-based pan-Canadian PHC indicators to support their PHC measurement efforts.

The indicators within the policy-maker set can be used to
- Support population-based policy development and planning;
- Assess the performance of the primary health care system;
- Monitor changes over time and variations across health care regions;
- Provide evidence to inform health programs, policies and funding decisions; and
- Identify levels of and gaps in health and well-being of a population or community.

The indicators within the PHC provider set can be used within and among practices, organizations and health regions to
- Provide a basis for comparing performance;
- Support quality improvement programs and initiatives by measuring key processes and outcomes over time;
- Support program sharing and performance monitoring; and
- Identify opportunities for improvements in the health and well-being of the practice population.

For more information on the PHC indicators, data sources and reporting initiatives, visit CIHI’s website at www.cihi.ca/phc or send us an email at phc@cihi.ca.

Background

In 2006, CIHI released a list of 105 PHC indicators that had been developed to establish a set of agreed-upon PHC indicators that could be used to compare and measure PHC performance at multiple levels within jurisdictions across Canada. This initiative, which began in 2005, was funded by the PHC Transition Fund to address the need for an agreed set of PHC indicators that can be used consistently across Canada to measure, monitor and improve PHC.¹

The process for developing the list of 105 indicators included the following:
- An environmental scan of PHC frameworks and indicators to develop a preliminary list;
- Two consensus conferences that included more than 80 policy-makers, providers of care, researchers and system managers to review potential indicators;
Pan-Canadian Primary Health Care Indicator Update Report

- Working groups that included more than 60 policy-makers, providers of care, researchers and system managers to develop technical specifications for the indicators;
- Consultations with provincial, territorial and regional stakeholders, professional health associations and international researchers to collect input and advice on the indicators; and
- Three rounds of a modified Delphi process that included more than 70 individuals to rate the indicators for importance.

The PHC indicators were developed using the Primary Health Care Transition Fund’s National Evaluation Strategy—including the strategy’s objectives, supports and evaluation questions—as a guiding framework. Using this framework, the indicators were organized into the eight categories listed below for presentation purposes (recognizing that other frameworks could also be used to organize the same indicators):

1. Access to PHC through a regular provider;
2. Comprehensive care, preventive health and chronic condition management;
3. Continuity through integration and coordination;
4. 24/7 access to PHC;
5. Patient-centred care;
6. Enhancing population orientation;
7. Quality in PHC—primary prevention, secondary prevention for chronic conditions, patient safety, treatment goals and outcomes; and
8. PHC inputs and supports—health human resources, interdisciplinary teams, information technology and provider payment method.

The 2006 indicator development report describes the development of the 105 PHC indicators and presents the technical specifications. A second report was also released to provide options for enhancing the pan-Canadian PHC data collection infrastructure.

In 2008, CIHI released a chartbook of figures as illustrative examples of how PHC data could be used to populate the pan-Canadian PHC indicators. The examples were created using a subset of PHC indicators on access, recommended care and organization and delivery of services, and data at the regional, provincial/territorial, national and international levels. The chartbook is available at www.cihi.ca/phc.
Indicator Update

Why Update the PHC Indicators and What Are the Goals of the Update?

The PHC indicators from the 2006 indicator development project were selected because they were deemed important to measure; selection was not limited to indicators for which data sources were currently available. At the time of release, only 18 of the original 105 indicators could be derived from existing data sources. In the intervening years, CIHI and other organizations with interest in measuring PHC have developed data sources from which additional indicators can be calculated.

Since initial release of the indicators, interest among jurisdictions, regions and researchers in using and applying them has been high and is increasing. However, evidence supporting some of the clinical guidelines and best practices has changed since 2006. In 2011, CIHI identified the need to review the indicators to ensure that they continue to reflect best practices and represent key aspects of PHC performance in Canada. CIHI also recognized that modifications to the indicator definitions were needed to ensure that stakeholders can implement and calculate these indicators at multiple levels.

The rationales for updating the pan-Canadian indicators included the following:

- Identification of data sources that exist or that are under development is necessary to ensure that the indicators are measurable.
- Revision of the definitions is necessary to ensure that the indicators are operational for specific users. As a result, two sets of indicators targeted at separate users of the PHC indicators would need to be created. Each indicator set would have to reflect important dimensions of PHC in Canada. The first indicator set would target population-level measurement to inform health policy, and the second indicator set would target practice-level measurement for PHC providers.
- Revision of the definitions is necessary to ensure that the PHC indicators align with current, evidence-based guidelines.

The indicator update project had three goals.

1. The first goal was to identify two sets of higher-priority indicators from among the 105 indicators in the 2006 indicator development report, with each indicator set reflecting important domains of PHC in Canada.
   - One set of priority PHC indicators was identified for use by policy-makers to support population-based policy development, planning and performance reporting.
   - The other set of PHC indicators was identified for use by PHC providers to support practice-based measurement and quality improvement initiatives.
2. The second goal was to ensure that the measures for the two priority sets of indicators are standardized, align with evidence-based guidelines and are compatible with existing and developing data sources.
3. The third goal was to include broad stakeholder input in the updating process to ensure that the indicators meet the needs of end users.

Project Process

The project comprised two project phases and additional supporting work. The purpose of the supporting work was to develop background reference material to inform participants within the project. This work included clinical evidence reviews, an environmental scan and an initial review of indicator definitions by the CIHI project team.

Phase 0: Supporting Work

Clinical evidence reviews were conducted by the Centre for Effective Practice for all indicators that were determined as requiring clinical administrative data for calculation. The clinical evidence review included the following three-pronged search strategy:

1. Review of new material related to citations in the 2006 indicator development report;
2. Review of the grey literature to identify groups—including local, national and international organizations—that have published material related to the indicators that would require clinical administrative data for calculation; and
3. Review of indexed, peer-reviewed literature published since 2006 to identify new research and initiatives related to the indicators that would require clinical administrative data for calculation.

An environmental scan was conducted of Health Canada, Statistics Canada, CIHI, provincial and territorial health ministries, and provincial health research organizations in order to gather information on established indicators, reported measures of performance, benchmark comparisons and health scorecards related to PHC. The purposes of the environmental scan were twofold: to determine which PHC indicators have been defined across different Canadian jurisdictions; and to compare the definitions of CIHI’s PHC indicators with the definitions of PHC indicators used by other organizations.

The project team conducted an initial review of the PHC indicator definitions to identify possible data sources and issues of concern for the priority indicators (see Priority Indicators).

The existing 105 indicators were categorized into 14 domains. This was done to ensure that the PHC indicators within each priority set represent important domains of PHC in Canada. The project team considered a number of PHC frameworks, PHC domains and definitions of attributes of PHC when developing the conceptual organization. The conceptual organization is presented in Table 1.
Table 1: Conceptual Organization

<table>
<thead>
<tr>
<th>Indicator Level</th>
<th>Domain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structure</td>
<td>Expenditure</td>
</tr>
<tr>
<td></td>
<td>Governance</td>
</tr>
<tr>
<td></td>
<td>Information Technology Infrastructure</td>
</tr>
<tr>
<td></td>
<td>Workforce</td>
</tr>
<tr>
<td>Process</td>
<td>Accessibility</td>
</tr>
<tr>
<td></td>
<td>Appropriateness</td>
</tr>
<tr>
<td></td>
<td>Comprehensiveness</td>
</tr>
<tr>
<td></td>
<td>Continuity*</td>
</tr>
<tr>
<td></td>
<td>Coordination</td>
</tr>
<tr>
<td></td>
<td>Efficiency</td>
</tr>
<tr>
<td>Outcome</td>
<td>Acceptability</td>
</tr>
<tr>
<td></td>
<td>Effectiveness</td>
</tr>
<tr>
<td></td>
<td>Health Status</td>
</tr>
<tr>
<td></td>
<td>Safety</td>
</tr>
</tbody>
</table>

Note
* Although continuity was included as a domain in the conceptual organization, none of the 105 PHC indicators were considered to be direct measures of continuity and therefore this domain was not included in the list of domains for the priority indicator lists (see tables 2 and 4).

Phase 1: Identifying Priority PHC Indicator Sets

The objective of phase 1 of the project was to identify two sets of priority indicators—30 PHC indicators per set—selected from the 105 indicators that were included in the 2006 indicator development project.

CIHI sent out two electronic surveys, one to identify priority indicators for policy-makers and the other to identify priority indicators for providers of PHC. The surveys were sent to PHC policymakers, providers and researchers from across Canada who were asked to rate the relative importance of each of the 105 pan-Canadian PHC indicators. Respondents were asked to rate each indicator on a 9-point scale where 1 = not important and 9 = very important. The definition of importance differed for each priority set of PHC indicators:

1. For the policy priority set of indicators, importance was defined as follows: “The indicator is relevant for policy-makers to support population-based policy development and planning, and policy-makers would benefit from having pan-Canadian, standardized, comparable results for this indicator.”

2. For the provider priority set of indicators, importance was defined as follows: “The indicator is relevant for PHC providers to support practice-based measurement and quality improvement initiatives, and providers would benefit from having pan-Canadian, standardized, comparable results for this indicator.”
Within each survey, respondents were given the opportunity to provide comments on each indicator. To ensure that each set of priority PHC indicators represented important domains of PHC, the 105 PHC indicators were sorted within the conceptual organization. Average scores were calculated for each indicator. For each set, 13 indicators were selected using the highest average score within each of 13 PHC domains. The remaining 17 indicators within each set were selected using the overall highest average score. A list of the selected PHC priority indicators is presented in the Priority Indicators section.

Of the 42 surveys sent to stakeholders to identify priority indicators for the policy set, 25 surveys were returned, yielding a response rate of 60%. Of the 56 surveys sent to stakeholders to identify priority indicators for the provider set, 42 were returned, yielding a response rate of 75%.

**Phase 2: Updating Priority PHC Indicator Sets**

The objective of phase 2 of the project was to review and update the two sets of priority PHC indicators. CIHI established five working groups to review and update the priority indicators. Each working group was made up of between 9 and 14 members, including a CIHI representative from the core project team. Each working group was assigned between 11 and 13 indicators to review, discuss and update. The working group assignments were as follows:

- Working Group 1 was assigned 12 indicators related to general screening activities.
- Working Group 2 was assigned 12 indicators related to disease-specific treatments and screening activities.
- Working Group 3 was assigned 11 indicators related to health behaviours and clinical outcomes.
- Working Group 4 was assigned 13 indicators related to non-clinical measures at either the patient or provider level.
- Working Group 5 was assigned 12 indicators related to non-clinical measures at the organization level.

The membership for each working group is presented in Appendix 1.

An advisory committee was also established to provide guidance to the project and to advise on indicator definitions when working groups were not able to reach consensus. The advisory committee was made up of 13 members external to CIHI and included one representative from each of the five working groups.

The update phase comprised three rounds of engagement with working group members: the review round, the discussion round and the consensus round.

- In the review round, working group members were sent background material for each indicator included in the clinical evidence review, findings from the environmental scan, indicator-specific comments from participants in phase 1 and a CIHI review of the indicator. Respondents were then asked to identify issues with the current indicator definition and to select the best available data source for calculating the indicator. During this round of engagement with working group members, 45 of 49 working group members responded to the survey, for a response rate of 92%.
For the discussion round, the project team compiled and combined responses from the review round into discussion topics for each indicator, including selection of a preferred data source. Working group members were able to review, discuss and provide recommendations to these discussion items via an online forum. During this round of engagement with working group members, 38 of 50 working group members participated in the online discussions, for a participation rate of 76%.

In the consensus round, the project team used the recommendations from the discussion round to draft updated indicator definitions, including numerator, denominator, inclusion and exclusion criteria, which were subsequently posted to the online forum. Working group members voted to either accept or not accept the updated indicator definition. Consensus was considered established when all or all but one voting members deemed the updated indicator definition acceptable. During this round of engagement with working group members, 41 of the 51 voting members (including working group members and a CIHI representative) participated in the consensus round, for a participation rate of 80%.

Priority Indicators

Priority Indicators for Policy-Makers

The priority indicators within the set for policy-makers are listed by PHC domain in Table 2.

<table>
<thead>
<tr>
<th>PHC Domain</th>
<th>Indicator Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acceptability</td>
<td>Time with PHC provider for patients with chronic conditions</td>
</tr>
<tr>
<td>Accessibility</td>
<td>Population with a regular PHC provider</td>
</tr>
<tr>
<td></td>
<td>Wait time for immediate care for a minor health problem</td>
</tr>
<tr>
<td></td>
<td>Difficulties accessing routine or ongoing PHC</td>
</tr>
<tr>
<td></td>
<td>Difficulties obtaining immediate after-hours care for a minor health problem</td>
</tr>
<tr>
<td>Appropriateness</td>
<td>Child immunization</td>
</tr>
<tr>
<td></td>
<td>Colon cancer screening</td>
</tr>
<tr>
<td></td>
<td>Breast cancer screening</td>
</tr>
<tr>
<td></td>
<td>Cervical cancer screening</td>
</tr>
<tr>
<td></td>
<td>Screening in adults with diabetes</td>
</tr>
<tr>
<td></td>
<td>Eye examinations in adults with diabetes</td>
</tr>
<tr>
<td></td>
<td>Anti-depressant medication monitoring</td>
</tr>
<tr>
<td>Comprehensiveness</td>
<td>Scope of PHC services</td>
</tr>
<tr>
<td>Coordination</td>
<td>Collaborative care with other health care organizations</td>
</tr>
<tr>
<td>Effectiveness</td>
<td>Ambulatory care sensitive conditions hospitalization rate</td>
</tr>
<tr>
<td></td>
<td>Emergency department visits for asthma</td>
</tr>
<tr>
<td></td>
<td>Blood pressure control for hypertension</td>
</tr>
<tr>
<td></td>
<td>Complications of diabetes</td>
</tr>
<tr>
<td></td>
<td>Emergency department visits for congestive heart failure*</td>
</tr>
</tbody>
</table>
### Table 2: Indicators, by PHC Domain (cont’d)

<table>
<thead>
<tr>
<th>PHC Domain</th>
<th>Indicator Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficiency</td>
<td>Point-of-care access to PHC client/patient health information</td>
</tr>
<tr>
<td>Expenditure</td>
<td>PHC physician remuneration method</td>
</tr>
<tr>
<td>Governance</td>
<td>PHC needs-based planning</td>
</tr>
<tr>
<td>Health Status</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Overweight and obesity rate</td>
</tr>
<tr>
<td></td>
<td>Smoking rate</td>
</tr>
<tr>
<td></td>
<td>Fruit and vegetable consumption rate</td>
</tr>
<tr>
<td></td>
<td>Physical activity rate</td>
</tr>
<tr>
<td>Information Technology</td>
<td>Uptake of information and communication technology by PHC providers</td>
</tr>
<tr>
<td>Infrastructure</td>
<td></td>
</tr>
<tr>
<td>Safety</td>
<td>PHC provider burnout*</td>
</tr>
<tr>
<td>Workforce</td>
<td>PHC provider supply</td>
</tr>
<tr>
<td></td>
<td>PHC FPs/GPs/NPs working in interdisciplinary teams/networks*</td>
</tr>
</tbody>
</table>

**Notes**

* Indicator definition was not updated because no data source was identified for calculating the indicator. FPs/GPs/NPs: family physicians/general practitioners/nurse practitioners.

Data availability is often a key consideration when selecting which indicators are measurable for a stakeholder; therefore the indicators within the policy priority set are presented by data source in Table 3.

### Table 3: Priority Indicators for Policy-Makers, by Data Source

<table>
<thead>
<tr>
<th>Canadian Community Health Survey</th>
<th>Practice-Based Survey Tools</th>
<th>Survey of Living With Chronic Diseases in Canada</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population with a regular PHC provider</td>
<td>Scope of PHC services</td>
<td>Screening in adults with diabetes</td>
</tr>
<tr>
<td>Difficulties accessing routine or ongoing PHC</td>
<td>Collaborative care with other health care organizations</td>
<td>Eye examinations in adults with diabetes</td>
</tr>
<tr>
<td>Difficulties obtaining immediate after-hours care for a minor health problem</td>
<td>PHC needs-based planning</td>
<td>Blood pressure control for hypertension</td>
</tr>
<tr>
<td>Colon cancer screening</td>
<td>Point-of-care access to PHC client/patient health information</td>
<td></td>
</tr>
<tr>
<td>Breast cancer screening</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cervical cancer screening</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overweight and obesity rate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smoking rate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fruit and vegetable consumption rate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical activity rate</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 3: Priority Indicators for Policy-Makers, by Data Source (cont’d)

<table>
<thead>
<tr>
<th>National Physician Survey</th>
<th>Commonwealth Fund International Health Policy Survey</th>
<th>Electronic Medical Records</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHC physician remuneration method</td>
<td>Time with PHC provider for patients with chronic conditions</td>
<td>Child immunization</td>
</tr>
<tr>
<td>Uptake of information and communication technology by PHC providers</td>
<td>Wait time for immediate care for a minor health problem</td>
<td>Anti-depressant medication monitoring</td>
</tr>
<tr>
<td>Discharge Abstract Database/Fichier des hospitalisations MED-ÉCHO</td>
<td>National Ambulatory Care Reporting System</td>
<td>Scott's Medical Database/Nursing Database</td>
</tr>
<tr>
<td>Ambulatory care sensitive conditions hospitalization rate*</td>
<td>Emergency department visits for asthma†</td>
<td>PHC provider supply*</td>
</tr>
<tr>
<td>Complications of diabetes†</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes
* Also requires data from census.
† Also requires data from Canadian Community Health Survey.

Indicators that had no existing data source identified were removed from the final priority set and the definitions were not updated during this project. The following three PHC indicators within the policy set fell into this category:

- Emergency department visits for congestive heart failure;
- PHC provider burnout; and
- PHC FPs/GPs/NPs working in interdisciplinary teams/networks.

Technical specifications for these priority indicators are included in Appendix 4.

**Priority Indicators for Providers**

The priority indicators within the set for PHC providers are listed by PHC domain in Table 4.

Table 4: Indicators, by PHC Domain

<table>
<thead>
<tr>
<th>PHC Domain</th>
<th>Indicator Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acceptability</td>
<td>PHC services meeting client’s/patient’s needs</td>
</tr>
<tr>
<td>Accessibility</td>
<td>Population with a regular PHC provider*</td>
</tr>
<tr>
<td></td>
<td>Wait time for immediate care for a minor health problem</td>
</tr>
<tr>
<td>Appropriateness</td>
<td>Child immunization</td>
</tr>
<tr>
<td></td>
<td>Colon cancer screening</td>
</tr>
<tr>
<td></td>
<td>Breast cancer screening</td>
</tr>
<tr>
<td></td>
<td>Cervical cancer screening</td>
</tr>
<tr>
<td></td>
<td>Smoking cessation advice in PHC</td>
</tr>
<tr>
<td></td>
<td>Influenza immunization, 65+</td>
</tr>
<tr>
<td></td>
<td>Well-baby screening</td>
</tr>
<tr>
<td></td>
<td>Blood pressure testing</td>
</tr>
</tbody>
</table>
### Table 4: Indicators, by PHC Domain (cont’d)

<table>
<thead>
<tr>
<th>PHC Domain</th>
<th>Indicator Label</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Screening for modifiable risk factors in adults with coronary artery disease</td>
</tr>
<tr>
<td></td>
<td>Screening in adults with diabetes</td>
</tr>
<tr>
<td></td>
<td>Screening for visual impairment in adults with diabetes*</td>
</tr>
<tr>
<td></td>
<td>Screening for modifiable risk factors in adults with hypertension</td>
</tr>
<tr>
<td></td>
<td>Treatment of dyslipidemia</td>
</tr>
<tr>
<td></td>
<td>Treatment of acute myocardial infarction</td>
</tr>
<tr>
<td></td>
<td>Treatment of anxiety</td>
</tr>
<tr>
<td>Comprehensiveness</td>
<td>PHC support for self-management of chronic conditions</td>
</tr>
<tr>
<td>Coordination</td>
<td>PHC team effectiveness score</td>
</tr>
<tr>
<td>Effectiveness</td>
<td>Ambulatory care sensitive conditions hospitalization rate*</td>
</tr>
<tr>
<td></td>
<td>Emergency department visits for asthma*</td>
</tr>
<tr>
<td></td>
<td>Blood pressure control for hypertension</td>
</tr>
<tr>
<td>Efficiency</td>
<td>Unnecessary duplication of medical tests reported by PHC providers</td>
</tr>
<tr>
<td>Expenditure</td>
<td>Average per capita PHC operational expenditures*</td>
</tr>
<tr>
<td>Governance</td>
<td>Maintaining medication and problem lists in PHC</td>
</tr>
<tr>
<td>Health Status</td>
<td>Overweight and obesity rate</td>
</tr>
<tr>
<td>Information</td>
<td>Uptake of information and communication technology in PHC organizations</td>
</tr>
<tr>
<td>Technology</td>
<td></td>
</tr>
<tr>
<td>Infrastructure</td>
<td></td>
</tr>
<tr>
<td>Safety</td>
<td>PHC provider burnout*</td>
</tr>
<tr>
<td>Workforce</td>
<td>PHC provider full-time equivalents</td>
</tr>
</tbody>
</table>

**Note**

* Indicator definition was not updated because no data source was identified for calculating the indicator.
Data availability is often a key consideration when selecting which indicators are measurable for a stakeholder; therefore, the indicators within the provider priority set are presented by data source in Table 5.

### Table 5: Priority Indicators for Providers, by Data Source

<table>
<thead>
<tr>
<th>EMRs</th>
<th>Practice-Based Survey Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child immunization</td>
<td>PHC services meeting client’s/patient’s needs</td>
</tr>
<tr>
<td>Colon cancer screening</td>
<td>Wait time for immediate care for a minor health problem</td>
</tr>
<tr>
<td>Breast cancer screening</td>
<td>PHC support for self-management of chronic conditions</td>
</tr>
<tr>
<td>Cervical cancer screening</td>
<td>PHC team effectiveness score</td>
</tr>
<tr>
<td>Screening in adults with diabetes</td>
<td>Unnecessary duplication of medical tests reported by PHC providers</td>
</tr>
<tr>
<td>Smoking cessation advice in PHC</td>
<td>Maintaining medication and problem lists in PHC</td>
</tr>
<tr>
<td>Influenza immunization, 65+</td>
<td>Uptake of information and communication technology in PHC</td>
</tr>
<tr>
<td>Well-baby screening</td>
<td>PHC provider full-time equivalents</td>
</tr>
<tr>
<td>Blood pressure testing</td>
<td></td>
</tr>
<tr>
<td>Screening for modifiable risk factors in adults with coronary artery disease</td>
<td></td>
</tr>
<tr>
<td>Screening for modifiable risk factors in adults with hypertension</td>
<td></td>
</tr>
<tr>
<td>Treatment of dyslipidemia</td>
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</tr>
<tr>
<td>Treatment of acute myocardial infarction</td>
<td></td>
</tr>
<tr>
<td>Treatment of anxiety</td>
<td></td>
</tr>
<tr>
<td>Blood pressure control for hypertension</td>
<td></td>
</tr>
<tr>
<td>Overweight and obesity rate</td>
<td></td>
</tr>
</tbody>
</table>

Indicators that had no data source identified were removed from the final priority set and the definitions were not updated during this project. The following six PHC indicators within the provider set fell into this category:

- Population with a regular PHC provider;
- Screening for visual impairment in adults with diabetes;
- Ambulatory care sensitive conditions hospitalization rate;
- Emergency department visits for asthma;
- Average per capita PHC operational expenditures; and
- PHC provider burnout.

Technical specifications for these priority indicators are included in Appendix 5.
Description of Identified Data Sources

The project team searched for possible data sources for each indicator and presented these options to the working groups. Data sources with the largest pan-Canadian coverage were given priority over data sources that might be limited to selected jurisdictions. Data sources that received the most votes during the review round of phase 2 were mapped to the indicators to determine whether the data source would be feasible to calculate the indicators. The preferred data source for each indicator was confirmed with the working groups during the discussion round. It is important to note that the frequency and content of these data sources (for example, population and provider surveys) may change over time. Three indicators in the policy set of indicators and five indicators in the provider set did not successfully map to any pan-Canadian data source and therefore were held for further development until a feasible data source could be identified. Data sources for the indicators fell into one of the following three categories:

- Population and patient surveys;
- Provider surveys; or
- Clinical and administrative data.

Population and Patient Surveys

Surveys of the general population or subpopulation groups are important sources of data and were identified as the preferred data source for 15 indicators within the policy set and for 3 indicators within the provider set of priority indicators, specifically the following surveys:

1. The Canadian Community Health Survey (CCHS) was identified as the preferred data source for 10 indicators within the policy set. The CCHS is a cross-sectional survey of Canadians age 12 and older and is conducted by Statistics Canada. The sampling frame excludes individuals living in Indian reserves and crown lands, institutional residents, individuals who work full-time with the Canadian Forces, and residents of selected remote regions. The CCHS includes core component sections that are repeated in every cycle of the survey and also theme component sections that are repeated less frequently than the core sections. The policy set includes indicators that require core components and theme components sections; consequently, some indicators can be calculated at a greater frequency than others.

2. The Survey of Living With Chronic Diseases in Canada (SLCDC) was identified as the preferred data source for three indicators within the policy set. This survey is a biennial survey that is a sub-sample of the CCHS and has been conducted with respondents who have self-reported asthma (age 12 and older), diabetes (age 20 and older) or chronic obstructive pulmonary disorder (age 35 and older). The survey is conducted by Statistics Canada and is sponsored by the Public Health Agency of Canada. The chronic disease included within the survey varies by cycle (two chronic diseases are included within each cycle); therefore, the frequency of indicator calculation is dependent on the length of time when specific chronic diseases are repeated between cycles.
3. The Commonwealth Fund (CWF) International Health Policy Survey was identified as the preferred data source for two indicators within the policy set. The CWF International Health Policy Survey of adults age 18 and older has been conducted every three years and is distinct from the CWF International Health Policy Survey of sicker adults, which has a different sampling frame. The last cycle of this survey was conducted in Australia, Canada, France, Germany, Italy, the Netherlands, New Zealand, Norway, Sweden, Switzerland, the United Kingdom and the United States. The survey is conducted by the Commonwealth Fund with support in Canada from the Health Council of Canada, Ontario Health Quality Council and Quebec Health Commission. In 2010, the sample size within Canada was 3,302, with oversampling in Ontario and Quebec. The small sample size in the 2010 cycle limits reporting of reliable results from jurisdictions outside of Ontario and Quebec.

4. The patient component of Canadian practice-based PHC survey tools was identified as the preferred data source for three indicators within the provider set.

Provider Surveys

Surveys of PHC providers are also important data sources and were identified as the preferred data source for six indicators within the policy set and for five indicators within the provider set of priority indicators, specifically the following surveys:

1. The National Physician Survey (NPS) was identified as the preferred data source for two indicators within the policy set. This survey is a collaborative product between the College of Family Physicians of Canada, the Canadian Medical Association and the Royal College of Physicians and Surgeons of Canada. The survey is targeted at physicians, residents and medical students in Canada and is conducted every three years; however, a shorter, more focused version will be conducted yearly in the future. In the 2010 NPS, the response rate was low (approximately 19% for family physicians); therefore, CIHI does not recommend reporting indicators calculated using NPS data. However, this does not preclude researchers from using local data sources for these PHC indicators. If changes to the NPS in future cycles of the survey are effective in increasing the response rate, the NPS can then be considered as a reportable data source.

