

Pan-Canadian Primary Health Care Indicator Update Report



Health System Performance

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



Table of Contents

Acknowledgementsi	iii
About CIHI	v
Executive Summary	1
Background	2
Indicator Update	4
Why Update the PHC Indicators and What Are the Goals of the Update?	4
Project Process	5
Phase 0: Supporting Work	5
Phase 1: Identifying Priority PHC Indicator Sets	6
Phase 2: Updating Priority PHC Indicator Sets	7
Priority Indicators	8
Priority Indicators for Policy-Makers	8
Priority Indicators for Providers1	0
Description of Identified Data Sources1	3
Population and Patient Surveys1	3
Provider Surveys	4
Clinical and Administrative Data1	5
Data Gaps1	6
Conclusion1	6
Appendix 1: Indicator Review Working Group Members1	9
Appendix 2: Participants in the Priority Indicator Identification Surveys2	5
Appendix 3: Indicator Technical Specifications Template3	1
Appendix 4: Technical Specifications for Priority Indicators Within the Policy-Maker Set3	3
Appendix 5: Technical Specifications for Priority Indicators Within the Primary Health Care Provider Set11	3
References	5

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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.

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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;

- 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.¹ 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.^{2–5} The conceptual organization is presented in Table 1.

Table 1: Conceptual Organization	
Indicator Level	Domain
Structure	Expenditure
	Governance
	Information Technology Infrastructure
	Workforce
Process	Accessibility
	Appropriateness
	Comprehensiveness
	Continuity*
	Coordination
	Efficiency
Outcome	Acceptability
	Effectiveness
	Health Status
	Safety

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 policy-makers, 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:

- 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."
- 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

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

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

Table 2: Indicators, by PHC Domain (cont'd)		
PHC Domain	Indicator Label	
Efficiency	Point-of-care access to PHC client/patient health information	
Expenditure	PHC physician remuneration method	
Governance	PHC needs-based planning	
Health Status	Overweight and obesity rate	
	Smoking rate	
	Fruit and vegetable consumption rate	
	Physical activity rate	
Information Technology Infrastructure	Uptake of information and communication technology by PHC providers	
Safety	PHC provider burnout*	
Workforce	PHC provider supply	
	PHC FPs/GPs/NPs working in interdisciplinary teams/networks*	

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		
Canadian Community Health Survey	Practice-Based Survey Tools	Survey of Living With Chronic Diseases in Canada
Population with a regular	Scope of PHC services	Screening in adults with diabetes
PHC provider Difficulties accessing routine or	Collaborative care with other health care organizations	Eye examinations in adults with diabetes
ongoing PHC	PHC needs-based planning	Blood pressure control
Difficulties obtaining immediate after- hours care for a minor health problem	Point-of-care access to PHC client/patient health information	for hypertension
Colon cancer screening		
Breast cancer screening		
Cervical cancer screening		
Overweight and obesity rate		
Smoking rate		
Fruit and vegetable consumption rate		
Physical activity rate		

Table 3: Priority Indicators for Policy-Makers, by Data Source (cont'd)

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

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		
PHC Domain	Indicator Label	
Acceptability	PHC services meeting client's/patient's needs	
Accessibility	Population with a regular PHC provider*	
	Wait time for immediate care for a minor health problem	
Appropriateness	Child immunization	
	Colon cancer screening	
	Breast cancer screening	
	Cervical cancer screening	
	Smoking cessation advice in PHC	
	Influenza immunization, 65+	
	Well-baby screening	
	Blood pressure testing	