2. The provider component of Canadian practice-based PHC survey tools was identified as the preferred data source for two indicators within the provider set and for one indicator within the policy set.

3. The Canadian practice-based PHC survey tools: organization component was identified as the preferred data source for three indicators within each of the provider and policy sets.

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i. This is one component of a core, validated, set of standard constructs and questions to be asked of three different sampling groups, including PHC patients, providers and organizations. These tools were developed in parallel to the PHC indicator update to ensure that they support a maximum number of indicators. They are a developing standard that could be used by PHC organizations and practices; however, there is presently no plan for a comprehensive national or jurisdictional survey using these tools, or for a central data store for this data. Broad implementation of these PHC survey tools will greatly expand the collection of PHC data at the practice level and can inform PHC indicators to support practice-based measurement and quality improvement initiatives.
Clinical and Administrative Data

Clinical administrative data is another important category of data sources and was identified as the preferred data source for 16 indicators within the provider set and for 6 indicators within the policy set of priority indicators. The following data and databases were specifically identified:

1. **EMRs** were identified as the preferred data source for 16 indicators within the provider set and for 2 indicators within the policy set. EMR use by PHC physicians has grown significantly in Canada. Using an international survey of primary care doctors, the Commonwealth Fund reported that use of EMRs increased approximately 60% between 2006 and 2009, from 23% in 2006 to 37% in 2009. Canada Health Infoway reported similar findings of an increase, from 24% in 2007 to 41% in 2010, using results from the National Physician Survey (specifically family physicians and general practitioners using EMRs to enter and retrieve clinical patient notes). However, implementation rates vary significantly across jurisdictions. To ensure that the PHC indicators are standardized as much as possible across Canada, the project team conducted feasibility mapping against the pan-Canadian PHC EMR Content Standard (PHC EMR CS).

CIHI’s PHC Voluntary Reporting System (PHC VRS) is an emerging pan-Canadian EMR data source that collects a subset of clinical and administrative data. A subset of EMR data that aligns with the PHC EMR CS is provided to CIHI by participating family physicians. This voluntary program has been developed in collaboration with clinicians, jurisdictions and researchers to support improvements in PHC and the health of Canadians. Over time, the PHC VRS will continuously improve the availability of PHC information for use by PHC clinicians, jurisdictions and researchers. Currently, the PHC VRS holds data on more than 500,000 patients from more than 300 providers in three provinces. CIHI’s long-term goal for this project is to use this rich and comprehensive source of PHC data to better understand aspects of PHC across Canada, report on PHC indicators that will support PHC performance measurement and quality improvement, and inform health policy and decision-making at various levels.

CIHI is supporting providers of PHC with data standards and EMR data collection and also making available reports for performance improvement. For more information on the PHC EMR CS and the PHC VRS, visit CIHI’s website at www.cihi.ca/phc.

2. **The Discharge Abstract Database** was identified as the preferred data source for two indicators within the policy set. This database is maintained by CIHI and contains administrative, clinical and demographic information on hospital discharges. Data from Quebec is submitted from the Fichier des hospitalisations MED-ÉCHO directly by the ministère de la Santé et des Services sociaux du Québec. Both databases are updated annually and together cover all provinces and territories.

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ii. The PHC EMR CS was developed by CIHI, jurisdictions and Canada Health Infoway to ensure that PHC EMRs can make high-quality, high priority PHC data available in order to support both patient care and health system management needs, such as indicator reporting. The PHC EMR CS includes an agreed-upon set of priority data elements, data extraction specification and PHC terminology reference sets that enable patient care improvements through the development of more effective EMRs and health system use of EMR data.
3. The National Ambulatory Care Reporting System was identified as the preferred data source for one indicator within the policy set. This database is maintained by CIHI and contains data for hospital- and community-based emergency and ambulatory care (for example, day surgery and outpatient care). The data is updated annually and, in 2010–2011, covered 51.8% of all emergency department visits in Canada, including complete data collection within Alberta, Ontario and Yukon, and partial data collection within Saskatchewan, Manitoba, Nova Scotia and Prince Edward Island. Plans are currently under way to include additional provinces in the system.16

4. Together, Scott’s Medical Database (SMDB) and the Nursing Database were identified as the preferred data source for one indicator within the policy set. The SMDB is maintained by CIHI from information obtained from Scott’s Directories. This database contains information on the demographic, migration, education and employment information of Canadian physicians. The data is updated annually and covers all provinces and territories.17 The Nursing Database is maintained by CIHI and contains demographic, education and employment information on licensed practical nurses, registered nurses (including nurse practitioners) and registered psychiatric nurses, where applicable, in Canada. This data is updated annually and covers all provinces and territories.18

Data Gaps

Although PHC data quality has improved and availability has expanded significantly since 2006, a number of data gaps still exist that are limiting efforts to measure, monitor and improve PHC across Canada. There is limited population-based and practice-based data to support the needs of regions and clinics. In response, CIHI’s PHC Data and Information Program is specifically addressing these priority PHC data gaps with the goal of ensuring that jurisdictions and key players within jurisdictions have access to more and better PHC data. For example, the Canadian practice-based PHC survey tools were developed and made available to enable practice-based survey data collection on patient experiences, provider and clinical characteristics. CIHI has also developed an emerging EMR data source called the PHC VRS, which now contains EMR data from more than 500,000 patients and is poised to grow further, filling key PHC data gaps for both policy-makers and providers, in a privacy-sensitive manner. To advance these initiatives, CIHI is committed to collaborating with a broad range of stakeholders to develop more relevant PHC data sources in an efficient manner on an ongoing basis. For more information on PHC data sources and related resources, please contact CIHI at phc@cihi.ca.

Conclusion

An objective of the pan-Canadian PHC indicator update was to identify and update definitions for two priority sets of PHC indicators—30 indicators per set—for use by policy-makers and providers of PHC. Nine indicators among the two sets were deemed not measurable across Canada with any existing and developing data sources; as a result, 27 indicator definitions were updated in the policy set and 24 indicators were updated in the provider set. Working groups selected data sources on the basis of several criteria, including extent of pan-Canadian coverage, quality of data, availability of data for indicator reporting, and frequency of data
collection. Inclusion of these preferred data sources in the technical specifications does not preclude adapting the pan-Canadian PHC indicators to established, high-quality local data sources. Using local data sources may result in more accurate results for intra-jurisdiction reporting; however, comparability across jurisdictions would be sacrificed.

The indicators within each set reflect domains of PHC, including acceptability, accessibility, appropriateness, comprehensiveness, coordination, effectiveness, efficiency, expenditure, governance, health status, information technology infrastructure, safety and workforce. The two priority sets were selected to have at least one indicator in each of these key domains of PHC. However, the constraint of having a limited number of indicators—maximum of 30 within each priority set—means that not all aspects of each domain are covered by the set of priority indicators and that gaps exist both within and between the sets. Indicators within these aspects, such as continuity, equity, family-oriented, and patient–provider relationship, among others, may be required to give a more complete picture of PHC system performance. Additional indicators (for example, indicators of patient safety and indicators of coordination and continuity with acute care) may also be required.

The PHC indicators need to be maintained to ensure they continue to align with clinical guidelines and the best available data sources. CIHI will continue to collect feedback from stakeholders on the updated PHC indicators. Examples of the types of feedback collected include the following:

- Identifying gaps within or between the indicator sets and determining whether to adapt existing indicators or develop new indicators to fill those gaps;
- Reporting ineffective indicators for reasons such as lack of variability or low-quality data; and
- Experiences with results from the indicators (for example, sensitivity, specificity, reliability of the results).

The pan-Canadian PHC indicators fill an information gap in standardizing PHC measurement across Canada. Indicators can be used at multiple reporting levels to compare health status and health system performance.

At the system level, indicators can be used to inform and guide health policy and planning. Users of PHC indicators at this level can include organizers of PHC programs at federal and jurisdictional health ministries, organizers of PHC programs at health research organizations (for example, health quality councils), professional associations that include PHC providers, and population health researchers, among others. Examples of how PHC indicators can be used include

- Supporting population-based policy development and planning;
- Assessing the performance of the health care system;
- Monitoring changes over time and variations across health care regions;
- Providing evidence to inform health programs, policies and funding decisions; and
- Identifying levels of and gaps in health and well-being of a population or community.
At the organization and practice levels, indicators can be used to support development and evaluation of quality improvement initiatives. Users of PHC indicators at these levels include jurisdictional ministries of health supporting quality improvement, regional health authorities and health system planners, provincial health quality councils supporting PHC providers, PHC organizations, professional associations that include PHC providers, health researchers of quality improvement programs, and PHC providers, among others. Examples of how PHC indicators can be used within and among practices, organizations and health regions include

- Providing a basis for comparison;
- Supporting quality improvement programs and initiatives by measuring key processes and outcomes over time;
- Supporting program sharing and performance monitoring; and
- Identifying opportunities for improvement such as gaps in health and well-being of the practice population.

CIHI has led and will continue to lead the development and support of pan-Canadian standards for measurement of the PHC system in Canada. Quality measures that inform both policy-makers and PHC providers can lead to sound policy decisions and improvement of PHC at the practice, organization and population levels.
Appendix 1: Indicator Review Working Group Members

The Canadian Institute for Health Information wishes to acknowledge and thank the following individuals who participated in the indicator working groups:

Working Group 1: General Screening PHC Indicators

**Dr. Rukshanda Ahmad**  
Acting Manager, Centre for Chronic Disease Prevention and Control  
Public Health Agency of Canada

**Ms. Lisa Ashley**  
Senior Nurse Advisor, Policy and Leadership  
Canadian Nurses Association

**Dr. Lisa Bonang**  
Family Physician  
Musquodoboit Harbour Medical Clinic

**Mr. Lawson Greenberg**  
Unit Head, Health Indicators  
Statistics Canada

**Ms. Lisa Halma**  
Director of Evaluation and Knowledge Application  
Alberta Health Services

**Ms. Barbara Harvey**  
Registrar Director of Professional Practice  
Health and Social Services, Government of Nunavut

**Ms. Heather Limburg**  
Epidemiologist, Centre for Chronic Disease Prevention and Control  
Public Health Agency of Canada

**Dr. Patrice Lindsay**  
Director, Performance and Standards  
Canadian Stroke Network

**Ms. Julie Mandeville**  
Project Manager, Canadian Community Health Survey—Annual  
Statistics Canada

**Ms. Karen Milley**  
Regional Manager, Community Health Services  
Eastern Health
Working Group 2: Disease-Specific PHC Indicators

Ms. Margaret Baker
Director, Primary Health Services
Saskatchewan Health

Mr. Nick Baldwin
Senior Manager, Strategy and Program Design
PITO Program Office

Dr. Richard Birtwhistle
Director, Centre for Studies in Primary Care
Queen's University

Ms. Julie Clements
Senior Health Analyst
Government of the Northwest Territories

Dr. Rick Gibson
Chief, District Department of Family Practice
Capital Health

Dr. Michael E. Green
Associate Professor, Departments of Family Medicine and
Community Health and Epidemiology
Queen’s University

Ms. Katie O’Beirne
Senior Health Analyst, Department of Health and Social Services
Government of the Northwest Territories

Ms. Janie Peterson Watt
Policy Analyst
Manitoba Health

Dr. Marie-Pascale Pomey
Associate Professor
Département d’administration de la santé, Université de Montréal

Mr. Angus Steele
Senior Specialist
Health Quality Ontario

Dr. Naira Yeritsyan
Senior Methodologist
Health Quality Ontario
Working Group 3: Health Behaviours and Clinical Outcomes
PHC Indicators

Ms. Lisa Adams
Manager, Products and Dissemination
Statistics Canada

Ms. Terri-Lyn Bennett
Epidemiologist
Public Health Agency of Canada

Mr. Kenton Betts
Policy Analyst
Alberta Health and Wellness

Ms. Linda Lefebvre
Analyst
Statistics Canada

Ms. Meghan McMahon
Assistant Director
Canadian Institutes of Health Research

Ms. Thuy Pade
Manager, Strategy Development/Evaluation
Alberta Health and Wellness

Dr. David Price
Professor and Chair
McMaster University

Ms. Marci Scott
Primary Health Care Strategic Planner
Regina Qu’Appelle Health Region

Dr. George Southey
Founder and Executive Lead
Dorval Medical Associates

Ms. Michelle Turnbull
Consultant, Primary Health Care Branch
Manitoba Health
Working Group 4: Non-Clinical PHC Indicators at Either the Patient or Provider Level

Ms. Jenny Buckley
Research Specialist
Canadian Medical Association

Ms. Florence Flynn
Chair, Health Interest Group
Canadian Association of Social Workers

Dr. Jennifer Hiebert
Quality Improvement Consultant
Saskatchewan Health Quality Council

Ms. Alejandra Jaramillo
Scientific Officer
Public Health Agency of Canada

Ms. Nancy LaPlante
Regional Decision Support Specialist
Central Region
Ontario’s Community Health Centres

Dr. Cheryl Levitt
Professor, Department of Family Medicine
McMaster University

Ms. Nancy Lum-Wilson
Manager (A), Primary and Continuing Care Unit
Ministry of Health and Long-Term Care

Ms. Donna MacAusland
Primary Health Care Program Development Lead
Health P.E.I.

Ms. Michelina Mancuso
Executive Director
New Brunswick Health Council

Ms. Anjali Misra
Manager, Performance Management
Association of Ontario Health Centres
Mr. Bradley Osmond  
Community Health Planner  
Annapolis Valley District Health Authority

Dr. Bridget L. Ryan  
Post-Doctoral Fellow and Adjunct Lecturer  
Western University Canada

Ms. Roberta Vyse  
Consultant, Primary Health Care  
Manitoba Health

Dr. Sabrina Wong  
Associate Professor  
UBC School of Nursing and Centre for Health Services and Policy Research

Working Group 5: Non-Clinical PHC Indicators at the Organization Level

Dr. Jan Barnsley  
Associate Professor  
University of Toronto

Ms. Marta Crawford  
Consultant, RHA Primary Care Network Implementation  
Manitoba Health

Ms. Lynn Kelly de Groot  
Primary Health Care Consultant  
New Brunswick Department of Health

Dr. Lisa Dolovich  
Research Director and Associate Professor  
McMaster University

Mr. Wissam Haj-Ali  
Project Lead, Primary Care  
Health Quality Ontario

Ms. Heather Howley  
Health Services Research Specialist  
Accreditation Canada

Ms. Leanne Leclair  
Assistant Professor  
University of Manitoba
Ms. Lily LeDrew
Regional Primary Health Care Consultant
Central Health, Newfoundland and Labrador

Dr. Jean-Frédéric Levesque
Scientific Director, Health Systems Analysis and Evaluation
Institut national de santé publique du Québec

Dr. Ruth Martin-Misener
Associate Professor
Dalhousie University

Ms. Dale McMurchy
Health Care Consultant
Dale McMurchy Consulting
Appendix 2: Participants in the Priority Indicator Identification Surveys

The Canadian Institute for Health Information wishes to acknowledge and thank the following individuals who responded to surveys to identify priority PHC indicators:

**Frédéric Abergel**
Associate Director of Clinical, Medical and University Affairs
Montréal Health Agency

**Karen Archbell**
Director, Community Nursing
Health and Social Services, Yukon Government

**Lisa A. Ashley**
Nurse Consultant
Canadian Nurses Association

**Margaret J. Baker**
Primary Health Services Branch
Saskatchewan Health

**Kevin Barclay**
Senior Advisor
CHSRF

**Jan Barnsley**
Department of Health Policy, Management and Evaluation
University of Toronto

**Marie-Dominique Beaulieu**
Professeure, Département de médecine familiale, Université de Montréal
Directrice scientifique de l’appui aux pratiques de première ligne, Institut national d’excellence en santé et en services sociaux

**Dr. Bachir Belhadji**
Health Canada

**Terri-Lyn Bennett**
Centre for Chronic Disease Prevention and Control
Public Health Agency of Canada
Paula Blackstien-Hirsch
Senior Director
Canadian Patient Safety Institute

Paula Brauer, PhD, RD
University of Guelph

Susan Brien
Health Council of Canada

Jenny Buckley
Canadian Medical Association

Frederick Burge
Department of Family Medicine
Dalhousie University

Dr. Denise Campbell-Scherer
Department of Family Medicine
University of Alberta

Dr. B. Jean Clarke
General Practice Services Committee

Julie Clements
Government of the Northwest Territories

Rebecca Comrie, MSc
Manager, Research Methods
Health Quality Ontario

Lynn Kelly de Groot
Consultant, Department of Health
Government of New Brunswick

Dr. Mark Duerksen
Steinbach Family Medical Center, Manitoba

Dianne Ferguson
Five Hills Health Region

Florence Flynn
Canadian Association of Social Workers
Dr. Cheryl Levitt  
Professor, Department of Family Medicine  
McMaster University

Donna MacAusland  
Health P.E.I.

Michelina Mancuso  
New Brunswick Health Council

Eric Mang  
College of Family Physicians of Canada

Ruth Martin-Misener  
Dalhousie University School of Nursing

Meghan McMahon and Robyn Tamblyn  
CIHR Institute of Health Services and Policy Research

Dale McMurchy  
Dale McMurchy Consulting

Anjali Misra  
Association of Ontario Health Centres

Patricia O’Brien  
Health Quality Ontario

Brad Osmond  
Annapolis Valley Health

Thuy Pade  
Alberta Health and Wellness

Marie-Pascale Pomey, MD, PhD  
Department of Health Administration, Faculty of Medicine  
University of Montréal

Michelle Rey  
Manager, Public Reporting, Health Quality Ontario

Pam Robb, MSW, RSW  
CASW

Dr. Bridget L. Ryan  
Centre for Studies in Family Medicine, The University of Western Ontario
Fay Schuster  
Saskatchewan Ministry of Health

Marci Scott  
Regina Qu’Appelle Health Region

George Southey  
Primary Care Physician

Angus Steele  
Consultant  
Manitoba Health

Ingrid Verduyn and Kristen Yarker  
Dietitians of Canada

Sabrina T. Wong  
Associate Professor

Vicki Wong  
Canadian Physiotherapy Association
Appendix 3: Indicator Technical Specifications Template

| Indicator Label: | Identifies the title of the indicator |
| (Indicator set is described here: Policy-Makers or Primary Health Care Providers) |

<table>
<thead>
<tr>
<th>Method of Calculation</th>
<th>Numerator</th>
<th>Description of the indicator</th>
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<tbody>
<tr>
<td><strong>Descriptive Definition</strong></td>
<td></td>
<td>Describes the total number of the component being measured.</td>
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<tr>
<td><strong>Inclusions</strong></td>
<td></td>
<td>Describes inclusion criteria within the numerator.</td>
</tr>
<tr>
<td><strong>Exclusions</strong></td>
<td></td>
<td>Describes exclusion criteria within the numerator.</td>
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</tbody>
</table>

<table>
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<tr>
<th>Denominator</th>
<th>Descriptive Definition</th>
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<td><strong>Descriptive Definition</strong></td>
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<tr>
<td><strong>Inclusions</strong></td>
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<tr>
<td><strong>Exclusions</strong></td>
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</table>

<table>
<thead>
<tr>
<th>Data Source</th>
<th>Identifies the preferred data source necessary to calculate the indicator.</th>
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<table>
<thead>
<tr>
<th>Notes</th>
<th>Describes special notes, including definitions of terms and notes on data quality, such as coverage and limitations, if applicable.</th>
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</table>

<table>
<thead>
<tr>
<th>Interpretation</th>
<th>Describes the interpretation of the indicator, including a directional statement and how the indicator can be used or modified to measure sub-indicators (if applicable).</th>
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</thead>
</table>

<table>
<thead>
<tr>
<th>Indicator Rationale</th>
<th>Identifies the justification for the indicator and explains the importance of the measure (that is, why it is used). Describes the best available evidence or literature to support the need for the indicator.</th>
</tr>
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</table>

<table>
<thead>
<tr>
<th>References</th>
<th>Lists the sources of information that may pertain to the data source, notes and indicator rationale.</th>
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Appendix 4: Technical Specifications for Priority Indicators Within the Policy-Maker Set
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<thead>
<tr>
<th><strong>Time With PHC Provider for Patients With Chronic Conditions</strong></th>
<th><strong>(Indicator Set: Policy)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Descriptive Definition</strong></td>
<td>Percentage of population, age 18 and older, with chronic conditions who reported having had enough time and the opportunity to ask questions in most visits with their primary health care (PHC) provider.</td>
</tr>
<tr>
<td><strong>Method of Calculation</strong></td>
<td><strong>Numerator</strong></td>
</tr>
<tr>
<td></td>
<td>Number of individuals in the denominator who reported having had enough time and the opportunity to ask questions in most visits with their PHC provider.</td>
</tr>
<tr>
<td><strong>Inclusions</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Individual is in the denominator</td>
</tr>
<tr>
<td></td>
<td>• Individual reported having enough time in most visits with his or her PHC provider</td>
</tr>
<tr>
<td></td>
<td>• Individual reported having the opportunity to ask questions about recommended treatment in most visits with his or her PHC provider</td>
</tr>
<tr>
<td><strong>Exclusions</strong></td>
<td>None</td>
</tr>
<tr>
<td><strong>Denominator</strong></td>
<td>Number of respondents age 18 and older with at least one chronic condition.</td>
</tr>
<tr>
<td><strong>Inclusions</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Age of individual is at least 18 years</td>
</tr>
<tr>
<td></td>
<td>• Individual reported having at least one chronic condition</td>
</tr>
<tr>
<td><strong>Exclusions</strong></td>
<td>None</td>
</tr>
<tr>
<td><strong>Data Source</strong></td>
<td>Commonwealth Fund International Health Policy Survey of Adults¹</td>
</tr>
<tr>
<td><strong>Notes</strong></td>
<td><strong>Definitions of Terms</strong></td>
</tr>
<tr>
<td></td>
<td>• “In most visits” is defined as a response of “always” or “often” to questions on spending enough time and being given an opportunity to ask questions about recommended treatment.</td>
</tr>
<tr>
<td></td>
<td>• Having a chronic condition is defined as having at least one of the following conditions: arthritis; asthma or chronic lung disease, such as chronic bronchitis, emphysema or chronic obstructive pulmonary disease; cancer; depression, anxiety or other mental health problems; diabetes; heart disease, including heart attack; hypertension and high blood pressure; and high cholesterol.²</td>
</tr>
</tbody>
</table>
| Time With PHC Provider for Patients With Chronic Conditions  
(Indicator Set: Policy) (cont’d) |
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Interpretation</strong></td>
</tr>
<tr>
<td>• A high rate for this indicator can be interpreted as a positive result.</td>
</tr>
<tr>
<td><strong>Further Analysis</strong></td>
</tr>
<tr>
<td>• This indicator can be modified to measure time with PHC providers for all patients regardless of morbidity status to measure this indicator for the general population.</td>
</tr>
<tr>
<td><strong>Indicator Rationale</strong></td>
</tr>
</tbody>
</table>
| For approximately 9 million Canadians, or 33% of the population, living with one or more chronic health conditions is a daily reality.³ The number of individuals affected by chronic disease in Canada is expected to increase as the population ages and as a result of the rise in contributing risk factors, such as overweight and obesity and physical inactivity.⁴ Most Canadians with chronic health conditions have a regular PHC provider. Research indicates that individuals with chronic conditions use the health care system more often and more intensively, and that the intensity of use increases in relation to the number of chronic comorbidities.³ Individuals diagnosed with chronic health conditions in Canada account for approximately 51% of visits to PHC physicians (family physicians or general practitioners), 55% of visits to specialists, 66% of nursing consultations and 72% of nights spent in a hospital.³ A recent Canadian study reported that the quantity of time spent with a PHC provider impacts the level of patient engagement in his or her care, thus influencing a patient’s ability to maintain and improve his or her health.⁵ Patients were more engaged when they spent more time talking with their regular provider, had less hurried communication or had test results explained. Individuals with chronic conditions were more engaged the more time they spent with their PHC provider.⁵ In a 2008 survey, almost two-thirds (65%) of Canadians reported that they always had enough time during visits with their regular doctor to discuss their feelings, fears and concerns about their health.⁶ Individuals with chronic conditions often require complex interventions tailored to their individual needs.⁷ If PHC patients are provided with sufficient time in their visit, they may more accurately and thoroughly discuss their medical history and symptoms, share questions and concerns about medical decisions or procedures, and be more engaged in their own health care.
Time With PHC Provider for Patients With Chronic Conditions
(Indicator Set: Policy) (cont’d)

References


| **Population With a Regular PHC Provider**  
| **(Indicator Set: Policy)** |
| **Descriptive Definition** | Percentage of population, age 12 and older, who reported having a regular primary health care (PHC) provider. |
| **Method of Calculation** | **Numerator** | Number of individuals in the denominator who reported having a regular PHC provider. |
| | **Inclusions** | - Individual is in the denominator  
| | - Individual reported having a regular medical doctor |
| | **Exclusions** | None |
| | **Denominator** | Number of respondents age 12 and older. |
| | **Inclusions** | - Age of individual is at least 12 years |
| | **Exclusions** | None |
| **Data Source** | Canadian Community Health Survey¹ |
| **Notes** | **Definitions of Terms** |
| | - A regular PHC provider is defined as a regular medical doctor, in alignment with the question currently used in the Canadian Community Health Survey.¹ |
| | - A regular care provider is the primary care provider that a patient identifies as his or hers. This relationship implies longitudinality and continuity, and it exists for a defined period of time or indefinitely until explicitly changed.² |
| **Interpretation** | • A high rate for this indicator can be interpreted as a positive result. |
| **Further Analysis** | • This indicator can be modified to include PHC providers other than medical doctors if this information is available from other data sources or if the question in the Canadian Community Health Survey is changed to include other types of providers. |
### Population With a Regular PHC Provider
**(Indicator Set: Policy) (cont'd)**

**Indicator Rationale**

The 2003 First Ministers’ Accord on Healthcare Renewal identified access to a regular family doctor as a key performance indicator.\(^3\) In most models of care, a regular PHC provider is likely to take principal responsibility for his or her patient and will also build and maintain a provider–patient relationship that results in strong continuity of care.\(^4\) Research illustrates that increased accessibility to a PHC provider is a hallmark of better health and lower total health care system costs and that continuity of care in PHC has been associated with positive health outcomes, including increased preventive care, decreased hospitalization and fewer emergency department visits.\(^5\)

For most Canadians, the first point of contact for medical care is their PHC provider, but a large portion of the population is still without this critically important resource. In 2010, 15.2% of Canadians (4.4 million persons) reported being without a regular PHC provider.\(^6\) Among patients without a regular PHC provider, 40% of those who had looked for one reported that doctors in their area were not taking new patients and approximately 27% reported that no doctors were available.\(^6\)

The 2008 report *Rekindling Reform: Health Care Renewal in Canada, 2003–2008* examined progress made since the original health care renewal accord and identified nine areas of concern, including PHC. While the report found evidence of significant progress, with some Canadians “well served by inter-professional teams delivering PHC,” progress across the country in PHC was variable, often lacking in coordination, comprehensiveness and availability.\(^7\)

Statistics Canada data indicates that there has been a slight increase in the percentage of the Canadian population without a PHC provider over the last decade.\(^6\) These statistics highlight the importance of continuing to strive for progress in this area in order to provide optimal health care for all Canadians.

### References


### Wait Time for Immediate Care for a Minor Health Problem
(Indicator Set: Policy)

<table>
<thead>
<tr>
<th>Descriptive Definition</th>
<th>Numerator</th>
<th>Percentage of population, age 18 and older, who reported that they could get a same-day or next-day appointment to see a primary health care (PHC) provider for immediate care for a minor health problem.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method of Calculation</td>
<td>Denominator</td>
<td>Number of individuals in the denominator who reported that they could get a same-day or next-day appointment to see a PHC provider for immediate care for a minor health problem.</td>
</tr>
</tbody>
</table>
|                        | Inclusions | • Individual is in the denominator  
• Individual reported getting an appointment on the same day or next day to see a PHC provider for immediate care for a minor health problem |
|                        | Exclusions | None |

- **Inclusions**
  - Age of individual is at least 18 years
- **Exclusions**
  - None

**Data Source**: Commonwealth Fund International Health Policy Survey of Adults

**Definitions of Terms**

- Immediate care for a minor health problem is defined as receiving urgent care from a PHC provider when sick or needing medical attention. It does not include visits to the emergency department.

**Interpretation**

- A high rate for this indicator can be interpreted as a positive result.

**Indicator Rationale**

For most Canadians, the first point of contact for medical care is their PHC provider. Research illustrates that increased accessibility to a PHC provider is a hallmark of better health and lower total health care system costs. Accessibility to PHC is an important indicator of how easy it is for the population to interact with the health care system.

Immediate care for a minor health problem can be qualified as urgent care for minor issues such as fever, vomiting, major headaches, sprained ankles, minor burns, cuts, skin irritation, unexplained rashes and other non–life threatening health problems or injuries due to a minor accident. The 2008 Canadian Survey of Experiences With PHC
Wait Time for Immediate Care for a Minor Health Problem
(Indicator Set: Policy) (cont’d)

reported that 27% of adults surveyed had sought immediate care for a minor health problem in the previous year; of those, 21% had trouble obtaining it. The average wait time for immediate care was three hours. Eighty-five percent of those seeking immediate care were seen within one day, 11% within two to seven days and 4% in more than seven days. Another study found that the most significant barrier to receiving urgent care was long wait times and that Canadians with a regular PHC provider were just as likely to experience problems with accessibility as those without.

Excessive wait times are frequently monitored to measure the performance of the system and constraints in service. Same-day booking or advanced (or open) access has been found to be successful in decreasing wait times and improving access. Research indicates that advanced access booking can improve practice capacity and continuity of care in PHC and increase patient satisfaction.

References


### Wait Time for Immediate Care for a Minor Health Problem
(Indicator Set: Policy) (cont'd)

<p>| | |</p>
<table>
<thead>
<tr>
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</tr>
</thead>
</table>
### Difficulties Accessing Routine or Ongoing PHC
*(Indicator Set: Policy)*

<table>
<thead>
<tr>
<th>Descriptive Definition</th>
<th>Numerator</th>
<th>Denominator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of population, age 15 and older, who experienced difficulties obtaining required routine or ongoing primary health care (PHC) services.</td>
<td>Number of individuals in the denominator who reported experiencing difficulties obtaining required routine or ongoing PHC services for themselves or a family member in the past 12 months.</td>
<td>Number of respondents age 15 and older.</td>
</tr>
</tbody>
</table>

**Method of Calculation**

**Inclusions**
- Individual is in the denominator
- Individual reported experiencing difficulties obtaining required routine or ongoing PHC services for himself/herself or a family member in the past 12 months

**Exclusions**
- None

**Definitions of Terms**
- Routine or ongoing health services refer to health care provided by a family or general physician, including an annual check-up, blood tests or routine care for an ongoing illness (for example, prescription refills).
- Difficulty obtaining routine or ongoing PHC services could include any of the following:
  - Difficulty contacting a physician
  - Difficulty getting an appointment
  - Not having a personal/family physician
  - Waiting too long to get an appointment
  - Waiting too long to see the doctor (that is, in-office waiting)
  - Service not being available at the time required
  - Service not being available in the area
  - Having transportation problems
Difficulties Accessing Routine or Ongoing PHC  
(Indicator Set: Policy) (cont’d)

- Having language problems  
- Cost  
- Not knowing where to go (that is, information problems)  
- Being unable to leave the house because of a health problem  
- Other  

**Interpretation**

- A low rate for this indicator is interpreted as a positive result.

**Further Analysis**

- This indicator can be restricted to measure specific difficulties that individuals experienced when accessing routine or ongoing PHC services as specified in the response categories within the Canadian Community Health Survey (for example, difficulty contacting a physician, difficulty getting an appointment or waiting too long to get an appointment).
- This indicator can be calculated separately for urban and rural areas to identify differences between the two.

**Indicator Rationale**

For most Canadians, the first point of contact for medical care is their PHC provider. Research illustrates that increased accessibility to a PHC provider is a hallmark of better health and lower total health care system costs. Continuity of care in PHC has been associated with positive health outcomes, including increased preventive care, decreased hospitalization and fewer emergency department visits. Patients with a regular PHC provider also benefit from increased access to diagnostic tests and referrals to medical specialists, better adherence to treatment and increased patient satisfaction.

In a survey of experiences with the PHC system, most Canadian adults (86%) and seniors (93%) reported having a regular PHC provider. Of those reporting that they needed routine care or immediate care for a minor health problem, approximately one-quarter reported having difficulty accessing care. The primary reasons given were having had to wait too long for an appointment and difficulty getting an appointment.

Several factors affect difficulty accessing routine PHC, including geographic location (urban residence versus rural residence), number of PHC providers in the community, inability of providers to take new patients, language barriers, and availability and cost of transportation. This measure is an important indicator of how easy it is for the population to interact with the health care system. As being able to access routine PHC services when needed is important in maintaining health, preventing health emergencies and preventing the inappropriate use of services (for example, the use of hospital emergency departments for non-emergent care), monitoring this measure is vital to providing comprehensive, quality PHC for all Canadians.
Difficulties Accessing Routine or Ongoing PHC
(Indicator Set: Policy) (cont’d)

<table>
<thead>
<tr>
<th>References</th>
<th>Details</th>
</tr>
</thead>
</table>
| 1. | Statistics Canada. Canadian Community Health Survey. [link]
Accessed August 1, 2012. |
| **Difficulties Obtaining Immediate After-Hours Care for a Minor Health Problem**  
**(Indicator Set: Policy)** |
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Descriptive Definition</strong></td>
</tr>
</tbody>
</table>
| **Method of Calculation** | **Numerator** Number of individuals in the denominator who reported experiencing difficulties obtaining immediate care after hours for a minor health problem, for themselves or a family member, in the past 12 months.  
**Inclusions**  
- Individual is in the denominator  
- Individual reported experiencing difficulties obtaining immediate care after hours for a minor health problem for himself/herself or a family member in the past 12 months  
**Exclusions** None |
| **Denominator** | Number of respondents age 15 and older.  
**Inclusions**  
- Age of individual is at least 15 years  
**Exclusions**  
- Individual reported not requiring immediate care after hours for a minor health problem for himself/herself or a family member in the past 12 months |
| **Data Source** | Canadian Community Health Survey¹ |
| **Notes** | **Definitions of Terms**  
- Minor health problems include fever, vomiting, major headaches, sprained ankles, minor burns, cuts, skin irritation, unexplained rashes and other non–life threatening health problems or injuries due to a minor accident.²  
- After-hours times include 5 p.m. to 9 p.m. Monday to Friday and 9 a.m. to 5 p.m. Saturdays and Sundays.¹  
- Difficulty accessing immediate care from a regular PHC provider could include any of the following:¹  
  - Difficulty contacting a physician or nurse  
  - Not having a phone number  
  - Not being able get through (that is, no answer)  
  - Waiting too long to speak to someone |
Difficulties Obtaining Immediate After-Hours Care for a Minor Health Problem
(Indicator Set: Policy) (cont’d)

- Not getting adequate information or advice
- Having language problems
- Not knowing where to go or whom to call/being uninformed
- Being unable to leave the house because of a health problem
- Other

**Interpretation**

- A low rate for this indicator is interpreted as a positive result.

**Further Analysis**

- This indicator can be restricted to measure specific difficulties that individuals experienced when obtaining immediate care for a minor health problem after hours (evenings and weekends) as specified in the response categories within the Canadian Community Health Survey (for example, difficulty contacting a physician, difficulty getting an appointment or waiting too long to get an appointment).
- This indicator can be calculated separately for urban and rural areas to identify differences between the two.

**Indicator Rationale**

For most Canadians, the first point of contact for medical care is their primary health care (PHC) provider. In the 10-Year Plan to Strengthen Health Care, the first ministers recommended that 50% of the Canadian population have access to 24/7 PHC services from multidisciplinary teams by the year 2011.³ Research indicates that increased accessibility to a PHC provider is a hallmark of better health and lower total health care system costs.⁴ PHC access when needed also prevents health emergencies and the inappropriate use of services (such as the use of hospital emergency rooms for non-emergencies)⁵ and is an important indicator of how easy it is for the population to interact with the health care system.

Urgent, non-emergent care in the PHC setting can be qualified as immediate care for a minor health problem and other non–life threatening health issues or injuries arising from a minor accident.² In a survey of access to health care services, less than 4% of Canadians who needed care on evenings and weekends reported difficulty accessing care.⁶

Data indicates that, while PHC providers are the most common source of care during regular office hours, most Canadians seeking immediate care on weekends and evenings visit a walk-in clinic or emergency department, and those seeking care overnight usually visit an emergency department.⁷ In many jurisdictions, however, telehealth services are available for health advice after hours, and several provinces have introduced policies on after-hours coverage in PHC.⁸
References


7. Canadian Institute for Health Information. Waiting for Health Care in Canada: What We Know and What We Don’t Know. Ottawa, Ontario: CIHI; 2006.

### Child Immunization
(Indicator Set: Policy)

<table>
<thead>
<tr>
<th>Descriptive Definition</th>
<th>Numerator</th>
<th>Denominator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of population, currently age 7, who have received recommended primary childhood immunizations.</td>
<td>Number of individuals in the denominator who have received required childhood immunizations in accordance with the recommended schedule.</td>
<td>Number of individuals currently age 7.</td>
</tr>
</tbody>
</table>

**Inclusions**
- Individual is in the denominator
- Individual has received all immunizations listed in the National Advisory Committee on Immunizations (NACI) recommended schedule, or had a contraindication for immunizations that were not received

**Exclusions**
- None

**Numerator**
- Individual is in the denominator
- Individual has received all immunizations listed in the National Advisory Committee on Immunizations (NACI) recommended schedule, or had a contraindication for immunizations that were not received

**Exclusions**
- None

**Data Source**
- Electronic medical record

**Notes**

**Jurisdictional Standards**
- Jurisdictions with immunization schedules that differ from the NACI recommended schedule can modify the indicator definition to match their immunization schedule accordingly.

**Definitions of Terms**
- The NACI recommended schedule is published in the Canadian Immunization Guide.¹

**Data Quality**
- Reliable estimates of this indicator can be calculated from jurisdictions with a representative sample of patients with electronic medical records.

**Interpretation**
- A high rate for this indicator can be interpreted as a positive result.

**Further Analysis**
- This indicator can be modified to measure individual immunizations to analyze immunization rates for each vaccine separately.
Child Immunization
(Indicator Set: Policy) (cont’d)

| Indicator Rationale | Childhood immunization is an effective and well-established public health intervention, protecting most children against certain infectious diseases and saving lives. Vaccines are responsible for controlling many infectious diseases that were once common in Canada, including diphtheria, measles, mumps, pertussis (whooping cough), polio, rubella (German measles), tetanus and Haemophilus influenza type b (Hib).  

The NACI strongly recommends routine immunization according to a recommended schedule so that maximal achievable protection is ensured. There is some variation in childhood immunization schedules among provinces and territories; this indicator follows NACI recommendations and describes a recommended schedule among seven-year-olds who are current with their primary series of immunizations.  

NACI currently recommends vaccination with the following childhood vaccines, with timing of doses depending on provincial/territorial policy: diphtheria, tetanus, acellular pertussis and inactivated polio virus vaccine (DTaP-IPV); Haemophilus influenzae type b conjugate vaccine (Hib); measles, mumps and rubella vaccine (MMR); varicella vaccine (Var); hepatitis B vaccine (HB); pneumococcal conjugate vaccine (Pneu-C-7); and meningococcal C conjugate vaccine (Men-C). |


### Colon Cancer Screening
(Indicator Set: Policy)

#### Descriptive Definition
Percentage of population, age 50 to 74, who reported having received a screening test for colon cancer.

#### Method of Calculation

<table>
<thead>
<tr>
<th>Numerator</th>
<th>Number of individuals in the denominator who reported having received a screening test for colon cancer within the past 24 months.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inclusions</strong></td>
<td></td>
</tr>
</tbody>
</table>
  - Individual is in the denominator  
  - Individual reported having received at least one of the following screening tests:  
    - Fecal occult blood test (FOBT) within the past 24 months  
    - Colonoscopy or sigmoidoscopy within the past 10 years |
| **Exclusions** | None |

<table>
<thead>
<tr>
<th>Denominator</th>
<th>Number of respondents, age 50 to 74.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inclusions</strong></td>
<td></td>
</tr>
</tbody>
</table>
  - Age of individual is between 50 and 74 years |
| **Exclusions** | None |

#### Data Source
Canadian Community Health Survey¹

#### Notes
**Definitions of Terms**
- Fecal occult blood test (FOBT) is the screening of one or more stool samples for gastrointestinal bleeding, which may be an indicator of colon cancer.

**Interpretation**
- A high rate for this indicator can be interpreted as a positive result.

#### Indicator Rationale
In men and women combined, colorectal cancer is the third most common cancer in Canada and the second most common cause of cancer death. It is estimated that approximately 22,200 Canadians developed colorectal cancer in 2011 and that 8,900 died from the disease.² As with many other cancers, incidence and mortality rates of colorectal cancer rise steeply after age 50.² Evidence from clinical trials and systematic reviews of the literature indicate that screening with an FOBT reduces mortality of colorectal cancer.³⁻⁵
Colon Cancer Screening  
(Indicator Set: Policy) (cont’d)

Colorectal cancer screening guidelines were established by the Canadian Task Force on Preventive Health Care in 2001, and were followed by population screening recommendations from Health Canada’s National Committee on Colorectal Cancer in 2002, including the recommendation that people age 50 to 74 with an average risk for the disease have an FOBT every two years. There is fair evidence to include flexible sigmoidoscopy in the periodic health examinations of asymptomatic individuals over age 50 and screening with colonoscopy for above-average risk individuals.

The National Committee also recommended that screening occur in organized provincial programs with ongoing evaluation; as of the fall of 2010, eight provinces across Canada were running full or pilot programs and two provinces had announced upcoming programs.

The importance of the role of PHC providers in colorectal cancer screening is illustrated by the results of the Colon Cancer Screening in Canada Survey, which indicate that the strongest motivator for getting screened for the disease is a discussion between individuals and their doctors.

References


Colon Cancer Screening
(Indicator Set: Policy) (cont’d)


## Breast Cancer Screening
### (Indicator Set: Policy)

<table>
<thead>
<tr>
<th><strong>Descriptive Definition</strong></th>
<th>Percentage of female population, age 50 to 74, who reported having had a mammogram.</th>
</tr>
</thead>
</table>
| **Method of Calculation**  | **Numerator**  
Number of individuals in the denominator who reported having had a mammogram within the past 24 months.  
**Inclusions**  
- Individual is in the denominator  
- Individual reported having had a mammogram within the past 24 months  
**Exclusions**  
None |
| **Denominator**           | Number of females, age 50 to 74.  
**Inclusions**  
- Sex of individual is female  
- Age of individual is between 50 and 74 years  
**Exclusions**  
- Individual reported not having a mammogram because of mastectomy |
| **Data Source**           | Canadian Community Health Survey\(^1\) |
| **Notes**                 | Not applicable |
| **Interpretation**        | - A high rate for this indicator can be interpreted as a positive result. |

**Indicator Rationale**

Breast cancer is the most common cancer among Canadian women, with an estimated 23,400 new cases occurring in 2011\(^2\), comprising more than 30% of all new cancer diagnoses in women age 20 to 69, and 20% in women age 70 and older. One in 9 Canadian women will be diagnosed with breast cancer in their lifetime, and 1 in 27 will die of the disease.\(^3\)

Early detection of breast cancer is an important strategy that will yield more treatment options and improve outcomes for women diagnosed with the disease. Breast cancer mortality has been steadily declining in Canada over time, especially for women younger than 60. These declines are generally the result of improvements in breast cancer screening, including organized screening programs, increased participation rates, the improved quality of mammography and improvements in breast cancer therapy.\(^3\)

The Canadian Task Force on Preventive Health Care in 2011 recommended new screening guidelines for women age 40 to 74 at average risk of developing breast cancer (defined as those with no...
Breast Cancer Screening  
(Indicator Set: Policy) (cont’d)

previous breast cancer, no history of breast cancer in a first-degree relative, no known mutations in the BRCA1/BRCA2 genes or no previous exposure of the chest wall to radiation). The guidelines recommend routine screening with mammography every two to three years for women age 50 to 74. The PHC provider plays an essential role in helping to detect breast cancer early in the progression of the disease by recommending breast cancer screening for his or her patients and monitoring screening results.

### Cervical Cancer Screening
(Indicator Set: Policy)

<table>
<thead>
<tr>
<th><strong>Descriptive Definition</strong></th>
<th>Percentage of female population, age 18 to 69, who reported having had a Papanicolaou test.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Method of Calculation</strong></td>
<td><strong>Numerator</strong> Number of individuals in the denominator who reported having had a Papanicolaou test within the past 36 months.</td>
</tr>
</tbody>
</table>
|                             | **Inclusions**  
|                             | • Individual is in the denominator  
|                             | • Individual reported having had a Papanicolaou test within the past 36 months  
|                             | **Exclusions**  
|                             | None  
| **Denominator**             | Number of females, age 18 to 69. |
|                             | **Inclusions**  
|                             | • Sex of individual is female  
|                             | • Age of individual is between 18 and 69 years  
|                             | **Exclusions**  
|                             | • Individual reported not having a Papanicolaou test because of hysterectomy  
| **Data Source**             | Canadian Community Health Survey\(^1\) |
| **Notes**                   | Not applicable |
| **Interpretation**          | • A high rate for this indicator can be interpreted as a positive result. |
| **Indicator Rationale**     | While cervical cancer incidence and mortality have decreased dramatically in Canada since the introduction of the Papanicolaou (Pap) test in 1949,\(^2\) the effects of the disease are still in evidence; it is estimated that 1,300 new cases occurred in Canada in 2011 and that 350 women died of the disease.\(^3\) Research indicates that screening for cervical cancer can result in early detection of pre-cancerous lesions before they progress to invasive cervical cancer.\(^4\,\(^5\) Furthermore, studies have found that women with a diagnosis of invasive cervical cancer were less likely to have been screened during the five years previous to diagnosis or had not received appropriate follow-up after an abnormal Pap test.\(^5\) The findings highlight the importance of screening and follow-up by primary health care (PHC) providers in reducing the incidence and mortality of the disease. |
Guidelines for cervical cancer screening in Canada were established in 1989\(^6\) and are currently under evaluation by the Canadian Task Force on Preventive Health Care.\(^7\) Health Canada guidelines recommend screening for women age 18 and older or after becoming sexually active, with a second test after one year. If these screens are satisfactory, guidelines recommend rescreening every three years until age 69.\(^8\)

PHC providers play an important role in screening for cervical cancer in their patients by performing Pap tests according to guidelines and monitoring test results.

### References


### Screening in Adults With Diabetes
(Indicator Set: Policy)

<table>
<thead>
<tr>
<th><strong>Descriptive Definition</strong></th>
<th><strong>Percentage of population, age 20 and older, with diabetes mellitus who received testing for all of the following:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Hemoglobin A1c (HbA1c); • Full fasting lipid profile screening; • Foot examination; • Blood pressure measurement; and • Obesity/overweight screening.</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th><strong>Method of Calculation</strong></th>
<th><strong>Numerator</strong></th>
<th>Number of individuals in the denominator who reported having received testing for all of the following:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>• At least two HbA1c tests during the past 12 months; • Cholesterol screening less than 36 months ago; • Foot examination within the past 12 months; • Blood pressure measured by a health care professional most of the time during diabetes-related appointments; and • Body weight measured during the past 12 months.</td>
</tr>
</tbody>
</table>

**Inclusions**

- Individual is in the denominator
- Individual reported having had a HbA1c tested at least twice during the past 12 months
- Individual reported having had cholesterol measured less than 36 months previous
- Individual reported having had their feet checked by a health care professional for sores or irritations within the past 12 months
- Individual reported that most of the time their health care professional measured their blood pressure during diabetes-related appointments
- Individual reported having had their weight measured by a health professional within the past 12 months

**Exclusions**

None

<table>
<thead>
<tr>
<th><strong>Denominator</strong></th>
<th>Number of respondents, age 20 and older, with diabetes mellitus</th>
</tr>
</thead>
</table>

**Inclusions**

- Age of individual is at least 20 years
- Individual has a diagnosis of diabetes mellitus

**Exclusions**

None
### Screening in Adults With Diabetes

*Indicator Set: Policy*  
(cont’d)

<table>
<thead>
<tr>
<th>Data Source</th>
<th>Survey of Living With Chronic Diseases in Canada¹</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Notes</strong></td>
<td><strong>Definitions of Terms</strong></td>
</tr>
<tr>
<td></td>
<td>• Full fasting lipid profile screening is a group of blood tests that are performed after fasting 14 hours and used to guide primary health care (PHC) providers in deciding how a person at risk should be treated. Lipid profile includes total cholesterol, high-density lipoprotein (HDL) cholesterol, low-density lipoprotein (LDL) cholesterol, and triglycerides. Report may also include HDL/cholesterol ratio or a risk score based on lipid profile results, age, sex and other risk factors.²</td>
</tr>
<tr>
<td></td>
<td>• Hemoglobin A1c test (also called the HbA1c or A1c test, or glycoslated hemoglobin) is a laboratory test that reflects the average glucose level over a two- to three-month period.³</td>
</tr>
<tr>
<td></td>
<td>• Obesity/overweight screening measures may include the following:</td>
</tr>
<tr>
<td></td>
<td>– Body mass index (BMI), a method of assessing body weight while taking height into account; calculated by dividing weight by height squared.³</td>
</tr>
<tr>
<td></td>
<td>– Waist to Hip Ratio (WHR)—Although BMI provides an index for obesity, it has limitations in predicting risk for cardiovascular events. Research has indicated that measurement of WHR enables prediction of cardiovascular risk. Obesity, particularly abdominal adiposity, worsens the prognosis of clients/patients with cardiovascular disease.⁴</td>
</tr>
<tr>
<td></td>
<td>• “Most of the time” is defined as a response of “always” or “often” to questions on frequency of blood pressure checks by a health care professional at diabetes-related appointments.</td>
</tr>
<tr>
<td><strong>Interpretation</strong></td>
<td>• A high rate for this indicator can be interpreted as a positive result.</td>
</tr>
<tr>
<td><strong>Further Analysis</strong></td>
<td>• This indicator can be modified to measure each of the tests separately to analyze rates for each individual test.</td>
</tr>
<tr>
<td><strong>Indicator Rationale</strong></td>
<td>Diabetes mellitus refers to a group of diseases characterized by elevated blood glucose (blood sugar) levels. Ninety percent of individuals with diabetes have type 2 diabetes, which occurs when the pancreas produces too little insulin or when the body is not able to effectively use the insulin that is produced. Type 2 diabetes usually develops in adulthood. Ten percent of individuals with diabetes have type 1 diabetes, which develops in childhood and adolescence and occurs when the pancreas cannot produce insulin. Diabetes can lead to serious health complications and death, but individuals with diabetes can work with their PHC providers to control the disease and reduce the risk of complications.</td>
</tr>
</tbody>
</table>
Screening in Adults With Diabetes
(Indicator Set: Policy) (cont’d)

It is estimated that 2.4 million Canadians (6.8%) live with diabetes. The prevalence of diabetes in Canada is rising, especially in younger age groups, a fact that has been associated in part with increasing levels of overweight and obesity. According to a recent report, Canadians with diabetes are three times more likely to be hospitalized with cardiovascular disease, 12 times more likely to be hospitalized with end-stage renal disease and 20 times more likely to be hospitalized with non-traumatic lower limb amputations than those without the disease.

The major modifiable risk factors for complications in adults with diabetes include overweight or obesity, particularly abdominal obesity, elevated blood glucose, hypertension, high blood cholesterol and physical inactivity. In addition, most adults with diabetes are at significantly increased risk of cardiovascular disease.

Secondary prevention measures can potentially avert complications arising from diabetes. Guidelines recommend aggressive management of individuals diagnosed with diabetes with the following secondary prevention measures: blood pressure control; measurement of HbA1c every three months for glycemic control and maintenance, with regular patient monitoring as appropriate; measurement of fasting lipid profile; nephropathy screening; foot examinations; and lifestyle management of diabetes mellitus including healthy weight and daily physical activity.

References


## Screening in Adults With Diabetes (Indicator Set: Policy) (cont’d)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
</table>
| **Eye Examinations in Adults With Diabetes**  
| **(Indicator Set: Policy)** |
| **Descriptive Definition** | Percentage of population, age 20 and older, with diabetes mellitus who had an eye exam. |
| **Method of Calculation** | **Numerator** Number of individuals in the denominator who reported having had an eye exam with dilated pupils within the past 24 months.  
**Inclusions**  
- Individual is in the denominator  
- Individual reported having had an eye exam with dilated pupils within the past 24 months  
**Exclusions** None |
| **Denominator** Number of respondents, age 20 and older, with diabetes mellitus.  
**Inclusions**  
- Age of individual is at least 20 years  
- Individual reported having been diagnosed with diabetes mellitus  
**Exclusions** None |
| **Data Source** | Survey of Living With Chronic Diseases in Canada¹ |
| **Notes** | Not applicable |
| **Interpretation** | • A high rate for this indicator can be interpreted as a positive result.  
• The results of this indicator would not distinguish between types of providers who had performed the eye exam (that is, primary health care provider versus specialist, or referral to a specialist). |
| **Indicator Rationale** | Damage to the retina, or diabetic retinopathy, is the most common cause of new cases of legal blindness in adults.² It is estimated that in 2026, 10,000 Canadians will be blind as a result of diabetic retinopathy.³ Resulting from the disease process, diabetic retinopathy occurs in approximately 80% of patients suffering from diabetes for 10 years or more and can lead to blindness.⁴ The chances of developing diabetic retinopathy increase in relation to the number of years an individual has diabetes. In addition, loss or impairment of vision is associated with an increased risk of other serious health outcomes such as falls and hip fractures, as well as an increased risk of early death.⁵,⁶ |
Eye Examinations in Adults With Diabetes
(Indicator Set: Policy) (cont’d)

Research indicates that effective screening and monitoring of the eyes can significantly reduce new cases of diabetic retinopathy. The Canadian Diabetes Association 2008 guidelines recommend screening with clinical examination with direct ophthalmoscopy or indirect slit-lamp fundoscopy through dilated pupil, with or without digital fundus photography.