Table 4: Indicators, by PHC Domain (cont'd)		
PHC Domain	Indicator Label	
	Screening for modifiable risk factors in adults with coronary artery disease	
	Screening in adults with diabetes	
	Screening for visual impairment in adults with diabetes*	
	Screening for modifiable risk factors in adults with hypertension	
	Treatment of dyslipidemia	
	Treatment of acute myocardial infarction	
	Treatment of anxiety	
Comprehensiveness	PHC support for self-management of chronic conditions	
Coordination	PHC team effectiveness score	
Effectiveness	Ambulatory care sensitive conditions hospitalization rate*	
	Emergency department visits for asthma*	
	Blood pressure control for hypertension	
Efficiency	Unnecessary duplication of medical tests reported by PHC providers	
Expenditure	Average per capita PHC operational expenditures*	
Governance	Maintaining medication and problem lists in PHC	
Health Status	Overweight and obesity rate	
Information Technology Infrastructure	Uptake of information and communication technology in PHC organizations	
Safety	PHC provider burnout*	
Workforce	PHC provider full-time equivalents	

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

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.⁶ 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.⁷

- 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.⁸ 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.ⁱ

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.⁹ 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.ⁱ
- 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.ⁱ

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:

 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.^{10, 11} 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).¹² 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).ⁱⁱ

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.¹⁴ 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.¹⁵

ii. The PHC EMR CS was developed by CIHI, jurisdictions and Canada Health Infoway to ensure that PHC EMRs can make highquality, 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.¹³

- 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 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:

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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:

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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)			
Descriptive Definition	Description of the indicator		
Method of Calculation	Numerator	Descriptive Definition	
		Describes the total number of the component being measured.	
		Inclusions	
		Describes inclusion criteria within the numerator.	
		Exclusions	
		Describes exclusion criteria within the numerator.	
	Denominator	Descriptive Definition	
		Describes the total number of the component being measured.	
		Inclusions	
		Describes inclusion criteria within the denominator.	
		Exclusions	
		Describes exclusion criteria within the denominator.	
Data Source	Identifies the pre the indicator.	ferred data source necessary to calculate	
Notes	Describes specia data quality, sucl	al notes, including definitions of terms and notes on n as coverage and limitations, if applicable.	
Interpretation	Describes the int statement and ho sub-indicators (if	erpretation of the indicator, including a directional ow the indicator can be used or modified to measure applicable).	
Indicator Rationale	Identifies the just of the measure (f evidence or litera	ification for the indicator and explains the importance that is, why it is used). Describes the best available ature to support the need for the indicator.	
References	Lists the sources notes and indicat	of information that may pertain to the data source, tor rationale.	

Appendix 4: Technical Specifications for Priority Indicators Within the Policy-Maker Set

Time With PHC Provider (Indicator Set: Policy)	r for Patients With C	Chronic Conditions
Descriptive Definition	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.	
Method of Calculation	Numerator	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.
		Inclusions
		 Individual is in the denominator Individual reported having enough time in most visits with his or her PHC provider Individual reported having the opportunity to ask questions about recommended treatment in most visits with his or her PHC provider
		Exclusions
		None
	Denominator	Number of respondents age 18 and older with at least one chronic condition.
		Inclusions
		 Age of individual is at least 18 years Individual reported having at least one chronic condition
		Exclusions
		None
Data Source	Commonwealth Fu	ind International Health Policy Survey of Adults ¹
Notes	Definitions of Terms	
	 "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. 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 	