Screening is important for early detection of treatable disease; screening intervals vary according to the individual’s age and type of diabetes. Guidelines recommend that screening should be initiated at diagnosis in all individuals with type 2 diabetes and within five years after diagnosis in all individuals with type 1 diabetes. If retinopathy is not present, patients with type 1 diabetes should be rescreened annually, and patients with type 2 diabetes should be rescreened every one to two years. If retinopathy is present, guidelines recommend monitoring intervals of one year or less for all individuals.

References

## Anti-Depressant Medication Monitoring
(Indicator Set: Policy)

<table>
<thead>
<tr>
<th><strong>Method of Calculation</strong></th>
<th><strong>Numerator</strong></th>
<th><strong>Denominator</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Descriptive Definition</strong></td>
<td>Percentage of patient population, age 18 and older, with depression who were prescribed anti-depressant drug treatment by a primary health care (PHC) provider, and who had follow-up contact by a PHC provider.</td>
<td>Number of PHC clients/patients, age 18 and older, with depression who started anti-depressant drug treatment within the past 12 months under the supervision of a PHC provider.</td>
</tr>
<tr>
<td><strong>Numerator</strong></td>
<td>Number of individuals in the denominator who had follow-up contact with a PHC provider for review within an appropriate time frame of initiating anti-depressant drug treatment.</td>
<td>Number of PHC clients/patients, age 18 and older, with depression who started anti-depressant drug treatment within the past 12 months under the supervision of a PHC provider.</td>
</tr>
</tbody>
</table>
| **Inclusions** | • Individual is in the denominator  
• For individual age 18 to 29: Individual had a follow-up visit with his or her PHC provider within two weeks of initiating anti-depressant drug treatment  
• For individual age 30 and older: Individual had a follow-up visit with his or her PHC provider within four weeks of initiating anti-depressant drug treatment | PHC client/patient  
• Age of individual is at least 18 years  
• Individual has a diagnosis of depression  
• Individual has a prescription of anti-depressant medication from his or her PHC provider within the past 12 months |
| **Exclusions** | None | Individual had a prescription of anti-depressant medication from his or her PHC provider more than 12 months ago |
| **Data Source** | Electronic medical record |  |
### Anti-Depressant Medication Monitoring
(Indicator Set: Policy) (cont’d)

#### Notes
- This indicator measures anti-depressant medication follow-up by a PHC provider only for the initial phase of treatment. Patients who have previously received anti-depressant medication (more than 12 months ago) are excluded.

#### Definitions of Terms
- A PHC client/patient is an individual who has had contact with the provider at least once in the past year and has a record with the provider going dating back at least two years.
- Anti-depressants are medicines used to help people who have depression. Most anti-depressants are believed to work by slowing the removal of certain chemicals called neurotransmitters from the brain. Neurotransmitters are needed for normal brain function. Anti-depressants help people with depression by making these natural chemicals more available to the brain.  
- Follow-up contact methods can include a return office visit, a home visit or contact by telephone.

#### Interpretation
- A high rate for this indicator can be interpreted as a positive result.

#### Indicator Rationale
Mood disorders, including depression, are among the most common mental health disorders in the population, with major depressive disorder being especially prevalent. Mood disorders cause significant distress, can impair social and occupational functioning and increase the risk of suicide. The percentage of Canadians reporting a diagnosed mood disorder rose from 5.3% in 2003 to 6.3% in 2009, with women reporting significantly higher levels of mood disorders than men. It has been estimated that 9.2% of Canadian men and 15.1% of Canadian women experience depression in their lifetime. The economic burden on the Canadian economy is also significant. In 2002, mental illness accounted for $7.9 billion in direct and indirect costs to the health care system. The World Health Organization reports that disability levels among patients in primary care suffering from depression are higher than in patients with other chronic conditions, including diabetes, hypertension, arthritis and back pain.

Anti-depressant medications and psychotherapy, alone or in combination, are effective in the treatment of depression, and anti-depressant treatment in the acute phase of an episode has been shown to lead to continued adherence. If an anti-depressant is prescribed, guidelines recommend follow-up after two weeks for most patients, and regularly thereafter at intervals of two to four weeks for the first three months, with visits as appropriate thereafter. Regular follow-up for
patients taking anti-depressant medication is important because anti-depressants do not begin to have a clinical effect for some time after initiation of therapy and patients with major depression are at risk of suicide.²,⁶

A recent study on quality of care recommended an indicator to track primary care follow-up after prescription of an anti-depressant.⁷

References


## Scope of PHC Services (Indicator Set: Policy)

<table>
<thead>
<tr>
<th>Descriptive Definition</th>
<th>Numerator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of primary health care (PHC) organizations that currently provide a range of PHC services.</td>
<td>Number of organizations in the denominator that report currently offering the following services:</td>
</tr>
<tr>
<td></td>
<td>Management of care for an emergent but minor health problem;</td>
</tr>
<tr>
<td></td>
<td>Non-urgent routine care;</td>
</tr>
<tr>
<td></td>
<td>Prevention and health promotion and/or education services;</td>
</tr>
<tr>
<td></td>
<td>Maternity care;</td>
</tr>
<tr>
<td></td>
<td>Child care;</td>
</tr>
<tr>
<td></td>
<td>Primary mental health care;</td>
</tr>
<tr>
<td></td>
<td>Rehabilitation services;</td>
</tr>
<tr>
<td></td>
<td>End-of-life care; and</td>
</tr>
<tr>
<td></td>
<td>At least one of the following services:</td>
</tr>
<tr>
<td></td>
<td>- Psychosocial services;</td>
</tr>
<tr>
<td></td>
<td>- Liaison with home care;</td>
</tr>
<tr>
<td></td>
<td>- Nutrition counselling services; and</td>
</tr>
<tr>
<td></td>
<td>- Home visits.</td>
</tr>
</tbody>
</table>

### Inclusions

- Organization is in the denominator
- Organization respondent reported currently providing follow-up for management of care for an emergent but minor health problem
- Organization respondent reported currently providing follow-up for non-urgent routine care
- Organization respondent reported currently providing follow-up for prevention and health promotion and/or education services
- Organization respondent reported currently providing follow-up for maternity care
- Organization respondent reported currently providing follow-up for child care
- Organization respondent reported currently providing follow-up for primary mental health care
- Organization respondent reported currently providing follow-up for rehabilitation services
- Organization respondent reported currently providing follow-up for end-of-life care
Scope of PHC Services
(Indicator Set: Policy) (cont’d)

<table>
<thead>
<tr>
<th>Organization respondent reported currently providing follow-up for at least one of the following:</th>
</tr>
</thead>
<tbody>
<tr>
<td>– Psychosocial services</td>
</tr>
<tr>
<td>– Liaison with home care</td>
</tr>
<tr>
<td>– Nutrition counselling services</td>
</tr>
<tr>
<td>– Home visits</td>
</tr>
</tbody>
</table>

**Exclusions**
None

<table>
<thead>
<tr>
<th>Denominator</th>
<th>Number of PHC organization respondents.</th>
</tr>
</thead>
</table>

**Inclusions**

| PHC organization |

**Exclusions**
None

**Data Source**
Canadian Practice-Based Primary Health Care Survey Tools: Organization Component

**Notes**

**Definitions of Terms**

- PHC organizations include entities with at least one family physician, general practitioner or nurse practitioner who shares human, fiscal and material (for example, office space) resources with other health care professionals to provide PHC services to a broad general population.
- PHC often includes the following services:
  - Prevention and routine care (for example, for common diseases and injuries)
  - Basic immediate care for minor problems
  - Referrals to other levels of care (such as to hospitals and specialists)
  - Primary mental health care
  - End-of-life care
  - Health promotion
  - Child care
  - Primary maternity care
  - Rehabilitation services

**Interpretation**

- A high rate for this indicator can be interpreted as a positive result.

**Further Analysis**

- This indicator can be restricted to measure individual services separately.
Scope of PHC Services  
(Indicator Set: Policy) (cont’d)

**Indicator Rationale**  
For most Canadians, the first point of contact for medical care is their PHC provider. Primary health care can include routine care with a regular provider, urgent care for a minor health problem or accident, maternity and child care, disease prevention services, nutrition counselling, mental health care and referrals for home care, health promotion services, rehabilitation services and end-of-life care.\(^3\), \(^4\) Chronic disease prevention and management are also a focus of PHC. Research illustrates that increased accessibility to a PHC provider is a hallmark of better health and lower total health care system costs. Continuity of care in PHC has been associated with positive health outcomes, including involvement in preventive care and prevention of hospitalization and emergency department visits.\(^5\)

In a 2007 survey, approximately 86% of Canadian adults and 93% of seniors reported having a regular medical provider.\(^6\) Also, approximately one-third of Canadians reported needing routine or ongoing care during the previous year, and 29% reported needing immediate care for a minor health problem. More than 90% of Canadians with a regular provider responded that they had received the comprehensiveness of care that they had sought, with their PHC provider delivering a range of services that covered most or all of their PHC needs.\(^6\)

This indicator measures the comprehensiveness of services offered by PHC organizations.

**References**

1. Canadian Institute for Health Information. Primary Health Care: Pan-Canadian Primary Health Care Survey Questions and Tools.  


Scope of PHC Services
(Indicator Set: Policy) (cont’d)

## Collaborative Care With Other Health Care Organizations
*(Indicator Set: Policy)*

<table>
<thead>
<tr>
<th><strong>Descriptive Definition</strong></th>
<th>Percentage of primary health care (PHC) organizations that currently have arrangements with other health care organizations to manage patients together.</th>
</tr>
</thead>
</table>
| **Method of Calculation** | **Numerator** Number of organizations in the denominator that reported having arrangements with at least one of the following to manage patients together:  
- Other PHC clinics;  
- Hospitals; and  
- Medical specialist clinics.  
**Inclusions**  
- Organization is in the denominator  
- Organization respondent reported having at least one of the following:  
  - Arrangements with one or more other PHC clinics to manage patients together  
  - Arrangements with one or more hospitals to manage patients together  
  - Arrangements with one or more medical specialist clinics to manage patients together  
**Exclusions**  
None |
| **Denominator** | Number of PHC organization respondents.  
**Inclusions**  
- PHC organization  
**Exclusions**  
None |
| **Data Source** | Canadian Practice-Based Primary Health Care Survey Tools: Organization Component¹ |
| **Notes** | **Definitions of Terms**  
- PHC organizations include entities with at least one family physician, general practitioner or nurse practitioner who shares human, fiscal and material (for example, office space) resources with other health care professionals to provide PHC services to a broad general population.  
- Arrangements to manage patients together include both formal and informal arrangements between a PHC organization and other health care organizations, which include other PHC clinics, hospitals and medical specialist clinics. |
Collaborative Care With Other Health Care Organizations  
(Indicator Set: Policy) (cont’d)

**Interpretation**

- A high rate for this indicator can be interpreted as a positive result.

**Further Analysis**

- This indicator can be modified to measure collaborative care rates for different types of health organizations (that is, a PHC clinic, hospital or specialist clinic) separately.
- This indicator can be modified to further measure the type of arrangement with other health care organizations, including the following:
  - Planning services offered (for example, on-call activities);
  - Accessing technical services (for example, radiology);
  - Exchanging resources; and
  - Following up on hospitalized patients or patients seen at the clinic.

**Indicator Rationale**

In 2000, the first ministers agreed that improvements to the PHC system in Canada were critical to health care renewal. The Primary Health Care Transition Fund was created, and from 2000 to 2006 it supported provinces and territories in health care renewal. Two national strategies were funded, including a PHC strategy involving interdisciplinary collaboration called Enhancing Interdisciplinary Collaboration in Primary Health Care (EICP).

In a collaborative care arrangement, a PHC provider establishes a formal working relationship with one or more providers from another organization to share patient care and information. The EICP developed a body of best practice research and a set of tools to support PHC providers in collaborative care and demonstrated that interdisciplinary leadership is critical to PHC renewal.

A study conducted in a large urban health region in Canada assessed the views of family physicians and general practitioners regarding collaborative care and their current involvement in collaborative practice. PHC providers reported a high level of interest in working in a collaborative care environment, particularly with dietitians, psychologists, home care nurses, pharmacists, physical therapists, social workers, public health nurses and nurse educators. In current practice, however, few reported actual involvement in collaborative care arrangements; the greatest involvement was with dietitians, at 22%.

Most Canadians are of the opinion that their PHC providers collaborate well with other professionals and sectors of the health care system. Collaborative care in the PHC setting provides important benefits to patients and providers, especially in continuity of care. Reporting on this indicator will enable an assessment of the level to which interdisciplinary services are available to Canadians through collaborative care in the PHC setting.
Collaborative Care With Other Health Care Organizations  
(Indicator Set: Policy) (cont’d)

<table>
<thead>
<tr>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ambulatory Care Sensitive Conditions Hospitalization Rate</strong></td>
</tr>
<tr>
<td>---------------------------------</td>
</tr>
<tr>
<td><strong>Descriptive Definition</strong></td>
</tr>
<tr>
<td><strong>Method of Calculation</strong></td>
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<td></td>
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<tr>
<td><strong>Inclusions</strong></td>
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<td><strong>Exclusions</strong></td>
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<tr>
<td><strong>Denominator</strong></td>
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<tr>
<td><strong>Inclusions</strong></td>
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<tr>
<td><strong>Exclusions</strong></td>
</tr>
<tr>
<td><strong>Data Sources</strong></td>
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</tbody>
</table>
### Notes
- Technical information for this indicator (for example, definitions for the conditions included as ACSCs) is available on CIHI’s website.³
- ACSCs include the following conditions: grand mal status and other epileptic convulsions, chronic obstructive pulmonary disease, asthma, heart failure and pulmonary edema, hypertension, angina and diabetes.⁴,⁵

### Interpretation
- A low rate for this indicator can be interpreted as a positive result.

### Indicator Rationale
Ambulatory care sensitive conditions, a term developed by Billings et al. in 1993,⁴ are chronic medical conditions that—when treated effectively in community settings—should not, in most cases, advance to hospitalizations.

Hospitalizations related to ACSCs are often referred to as avoidable hospitalizations and are considered an indirect measure of access to primary health care (PHC), care in the community and the ability of the health care system to manage chronic conditions.⁶,⁷

The Longitudinal Health and Administrative Data (LHAD) initiative recently published the first national-level population-based study of patient factors (for example, socio-economic status) and other factors that can be affected by PHC (for example, comorbidities) associated with ACSC-related hospitalizations in Canada. The LHAD report estimated that 4.2 million persons between the ages of 12 and 74 have been diagnosed with one or more ACSCs, with approximately 46% suffering from hypertension, 43% heart disease, 36% diabetes, 30% asthma and 16% chronic obstructive pulmonary disease. Among these, 161,000 (3.8%) persons reported one or more hospitalizations over a four-year period.⁷

More than half of Canadians with an ACSC-related hospitalization were age 60 and older, and those with two or more comorbid conditions were more than four times as likely to experience an ACSC-related hospitalization as those with no comorbidities.⁷

Optimizing management of these conditions in the community, including the PHC setting, can potentially contribute to both improved patient health outcomes and more efficient resource utilization.⁵
Ambulatory Care Sensitive Conditions Hospitalization Rate
(Indicator Set: Policy) (cont’d)

References


### Emergency Department Visits for Asthma

**Indicators Set: Policy**

<table>
<thead>
<tr>
<th><strong>Descriptive Definition</strong></th>
<th>Percentage of population, age 6 to 55, with asthma who visited an emergency department for treatment of asthma.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Method of Calculation</strong></td>
<td><strong>Numerator</strong> Number of individuals, age 6 to 55, who visited an emergency department for treatment of asthma within the past 12 months.</td>
</tr>
</tbody>
</table>
|                           | **Inclusions**  
|                           | • Age of individual is between 6 and 55 years  
|                           | • Individual visited an emergency department for treatment of asthma within the past 12 months |
|                           | **Exclusions** None |
|                           | **Denominator** Number of respondents age 6 to 55 who reported having asthma. |
|                           | **Inclusions**  
|                           | • Age of individual is between 6 and 55 years  
|                           | • Individual has a diagnosis of asthma |
|                           | **Exclusions** None |
| **Data Sources**          | • National Ambulatory Care Reporting System,† Canadian Institute for Health Information, for the numerator  
|                           | • Canadian Community Health Survey² for the denominator |
| **Notes**                 | Not applicable |
| **Interpretation**        | • A low rate for this indicator can be interpreted as a positive result. |
| **Indicator Rationale**   | Asthma is a chronic disease that causes coughing, shortness of breath, chest tightness and wheezing. These symptoms and asthma attacks, characterized by severe shortness of breath, occur as a result of viral respiratory infections, exercise or exposure to allergens and irritant pollutants.³ Asthma attacks, which are often accompanied by feelings of suffocation, lack of breath and loss of control, affect quality of life and may cause absence from work, limit activity and be life-threatening.⁴ In many cases, onset and control of these symptoms can be managed with effective treatment, and the role of the primary health care (PHC) provider is pivotal in the management of the disease. |
|                           | In the 2011 Canadian Community Health Survey, 2.5 million Canadians, or 8.6% of the population age 12 and older, reported being diagnosed with asthma.⁵ In 2005, approximately 70% of Canadians age |
12 and older with asthma reported that they had suffered asthma symptoms or an attack or had used asthma medications during the previous year.⁶

Among children in Canada, asthma is a major cause of hospitalization, resulting in approximately 8% of admissions for children age 14 and younger in 2004.⁶ The health care costs of asthma in Canada have not been systematically assessed since the early 1990s, but they are likely considerable, as it is a common chronic disease with many complications. In the three years between 1998 and 2001, approximately 80,000 Canadians were admitted to hospital for asthma, with readmissions being relatively common.⁴

The intent of this indicator is to monitor the severity of asthma and adverse events related to the disease. A Canadian expert panel convened in 2004 recommended monitoring emergency department visits to assess the appropriateness of asthma care management.⁷

References


<table>
<thead>
<tr>
<th>Descriptive Definition</th>
<th>Numerator</th>
<th>Method of Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of population, age 20 and older, with hypertension for a duration of at least 12 months, who reported having blood pressure measurement control.</td>
<td>Number of individuals in the denominator who report having blood pressure measurement control.</td>
<td></td>
</tr>
<tr>
<td><strong>Inclusions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Individual is in the denominator</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• If individual reported not having been diagnosed with diabetes mellitus and had at least one of the following:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>‒ The latest blood pressure reading is less than 140/90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>‒ If no blood pressure reading was reported, individual reported having well-controlled blood pressure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• If individual reported having been diagnosed with diabetes mellitus and had at least one of the following:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>‒ The latest blood pressure reading is less than 130/80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>‒ If no blood pressure reading was reported, individual reported having well-controlled blood pressure</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Exclusions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td></td>
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</tr>
<tr>
<td>Denominator</td>
<td>Number of respondents, age 20 and older, with hypertension for duration of at least 12 months.</td>
<td></td>
</tr>
<tr>
<td><strong>Inclusions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Age of individual is at least 20 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Individual has a diagnosis of hypertension for at least 12 months</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Exclusions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Individual reported not having had blood pressure measured by a health care professional within the past 12 months</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Individual reported having been diagnosed with high blood pressure during pregnancy only</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Blood Pressure Control for Hypertension
(Indicator Set: Policy) (cont’d)

Data Source
Survey of Living With Chronic Diseases in Canada¹

Notes
Definitions of Terms
- For individuals who do not have diabetes mellitus: blood pressure measurement control is a reading of less than 140/90 mmHg during the last visit to the primary health care (PHC) provider.²
- For individuals who have diabetes mellitus: blood pressure measurement control is a reading of less than 130/80 mmHg during the last visit to the PHC provider.²

Interpretation
- A high rate for this indicator can be interpreted as a positive result.

Indicator Rationale
High blood pressure, or hypertension, is a risk factor for cardiac, cerebrovascular and other vascular diseases.³⁻⁷ It is also a significant cause of disability and is considered to be the major risk factor for death in the world, causing an estimated 7.5 million deaths per year.⁸

A recent study, based on results from the 2007–2009 Canadian Health Measures Survey, estimated that 19% of Canadian adults suffer from hypertension.⁹ While major improvements in the diagnosis and treatment of hypertension have occurred in this country, recent findings suggest that the condition remains uncontrolled in 34% of adults with the disease.⁹

After being diagnosed with hypertension, a target blood pressure of less than 140/90 mmHg and 130/80 mmHg represents control of the disease for those without and those with diabetes mellitus, respectively.² Evidence suggests that a combination of lifestyle changes and antihypertensive drug therapies is usually necessary to achieve recommended target blood pressures in patients with hypertension.² Studies have also found that lifestyle factors that can lower blood pressure—including a healthy diet, regular physical activity, moderation in alcohol consumption, reductions in sodium consumption and stress reduction—are positively impacted by a patient’s interaction with a PHC provider.², ¹⁰

An estimated one-third of coronary heart disease events in men and more than half of these events in women could be prevented with effective control of blood pressure in patients with hypertension.¹¹ The role of PHC providers is vital in the control of blood pressure in patients with hypertension in Canada, not only in diagnosis and treatment of the disease but in assessment of patient adherence to lifestyle and pharmacotherapy recommendations during routine clinical care.
# Blood Pressure Control for Hypertension
*(Indicator Set: Policy)* *(cont’d)*

## References


### Complications of Diabetes
(Indicator Set: Policy)

<table>
<thead>
<tr>
<th><strong>Descriptive Definition</strong></th>
<th><strong>Numerator</strong></th>
<th><strong>Method of Calculation</strong></th>
<th><strong>Denominator</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of population, age 50 to 74, with established diabetes mellitus who had an acute myocardial infarction, had an above- or below-knee amputation or began chronic dialysis.</td>
<td>Number of individuals, age 50 to 74, with diabetes mellitus who had an acute myocardial infarction, had an above- or below-knee amputation or began chronic dialysis within the past 12 months.</td>
<td>Numerator: Number of individuals, age 50 to 74, with diabetes mellitus who had an acute myocardial infarction, had an above- or below-knee amputation or began chronic dialysis within the past 12 months.</td>
<td>Number of individuals age 50 to 74 with diabetes mellitus.</td>
</tr>
</tbody>
</table>

**Inclusions**
- Age of individual is between 50 and 74 years
- Individual has a diagnosis of diabetes mellitus
- Individual had one or more of the following within the past 12 months:
  - Acute myocardial infarction
  - Amputation above or below the knee
  - Initiation of chronic dialysis

**Exclusions**
- None

#### Data Sources
- Discharge Abstract Database,\(^1\) Canadian Institute for Health Information, and Fichier des hospitalisations MED-ÉCHO, ministère de la Santé et des Services sociaux du Québec,\(^2\) for the numerator (see Notes)
- Canadian Community Health Survey\(^3\) for the denominator

#### Notes
- For jurisdictions that report day procedures to the National Ambulatory Care Reporting System (NACRS), this data source would also be required.

#### Interpretation
- A low rate for this indicator can be interpreted as a positive result.

#### Indicator Rationale
- Persons with diabetes are at an increased risk of many adverse health conditions. Diabetes greatly increases the risk of cardiovascular disease, and persons with diabetes are two to four times more likely to develop this condition than those without.\(^4\) Cardiovascular disease is the most frequent complication in Canada among those suffering from...
Complications of Diabetes (Indicator Set: Policy) (cont’d)

diabetes and is the most common cause of death in persons with type 2 diabetes. Diabetes can result in premature narrowing of the arteries (atherosclerosis), which in turn can lead to acute myocardial infarction.\(^5,6\)

Diabetes significantly increases the risk of kidney disease (nephropathy); persons with diabetes in Canada are almost 6 times more likely to be hospitalized with kidney disease and 12 times more likely to be hospitalized with end-stage kidney disease than those without diabetes.\(^7\) Diabetes is reported as the primary cause of end-stage kidney disease in Canada, causing approximately one-third of cases in 2009. As well, the number of persons starting renal replacement therapy (dialysis or transplant) has followed an increasing trend during the last two decades.\(^7\)

Diabetes is the most common cause of peripheral neuropathy (nerve damage) and greatly increases the risk of amputation; adults in Canada who were diagnosed with diabetes in 2008–2009 were almost 20 times more likely to be hospitalized with non-traumatic lower-limb amputations than those without diabetes.\(^7\) Evidence indicates that many foot complications in persons with diabetes can be prevented by following clinical practice guidelines for physician foot examinations.\(^8\)

Management and control of blood sugar, blood lipids and blood pressure levels can help to reduce the development and progression of many long-term complications of diabetes.\(^7,9\) The primary health care provider, sometimes working with an interdisciplinary team, and supporting the involvement of the patient in his or her care, plays a critical role in the management, education and well-being of patients with diabetes.

References


### Complications of Diabetes
(Indicator Set: Policy) (cont'd)


### Point-of-Care Access to PHC Client/Patient Health Information
(Indicator Set: Policy)

<table>
<thead>
<tr>
<th>Descriptive Definition</th>
<th>Numerator</th>
<th>Percentage of primary health care (PHC) providers who had essential demographic and clinical information at the point of care during every patient visit over the past month.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Method of Calculation</strong></td>
<td><strong>Numerator</strong></td>
<td>Number of individuals in the denominator who reported having essential demographic and clinical information at the point of care during every patient visit over the past month.</td>
</tr>
</tbody>
</table>
| **Inclusions** |  | • Individual is in the denominator  
• Individual reported having essential demographic and clinical information at the time of patients’ scheduled visits over the past month |
| **Exclusions** |  | None |
| **Denominator** |  | Number of PHC provider respondents. |
| **Inclusions** |  | • PHC provider |
| **Exclusions** |  | None |
| **Data Source** |  | Canadian Practice-Based Primary Health Care Survey Tools: Provider Component¹ |
| **Notes** | **Definitions of Terms** | • Complete information is the essential PHC client/patient demographic and clinical information necessary for that visit. |
| **Interpretation** |  | • A high rate for this indicator can be interpreted as a positive result. |
| **Indicator Rationale** |  | Evidence suggests that continuity of care in PHC improves health status and results in better chronic disease outcomes.² Continuity of care is also associated with improved adherence to treatment and preventive care, recognition of unidentified problems, improved immunization rates, fewer hospitalizations, less use of emergency rooms, improved patient satisfaction and a general reduction in costs.³,⁴ Canada’s Primary Care Toolkit for Family Physicians defines continuity of care as the ability of patients to access health care through the same provider over time. It also allies continuity with comprehensiveness, implying that the family physician has access to a variety of health care services to meet a patient’s needs throughout his or her lifetime.⁵ As the patient accesses services, availability of up-to-date, documented...
**Point-of-Care Access to PHC Client/Patient Health Information**  
*(Indicator Set: Policy) (cont’d)*

Information in his or her PHC chart or record also becomes a measure of continuity of care. Evidence further suggests that when patient information is not available, delays, duplication and potentially inappropriate action can result.6, 7

Continuity and comprehensiveness of care can be challenged by several factors, including an ever-increasing knowledge base required of PHC physicians; increased specialization, even within PHC; a lack of PHC infrastructure; fragmentation of patient care services; and underfunding of health system resources.5

Given the clear advantages of continuity and comprehensiveness of care within the PHC system, governments, health authorities and physician groups must plan for these challenges to maintain optimal care for all Canadians using the PHC system.