Time With PHC Provide (Indicator Set: Policy) (c	er for Patients With Chronic Conditions 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 time with PHC providers for all patients regardless of morbidity status to measure this indicator for the general population.		
Indicator Rationale	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 Provide (Indicator Set: Policy) (c	r for ont'c	Patients With Chronic Conditions
References	1.	The Commonwealth Fund. Commonwealth Fund International Health Policy Survey. http://www.commonwealthfund.org/ Surveys/. Accessed August 1, 2012.
	2.	The Commonwealth Fund. 2010 Commonwealth Fund International Health Policy Survey. http://www.commonwealthfund.org/Surveys/2010/Nov/ 2010-International-Survey.aspx. Accessed September 6, 2012.
	3.	Broemeling AM, Watson DE, Prebtani F. Population patterns of chronic health conditions, co-morbidity and healthcare use in Canada: implications for policy and practice. <i>Healthc Q.</i> 2008;11(3):70-76. PM:18536538.
	4.	World Health Organization. <i>Facing the Facts: The Impact of Chronic Disease in Canada In: Preventing Chronic Diseases: a Vital Investment</i> . Geneva, Switzerland: WHO Press; 2005. www.who.int/chp/chronic_disease_report/media/CANADA.pdf. Accessed September 6, 2012.
	5.	Wong ST, Peterson S, Black C. Patient activation in primary healthcare: A comparison between healthier individuals and those with a chronic illness. [References]. <i>Medical Care.</i> May, 2011; (5):469-479.
	6.	Canadian Institute for Health Information. <i>Experiences With Primary Health Care in Canada</i> . Ottawa, Ontario: CIHI; 2009.
	7.	Temmink D, Francke AL, Hutten JB, Van Der Zee J, Abu-Saad HH. Innovations in the nursing care of the chronically ill: a literature review from an international perspective. [Review] [40 refs]. <i>Journal of Advanced Nursing</i> . June, 2000;31(6):1449-1458.

Population With a Re (Indicator Set: Policy)	gular PHC Provide	r	
Descriptive Definition	Percentage of por regular primary h	opulation, age 12 and older, who reported having a nealth 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 Comm	Canadian Community Health Survey ¹	
Notes	Definitions of Terms		
	 A regular PHC provider is defined as a regular medical do in alignment with the question currently used in the Canac Community Health Survey.¹ A regular care provider is the primary care provider that a identifies as his or hers. This relationship implies longitudi continuity, and it exists for a defined period of time or inde explicitly changed.² 		
Interpretation	• A high rate for this indicator can be interpreted as a positive result.		
	Further Analysis		
	This indicator than medical data sources Health Survey	can be modified to include PHC providers other doctors if this information is available from other or if the question in the Canadian Community / is changed to include other types of providers.	

Population With a Reg (Indicator Set: Policy)	ular PHC Provider (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 <i>Rekindling Reform: Health Care Renewal in Canada,</i> 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	 Statistics Canada. Canadian Community Health Survey. www.statcan.gc.ca/imdb-bmdi/3226-eng.htm. Accessed August 1, 2012. 		
	2. Starfield B. <i>Primary Care: Balancing Health Needs, Services and Technology</i> . New York, New York: Oxford University Press; 1998		
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Population With a Reg (Indicator Set: Policy) (ular (con	PHC Provider ťd)
	4. Ettner SL. The relationship between continuity of care and the health behaviors of patients: does having a usual physician mak difference? <i>Medical Care.</i> June, 1999;37(6):547-555.	
	5.	Glazier RH. Balancing equity issues in health systems: perspectives of primary healthcare. [Review] [29 refs]. <i>Healthcarepapers.</i> 2007;8:Spec-45.
	6.	Statistics Canada. Health Fact Sheets: Access to a regular medical doctor, 2010. http://www.statcan.gc.ca/pub/82-625-x/ 2011001/article/11456-eng.htm. Updated 2011. Accessed September 6, 2012.
	7.	Health Council of Canada. <i>Rekindling Reform: Health Care Renewal in Canada, 2003 - 2008</i> . Toronto, Ontario: Health Council; 2008.

Wait Time for Immediate (Indicator Set: Policy)	e Care for a Minor	Health Problem
Descriptive Definition	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.	
Method of Calculation	Numerator	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.
		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
	Denominator	Number of respondents age 18 and older.
		Inclusions
		 Age of individual is at least 18 years
		Exclusions
		None
Data Source	Commonwealth Fund International Health Policy Survey of Adults ¹	
Notes	Definitions of Terms	
	 Immediate car urgent care fro attention. It do 	e for a minor health problem is defined as receiving om a PHC provider when sick or needing medical es not include visits to the emergency department. ²
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. ³ 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 care for minor iss sprained ankles, and other non–life minor accident. ⁴	or a minor health problem can be qualified as urgent ues such as fever, vomiting, major headaches, minor burns, cuts, skin irritation, unexplained rashes e threatening health problems or injuries due to a 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. ⁵ 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. ⁵ 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. ⁶		
	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. ^{7, 8} Research indicates that advanced access booking can improve practice capacity and continuity of care in PHC and increase patient satisfaction. ⁸		
References	 The Common Wealth Fund. Commonwealth Fund International Health Policy Survey. http://www.commonwealthfund.org/ Surveys/. Accessed August 1, 2012. 		
	 The Commonwealth Fund. 2010 Commonwealth Fund International Health Policy Survey. http://www.commonwealthfund.org/ Surveys/2010/Nov/2010-International-Survey.aspx. Accessed September 6, 2012. 		
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	5. Canadian Institute for Health Information. <i>Experiences With Primary Health Care in Canada</i> . Ottawa, Ontario: CIHI; 2009.		
	 Sanmartin C, Ross N. Experiencing difficulties accessing first- contact health services in Canada: Canadians without regular doctors and recent immigrants have difficulties accessing first-contact healthcare services. Reports of difficulties in accessing care vary by age, sex and region. <i>Healthcare</i> <i>Policy.</i> January, 2006;1(2):103-119. 		

Wait Time for Immediate Care for a Minor Health Problem (Indicator Set: Policy) (cont'd)			
	7.	 Murray M, Berwick DM. Advanced access: reducing waiting and delays in primary care. <i>JAMA</i>. February 26, 2003; 289(8):1035-1040. 	
	8.	The College of Family Physicians of Canada and Canadian Medical Association. <i>And Still Waiting: Exploring Primary Care</i> <i>Wait Times in Canada</i> . The Primary Care Wait Time Partnership; 2008. Discussion Paper.	

(Indicator Set: Policy)	Routine or Ongoin	g PHC	
Descriptive Definition	Percentage of population, age 15 and older, who experienced difficulties obtaining required routine or ongoing primary health care (PHC) services.		
Method of Calculation	Numerator	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.	
		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	
	Denominator	Number of respondents age 15 and older.	
		Inclusions	
		Age of individual is 15 years and older	
		Exclusions	
		 Individual reported not requiring any routine or ongoing care for himself/herself or a family member² in the past 12 months 	
Data Source	Canadian Community Health Survey ¹		
Notes	Definitions of Ter	ms	
	 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).² Difficulty obtaining routine or ongoing PHC services could include any of the following:¹ 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 		

Difficulties Accessing (Indicator Set: Policy)	Routine or Ongoing PHC (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. ³ Continuity of care in PHC has been associated with positive health outcomes, including increased preventive care, decreased hospitalization and fewer emergency department visits. ³ 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. ²
	In a survey of experiences with the PHC system, most Canadian adults (86%) and seniors (93%) reported having a regular PHC provider. ⁴ Of those reporting that they needed routine care or immediate care for a minor health problem, approximately one-quarter reported having difficulty accessing care. ⁴ 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. ^{5, 6}

Difficulties Accessing Routine or Ongoing PHC (Indicator Set: Policy) (cont'd)		
References	1.	Statistics Canada. Canadian Community Health Survey. www.statcan.gc.ca/imdb-bmdi/3226-eng.htm. Accessed August 1, 2012.
	2.	Health Canada. <i>Healthy Canadians-A Federal Report on</i> <i>Comparable Health Indicators 2010</i> . Ottawa, Ontario: Health Canada; 2011. http://www.hc-sc.gc.ca/hcs-sss/pubs/system-regime/ index-eng.php. Accessed September 4, 2012.
	3.	Glazier RH. Balancing equity issues in health systems: perspectives of primary healthcare. [Review] [29 refs]. <i>Healthcarepapers</i> . 2007;8:Spec-45.
	4.	Health Council of Canada. <i>Canadian Survey of Experiences With</i> <i>Primary Health Care in 2007: A Data Supplement to: Fixing the</i> <i>Foundation: An Update on Primary Health Care and Home Care</i> <i>Renewal in Canada</i> . Toronto, Ontario: Health Council; 2008.
	5.	Leibowitz R, Day S, Dunt D. A systematic review of the effect of different models of after-hours primary medical care services on clinical outcome, medical workload, and patient and GP satisfaction. [Review] [36 refs]. <i>Family Practice</i> . June, 2003;20(3):311-317.
	6.	van Uden CJ, Crebolder HF. Does setting up out of hours primary care cooperatives outside a hospital reduce demand for emergency care? <i>Emergency Medicine Journal.</i> November, 2004;21(6):722-723.