**References**


<table>
<thead>
<tr>
<th>PHC Physician Remuneration Method</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>(Indicator Set: Policy)</strong></td>
</tr>
<tr>
<td><strong>Descriptive Definition</strong></td>
</tr>
<tr>
<td>Percentage of general practitioners and family physicians who were primarily remunerated by the following types of payment systems, by type of payment system:</td>
</tr>
<tr>
<td>• Fee for service;</td>
</tr>
<tr>
<td>• Salary;</td>
</tr>
<tr>
<td>• Capitation; and</td>
</tr>
<tr>
<td>• Mixed system.</td>
</tr>
<tr>
<td><strong>Method of Calculation</strong></td>
</tr>
<tr>
<td><strong>Numerator</strong></td>
</tr>
<tr>
<td>Number of individuals in the denominator who reported receiving more than 50% of their professional income from the following payment systems over the past 12 months, by type of payment system:</td>
</tr>
<tr>
<td>• Fee for service;</td>
</tr>
<tr>
<td>• Salary;</td>
</tr>
<tr>
<td>• Capitation; and</td>
</tr>
<tr>
<td>• Mixed system.</td>
</tr>
</tbody>
</table>

**Inclusions**

To measure fee for service:

• Individual is in the denominator
• Individual reported receiving more than 50% of his or her professional income over the past 12 months from fee for service

To measure salary:

• Individual is in the denominator
• Individual reported receiving more than 50% of his or her professional income over the past 12 months from salary

To measure capitation:

• Individual is in the denominator
• Individual reported receiving more than 50% of his or her professional income over the past 12 months from capitation

To measure mixed system:

• Individual is in the denominator
• Individual reported at least one of the following:
  - Receiving more than 50% of his or her professional income over the past 12 months from the sum of fee for service and capitation
<table>
<thead>
<tr>
<th>PHC Physician Remuneration Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Indicator Set: Policy) (cont’d)</td>
</tr>
</tbody>
</table>

- Receiving more than 50% of his or her professional income over the past 12 months from the sum of fee for service and salary

**Exclusions**
None

<table>
<thead>
<tr>
<th>Denominator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of primary health care (PHC) physicians providing patient care.</td>
</tr>
</tbody>
</table>

**Inclusions**
- Individual reported being a family physician or general practitioner
- Individual reported providing patient care

**Exclusions**
None

**Data Source**
National Physician Survey¹

**Notes**

**Definitions of Terms**
- The term “primarily” refers to more than 50% of total annual income from one of the four payment systems.
- Fee for service: Respondent stated that more than 50% of total income comes from fee for service. Fee for service refers to reimbursement for each item of service provided, occurring after care has been provided.²
- Salary: Respondent stated that more than 50% of total income comes from salary. Salary is the annual wage paid to a PHC provider to work a set number of hours per week per year.²
- Capitation: Respondent stated that more than 50% of total income comes from capitation. Capitation is a per capita payment system where physicians are paid for every patient enrolled (for example, rostered) with the physician, regardless of the number of services provided.²
- Mixed system: Refers to a combination of fee for service and capitation or fee for service and salary as payment for one PHC provider.² Mixed system is when no one payment method accounts for more than 50% of total income, and the respondent reported receiving more than 50% of total income from the sum of fee for service and salary or more than 50% of total income from the sum of fee for service and capitation.
## PHC Physician Remuneration Method  
(Indicator Set: Policy) (cont’d)

<table>
<thead>
<tr>
<th>Data Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>- The response rate to the 2010 National Physician Survey was low (approximately 19% for family physicians); therefore, CIHI does not recommend reporting indicators calculated using data from this survey. However, this does not preclude researchers from using local data sources for these PHC indicators. If changes to future cycles of the National Physician Survey are effective in increasing the response rate, it could then be considered a reportable data source.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>- This is a contextual measure that supports other PHC indicators and research questions.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indicator Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Most physicians in Canada work on a fee-for-service basis, though other forms of remuneration are increasingly being used, including salary, capitation and blended funding. In 2007–2008, these alternative payment models accounted for approximately 24% of clinical payments to physicians. In capitation and blended funding payment models, physicians are paid based on the number of patients enrolled in their practice rather than by visit. In a 2007 survey, approximately half of family physicians in Canada reported that most of their income was paid on a fee-for-service basis, and a third reported that they derived most of their income via a blended payment method.</td>
</tr>
</tbody>
</table>

As new models of PHC are adopted across the country, it can be expected that provider remuneration methods will also change. Evidence suggests that the model of payment can affect providers’ clinical behaviour in a practice setting. In a recent study of screening, treatment and control of hypertension, physician practices and patient outcomes were examined relative to method of payment: all models demonstrated high levels of performance in screening, but the primary care network capitation system provided the best results for patients with hypertension. |

This indicator measures the distribution of payments by different methods of remuneration to PHC providers and may be useful in the continued examination of alternative models of PHC delivery as health care renewal in Canada progresses.
### References


## PHC Needs-Based Planning (Indicator Set: Policy)

### Descriptive Definition
Percentage of primary health care (PHC) organizations that used information on the composition of their practice population to allocate resources for programs and services.

### Method of Calculation

<table>
<thead>
<tr>
<th>Numerator</th>
<th>Number of organizations in the denominator that reported using information on the composition of their practice population to allocate resources for programs and services within the past 12 months.</th>
</tr>
</thead>
</table>
| **Inclusions** | • Organization is in the denominator  
• Organization respondent reported using information on the composition of the organization’s practice population to allocate resources for programs and services within the past 12 months |
| **Exclusions** | None |

<table>
<thead>
<tr>
<th>Denominator</th>
<th>Number of PHC organization respondents.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inclusions</strong></td>
<td>• PHC organization</td>
</tr>
<tr>
<td><strong>Exclusions</strong></td>
<td>None</td>
</tr>
</tbody>
</table>

### Data Source
Canadian Practice-Based Primary Health Care Survey Tools: Organization Component

### Notes
**Definitions of Terms**
- PHC organizations include entities with at least one family physician, general practitioner or nurse practitioner who shares human, fiscal and material (for example, office space) resources with other health care professionals to provide PHC services to a broad general population.

### Interpretation
- A high rate for this indicator can be interpreted as a positive result.
### PHC Needs-Based Planning

*Indicator Set: Policy* (cont’d)

| Indicator Rationale | Needs-based planning in the PHC setting takes into account the characteristics of the population served by PHC organizations in the practice area, such as gender, age, socio-economic status and health status. This demographic and epidemiologic data can help PHC organizations assess the health needs of their community and plan services accordingly. Research suggests that when the health care needs of a community are not correctly identified, there is a danger that health care services will be based on perception and not current need. An objective of Canada’s Primary Healthcare Transition Fund was to increase the proportion of the Canadian population with access to PHC organizations that provide comprehensive services to defined populations. This indicator measures the extent to which PHC organizations use needs-based planning to allocate resources to serve their practice population. |
| **Overweight and Obesity Rate**  
| (Indicator Set: Policy) |
|---|---|
| **Descriptive Definition** | Percentage of population, age 12 and older, who are currently overweight or obese. |
| **Method of Calculation** | **Numerator**  
Number of individuals in the denominator who reported a height and weight corresponding to a body mass index (BMI) in the overweight or obese range.  
**Inclusions**  
- Individual is in the denominator  
- Individual reported a height and weight corresponding to a BMI in the overweight or obese range  
**Exclusions**  
None |
| | **Denominator**  
Number of respondents age 12 and older.  
**Inclusions**  
- Age of individual is at least 12 years  
**Exclusions**  
- Individual is currently pregnant  
- Individuals who are  
  - Age 18 and older; and  
  - Shorter than 0.914 metres  
- Individuals who are  
  - Age 18 and older; and  
  - Taller than 2.108 metres |
| **Data Source** | Canadian Community Health Survey¹ |
| **Notes** |  
- BMI is calculated by dividing weight in kilograms by height in metres squared.  
- For individuals age 18 and older, the overweight range is a BMI between 25.0 and 29.9 kg/m². For individuals younger than 18, the overweight range is determined using international cut-off points.²  
- For individuals age 18 and older, the obese range is a BMI greater than 30.0 kg/m². For individuals younger than 18, the obese range is determined using international cut-off points.² |
Overweight and Obesity Rate
(Indicator Set: Policy) (cont’d)

Interpretation

- A low rate for this indicator can be interpreted as a positive result.

Further Analysis

- This indicator can be restricted to adults age 18 and older or to children age 12 to 17 to further break it down.
- This indicator can be modified to measure overweight and obesity rates separately.

Indicator Rationale

Being overweight or obese is a risk factor for type 2 diabetes, cardiovascular disease, hypertension, osteoarthritis, some cancers and gallbladder disease.\(^3\)\(^,\)\(^4\) Being overweight or obese is also associated with certain psychosocial problems, functional limitations and disabilities.\(^5\)

Adult overweight and obesity are calculated by measuring a person’s BMI—his or her weight in kilograms divided by height in squared metres. BMI is correlated closely with body fat and is a recognized indicator of health risks.\(^6\) The World Health Organization considers a BMI of 18.5 to 24.9 to be normal, 25.0 to 29.9 to be overweight and 30.0 and above to be obese.\(^7\)

In 2004, the Canadian Community Health Survey conducted a national health survey specific to nutrition and measured respondents’ heights and weights. The survey indicated that more than half of Canada’s adult population fell into the category of overweight or obese, with 36% (8.6 million) of Canadians age 18 and older being overweight and another 23% (5.5 million) being obese.\(^5\)

Rates of overweight and obesity have risen dramatically in Canada over the past two decades, mirroring a worldwide trend.\(^7\)\(^–\)\(^9\) This increase is reflected not only in adults but in the younger population, which is an issue of concern, as childhood overweight and obesity may be associated with health risks into adulthood.\(^10\)\(^,\)\(^11\) The role of the primary health care provider in counselling patients about the health risks associated with overweight and obesity is increasingly important in relation to the trend toward increased weight and decreased physical activity in Canada.

References


### Smoking Rate
(Indicator Set: Policy)

<table>
<thead>
<tr>
<th>Descriptive Definition</th>
<th>Percentage of population, age 12 and older, who reported being a daily or occasional smoker.</th>
</tr>
</thead>
</table>
| Method of Calculation  | **Numerator**  
Number of individuals in the denominator who reported being a current smoker, either daily or occasionally. |
|                        | **Inclusions**  
- Individual is in the denominator  
- Individual reported one of the following:  
  - Currently smoking daily  
  - Currently smoking occasionally |
|                        | **Exclusions**  
None |
|                        | **Denominator**  
Number of respondents age 12 and older. |
|                        | **Inclusions**  
- Age of individual is at least 12 years |
|                        | **Exclusions**  
None |

#### Data Source
Canadian Community Health Survey\(^1\)

#### Notes
- Occasional smokers include former daily smokers who now smoke occasionally.\(^2\)
- This indicator does not take into account the number of cigarettes smoked.\(^2\)

#### Interpretation
- A low rate for this indicator can be interpreted as a positive result.

#### Further Analysis
- This indicator can be modified to measure the rate among individuals age 12 to 19 to examine smoking rates for teenagers.

#### Indicator Rationale
It is well established that tobacco is a leading preventable cause of morbidity and mortality in Canada, causing many diseases, including cancer, heart disease and stroke.\(^3\) In 2010, it was estimated that approximately 16.7% of the Canadian population, or 4.7 million persons, smoked.\(^4\) Approximately half of those smokers are expected to become ill or die from their tobacco use.\(^4\)

Smoking accounts for 85% of all new cases of lung cancer in Canada,\(^5,6\) and 37,000 deaths each year are attributable to smoking.\(^7\) The economic burden of tobacco use in Canada is also great, with an estimated social cost of $17 billion a year and direct health care costs of $4.4 billion.\(^8\)
Smoking Rate
(Indicator Set: Policy) (cont’d)

Smoking rates in Canada have dropped dramatically in the last 50 years; fewer than 20% of Canadians smoke today, compared with approximately 50% in 1965. Despite these gains, however, the decreasing trend in smoking rates appears to have slowed in recent years, and adults age 20 to 24 exhibit the highest rates of smoking. In 2010, 20% of Canadian males and 14% of Canadian females reported being current smokers; 3.7 million Canadians reported daily smoking, with an average consumption of 15 cigarettes a day.

Smoking continues to pose a significant and preventable health risk to Canadians. Reducing smoking continues to be one of the most important public health interventions in Canada; the role of primary health care providers in promoting smoking cessation is critical in reducing the morbidity and mortality associated with this risky health behaviour.

References


### Smoking Rate
(Indicator Set: Policy) (cont’d)

### Fruit and Vegetable Consumption Rate
(Indicator Set: Policy)

<table>
<thead>
<tr>
<th><strong>Descriptive Definition</strong></th>
<th>Percentage of population, age 12 and older, who reported consuming fruits and vegetables five or more times daily.</th>
</tr>
</thead>
</table>

**Method of Calculation**

<table>
<thead>
<tr>
<th><strong>Numerator</strong></th>
<th>Number of individuals in the denominator who reported consuming fruits and vegetables five or more times daily.</th>
</tr>
</thead>
</table>
| **Inclusions** | • Individual is in the denominator  
• Individual reported consuming fruits and vegetables five or more times daily |
| **Exclusions** | None |

<table>
<thead>
<tr>
<th><strong>Denominator</strong></th>
<th>Number of respondents age 12 and older.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inclusions</strong></td>
<td>• Age of individual is at least 12 years</td>
</tr>
<tr>
<td><strong>Exclusions</strong></td>
<td>None</td>
</tr>
</tbody>
</table>

**Data Source**

Canadian Community Health Survey<sup>1</sup>

**Notes**

- This measure classifies individuals based on the total number of times they ate fruits and vegetables per day (frequency), not the quantity of fruits and vegetables they consumed per day.<sup>2</sup>

**Interpretation**

- A high rate for this indicator can be interpreted as a positive result.

**Indicator Rationale**

*Eating Well With Canada’s Food Guide 2011* recommends that people age 4 and older should eat 5 to 10 servings of fruits and vegetables per day.<sup>3</sup> Research indicates that consuming a diet rich in fruits and vegetables may help prevent cardiovascular disease<sup>4</sup> and certain types of cancer<sup>5</sup> and is associated with healthy weights and decreased risk of obesity.<sup>6</sup> In addition, consuming a diet low in fruits and vegetables has been associated with other health risk behaviours, including physical inactivity, smoking and alcohol dependence.<sup>7</sup>

In a recent survey, more than half of Canadians age 12 and older were found to be falling short of the recommended five-serving minimum of fruit and vegetable consumption per day. Forty-three percent of Canadians older than age 12 reported consuming five or more servings of fruits and vegetables per day, with females consuming five or more servings more frequently than males (approximately 50% and 36%, respectively).<sup>8</sup>
Fruit and Vegetable Consumption Rate
(Indicator Set: Policy) (cont’d)

In 2004, the Canadian Community Health Survey—Nutrition collected data specific to nutrition in the first national survey of Canadians’ eating habits since the early 1970s. The survey found that 7 out of 10 children age 4 to 8 consumed fewer than five servings of fruits and vegetables a day; at ages 9 to 13, 62% of girls and 68% of boys did not meet the minimum recommended guidelines.9

Inadequate consumption of fruits and vegetables is an important public health concern and is influenced by many factors, including access, affordability, education and skills such as food preparation. Evidence suggests that this health indicator is a reasonable proxy for healthy eating habits.9 The primary health care provider is perfectly positioned to support his or her patients in developing healthy eating and other lifestyle habits that promote optimal health and prevent disease.

References


| Physical Activity Rate  
(Indicator Set: Policy) |  
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Descriptive Definition</strong></td>
<td>Percentage of population, age 12 and older, who reported a moderately active or active level of leisure-time physical activity.</td>
</tr>
</tbody>
</table>
| **Method of Calculation** | **Numerator** Number of individuals in the denominator who reported a moderately active or active level of leisure-time physical activity.  
**Inclusions**  
- Individual is in the denominator  
- Individual has one of the following levels of leisure-time physical activity, based on his or her responses to questions about the nature, frequency and duration of participation in leisure-time physical activity:  
  - An active level of leisure-time physical activity  
  - A moderately active level of leisure-time physical activity  
**Exclusions** None |
|  | **Denominator** Number of respondents age 12 and older.  
**Inclusions**  
- Age of individual is at least 12 years  
**Exclusions** None |
| **Data Source** | Canadian Community Health Survey¹ |
| **Notes** | **Definitions of Terms**  
- Respondents are classified as active, moderately active or inactive based on an index of average daily physical activity over the past three months (from the date of the survey). For each leisure time physical activity engaged in by the respondent, average daily energy expenditure is calculated by multiplying the number of times the activity was performed by the average duration of the activity by the energy cost (kilocalories per kilogram of body weight per hour) of the activity. The index is calculated as the sum of the average daily energy expenditures of all activities. Respondents are classified as follows:  
  - 3.0 kcal/kg/day or more = physically active;  
  - 1.5 to 2.9 kcal/kg/day = moderately active;  
  - less than 1.5 kcal/kg/day = inactive.² |
<table>
<thead>
<tr>
<th>Physical Activity Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpretation</td>
</tr>
<tr>
<td>• A high rate for this indicator can be interpreted as a positive result.</td>
</tr>
<tr>
<td>Further Analysis</td>
</tr>
<tr>
<td>• The indicator can be restricted to adults age 18 and older or to children age 12 to 17 to further break it down.</td>
</tr>
<tr>
<td>Indicator Rationale</td>
</tr>
<tr>
<td>Research indicates that regular physical activity promotes good health and is an important preventive health measure in the development of many diseases. Regular physical activity is associated with a reduced risk of cardiovascular disease, osteoporosis, diabetes, obesity, hypertension and certain types of cancer. It is also associated with a reduced risk of certain mental health conditions, including depression, stress and anxiety.(^3-8) Further, lack of physical activity has an economic impact, with an estimated cost of $5.3 billion, or 2.6% of Canada's total health care costs in 2001.(^9) Trends in physical activity in Canada have been reported in national surveys. The 2005 Canadian Community Health Survey classified respondents as active, moderately active or inactive based on self-reported leisure-time pursuits. Based on these measures, just more than half (52%) of Canadians age 12 and older reported that they were active or moderately active in their leisure time.(^4) Canadian physical activity guidelines for adults, children and youth were originally established between 1998 and 2002. To help Canadians move toward healthier lifestyles, the Public Health Agency of Canada supported the Canadian Society for Exercise Physiology in reviewing the scientific evidence on physical activity and developing new physical activity guidelines.(^10) The new guidelines recommend 150 minutes (or 2.5 hours) per week of moderate- to vigorous-intensity physical activity for adults 18 and older and 60 minutes a day for children and youth age 5 to 17. Given the increasing trend toward overweight and obesity in children and adults, the fact that only half of Canadians reported being physically active—and that there are benefits of physical activity in disease prevention—makes physical activity an important public health concern. As with other lifestyle factors that influence health, primary health care providers play a key role in supporting patients to become physically active.</td>
</tr>
</tbody>
</table>
Physical Activity Rate
(Indicator Set: Policy) (cont’d)

References


### Uptake of Information and Communication Technology by PHC Providers

(Indicator Set: Policy)

<table>
<thead>
<tr>
<th>Descriptive Definition</th>
<th>Numerator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of primary health care (PHC) providers who use electronic systems to complete their professional tasks.</td>
<td>Number of individuals in the denominator who reported currently using electronic records to enter and retrieve clinical patient notes, as well as at least two of the following for patient care:</td>
</tr>
<tr>
<td></td>
<td>- Electronic patient appointment/scheduling system;</td>
</tr>
<tr>
<td></td>
<td>- Electronic reminders for recommended patient care;</td>
</tr>
<tr>
<td></td>
<td>- Electronic warnings for adverse prescribing and/or drug interactions;</td>
</tr>
<tr>
<td></td>
<td>- Electronic interface to external pharmacy/pharmacist;</td>
</tr>
<tr>
<td></td>
<td>- Electronic interface to external laboratory/diagnostic imaging services; and</td>
</tr>
<tr>
<td></td>
<td>- Electronic interface to other external systems (for example, hospitals, other clinics) for accessing or sharing patient information.</td>
</tr>
</tbody>
</table>

**Inclusions**

- Individual is in the denominator
- Individual reported currently using electronic records to enter and retrieve clinical patient notes
- Individual reported currently using at least two of the following for patient care:
  - Electronic patient appointment/scheduling system
  - Electronic reminders for recommended patient care
  - Electronic warnings for adverse prescribing and/or drug interactions
  - Electronic interface to external pharmacy/pharmacist
  - Electronic interface to external laboratory/diagnostic imaging services
  - Electronic interface to other external systems (for example, hospitals, other clinics) for accessing or sharing patient information

**Exclusions**

None
<table>
<thead>
<tr>
<th>Denominator</th>
<th>Number of PHC providers who reported providing patient care.</th>
</tr>
</thead>
</table>
| **Inclusions** | - PHC provider  
- Individual reported providing patient care |
| **Exclusions** | None |
| **Data Source** | National Physician Survey¹ |
| **Definitions of Terms** | Electronic information systems allow for the exchange of PHC client/patient information between PHC settings and laboratories, hospitals and other settings. These include, for example,  
- Patient management systems;  
- Registries;  
- Drug information systems;  
- Diagnostic imaging systems;  
- Public health surveillance systems; and  
- Patient scheduling systems. |
| **Data Quality** | The response rate to the 2010 National Physician Survey was low (approximately 19% for family physicians); therefore, CIHI does not recommend reporting indicators calculated using data from this survey. However, this does not preclude researchers from using local data sources for these PHC indicators. If changes to future cycles of the National Physician Survey are effective in increasing the response rate, it could then be considered a reportable data source.  
- The National Physician Survey samples Canadian physicians; therefore, the results of this indicator are limited to PHC physicians only. |
| **Interpretation** | A high rate for this indicator can be interpreted as a positive result. |
Uptake of Information and Communication Technology by PHC Providers
(Indicator Set: Policy) (cont’d)

Indicator Rationale

In Canada, an electronic medical record (EMR) in PHC refers to the medical record of a patient; it documents provider interactions with the patient. An electronic health record (EHR) is a longitudinal or lifetime record of an individual’s health history and medical care; it typically includes data from that individual’s interactions with hospitals, providers, pharmacies and laboratories.2

One of the commitments of the first ministers’ health accords of 2003 and 2004 was to accelerate the development and implementation of EHRs in Canada. A 2009 international survey found that 37% of PHC physicians in Canada reported using EHRs, up from 23% in 2006.2 While progress is being made, of 11 countries participating in the survey, Canada had the lowest uptake of EHRs by PHC providers. In 2011, it was documented that half of Canadians had an EHR available for use by authorized health care providers, up from 22% in the previous year. Canada Health Infoway is working to support and accelerate uptake of EMRs and other health information technologies; it also hopes to reach a goal of 100% availability of EHRs for Canadians by 2016.2

The Health Council of Canada’s 2011 progress report on the first ministers’ health accords noted that while a primary goal of using EHRs is to improve patient care, they are also an important tool in the measurement of health system goals, such as quality, access and effectiveness of care.3 While EMR and EHR use by PHC providers varies across Canada and is sometimes limited in scope, the use of these technologies is still in a relatively early stage of development and may continue to present challenges to implementation in the PHC setting.4, 5

References


Uptake of Information and Communication Technology by PHC Providers  
(Indicator Set: Policy) (cont’d)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PHC Provider Supply (Indicator Set: Policy)</td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>Descriptive Definition</strong></td>
<td>Practising primary health care (PHC) providers per 100,000 population, by type of PHC provider.</td>
</tr>
</tbody>
</table>
| **Method of Calculation** | **Numerator** Number of active PHC providers. 1) To measure the supply of physician providers:  
**Inclusions**  
- Medical activity code is active  
- Physician type is family medicine  
**Exclusions**  
- Military physicians and semi-retired physicians  
2) To measure the supply of nursing providers:  
**Inclusions**  
- Working status is working  
- Place of work is one of the following:  
  - Nursing station  
  - Community health centre  
  - Physician’s office/family practice unit  
**Exclusions** None |
| **Denominator** Population divided by 100,000.  
**Inclusions**  
- Resident of Canada  
**Exclusions** None |
| **Data Sources** |  
- Scott’s Medical Database\(^1\) and Nursing Database,\(^2\) Canadian Institute for Health Information, for the numerator  
- Census for the denominator |
| **Notes** | **Definitions of Terms**  
- Practising physician providers are defined within the database as “active” with regard to medical activity.\(^3\)  
- Practising physician providers include those who provide patient care and other physicians for whom their medical education is a prerequisite for the execution of the job.\(^3\) |
### PHC Provider Supply
(Indicator Set: Policy) (cont’d)

- For nurses, working status is determined by the data element Employment Status Code, which includes providers who are working on a full-time, part-time or casual basis, and those who are employed but have an unknown Employment Status.4–6

### Data Quality
- To ensure compliance with CIHI’s privacy and confidentiality policy, only physicians who are registered with a jurisdictional licensing authority or who have agreed to have their information published in Scott’s Directories are included. In 2010, 1.5% of records of active physicians (including family medicine and specialist physicians) were removed from analyses because they requested a “no publication” status.7

### Interpretation
- This is a contextual measure that supports other PHC indicators and research questions.

### Further Analysis
- This indicator can be restricted to measure different types of nurses: all registered nurses, including nurse practitioners; nurse practitioners only; licensed practical nurses; and registered psychiatric nurses.
- This indicator can be restricted to measure PHC providers who work full time versus those who do not work full time.

### Indicator Rationale
Having access to a PHC provider has been associated with better overall health and lower total health care system costs.8 Patients with a regular PHC provider have increased access to diagnostic tests and other health care services. Canadians who access PHC interdisciplinary teams experience a wide range of services and often experience increased continuity and coordination of care.10, 11 Given that most Canadians access the health care system through their PHC provider, it is important to monitor the supply of PHC providers for health human resources planning and utilization purposes.

The Organisation for Economic Co-operation and Development, Canadian Medical Association and CIHI have all used physician-to-population ratios as a measure of physician supply.7, 12, 13 Physician-to-population ratios are a useful way of assessing physician supply in the population, but they can be limited in their ability to describe the provider or patient population.12 These advantages and disadvantages of using physician-to-population ratios also apply to measuring provider supply for non-physician PHC providers.
References


Appendix 5: Technical Specifications for Priority Indicators Within the Primary Health Care Provider Set
### PHC Services Meeting Client’s/Patient’s Needs
(Indicator Set: Primary Health Care Providers)

<table>
<thead>
<tr>
<th>Descriptive Definition</th>
<th>Numerator</th>
<th>Percentage of patient population, age 18 and older, who reported that the current services offered by the place they go to for primary health care (PHC) meet their needs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method of Calculation</td>
<td>Denominator</td>
<td>Number of individuals in the denominator who reported that the current services offered by the place they go to for PHC met their needs to manage their health concerns over the past 12 months.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Inclusions</strong></td>
</tr>
</tbody>
</table>
|                        |            | • Individual is in the denominator  
• Individual reported that the place he or she goes to for PHC provided everything he or she needed to manage his or her health concern over the past 12 months |
|                        |            | **Exclusions** |
|                        |            | None |

**Data Source**
Canadian Practice-Based Primary Health Care Survey Tools: Patient Component

**Notes**

**Definitions of Terms**
- A PHC client/patient is an individual who has had contact with the provider at least once in the past year and has a record with the provider dating back at least two years.
- An individual’s needs are considered met if the patient responds “yes” to a question of whether the place the patient goes to for PHC provided everything that he or she needed to help manage his or her health concerns over the past year.

**Interpretation**
- A high rate for this indicator can be interpreted as a positive result.
PHC Services Meeting Client’s/Patient’s Needs
(Indicator Set: Primary Health Care Providers) (cont’d)

Indicator Rationale

Health Canada’s 2010 report on comparable health indicators listed several benefits of being satisfied with health care services, including increased adherence to treatment and provider recommendations, increased likelihood of seeking care in the future and improved psychological well-being. In 2009, 81% of Canadians who received health care services reported being satisfied with the services they received, while 10% reported being dissatisfied with these services.

For most Canadians, the first point of contact for medical care is their PHC provider or family doctor. Primary health care can include routine or ongoing care with a regular provider, urgent care for a minor health problem or accident, maternity and child care, mental health care, referrals for home care, health promotion services and end-of-life care. A 2009 survey found the following factors to be important to Canadians in their interactions with PHC: PHC access, comprehensiveness and coordination of care, interpersonal communication, patient-centred care and continuity of care. The same survey indicated that 76% of adult Canadians who visited a regular doctor in the previous year described their care as “excellent” or “very good,” displaying a high degree of satisfaction with the PHC system. More than a quarter of respondents reported that nurses were regularly involved with their care, and 16% of respondents reported involvement of other health professionals.

This indicator measures the satisfaction of patients with the range of PHC services available to them at their place of PHC and can track changing characteristics of the PHC system, including the increased implementation of interdisciplinary teams. These teams can provide specialized services suited to the particular health needs of a community.

References


## Wait Time for Immediate Care for a Minor Health Problem  
(Indicator Set: Primary Health Care Providers)

### Descriptive Definition
Percentage of patient population, age 18 and older, who reported that they got a same-day or next-day appointment to see their primary health care (PHC) provider for immediate care for a minor health problem.

### Method of Calculation

<table>
<thead>
<tr>
<th>Component</th>
<th>Numerator</th>
<th>Denominator</th>
</tr>
</thead>
</table>

#### Numerator
Number of individuals in the denominator who reported that they got a same-day or next-day appointment to see their PHC provider for immediate care for a minor health problem.

**Inclusions**
- Individual is in the denominator
- Individual reported getting a same-day or next-day appointment

**Exclusions**
None

#### Denominator
Number of respondents age 18 and older.

**Inclusions**
- Age of individual is at least 18 years
- Individual reported seeing a PHC provider for immediate care for a minor health problem

**Exclusions**
None

### Data Source
Canadian Practice-Based Primary Health Care Survey Tools: Patient Component

### Notes

**Definitions of Terms**
- Minor health problems that could require immediate care include fever, vomiting, major headaches, sprained ankles, minor burns, cuts, skin irritation, unexplained rashes and other non–life threatening health problems or injuries due to a minor accident.
- Number of days to get an appointment is defined as working days.

### Interpretation
- A high rate for this indicator can be interpreted as a positive result.
**Wait Time for Immediate Care for a Minor Health Problem**
(Indicator Set: Primary Health Care Providers) (cont’d)

**Indicator Rationale**
For most Canadians, the first point of contact for medical care is their PHC provider. Research illustrates that increased accessibility to a PHC provider is a hallmark of better health and lower total health care system costs. Accessibility to PHC is an important indicator of how easy it is for the population to interact with the health care system.

Immediate care for a minor health problem can be qualified as urgent care for minor issues such as fever, vomiting, major headaches, sprained ankles, minor burns, cuts, skin irritation, unexplained rashes and other non–life threatening health problems or injuries due to a minor accident. The 2008 Canadian Survey of Experiences With PHC reported that 27% of adults surveyed had sought immediate care for a minor health problem in the previous year; of those, 21% had trouble obtaining it. The average wait time for immediate care was three hours. Eighty-five percent of those seeking immediate care were seen within one day, 11% within two to seven days and 4% in more than seven days. Another study found that the most significant barrier to receiving urgent care was long wait times and that Canadians with a regular PHC provider were just as likely to experience problems with accessibility as those without.

Excessive wait times are frequently monitored to measure the performance of the system and constraints in service. Same-day booking or advanced (or open) access has been found to be successful in decreasing wait times and improving access. Research indicates that advanced access booking can improve practice capacity and continuity of care in PHC and increase patient satisfaction.

**References**


<table>
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</thead>
<tbody>
<tr>
<td>Descriptive Definition</td>
</tr>
<tr>
<td>------------------------</td>
</tr>
<tr>
<td><strong>Method of Calculation</strong></td>
</tr>
</tbody>
</table>
|                        | **Inclusions**  
|                        | • Individual is in the denominator  
|                        | • Individual has received all immunizations listed in the National Advisory Committee on Immunizations (NACI) recommended schedule, or had a contraindication for immunizations that were not received  
|                        | **Exclusions** None |
| **Denominator** Number of primary health care (PHC) clients/patients currently age 7. |
| **Inclusions**  
| • PHC client/patient  
| • Age of individual is 7 years |
| **Exclusions** None |
| **Data Source** Electronic medical record |
| **Notes** **Definitions of Terms**  
| • A PHC client/patient is an individual who has had contact with the provider at least once in the past year and has a record with the provider dating back at least two years.  
| • The NACI recommended schedule is published in the Canadian Immunization Guide.¹ |
| **Interpretation** A high rate for this indicator can be interpreted as a positive result. |
| **Further Analysis**  
| • This indicator can be modified to measure individual immunizations to examine immunization rates for each immunization separately. |
### Child Immunization
(Indicator Set: Primary Health Care Providers) (cont’d)

#### Indicator Rationale
Childhood immunization is an effective and well-established public health intervention, protecting most children against certain infectious diseases and saving lives. Vaccines are responsible for controlling many infectious diseases that were once common in Canada, including diphtheria, measles, mumps, pertussis (whooping cough), polio, rubella (German measles), tetanus and Haemophilus influenza type b (Hib).¹

The NACI strongly recommends routine immunization according to a recommended schedule so that maximal achievable protection is ensured.² There is some variation in childhood immunization schedules among provinces and territories; this indicator follows NACI recommendations and describes a recommended schedule among seven-year-olds who are current with their primary series of immunizations.²

NACI currently recommends vaccination with the following childhood vaccines, with timing of doses depending on provincial/territorial policy: diphtheria, tetanus, acellular pertussis and inactivated polio virus vaccine (DTaP-IPV); Haemophilus influenzae type b conjugate vaccine (Hib); measles, mumps and rubella vaccine (MMR); varicella vaccine (Var); hepatitis B vaccine (HB); pneumococcal conjugate vaccine (Pneu-C-7); and meningococcal C conjugate vaccine (Men-C).¹

#### References

<table>
<thead>
<tr>
<th>Descriptive Definition</th>
<th>Numerator</th>
<th>Percentage of patient population, age 50 to 74, who had a screening test ordered for colon cancer.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Method of Calculation</strong></td>
<td><strong>Numerator</strong></td>
<td>Number of individuals in the denominator who had a screening test for colon cancer ordered within an appropriate time frame.</td>
</tr>
</tbody>
</table>
| Inclusions | Individual is in the denominator  
| | Individual who had at least one of the following screening tests ordered:  
| | – Fecal occult blood test (FOBT) within the past 24 months  
| | – Sigmoidoscopy within the past 5 years  
| | – Colonoscopy within the past 10 years  
| Exclusions | None |
| **Denominator** | Number of primary health care (PHC) clients/patients, age 50 to 74. |
| Inclusions | PHC client/patient  
| | Age of individual is between 50 and 74 years  
| Exclusions | None |
| **Data Source** | Electronic medical record |
| **Notes** | **Definitions of Terms** |
| | • A PHC client/patient is an individual who has had contact with the provider at least once in the past year and has a record with the provider dating back at least two years.  
| | • Fecal occult blood test (FOBT) is the screening of one or more stool samples to screen for gastrointestinal bleeding, which may be an indicator of colon cancer. |
| **Interpretation** | • A high rate for this indicator can be interpreted as a positive result.  
| | • This indicator measures only individuals who have had a screening test for colon cancer ordered as documented in the electronic medical record. The indicator does not measure whether the individual received the screening test (for example, patient refusal). |
Colon Cancer Screening
(Indicator Set: Primary Health Care Providers) (cont’d)

Indicator Rationale

In men and women combined, colorectal cancer is the third most common cancer in Canada and the second most common cause of cancer death. It is estimated that approximately 22,200 Canadians developed colorectal cancer in 2011 and that 8,900 died from the disease.\(^1\) As with many other cancers, incidence and mortality rates of colorectal cancer rise steeply after age 50.\(^1\) Evidence from clinical trials and systematic reviews of the literature indicate that screening with an FOBT reduces mortality of colorectal cancer.\(^2-4\)

Colorectal cancer screening guidelines were established by the Canadian Task Force on Preventive Health Care in 2001,\(^5\) and were followed by population screening recommendations from Health Canada’s National Committee on Colorectal Cancer in 2002,\(^6\) including the recommendation that people age 50 to 74 with an average risk for the disease have an FOBT every two years. There is fair evidence to include flexible sigmoidoscopy in the periodic health examinations of asymptomatic individuals over age 50 and screening with colonoscopy for above-average risk individuals.\(^5,7\)

The National Committee also recommended that screening occur in organized provincial programs with ongoing evaluation; as of the fall of 2010, eight provinces across Canada were running full or pilot programs and two provinces had announced upcoming programs.\(^1\)

The importance of the role of PHC providers in colorectal cancer screening is illustrated by the results of the Colon Cancer Screening in Canada Survey, which indicate that the strongest motivator for getting screened for the disease is a discussion between individuals and their doctors.\(^8\)

References


Colon Cancer Screening  
(Indicator Set: Primary Health Care Providers) (cont’d)

References


| **Breast Cancer Screening**  
<table>
<thead>
<tr>
<th>(Indicator Set: Primary Health Care Providers)</th>
</tr>
</thead>
</table>
| **Descriptive**  
| **Definition** | Percentage of female patient population, age 50 to 74, who had a mammogram ordered. |
| **Method of Calculation**  
| **Numerator** | Number of individuals in the denominator who had a mammogram ordered within the past 36 months. |
| **Inclusions** | - Individual is in the denominator  
| | - Individual had a mammogram ordered within the past 36 months  
| **Exclusions** | None |
| **Denominator** | Number of female primary health care (PHC) clients/patients age 50 to 74. |
| **Inclusions** | - PHC client/patient  
| | - Sex of individual is female  
| | - Age of individual is between 50 and 74 years  
| **Exclusions** | - Individual has had a bilateral mastectomy  
| **Data Source** | Electronic medical record |
| **Notes** | **Definitions of Terms**  
| | - A PHC client/patient is an individual who has had contact with the provider at least once in the past year and has a record with the provider dating back at least two years.  
| **Interpretation** | - A high rate for this indicator can be interpreted as a positive result.  
| | - This indicator measures only individuals who have had a mammogram ordered as documented in the electronic medical record. The indicator does not measure whether the individual received the mammogram (for example, patient refusal). |
Breast Cancer Screening
(Indicator Set: Primary Health Care Providers) (cont’d)

**Indicator Rationale**

Breast cancer is the most common cancer among Canadian women, with an estimated 23,400 new cases occurring in 2011, comprising more than 30% of all new cancer diagnoses in women age 20 to 69, and 20% in women age 70 and older. One in 9 Canadian women will be diagnosed with breast cancer in their lifetime, and 1 in 27 will die of the disease.

Early detection of breast cancer is an important strategy that will yield more treatment options and improve outcomes for women diagnosed with the disease. Breast cancer mortality has been steadily declining in Canada over time, especially for women younger than age 60. These declines are generally the result of improvements in breast cancer screening, including organized screening programs, increased participation rates, the improved quality of mammography and improvements in breast cancer therapy.

The Canadian Task Force on Preventive Health Care in 2011 recommended new screening guidelines for women age 40 to 74 at average risk of developing breast cancer (defined as those with no previous breast cancer, no history of breast cancer in a first-degree relative, no known mutations in the BRCA1/BRCA2 genes or no previous exposure of the chest wall to radiation). The guidelines recommend routine screening with mammography every two to three years for women age 50 to 74.

The PHC provider plays an essential role in helping to detect breast cancer early in the progression of the disease by recommending breast cancer screening for his or her patients and monitoring screening results.

**References**


### Cervical Cancer Screening  
(Indicator Set: Primary Health Care Providers)

<table>
<thead>
<tr>
<th>Category</th>
<th>Definition</th>
<th>Numerator</th>
<th>Inclusions</th>
<th>Exclusions</th>
</tr>
</thead>
</table>
| **Descriptive**     | Percentage of female patient population, age 18 to 69, who had a Papanicolaou test. | Number of individuals in the denominator who had a Papanicolaou test within the past 36 months. | - Individual is in the denominator  
- Individual had a Papanicolaou test within the past 36 months                                                                                                                                 | None        |
| **Method of Calculation** | **Numerator**                                                                 | Number of individuals in the denominator who had a Papanicolaou test within the past 36 months. | - Individual is in the denominator  
- Individual had a Papanicolaou test within the past 36 months                                                                                                                                 | None        |
|                     | **Denominator**                                                             | Number of female primary health care (PHC) clients/patients, age 18 to 69. | - PHC client/patient  
- Sex of individual is female  
- Age of individual is between 18 and 69 years                                                                                                                                                 | - Individual had a hysterectomy |

**Data Source**: Electronic medical record

**Notes**: Definitions of Terms
- A PHC client/patient is an individual who has had contact with the provider at least once in the past year and has a record with the provider dating back at least two years.

**Interpretation**: A high rate for this indicator can be interpreted as a positive result.

**Indicator Rationale**: While cervical cancer incidence and mortality have decreased dramatically in Canada since the introduction of the Papanicolaou (Pap) test in 1949, the effects of the disease are still in evidence; it is estimated that 1,300 new cases occurred in Canada in 2011 and that 350 women died of the disease. 

Research indicates that screening for cervical cancer can result in early detection of pre-cancerous lesions before they progress to invasive cervical cancer. Furthermore, studies have found that women with a diagnosis of invasive cervical cancer were less likely to have been
Cervical Cancer Screening  
(Indicator Set: Primary Health Care Providers) (cont’d)

screened during the five years previous to diagnosis or had not received appropriate follow-up after an abnormal Pap test.\textsuperscript{4} The findings highlight the importance of screening and follow-up by PHC providers in reducing the incidence and mortality of the disease.

Guidelines for cervical cancer screening in Canada were established in 1989 and are currently under evaluation by the Canadian Task Force on Preventive Health Care.\textsuperscript{5} Health Canada guidelines recommend screening for women age 18 and older or after becoming sexually active, with a second test after one year. If these screens are satisfactory, guidelines recommend rescreening every three years until age 69.\textsuperscript{6}

PHC providers play an important role in screening for cervical cancer in their patients by performing Pap tests according to guidelines and monitoring test results.

### Smoking Cessation Advice in PHC
(Indicator Set: Primary Health Care Providers)

#### Descriptive Definition
Percentage of patient population who are smokers, age 12 and older, who were offered specific help or information to quit smoking.

#### Method of Calculation

<table>
<thead>
<tr>
<th>Numerator</th>
<th>Number of individuals in the denominator who were offered specific help or information to quit smoking within the past 15 months.</th>
</tr>
</thead>
</table>
| **Inclusions** | • Individual is in the denominator  
• Individual was offered smoking cessation education within the past 15 months |
| **Exclusions** | None |

<table>
<thead>
<tr>
<th>Denominator</th>
<th>Number of primary health care (PHC) clients/patients, age 12 and older, who are smokers.</th>
</tr>
</thead>
</table>
| **Inclusions** | • PHC client/patient  
• Age of individual is at least 12 years  
• Individual is a smoker  
• Individual visited his or her PHC provider within the past 15 months |
| **Exclusions** | • Individual uses tobacco only for a purpose other than smoking |

#### Data Source
Electronic medical record

#### Notes
**Definitions of Terms**
- A PHC client/patient is an individual who has had contact with the provider at least once in the past year and has a record with the provider dating back at least two years.
- Smoker is defined as an individual who is a current smoker as documented on the patient’s electronic medical record (EMR).

#### Interpretation
- This indicator measures only individuals who have an intervention of smoking cessation education appearing in their EMR. The indicator does not measure whether the individual received the education (for example, patient refusal).
- A high rate for this indicator can be interpreted as a positive result.
Smoking Cessation Advice in PHC
(Indicator Set: Primary Health Care Providers) (cont’d)

Indicator Rationale

It is well established that tobacco use is a leading preventable cause of morbidity and mortality in Canada. In 2010, it was estimated that 16.7% of the Canadian population (about 4.7 million persons) smoked.\(^1\) Approximately half of those smokers are expected to become ill or die from tobacco use.\(^1\) Smoking accounts for 85% of all new cases of lung cancer in Canada.\(^2, 3\) In 2002, 37,000 deaths were attributed to smoking.\(^4\) The economic burden of tobacco use in Canada is also great, with an estimated social cost of $17 billion a year and direct health care costs of $4.4 billion.\(^5\)

While smoking prevalence in Canada is currently at an all-time low, the decreasing trend in smoking observed over the past 10 years appears to have slowed. Young adults (those age 20 to 24) consistently exhibit the highest rates of smoking.\(^1\) In 2001, the Canadian Task Force on Preventive Health Care recommended that PHC providers should provide smoking cessation counselling in an effort to reduce smoking rates in the population.\(^6\) A recent report states that almost two-thirds of smokers who attempted to quit had used some form of assistance; for example, 40% of this group had used nicotine replacement therapy.\(^1\)

A reduction in the use of tobacco continues to be one of the most important public health interventions in Canada. The role of PHC providers in promoting smoking cessation is critical in reducing the morbidity and mortality associated with this risky health behaviour.

References


<table>
<thead>
<tr>
<th>Influenza Immunization, 65+</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Indicator Set: Primary Health Care Providers)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Descriptive Definition</th>
<th>Percentage of patient population, age 65 and older, who received an influenza immunization.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Method of Calculation</th>
<th>Numerator</th>
<th>Number of individuals in the denominator who received an influenza immunization within the past 12 months.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><strong>Inclusions</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Individual is in the denominator</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Individual received an influenza immunization within the past 12 months</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Exclusions</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>None</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Denominator</th>
<th>Number of primary health care (PHC) clients/patients, age 65 and older.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Inclusions</strong></td>
</tr>
<tr>
<td></td>
<td>• PHC client/patient</td>
</tr>
<tr>
<td></td>
<td>• Age of individual is at least 65 years</td>
</tr>
<tr>
<td></td>
<td><strong>Exclusions</strong></td>
</tr>
<tr>
<td></td>
<td>None</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Data source</th>
<th>Electronic medical record</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Notes</th>
<th><strong>Definitions of Terms</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• A PHC client/patient is an individual who has had contact with the provider at least once in the past year and has a record with the provider dating back at least two years.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Data Quality</th>
<th>This indicator does not include individuals who received an influenza immunization from someone other than their regular PHC provider, unless the individual informed their PHC provider and it was noted on the electronic medical record.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Interpretation</th>
<th>• A high rate for this indicator can be interpreted as a positive result.</th>
</tr>
</thead>
</table>
Influenza Immunization, 65+  
(Indicator Set: Primary Health Care Providers) (cont’d)

**Indicator Rationale**

Influenza outbreaks occur in Canada every year, usually during late fall and winter, and are caused by influenza A and B viruses. Every year, up to 20,000 Canadians are hospitalized as a result of influenza illness.\(^1\) It is estimated that between 4,000 and 8,000 persons, mostly seniors, die from pneumonia or pneumonia-related complications each year.\(^2\) While influenza illness is most common among children, elderly persons (those age 65 and older) and those with chronic medical conditions are more likely to become seriously ill or die from the disease.\(^1\)

The incidence of influenza varies widely from year to year and depends on the virulence of influenza strains in circulation and the susceptibility of the population. Factors that determine the prevalence of the disease in a given year include antigenic changes in the virus, the degree to which the vaccine matches the circulating strains and the level of vaccination among the population.\(^3\)

To reduce the morbidity and mortality associated with influenza, the National Advisory Committee on Immunization advises that immunization programs should focus on the population at high risk of influenza-related complications, including those age 65 and older. Yearly immunization with the influenza vaccine is recommended.\(^1\)

Studies illustrate that the influenza vaccine is highly effective, preventing influenza illness in approximately 50% of those age 65 and older\(^4,^5\) and resulting in a decrease in cases of pneumonia, hospital admission and death among seniors.\(^6,^7\)

There are a number of influenza vaccines currently available, and PHC providers should note recommendations for specific age groups, route of administration and dosage for authorized vaccines. This information is available in the *Canada Communicable Disease Report*, as well as in the current year’s Statement on Seasonal Influenza Vaccine.\(^1\)

**References**


Influenza Immunization, 65+
(Indicator Set: Primary Health Care Providers) (cont’d)


| Well-Baby Screening  
(Indicator Set: Primary Health Care Providers) |  |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Descriptive Definition</strong></td>
<td>Percentage of patient population, currently age 3, who received screenings for congenital hip displacement, eye and hearing problems.</td>
</tr>
<tr>
<td><strong>Method of Calculation</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Numerator</strong></td>
<td>Number of individuals in the denominator who received screening for congenital hip displacement, eye and hearing problems.</td>
</tr>
<tr>
<td><strong>Inclusions</strong></td>
<td></td>
</tr>
<tr>
<td>• Individual is in the denominator</td>
<td></td>
</tr>
<tr>
<td>• Individual received screening for congenital hip displacement</td>
<td></td>
</tr>
<tr>
<td>• Individual received screening for eye problems</td>
<td></td>
</tr>
<tr>
<td>• Individual received screening for hearing problems</td>
<td></td>
</tr>
<tr>
<td><strong>Exclusions</strong></td>
<td>None</td>
</tr>
<tr>
<td><strong>Denominator</strong></td>
<td>Number of primary health care (PHC) clients/patients, currently age 3.</td>
</tr>
<tr>
<td><strong>Inclusions</strong></td>
<td></td>
</tr>
<tr>
<td>• PHC client/patient</td>
<td></td>
</tr>
<tr>
<td>• Age of individual is 3 years</td>
<td></td>
</tr>
<tr>
<td><strong>Exclusions</strong></td>
<td>None</td>
</tr>
<tr>
<td><strong>Data Source</strong></td>
<td>Electronic medical record</td>
</tr>
<tr>
<td><strong>Notes</strong></td>
<td>Definitions of Terms</td>
</tr>
<tr>
<td>• A PHC client/patient is an individual who has had contact with the provider at least once in the past year and has a record with the provider dating back at least two years.</td>
<td></td>
</tr>
<tr>
<td><strong>Interpretation</strong></td>
<td></td>
</tr>
<tr>
<td>• A high rate for this indicator can be interpreted as a positive result.</td>
<td></td>
</tr>
<tr>
<td><strong>Further Analysis</strong></td>
<td></td>
</tr>
<tr>
<td>• This indicator can be modified to measure individual screening activities in order to examine screening rates for each activity separately.</td>
<td></td>
</tr>
</tbody>
</table>
## Well-Baby Screening
(Indicator Set: Primary Health Care Providers) (cont’d)

### Indicator Rationale
Early detection and treatment of physiological problems in infants, such as eye and hearing problems and congenital hip displacement, can have a profound effect on outcomes related to these conditions. Hearing loss is a common congenital disorder, occurring in approximately 1 to 3 infants per 1,000 live births; 1 5% to 10% of preschoolers will suffer from visual impairments, which, if left untreated, may interfere with the development of visual acuity. 2

Research indicates that if profound hearing loss is identified within the first year of life, the resultant problems with speech and learning can be greatly mitigated 3. Also, tests for causes of amblyopia can help detect the condition and allow for early treatment. 4 In a study of congenital hip dislocation, infants whose condition was identified at birth and treated before one month of age underwent less surgery and experienced better outcomes than those diagnosed later in the first year of life 5.

The Canadian Task Force on Preventive Health Care (CTFPHC) reports that the burden of disease can be reduced if congenital hip dislocation is treated before the age of one month; if infants undergo visual alignment before the age of 24 months; and if hearing aids and training are introduced before age 3. The CTFPHC recommends repeated examination of the hips, eyes and hearing, especially in the first year of life (grade A recommendation) 3, 6.

In addition, PHC providers can strongly impact the well-being of Canada’s children through routine scheduled well-baby visits. Ontario’s standardized, enhanced 18-month visit may be a good model in monitoring and promoting key indicators of early childhood health and well-being. To this end, in a 2011 position statement, the Canadian Paediatric Society, Early Years Task Force encouraged the nationwide adoption of standardized, enhanced 18-month visits 7.

### References

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Well-Baby Screening</td>
<td>(Indicator Set: Primary Health Care Providers) (cont’d)</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-------------------------------------------------------</td>
</tr>
</tbody>
</table>
## Blood Pressure Testing
(Indicator Set: Primary Health Care Providers)

<table>
<thead>
<tr>
<th>Description</th>
<th>Numerator</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Descriptive Definition</strong></td>
<td>Percentage of patient population, age 18 and older, who have had their blood pressure measured by their primary health care (PHC) provider.</td>
</tr>
<tr>
<td><strong>Method of Calculation</strong></td>
<td>Number of individuals in the denominator who had their blood pressure measured by their PHC provider in the past 15 months.</td>
</tr>
</tbody>
</table>
| **Inclusions** | • Individual is in the denominator  
• Individual had a blood pressure measurement taken by his or her PHC provider within the past 15 months |
| **Exclusions** | None |
| **Denominator** | Number of PHC clients/patients, age 18 and older. |
| **Inclusions** | • PHC client/patient  
• Age of individual is at least 18 years |
| **Exclusions** | None |

**Data Source**
Electronic medical record

**Notes**
Definitions of Terms
- A PHC client/patient is an individual who has had contact with the provider at least once in the past year and has a record with the provider dating back at least two years.

**Interpretation**
- A high rate for this indicator can be interpreted as a positive result.

**Indicator Rationale**
High blood pressure, or hypertension, is a risk factor for cardiac, cerebrovascular and other vascular diseases.\(^1\)\(^{–5}\) It is also a significant cause of disability and is considered to be the major risk factor for death in the world, causing an estimated 7.5 million deaths per year.\(^6\)

The Canadian Heart Health Surveys, which took place between 1985 and 1992, included direct measurements of blood pressure across Canada and estimated that the prevalence of hypertension among Canadians was 22%.\(^7\) Since that time, significant efforts have been made in Canada to improve prevention and control and to increase the public’s awareness of the disease.\(^8\) While evidence shows
Blood pressure testing by PHC providers is a vital tool in the diagnosis and treatment of hypertension and provides a front-line measure in lessening the morbidity and mortality associated with the disease.

References


| Blood Pressure Testing  
(Indicator Set: Primary Health Care Providers) (cont’d) |
|---------------------------------------------------------|
### Screening for Modifiable Risk Factors in Adults With Coronary Artery Disease
(Indicator Set: Primary Health Care Providers)

<table>
<thead>
<tr>
<th>Description</th>
<th>Definition</th>
<th>Method of Calculation</th>
<th>Numerator</th>
<th>Denominator</th>
</tr>
</thead>
</table>
| **Descriptive Definition** | Percentage of patient population, age 18 and older, with coronary artery disease (CAD) who received testing for all of the following:  
- Full fasting lipid profile screening;  
- Blood pressure measurement; and  
- Obesity/overweight screening. | Number of primary health care (PHC) clients/patients who received testing within the past 12 months for all of the following:  
- Full fasting lipid profile screening;  
- Blood pressure measurement; and  
- Obesity/overweight screening. | Number of PHC clients/patients, age 18 and older, with CAD. | |
| **Inclusions** | | | | |
| None | | | | |
| **Exclusions** | | | | |
| None | | | | |

### Data Source
Electronic medical record
### Definitions of Terms

- A PHC client/patient is an individual who has had contact with the provider at least once in the past year and has a record with the provider dating back at least two years.
- Coronary artery disease (CAD) (with or without angina): Examples include clients/patients with prior myocardial infarctions, prior revascularization, angiographically proven coronary atherosclerosis, or reliable non-invasive evidence of myocardial ischemia.\(^1\)
- Full fasting lipid profile screening is a group of blood tests that are performed after fasting 14 hours and used to guide PHC providers in deciding how a person at risk should be treated. Lipid profile includes total cholesterol, high-density lipoprotein (HDL) cholesterol, low-density lipoprotein (LDL) cholesterol and triglycerides. Report may also include HDL/cholesterol ratio or a risk score based on lipid profile results, age, sex and other risk factors.\(^2\)
- Obesity/overweight screening measures may include the following:
  - Body mass index (BMI), a method of assessing body weight while taking height into account; calculated by dividing weight by height squared.\(^3\)
  - Waist to Hip Ratio (WHR)—Although BMI provides an index for obesity, it has limitations in predicting risk for cardiovascular events. Research has indicated that measurement of WHR enables prediction of cardiovascular risk. Obesity, particularly abdominal adiposity, worsens the prognosis of clients/patients with cardiovascular disease.\(^4\)

### Interpretation

- A high rate for this indicator can be interpreted as a positive result.

### Further Analysis

- This indicator can be modified to measure each of the tests separately to analyze rates for each individual test.
- The indicator can be modified to incorporate a longer time frame for testing, beyond 12 months, to investigate the length of time during which all of the listed tests were performed.
Screening for Modifiable Risk Factors in Adults With Coronary Artery Disease (Indicator Set: Primary Health Care Providers) (cont’d)

**Indicator Rationale**

Coronary artery disease is the most common form of heart disease. It occurs when arteries supplying blood to the heart become blocked by a substance called plaque, made up of fatty deposits such as cholesterol. This leads to a narrowing of the arteries over time, also called atherosclerosis. Coronary artery disease leads to angina and is the major cause of serious health outcomes such as heart attacks and strokes.

In 2008, heart disease was the second leading cause of death in Canada, accounting for 21% of all deaths, with an additional 6% caused by stroke. Approximately 1.6 million Canadians suffer from heart disease or are living with the health effects of a stroke. The condition is more common with age, affecting approximately 15% of Canadians age 65 to 74 and 23% of those age 75 and older. The prevalence of heart disease is expected to increase in Canada in the coming decade, mostly as a result of increasingly sedentary lifestyles and increasing rates of overweight and obesity and diabetes.

Epidemiologic studies identify the following as the major modifiable risk factors for CAD: cigarette smoking; diabetes mellitus; cholesterol (as assessed by total cholesterol, LDL-C, or Apolipoprotein B level); blood pressure; and overweight and obesity. Other risk factors include consuming less than recommended guidelines for fruit and vegetable consumption, physical inactivity and stress.

In screening for modifiable risk factors associated with CAD and implementing secondary prevention measures, PHC providers play an essential role in reducing the risk of premature death and disability for Canadians suffering from the disease.

**References**


Screening for Modifiable Risk Factors in Adults With Coronary Artery Disease
(Indicator Set: Primary Health Care Providers) (cont’d)


### Screening in Adults With Diabetes  
**(Indicator Set: Primary Health Care Providers)**

<table>
<thead>
<tr>
<th>Descriptive Definition</th>
<th>Numerator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of patient population, age 18 and older, with diabetes mellitus who received testing for all of the following:</td>
<td>Number of individuals in the denominator who received testing for all of the following:</td>
</tr>
<tr>
<td>- Hemoglobin A1c (HbA1c);</td>
<td>- At least two HbA1c tests within the past 12 months;</td>
</tr>
<tr>
<td>- Full fasting lipid profile screening;</td>
<td>- Full fasting lipid profile screening within the past 36 months;</td>
</tr>
<tr>
<td>- Nephropathy screening (for example, albumin/creatinine ratio, microalbuminuria);</td>
<td>- Nephropathy screening (for example, albumin/creatinine ratio, microalbuminuria) within the past 12 months;</td>
</tr>
<tr>
<td>- Foot examination;</td>
<td>- Foot examination within the past 12 months;</td>
</tr>
<tr>
<td>- Blood pressure measurement; and</td>
<td>- Blood pressure measurement within the past 12 months; and</td>
</tr>
<tr>
<td>- Obesity/overweight screening.</td>
<td>- Obesity/overweight screening within the past 12 months.</td>
</tr>
</tbody>
</table>

### Inclusions
- Individual is in the denominator
- Individual had at least two HbA1c tests within the past 12 months
- Individual had a lipid profile screening within the past 36 months
- Individual had a nephropathy screening test within the past 12 months
- Individual had a foot examination from their primary health care (PHC) provider within the past 12 months
- Individual had a blood pressure measurement taken by their PHC provider within the past 12 months
- Individual had at least one of the following:
  - Weight measured by their PHC provider within the past 12 months
  - Waist circumference measured by their PHC provider within the past 12 months
### Screening in Adults With Diabetes
(Indicator Set: Primary Health Care Providers) (cont’d)

<table>
<thead>
<tr>
<th>Exclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Denominator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of PHC clients/patients, age 18 and older, with diabetes mellitus</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Inclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHC client/patient</td>
</tr>
<tr>
<td>Age of individual is at least 18 years</td>
</tr>
<tr>
<td>Individual has a diagnosis of diabetes mellitus</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Exclusions</th>
</tr>
</thead>
<tbody>
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<table>
<thead>
<tr>
<th>Data source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electronic medical record</td>
</tr>
</tbody>
</table>

### Definitions of Terms

- A PHC client/patient is an individual who has had contact with the provider at least once in the past year and has a record with the provider dating back at least two years.
- Full fasting lipid profile screening is a group of blood tests that are performed after fasting 14 hours and used to guide PHC providers in deciding how a person at risk should be treated. Lipid profile includes total cholesterol, high-density lipoprotein (HDL) cholesterol, low-density lipoprotein (LDL) cholesterol and triglycerides. Report may also include HDL/cholesterol ratio or a risk score based on lipid profile results, age, sex and other risk factors.<sup>1</sup>
- Hemoglobin A1c test (also called the HbA1c or A1c test, or glycated/glycosylated hemoglobin) is a laboratory test that reflects the average glucose level over a two- to three-month period.<sup>2</sup>
- Obesity/overweight screening measures may include the following:
  - Body mass index (BMI), a method of assessing body weight while taking height into account; calculated by dividing weight by height squared.<sup>2</sup>
  - Waist to Hip Ratio (WHR)—Although BMI provides an index for obesity, it has limitations in predicting risk for cardiovascular events. Research has indicated that measurement of WHR enables prediction of cardiovascular risk. Obesity, particularly abdominal adiposity, worsens the prognosis of clients/patients with cardiovascular disease.<sup>3</sup>
Screening in Adults With Diabetes  
(Indicator Set: Primary Health Care Providers) (cont’d)

<table>
<thead>
<tr>
<th>Interpretation</th>
<th>• A high rate for this indicator can be interpreted as a positive result.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Further Analysis</td>
<td>• This indicator can be modified to measure each of the tests separately to analyze rates for each individual test.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diabetes mellitus</strong> refers to a group of diseases characterized by elevated blood glucose (blood sugar) levels. Ninety percent of individuals with diabetes have type 2 diabetes, which occurs when the pancreas produces too little insulin or when the body is not able to effectively use the insulin that is produced. Type 2 diabetes usually develops in adulthood. Ten percent of individuals with diabetes have type 1 diabetes, which develops in childhood and adolescence and occurs when the pancreas cannot produce insulin. Diabetes can lead to serious health complications and death, but individuals with diabetes can work with their PHC providers to control the disease and reduce the risk of complications.</td>
<td></td>
</tr>
</tbody>
</table>

It is estimated that 2.4 million Canadians (6.8%) live with diabetes. The prevalence of diabetes in Canada is rising, especially in younger age groups, a fact that has been associated in part with increasing levels of overweight and obesity. According to a recent report, Canadians with diabetes are 3 times more likely to be hospitalized with cardiovascular disease, 12 times more likely to be hospitalized with end-stage renal disease and 20 times more likely to be hospitalized with non-traumatic lower limb amputations than those without the disease.

The major modifiable risk factors for complications in adults with diabetes include overweight or obesity, particularly abdominal obesity, elevated blood glucose, hypertension, high blood cholesterol and physical inactivity. In addition, most adults with diabetes are at significantly increased risk of cardiovascular disease.

Secondary prevention measures can potentially avert complications arising from diabetes. Guidelines recommend aggressive management of individuals diagnosed with diabetes with the following secondary prevention measures: blood pressure control; measurement of HbA1c every three months for glycemic control and maintenance, with regular patient monitoring as appropriate; measurement of fasting lipid profile; nephropathy screening; foot examinations; and lifestyle management of diabetes mellitus including healthy weight and daily physical activity.
## Screening in Adults With Diabetes  
*(Indicator Set: Primary Health Care Providers) (cont’d)*

<table>
<thead>
<tr>
<th>References</th>
<th>Details</th>
</tr>
</thead>
</table>
Screening for Modifiable Risk Factors in Adults With Hypertension  
(Indicator Set: Primary Health Care Providers)

<table>
<thead>
<tr>
<th>Descriptive Definition</th>
<th>Numerator</th>
</tr>
</thead>
</table>
| Percentage of patient population, age 18 and older, with hypertension who received testing for all of the following:  
  - Fasting blood sugar;  
  - Blood pressure measurement; and  
  - Obesity/overweight screening. | Number of individuals in the denominator who received testing, within the past 12 months, for all of the following:  
  - Fasting blood sugar;  
  - Blood pressure measurement; and  
  - Obesity/overweight screening. |

**Inclusions**
- Individual is in the denominator
- Individual had a blood pressure measurement taken by their primary health care (PHC) provider within the past 12 months
- Individual had at least one of the following:
  - Weight measured by their PHC provider within the past 12 months
  - Waist circumference measured by their PHC provider within the past 12 months
- Individual had at least one of the following:
  - A blood sugar test within the past 12 months
  - A diagnosis of diabetes mellitus

**Exclusions**
None

<table>
<thead>
<tr>
<th>Method of Calculation</th>
<th>Denominator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of PHC clients/patients, age 18 and older with hypertension</td>
<td></td>
</tr>
</tbody>
</table>

**Inclusions**
- PHC client/patient
- Age of individual is at least 18 years
- Individual has a diagnosis of hypertension

**Exclusions**
- Individual is pregnant

**Data Source**
Electronic medical record
## Screening for Modifiable Risk Factors in Adults With Hypertension
(Indicator Set: Primary Health Care Providers) (cont’d)

### Notes

- A PHC client/patient is an individual who has had contact with the provider at least once in the past year and has a record with the provider dating back at least two years.
- Full fasting lipid profile screening is a group of blood tests that are performed after fasting 14 hours and used to guide PHC providers in deciding how a person at risk should be treated. Lipid profile includes total cholesterol, HDL-cholesterol, LDL cholesterol and triglycerides. Report may also include HDL/cholesterol ratio or a risk score based on lipid profile results, age, sex and other risk factors.
- Hemoglobin A1c test (also called the HbA1c or A1c test, or glycated/glycosylated hemoglobin) is a laboratory test that reflects the average glucose level over a two- to three-month period.
- Obesity/overweight screening measures may include the following:
  - Body mass index (BMI), a method of assessing body weight while taking height into account; calculated by dividing weight by height squared.
  - Waist to Hip Ratio (WHR)—Although BMI provides an index for obesity, it has limitations in predicting risk for cardiovascular events. Research has indicated that measurement of WHR enables prediction of cardiovascular risk. Obesity, particularly abdominal adiposity, worsens the prognosis of clients/patients with cardiovascular disease.

### Definitions of Terms

| Interpretation | A high rate for this indicator can be interpreted as a positive result.
|----------------|--------------------------------------------------|
| Further Analysis | This indicator can be modified to measure each of the tests separately to analyze rates for each individual test.
| Indicator Rationale | High blood pressure, or hypertension, is a risk factor for cardiac, cerebrovascular and other vascular diseases. It is also a significant cause of disability and is considered to be the major risk factor for death in the world, causing an estimated 7.5 million deaths per year.

A recent study, based on results from the 2007–2009 Canadian Health Measures Survey, estimated that 19% of Canadian adults suffer from hypertension. While major improvements in the diagnosis and treatment of hypertension have occurred in this country, recent findings suggest that hypertension remains uncontrolled in 34% of Canadian adults with the disease.
Screening for Modifiable Risk Factors in Adults With Hypertension  
(Indicator Set: Primary Health Care Providers) (cont’d)

Approximately 90% of Canadians with hypertension suffer from other cardiovascular risks. The 2011 guidelines of the Canadian Hypertension Education Program recommend screening and assessment of modifiable risk factors to promote a healthy lifestyle and prevent cardiovascular disease. These secondary prevention measures include urinalysis; assessment of blood pressure; blood chemistry (potassium, sodium and creatinine); fasting glucose; fasting total cholesterol and high-density lipoprotein (HDL) cholesterol, low-density lipoprotein (LDL) cholesterol and triglycerides; reduction of high dietary sodium; smoking cessation; reduction of abdominal obesity; and healthy weight.

Comprehensive screening and management of other risk factors in addition to hypertension can reduce cardiovascular disease risk by half. PHC providers play a vital role in the evaluation and management of these additional risk factors in Canadians with hypertension at risk for cardiovascular disease.

References


Screening for Modifiable Risk Factors in Adults With Hypertension  
(Indicator Set: Primary Health Care Providers) (cont’d)


### Treatment of Dyslipidemia (Indicator Set: Primary Health Care Providers)

<table>
<thead>
<tr>
<th>Descriptive Definition</th>
<th>Numerator</th>
<th>Denominator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of patient population, age 18 and older, with established coronary artery disease (CAD) and elevated low-density lipoprotein cholesterol (LDL-C) who were offered lifestyle advice and lipid-lowering medication.</td>
<td>Number of individuals in the denominator who were offered lifestyle advice and lipid-lowering medication within the past 12 months.</td>
<td>Number of primary health care (PHC) clients/patients, age 18 and older, with established CAD and elevated LDL-C (that is, greater than 2.0 mmol/L).</td>
</tr>
<tr>
<td><strong>Inclusions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Individual is in the denominator</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Individual was offered lifestyle advice within the past 12 months</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Individuals who have one or both of the following:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Individual was prescribed lipid-lowering medication within the past 12 months</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Individual has a documented contraindication to lipid-lowering medication</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Exclusions</strong></td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

**Data Source:** Electronic medical record
<table>
<thead>
<tr>
<th>Notes</th>
<th>Definitions of Terms</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• A PHC client/patient is an individual who has had contact with the provider at least once in the past year and has a record with the provider dating back at least two years.</td>
</tr>
<tr>
<td></td>
<td>• Coronary artery disease (with or without angina): Examples include clients/patients with prior myocardial infarctions, prior revascularization, angiographically proven coronary atherosclerosis, or reliable non-invasive evidence of myocardial ischemia.</td>
</tr>
<tr>
<td></td>
<td>• LDL-C: A type of lipoprotein that carries cholesterol in the blood. LDL is considered to be undesirable because it deposits excess cholesterol in the walls of blood vessels and contributes to “hardening of the arteries” and heart disease. Hence, LDL cholesterol is often termed “bad” cholesterol. The test for LDL measures the amount of LDL cholesterol in the blood.</td>
</tr>
<tr>
<td></td>
<td>• Lipid-lowering medication includes the following classes of drugs: statins, bile acid and/or cholesterol absorption inhibitors, fibrates and niacin.</td>
</tr>
<tr>
<td></td>
<td>• Lifestyle advice for treatment of dyslipidemia can include education about smoking cessation; a diet low in sodium and simple sugars, with substitution of unsaturated fats for saturated and trans fats, as well as increased consumption of fruits and vegetables; caloric restriction to achieve and maintain ideal body weight; moderate to vigorous exercise for 30 to 60 minutes most (preferably all) days of the week and psychological stress management.</td>
</tr>
</tbody>
</table>

| Interpretation | • A high rate for this indicator can be interpreted as a positive result. |
| Indicator Rationale | In 2008, cardiovascular disease (CVD) was the second leading cause of death in Canada, accounting for 21% of all deaths, with an additional 6% caused by stroke. Approximately 8 million Canadians suffer from heart disease, disease of the blood vessels, or are at risk for stroke. Coronary artery disease is one of the most common forms of CVD. The most important risk factor in the development of CAD is elevated cholesterol, specifically LDL-C. |

Canadian guidelines focus on total cardiovascular disease risk, using the Framingham Risk Assessment Score. In 2009, the guidelines merged treatment targets for high- and moderate-risk patients and recommend target lipid levels for these two categories of less than 2.0 mmol/L or a 50% reduction in pre-treatment LDL-C. In addition, for men age 50 and older and women age 60 and older in the moderate risk category, where LDL-C does not already indicate treatment, high-sensitivity C-reactive protein (hs-CRP) can be used for risk assessment. In these patients, treatment is indicated when hs-CRP is greater than 2 mg/L.
Treatment of Dyslipidemia
(Indicator Set: Primary Health Care Providers) (cont’d)

Guidelines recommend that for high-risk individuals, pharmacological therapy should be considered along with lifestyle changes. In the case of moderate-risk individuals, guidelines recommend implementing lifestyle changes first and then following with medication therapy if treatment targets are not achieved. Recommended lifestyle changes, which also apply to early prevention of atherosclerosis and vascular damage, include smoking cessation, healthy diet and reduction of saturated fats and refined sugars, weight reduction and maintenance, daily physical activity and stress management.

The role of the PHC provider is critical to the health of Canadians who suffer from dyslipidemia and CVD, not only in the diagnosis and pharmacological treatment of the conditions, but in recommending and supporting their patients in the lifestyle changes that are vital to the successful management of dyslipidemia and CVD.

References


### Treatment of Acute Myocardial Infarction
(Indicator Set: Primary Health Care Providers)

<table>
<thead>
<tr>
<th>Descriptive Definition</th>
<th>Numerator</th>
<th>Percentage of patient population who have had an acute myocardial infarction (AMI) and are currently prescribed a beta-blocking drug.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Method of Calculation</strong></td>
<td><strong>Numerator</strong></td>
<td>Number of individuals in the denominator who are currently prescribed a beta-blocking drug.</td>
</tr>
</tbody>
</table>
| **Inclusions**         |           | • Individual is in the denominator  
|                        |           | • Individuals who had one or both of the following:  
|                        |           |   − Individual was prescribed a beta-blocking drug within the past 12 months  
|                        |           |   − Individual has a contraindication to beta-blocking drugs |
| **Exclusions**         |           | None |
| **Denominator**        |           | Number of primary health care (PHC) clients/patients who had an AMI between 12 and 24 months ago. |
| **Inclusions**         |           | • PHC client/patient  
|                        |           | • Individual had an acute myocardial infarction between 12 and 24 months ago |
| **Exclusions**         |           | None |
| **Data Source**        |           | Electronic medical record |
| **Notes**              |           | **Definitions of Terms**  
|                        |           | • A PHC client/patient is an individual who has had contact with the provider at least once in the past year and has a record with the provider dating back at least two years. |
| **Interpretation**     |           | • A high rate for this indicator can be interpreted as a positive result. |
| **Indicator Rationale**|           | A heart attack, or AMI, is a life-threatening event that occurs when the coronary arteries supplying blood to the muscles of the heart are suddenly blocked. A section of the heart muscle may become damaged or die as a result of reduced blood supply. Heart attacks are one of the leading causes of morbidity and mortality in Canada. In 2008–2009, more than 66,000 Canadians were hospitalized for heart attacks and approximately 3.4% of those individuals suffered more than one heart attack in a year. |
Patients who have suffered a heart attack and those with established cardiovascular disease are at very high risk of experiencing recurrent cardiovascular events.\textsuperscript{3} Evidence-based guidelines recommend treatment with beta blockers as first-line antihypertensive therapy for patients who have experienced an AMI and those with coronary artery disease with angina. Treatment with angiotensin-converting enzyme inhibitors is recommended for patients with diabetes mellitus or a history of myocardial infarction, especially for those with impaired left ventricular systolic function.\textsuperscript{4, 5}

Despite widespread dissemination of guidelines for the management of AMI, many patients are not receiving recommended treatment. Between 1997 and 2000, rates of prescription for beta blockers within 30 days of discharge for elderly patients with AMI were lower than 50% in some parts of Canada.\textsuperscript{6, 7}

PHC providers play a vital role in the health and survival of their patients once they are discharged from hospital after an AMI. Necessary pharmacotherapy must be initiated or continued and monitored in order to prevent recurrence or complications.

References


| **Treatment of Anxiety**  
**(Indicator Set: Primary Health Care Providers)** |  |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Descriptive Definition</strong></td>
<td>Percentage of patient population, age 18 and older, with a diagnosis of panic disorder or generalized anxiety disorder who were offered treatment or referral to a mental health provider.</td>
</tr>
<tr>
<td><strong>Method of Calculation</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Numerator</strong></td>
<td>Number of individuals in the denominator who were offered treatment or referral to a mental health provider within the past 12 months.</td>
</tr>
</tbody>
</table>
| **Inclusions** | - Individual is in the denominator  
- Individual received at least one of the following from their primary health care (PHC) provider within the past 12 months:  
  - A prescription for anti-anxiety medication  
  - A referral to a mental health provider  
  - An offer for non-pharmacological treatment (psychological interventions: individual non-facilitated self-help, individual guided self-help and psychoeducational groups) |
| **Exclusions** | None |
| **Denominator** | Number of PHC clients/patients, age 18 and older, with a diagnosis of panic disorder or generalized anxiety disorder. |
| **Inclusions** | - PHC client/patient  
- Age of individual is at least 18 years  
- Individual has a diagnosis of at least one of the following conditions:  
  - Panic disorder  
  - Generalized anxiety disorder |
| **Exclusions** | None |
| **Data Source** | Electronic medical record |
| **Notes** | - A PHC client/patient is an individual who has had contact with the provider at least once in the past year and has a record with the provider dating back at least two years.  
- Mental health provider: A caregiver with mental health expertise (for example, psychologist, psychiatrist, occupational therapist, psychiatric registered nurse or social worker). |
Treatment of Anxiety  
(Indicator Set: Primary Health Care Providers) (cont’d)

**Interpretation**  
- A high rate for this indicator can be interpreted as a positive result.

**Indicator Rationale**  
Anxiety disorders are among the most common mental health disorders, but because of their chronic and disabling nature their prevalence is often underestimated. Evidence suggests that between 10% and 29% of Canadians will experience an anxiety disorder during their lifetime. Anxiety disorders cause significant distress for patients and their families and considerable economic costs to society, resulting in overuse of psychiatric and non-psychiatric medical services, reduced productivity, and increased risk of suicide compared with the general population. Panic disorder is a chronic condition characterized by recurrent, unexpected panic attacks followed by excessive worry of another attack, the consequences of attacks and behavioural changes associated with attacks. Generalized anxiety disorder is a chronic anxiety disorder characterized by persistent, excessive and difficult-to-control worry. Both panic disorder and generalized anxiety disorder can be treated with psychological and pharmacologic interventions, alone or in combination.

Most Canadians access the health care system through their PHC provider, and research suggests that between 1 in 5 and 1 in 12 patients visiting their PHC provider present with symptoms consistent with an anxiety disorder. The role of PHC providers is critical in identifying symptoms of anxiety in their patients, diagnosing an anxiety disorder and, in many cases, treating them for the condition.

**References**


<table>
<thead>
<tr>
<th>PHC Support for Self-Management of Chronic Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Indicator Set: Primary Health Care Providers)</td>
</tr>
</tbody>
</table>

**Descriptive Definition**

Percentage of patient population, age 18 and older, with chronic health conditions who received at least one of the following types of self-management support from their primary health care (PHC) provider:

- Provided with a treatment plan
- Encouraged to use self-help groups or programs

**Method of Calculation**

**Numerator**

Number of individuals in the denominator who reported receiving at least one of the following types of self-management support from their PHC provider over the past six months:

- Provided with a treatment plan; and/or
- Encouraged to use self-help groups or programs.

**Inclusions**

- Individual is in the denominator
- Individual reported at least one of the following over the past six months:
  - Was helped in making a treatment plan
  - Was encouraged to go to a specific group or class to help to cope with chronic condition(s)
  - Was encouraged to attend programs in the community that could help him or her care for his or her chronic condition(s)

**Exclusions**

None

**Denominator**

Number of respondents age 18 and older with at least one chronic condition.

**Inclusions**

- PHC client/patient
- Age of individual is at least 18 years
- Individual reported having at least one chronic condition

**Exclusions**

None

**Data Source**

Canadian Practice-Based Primary Health Care Survey Tools: Patient Component
### Definitions of Terms

- A PHC client/patient is an individual who has had contact with the provider at least once in the past year and has a record with the provider dating back at least two years.
- Self-management support is considered provided if the response was “yes” to questions on self-management support.
- Chronic conditions include those listed in the survey.
- Self-help groups are small, autonomous, open groups that meet regularly and whose primary activity is mutual aid. Self-help groups are run by group members and do not have any professional leadership.\(^2\)
- Self-management refers to tasks that individuals must undertake to live well with one or more chronic conditions, including having the confidence to deal with medical management, role management and emotional management of their conditions.\(^3\)

### Interpretation

- A high rate for this indicator can be interpreted as a positive result.

### Further Analysis

- This indicator can be modified to measure resources for self-management and for self-help groups and programs separately.

### Indicator Rationale

For approximately nine million Canadians, or 33% of the population, living with one or more chronic health conditions is a daily reality.\(^4\) The number of individuals affected by chronic disease in Canada is also expected to increase as the population ages and as a result of the rise in contributing risk factors, such as overweight and obesity and physical inactivity.\(^5\)

Most Canadians with chronic health conditions have a regular PHC provider. Research indicates that individuals with chronic conditions use the health care system more often and more intensively, and that the intensity of use increases in relation to the number of chronic comorbidities.\(^4,6\) Individuals diagnosed with chronic health conditions in Canada account for approximately 51% of visits to PHC physicians (family physicians or general practitioners), 55% of visits to specialists, 66% of nursing consultations and 72% of nights spent in a hospital.\(^4\)

Research indicates that engaging and activating patients in their own care leads to better health outcomes, including possible stabilization and improvement of chronic health conditions and a decreased risk of complications.\(^7\) Involving patients in self-management also has the potential to increase patient function, lower pain and decrease health
For example, self-management education in chronic obstructive pulmonary disease has been shown to result in decreased hospital admission rates. Self-help groups are an increasingly important resource in self-management of chronic conditions. These voluntary groups are usually formed by individuals affected by a particular condition and provide mutual support. Many self-help groups can be accessed online and are especially helpful to individuals with decreased mobility.

In addition, self-management of chronic conditions can augment traditional patient education by teaching problem-solving skills and enhancing self-efficacy, as well as by providing information and technical skills. PHC organizations that provide easily accessible resources may make it easier for patients to understand and manage the disease processes, treatment options and/or self-care practices that may be available to them.

References


### PHC Support for Self-Management of Chronic Conditions
(Indicator Set: Primary Health Care Providers) (cont’d)

<table>
<thead>
<tr>
<th></th>
<th>Author(s)</th>
<th>Title</th>
<th>Journal</th>
<th>Volume, Issue, Year, Pages, DOIs</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Bhuyan KK.</td>
<td>Health promotion through self-care and community participation: elements of a proposed programme in the developing countries. [Review] [84 refs]. <em>BMC Public Health</em>.</td>
<td>April 16, 2004;4:11.</td>
<td></td>
</tr>
</tbody>
</table>
### PHC Team Effectiveness Score

**(Indicator Set: Primary Health Care Providers)**

#### Descriptive Definition

Average team effectiveness score based on
- Vision;
- Participative safety;
- Task orientation; and
- Support for innovation.

#### Method of Calculation

**Numerator**

Total team effectiveness score, based on:
- Vision;
- Participative safety;
- Task orientation; and
- Support for innovation.

**Inclusions**

- Score for question on how members of the practice communicate among themselves about patients and the practice
- Score for question on the level of understanding others have of the respondent’s scope of practice
- Score for question on the respondent’s level of understanding of his or her role with the team
- Score for question on the respondent’s level of understanding of the role of others within the team
- Score for question on the frequency with which the team is able to meet as a group
- Score for question on the collaboration among practice team members in setting goals and plans for patient care
- Score for question on the respondent’s satisfaction with his or her participation in administrative decision-making within the practice
- Score for question on whether the respondent’s colleagues provide useful ideas and practical help to enable the respondent to do the job to the best of his or her abilities
- Score for question on whether the team members are prepared to question what the practice is doing
- Score for question on whether the practice is always seeking to improve through the development of new ways of doing or organizing things
### PHC Team Effectiveness Score
(Indicator Set: Primary Health Care Providers) (cont’d)

- Score for question on whether it is hard to make changes in the practice because the providers are so busy seeing patients

**Exclusions**
None

**Denominator**
Number of primary health care (PHC) provider respondents within a team.

**Inclusions**
- PHC provider
- Respondents within same team

**Exclusions**
None

**Data Source**
Canadian Practice-Based Primary Health Care Survey Tools: Provider Component¹

**Notes**

**Team Effectiveness Score**

- The first 10 questions on team effectiveness are scored on a 5-point scale, as follows:
  - Not at all satisfied or strongly disagree = 1
  - Not very satisfied or somewhat disagree = 2
  - Neutral or undecided = 3
  - Somewhat satisfied or somewhat agree = 4
  - Very satisfied or strongly agree = 5

- The 11th and final question on team effectiveness (the question on whether it is hard to make changes in the practice because the providers are so busy seeing patients) is scored on a 5-point scale, as follows:
  - Strongly agree = 1
  - Somewhat agree = 2
  - Undecided = 3
  - Somewhat disagree = 4
  - Strongly disagree = 5

- To calculate the team effectiveness score for a respondent, the sum of the score for all questions is divided by the number of questions (that is, 11).

**Definitions of Terms**

- A PHC client/patient is an individual who has had contact with the provider at least once in the past year and has a record with the provider dating back at least two years.
# PHC Team Effectiveness Score
*(Indicator Set: Primary Health Care Providers) (cont’d)*

<table>
<thead>
<tr>
<th>Interpretation</th>
<th>• A high average score for this indicator is interpreted as a positive result.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator Rationale</td>
<td>In 2000, the first ministers agreed to promote the establishment of PHC teams to support efforts to provide health promotion, disease prevention and management of chronic disease in Canada. The 2004 health accord strengthened this commitment, proposing a goal that half of Canadians would have access to interdisciplinary teams by 2011. Research indicates that PHC teams can provide more comprehensive and more highly coordinated care than non-team-based PHC settings and that PHC teams lead to increased patient satisfaction, decreased use of hospital emergency departments and fewer hospitalizations. PHC teams have also been shown to increase provider satisfaction and reduce wait times. Compared with non-team-based PHC settings, PHC teams offer a wider range of services and use resources more effectively. A 2007 study on interprofessional collaboration in PHC found that a range of tools exists to evaluate the effectiveness of PHC teams. Since the PHC team structure is relatively new in Canada, a standard evaluation mechanism is not yet in use. The study emphasized the importance of defining roles (for example, physician/nurse, physician/dietitian, physician/pharmacist), scope of practice and consistency of practice in collaborative teams. Research indicates that facilitators to effective team practice include clear leadership, shared knowledge of the community, shared objectives, patient engagement and patient focus, a population health approach, a focus on quality of care and services, a match between the appropriate service and the appropriate provider, trust, respect and effective communication. Organizations with higher perceived team effectiveness can have better outcomes for patients with chronic illnesses. One measure of team effectiveness is assessing team climate through the team climate inventory. Team climate can be defined as a shared perception of the state of an organization (that is, its policies, practices and procedures). Organizations with poor team climate can have a higher rate of employees intending to leave the organization and higher turnover rates. Methods to assess team climate include using survey questions to measure four climate factors: vision, participative safety, task orientation and support for innovation. This indicator derives a composite score from team effectiveness traits identified in the literature and survey instruments that incorporate the team climate inventory.</td>
</tr>
</tbody>
</table>
### PHC Team Effectiveness Score
*(Indicator Set: Primary Health Care Providers) (cont’d)*

Survey questions in the Canadian Practice-Based Primary Health Care Survey Tools: Provider Component were developed to be specific for teams in PHC.

Access to interdisciplinary teams in PHC provides clear benefits to the health of Canadians. Assessing the effectiveness of these teams is key to an increased understanding of this emerging practice in PHC.

### References


### Blood Pressure Control for Hypertension  
(Indicator Set: Primary Health Care Providers)

<table>
<thead>
<tr>
<th>Description</th>
<th>Numerator</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Descriptive Definition</strong></td>
<td>Percentage of patient population, age 18 and older, with hypertension for a duration of at least 12 months, who have blood pressure measurement control.</td>
</tr>
<tr>
<td><strong>Method of Calculation</strong></td>
<td>Number of individuals in the denominator who have had blood pressure measurement control within the past 12 months.</td>
</tr>
</tbody>
</table>
| **Inclusions** | Individual is in the denominator  
- Individual had a blood pressure measurement taken by their primary health care (PHC) provider within the past 12 months  
- If patient does not have a diagnosis of diabetes mellitus:  
  - The latest blood pressure reading is less than 140/90  
- If patient does have a diagnosis of diabetes mellitus:  
  - The latest blood pressure reading is less than 130/80 |
| **Exclusions** | None |

<table>
<thead>
<tr>
<th>Description</th>
<th>Denominator</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Method of Calculation</strong></td>
<td>Number of PHC clients/patients, age 18 and older, with hypertension for duration of at least 12 months.</td>
</tr>
</tbody>
</table>
| **Inclusions** | PHC client/patient  
- Age of individual is at least 18 years  
- Individual has had a diagnosis of hypertension for at least 12 months |
| **Exclusions** | Individual is currently pregnant |

**Data Source**: Electronic medical record
## Blood Pressure Control for Hypertension
*(Indicator Set: Primary Health Care Providers) (cont’d)*

### Definitions of Terms

- A PHC client/patient is an individual who has had contact with the provider at least once in the past year and has a record with the provider dating back at least two years.
- For individuals who do not have diabetes mellitus: blood pressure measurement control is a reading of less than 140/90 mmHg during the last visit to the PHC provider.\(^1\)
- For individuals who have diabetes mellitus: blood pressure measurement control is a reading of less than 130/80 mmHg during the last visit to the PHC provider.\(^1\)

### Interpretation

- A high rate for this indicator can be interpreted as a positive result.

### Indicator Rationale

High blood pressure, or hypertension, is a risk factor for cardiac, cerebrovascular and other vascular diseases.\(^2-6\) It is also a significant cause of disability and is considered to be the major risk factor for death in the world, causing an estimated 7.5 million deaths per year.\(^7\)

A recent study, based on results from the 2007–2009 Canadian Health Measures Survey, estimated that 19% of Canadian adults suffer from hypertension.\(^8\) While major improvements in the diagnosis and treatment of hypertension have occurred in this country, recent findings suggest that the condition remains uncontrolled in 34% of adults with the disease.\(^8\)

After being diagnosed with hypertension, a target blood pressure of less than 140/90 mmHg and 130/80 mmHg represents control of the disease for those without and those with diabetes mellitus, respectively.\(^1\)

Evidence suggests that a combination of lifestyle changes and antihypertensive drug therapies is usually necessary to achieve recommended target blood pressures in patients with hypertension.\(^1\)

Studies have also found that lifestyle factors that can lower blood pressure—including a healthy diet, regular physical activity, moderation in alcohol consumption, reductions in sodium consumption and stress reduction—are positively impacted by a patient’s interaction with a PHC provider.\(^1,9\)

An estimated one-third of coronary heart disease events in men and more than half of these events in women could be prevented with effective control of blood pressure in patients with hypertension.\(^10\) The role of PHC providers is vital in the control of blood pressure in patients with hypertension in Canada, not only in diagnosis and treatment of the disease but in assessment of patient adherence to lifestyle and pharmacotherapy recommendations during routine clinical care.
Blood Pressure Control for Hypertension
(Indicator Set: Primary Health Care Providers) (cont’d)

References


### Unnecessary Duplication of Medical Tests Reported by PHC Providers
#### (Indicator Set: Primary Health Care Providers)

<table>
<thead>
<tr>
<th>Description</th>
<th>Numerator</th>
<th>Denominator</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Descriptive Definition</strong></td>
<td>Percentage of primary health care (PHC) providers who repeated medical tests because findings were unavailable over the past month.</td>
<td>Number of individuals in the denominator who repeated medical tests over the past month because findings were unavailable.</td>
</tr>
<tr>
<td><strong>Method of Calculation</strong></td>
<td><strong>Numerator</strong></td>
<td><strong>Denominator</strong></td>
</tr>
<tr>
<td></td>
<td>Number of individuals in the denominator who repeated medical tests over the past month because findings were unavailable.</td>
<td>Number of PHC provider respondents.</td>
</tr>
<tr>
<td><strong>Inclusions</strong></td>
<td>- Individual is in the denominator&lt;br&gt;- Individual reported repeating tests or procedures over the past month because findings were unavailable</td>
<td>- PHC provider</td>
</tr>
<tr>
<td><strong>Exclusions</strong></td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

#### Data Source
Canadian Practice-Based Primary Health Care Survey Tools: Provider Component

#### Notes
Not applicable

#### Interpretation
- A low rate for this indicator is interpreted as a positive result.

#### Indicator Rationale
The inappropriate duplication of medical tests is disruptive to the patient and adds an unnecessary cost burden to the health care system. For most Canadians, the first point of contact for medical care is the PHC setting, and a majority of Canadians report having a regular family doctor. It is estimated that 4.2 million Canadians between the ages of 12 and 74 suffer from one or more ambulatory care sensitive conditions, with approximately 46% suffering from hypertension, 43% heart disease, 36% diabetes, 30% asthma and 16% chronic obstructive pulmonary disease. Among these, 161,000 persons (3.8%) reported one or more hospitalizations over a four-year period. Patients with chronic health conditions are more frequent users of the health care system and require a wider range of health services. As these services are accessed, health information relating to them must in turn be incorporated into the patient’s “medical home” or PHC chart.
Unnecessary Duplication of Medical Tests Reported by PHC Providers  
(Indicator Set: Primary Health Care Providers) (cont’d)

In a survey of experiences with the PHC system, most Canadian adults who visited a PHC physician at least once in the previous 12 months reported that their physician did not order unnecessary duplicate tests (92%), and a majority (84%) noted that test results were available at the time of their visit.  

Exchange of information in the PHC setting is vital to continuity and comprehensiveness of care, which can be negatively affected if test results are not available at the point of care.  

References

1. Canadian Institute for Health Information. Primary Health Care: Pan-Canadian Primary Health Care Survey Questions and Tools.  


### Maintaining Medication and Problem Lists in PHC
(Indicator Set: Primary Health Care Providers)

<table>
<thead>
<tr>
<th>Description</th>
<th>Numerator</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Descriptive Definition</strong></td>
<td>Percentage of primary health care (PHC) organizations with a policy in place to ensure that a current medication and problem list is recorded in the PHC client’s/patient’s health record.</td>
</tr>
<tr>
<td><strong>Method of Calculation</strong></td>
<td>Number of organizations in the denominator that reported having a policy in place to ensure that a current medication and problem list is recorded in the PHC client’s/patient’s health record.</td>
</tr>
</tbody>
</table>
| **Inclusions** | Organization is in the denominator
- Organization respondent reported that a written policy or policy-related materials are in place to ensure that a current medication and problem list is recorded in the PHC client’s/patient’s health record |
| **Exclusions** | None |

<table>
<thead>
<tr>
<th>Description</th>
<th>Denominator</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Data Source</strong></td>
<td>Number of PHC organization respondents.</td>
</tr>
<tr>
<td><strong>Inclusions</strong></td>
<td>PHC organization</td>
</tr>
<tr>
<td><strong>Exclusions</strong></td>
<td>None</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>Definitions of Terms</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Notes</strong></td>
<td>PHC organizations include entities with at least one family physician, general practitioner or nurse practitioner who shares human, fiscal and material (for example, office space) resources with other health care professionals to provide PHC services to a broad general population.</td>
</tr>
<tr>
<td></td>
<td>A policy can include a written policy or policy-related materials (such as documented processes).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Interpretation</strong></td>
<td>A high rate for this indicator can be interpreted as a positive result.</td>
</tr>
</tbody>
</table>
Maintaining Medication and Problem Lists in PHC
(Indicator Set: Primary Health Care Providers) (cont’d)

Indicator Rationale
Medication and problem lists in PHC are summary lists of essential information about the patient that include critical elements relating to the patient’s medical history. These lists are important in that they provide a complete and quickly accessible listing of the patient’s health problems and current medications in one place, usually at the front of the patient chart.

Originally conceived by Lawrence Weed in the 1960s, the problem list is a well-established part of the medical record and continues to be an important component of electronic health records to this day.²

Patients’ problem and medication lists support continuity of care and are critical methods of communication between treating physicians and other health professionals. Properly updated problem and medication lists facilitate the prevention of errors and save clinicians time by avoiding duplication of essential information in progress notes.³

Problem lists can be customized to practice needs and ideally contain information relating to patient identification; personal and family data, including occupation, life events and family medical history; previous illnesses, injuries, accidents and surgical procedures; genetic information; risk factors, allergies and drug reactions; ongoing health conditions, including diagnoses and dates of onset; health maintenance information, including annual exams, immunizations and screening exams; current medication dosage and frequency; major investigations and consultant names; emergency contact information; and the date the problem list was last updated.³

To be a useful tool, it is important that problem and medication lists be reviewed and updated frequently.

References


| **Overweight and Obesity Rate**  
| *(Indicator Set: Primary Health Care Providers)* |
| --- | --- |
| **Descriptive Definition** | Percentage of patient population, age 2 and older, who are currently overweight or obese. |
| **Method of Calculation Numerator** | Number of individuals in the denominator who have a height and weight corresponding to a body mass index (BMI) in the overweight or obese range. |
| **Inclusions** | |
| | • Individual is in the denominator |
| | • Individual has a height and weight corresponding to a BMI in the overweight or obese range |
| **Exclusions** | None |
| **Denominator** | Number of primary health care (PHC) clients/patients age 2 and older. |
| **Inclusions** | |
| | • PHC client/patient |
| | • Age of individual is at least 2 years |
| **Exclusions** | |
| | • Individual is currently pregnant |
| | • Individuals who are |
| | ‒ Age 18 and older; and |
| | ‒ Shorter than 0.914 metres |
| | • Individuals who are |
| | ‒ Age 18 and older; and |
| | ‒ Taller than 2.108 metres |
| **Data Source** | Electronic medical record |
| **Notes** | |
| | • A PHC client/patient is an individual who has had contact with the provider at least once in the past year and has a record with the provider dating back at least two years. |
| | • BMI is calculated by dividing weight in kilograms by height in metres squared. |
| | • For individuals age 18 and older, the overweight range is a BMI between 25.0 and 29.9 kg/m². For individuals younger than 18, the overweight range is determined using international cut-off points.¹ |
| | • For individuals age 18 and older, the obese range is a BMI greater than 30.0 kg/m². For individuals younger than 18, the obese range is determined using international cut-off points.¹ |
Overweight and Obesity Rate
(Indicator Set: Primary Health Care Providers) (cont’d)

**Interpretation**
- A low rate for this indicator can be interpreted as a positive result.

**Further Analysis**
- This indicator can be restricted to adults age 18 and older or to children age 12 to 17 to further break it down.
- This indicator can be modified to measure overweight and obesity rates separately.

**Indicator Rationale**
Being overweight and obese is a risk factor for type 2 diabetes, cardiovascular disease, hypertension, osteoarthritis, some cancers and gallbladder disease.\(^2, 3\) Being overweight or obese is also associated with certain psychosocial problems, functional limitations and disabilities.\(^4\)

Adult overweight and obesity are calculated by measuring a person’s BMI—his or her weight in kilograms divided by height in squared metres. BMI is correlated closely with body fat and is a recognized indicator of health risks.\(^5\) The World Health Organization considers a BMI of 18.5 to 24.9 to be normal, 25.0 to 29.9 to be overweight and 30.0 and above to be obese.\(^6\)

In 2004, the Canadian Community Health Survey conducted a national health survey specific to nutrition and measured respondents’ heights and weights. The survey indicated that more than half of Canada’s adult population fell into the category of overweight or obese, with 36% (8.6 million) of Canadians age 18 and older being overweight and another 23% (5.5 million) being obese.\(^4\)

Rates of overweight and obesity have risen dramatically in Canada over the past two decades, mirroring a worldwide trend.\(^6–8\) This increase is reflected not only in adults but in the younger population, which is an issue of concern, as childhood overweight and obesity may be associated with health risks into adulthood.\(^9, 10\) The role of the PHC provider in counselling patients about the health risks associated with overweight and obesity is increasingly important in relation to the trend toward increased weight and decreased physical activity in Canada.

**References**


## Uptake of Information and Communication Technology in PHC Organizations  
*(Indicator Set: Primary Health Care Providers)*

<table>
<thead>
<tr>
<th>Method of Calculation</th>
<th>Numerator</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Descriptive Definition</strong></td>
<td>Percentage of primary health care (PHC) organizations that have access to electronic systems to complete their professional tasks.</td>
</tr>
</tbody>
</table>
| **Numerator** | Number of organizations in the denominator that reported currently having access to electronic medical records and having access to at least two of the following:  
- Computer software to manage appointments;  
- Computerized tools to aid medical decision-making;  
- An electronic interface to diagnostic imaging/laboratory services; and  
- An electronic system to transmit prescriptions to pharmacies. |  
| **Inclusions** |  
- Organization is in the denominator  
- Organization respondent reported currently having access to electronic medical records  
- Organization respondent reported currently using at least two of the following for patient care:  
  - Computer software to manage appointments  
  - Computerized tools to aid medical decision-making  
  - An electronic interface to diagnostic imaging/laboratory services  
  - An electronic system to transmit prescriptions to pharmacies |  
| **Exclusions** | None |  
| **Denominator** | Number of PHC organization respondents. |  
| **Inclusions** |  
- PHC organization |  
| **Exclusions** | None |  
| **Data Source** | Canadian Practice-Based Primary Health Care Survey Tools: Organization Component\(^1\) |
### Definitions of Terms

- PHC organizations include entities with at least one family physician, general practitioner or nurse practitioner who shares human, fiscal and material (for example, office space) resources with other health care professionals to provide PHC services to a broad general population.
- Electronic information systems allow for the exchange of PHC client/patient information between PHC settings and laboratories, hospitals and other settings. These include, for example,
  - Patient management systems;
  - Registries;
  - Drug information systems;
  - Diagnostic imaging systems;
  - Public health surveillance systems; and
  - Patient scheduling systems.

### Interpretation

- A high rate for this indicator can be interpreted as a positive result.

### Indicator Rationale

In Canada, an electronic medical record (EMR) in PHC refers to the medical record of a patient; it documents provider interactions with the patient. An electronic health record (EHR) is a longitudinal or lifetime record of an individual’s health history and medical care; it typically includes data from that individual’s interactions with hospitals, providers, pharmacies and laboratories.²

One of the commitments of the first ministers’ health accords of 2003 and 2004 was to accelerate the development and implementation of EHRs in Canada. A 2009 international survey found that 37% of PHC physicians in Canada reported using EHRs, up from 23% in 2006.² While progress is being made, of 11 countries participating in the survey, Canada had the lowest uptake of EHRs by PHC providers. In 2011, it was documented that half of Canadians had an EHR available for use by authorized health care providers, up from 22% in the previous year. Canada Health Infoway is working to support and accelerate uptake of EMRs and other health information technologies; it also hopes to reach a goal of 100% availability of EHRs for Canadians by 2016.²

The Health Council of Canada’s 2011 progress report on the first ministers’ health accords noted that while a primary goal of using EHRs is to improve patient care, they are also an important tool in the measurement of health system goals, such as quality, access and effectiveness of care.³ While EMR and EHR use by PHC providers varies across Canada and is sometimes limited in scope, the use of these technologies is still in a relatively early stage of development and may continue to present challenges to implementation in the PHC setting.⁴ ⁵
Uptake of Information and Communication Technology in PHC Organizations
(Indicator Set: Primary Health Care Providers) (cont’d)

<table>
<thead>
<tr>
<th>References</th>
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</table>
**PHC Provider Full-Time Equivalents**  
*(Indicator Set: Primary Health Care Providers)*

<table>
<thead>
<tr>
<th>Descriptive Definition</th>
<th>Numerator</th>
<th>Denominator</th>
</tr>
</thead>
</table>
| Primary health care (PHC) provider full-time equivalents (FTEs) per 1,000 patients, by type of PHC provider. | Number of reported PHC provider FTEs.  
**Inclusions**  
- PHC provider (specific to provider types listed in the Notes) FTEs reported by organization respondent  
**Exclusions**  
None | Number of PHC clients/patients divided by 1,000.  
**Inclusions**  
- PHC client/patient  
**Exclusions**  
None |

<table>
<thead>
<tr>
<th>Data Source</th>
<th>Canadian Practice-Based Primary Health Care Survey Tools: Organization Component¹</th>
</tr>
</thead>
</table>

**Notes**  
**Definitions of Terms**

- A PHC client/patient is an individual who has had contact with the provider at least once in the past year and has a record with the provider dating back at least two years.
- Full-time equivalence equals 35 to 45 hours per week.
- PHC providers include the following provider types:
  - General practitioner and family physician
  - Nurse practitioner
  - Registered nurse
  - Pharmacist
  - Dietitian
  - Psychologist
  - Physiotherapist
  - Optometrist
  - Audiologist
  - Speech–language pathologist
  - Social worker
  - Occupational therapist
  - Chiropractor
  - Physician assistant
PHC Provider Full-Time Equivalents
(Indicator Set: Primary Health Care Providers) (cont’d)

**Interpretation**
- This is a contextual measure that supports other PHC indicators and research questions.

**Indicator Rationale**
Having access to a PHC provider has been associated with better overall health and lower total health care system costs. \(^2\) Patients with a regular PHC provider have increased access to diagnostic tests and other health care services. \(^3\) Canadians who access PHC interdisciplinary teams experience a wide range of services and often experience increased continuity and coordination of care. \(^4, 5\) Given that most Canadians access the health care system through their PHC provider, it is important to monitor the supply of PHC providers for health human resources planning and utilization purposes.

Physician-to-population ratios are a useful way of assessing physician supply in the population, but they are limited in their ability to describe the provider or patient population. \(^6\) Measuring provider FTEs is another approach that helps to quantify variations in the supply of PHC providers and that assesses the intensity at which providers practise. \(^7, 8\)

Whereas the provider FTE per population ratio is a useful indicator of the number of PHC providers relative to population, inferences regarding the adequacy of provider resources should not be based on this indicator alone, \(^7\) as no single existing methodology can take into account all the uncertainties in planning for health care and physician resources. \(^9\)

**References**


PHC Provider Full-Time Equivalents  
(Indicator Set: Primary Health Care Providers) (cont’d)

5. Khan S., McIntosh C., Sanmartin C., Watson D., and Leeb K.  


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1. Canadian Institute for Health Information. *Pan-Canadian Primary Health Care Indicators, Report 1, Volumes 1 and 2: Pan-Canadian Primary Health Care Indicator Development Project*. Ottawa, ON: Canadian Institute for Health Information; 2006.


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For permission or information, please contact CIHI:

Canadian Institute for Health Information
495 Richmond Road, Suite 600
Ottawa, Ontario K2A 4H6

Phone: 613-241-7860
Fax: 613-241-8120
www.cihi.ca
copyright@cihi.ca

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Talk to Us

CIHI Ottawa
495 Richmond Road, Suite 600
Ottawa, Ontario K2A 4H6
Phone: 613-241-7860

CIHI Toronto
4110 Yonge Street, Suite 300
Toronto, Ontario M2P 2B7
Phone: 416-481-2002

CIHI Victoria
880 Douglas Street, Suite 600
Victoria, British Columbia V8W 2B7
Phone: 250-220-4100

CIHI Montréal
1010 Sherbrooke Street West, Suite 300
Montréal, Quebec H3A 2R7
Phone: 514-842-2226

CIHI St. John’s
140 Water Street, Suite 701
St. John’s, Newfoundland and Labrador A1C 6H6
Phone: 709-576-7066

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