Difficulties Obtaining Immediate After-Hours Care for a Minor Health Problem (Indicator Set: Policy)					
Descriptive Definition	Percentage of po obtaining immed	Percentage of population, age 15 and older, who experienced difficulties obtaining immediate care after hours for a minor health problem.			
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 Comm	Canadian Community Health Survey ¹			
Notes	Definitions of T	erms			
	 Minor health sprained ankl and other nor minor accider 	problems include fever, vomiting, major headaches, es, minor burns, cuts, skin irritation, unexplained rashes n–life threatening health problems or injuries due to a nt. ²			
	 After-hours tin 9 a.m. to 5 p. 	 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 accellation could include Difficulty of Not havin Not being Waiting to 	 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 (Indicator Set: Policy)	Immediate After-Hours Care for a Minor Health Problem	
	 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	ale For most Canadians, the first point of contact for medical care is their primary health care (PHC) provider. In the 10-Year Plan to Strengther Health Care, the first ministers recommended that 50% of the Canadia population have access to 24/7 PHC services from multidisciplinary teams by the year 2011. ³ Research indicates that increased accessibit 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	

Difficulties Obtaining (Indicator Set: Policy)	lmm) (co	ediate After-Hours Care for a Minor Health Problem nt'd)
References	1.	Statistics Canada. Canadian Community Health Survey. www.statcan.gc.ca/imdb-bmdi/3226-eng.htm. Accessed August 1, 2012.
	2.	Health Canada. <i>Healthy Canadians-A Federal Report on</i> <i>Comparable Health Indicators 2010</i> . Ottawa, Ontario: Health Canada; 2011. http://www.hc-sc.gc.ca/hcs-sss/pubs/ system-regime/index-eng.php. Accessed September 4, 2012.
	3.	Health Canada. First Minister's Meeting on the Future of Health Care 2004: A 10-year plan to strengthen health care. http://www.hc-sc.gc.ca/hcs-sss/delivery-prestation/fptcollab/ 2004-fmm-rpm/index-eng.php. Updated 2006. Accessed September 5, 2012.
	4.	Glazier RH. Balancing equity issues in health systems: perspectives of primary healthcare. [Review] [29 refs]. <i>Healthcarepapers.</i> 2007;8:Spec-45.
	5.	van Uden CJ, Crebolder HF. Does setting up out of hours primary care cooperatives outside a hospital reduce demand for emergency care? <i>Emergency Medicine Journal.</i> November, 2004;21(6):722-723.
	6.	Sanmartin C., Gendron F., Berthelot J., and Murphy K. <i>Access to Health Care Services in Canada, 2003.</i> Ottawa, Ontario: Statistics Canada; 2004.
	7.	Canadian Institute for Health Information. <i>Waiting for Health Care in Canada: What We Know and What We Don't Know</i> . Ottawa, Ontario: CIHI; 2006.
	8.	Bordman R, Wheler D, Drummond N, White D, Crighton E, North Toronto Primary Care Research Network (Nortren). After-hours coverage: national survey of policies and guidelines for primary care physicians. <i>Canadian Family Physician.</i> April, 2005;51:536-537.

Child Immunization (Indicator Set: Polic	y)			
Descriptive Definition	Percentage of population, currently age 7, who have received recommended primary childhood immunizations.			
Method of Calculation	Numerator	Number of individuals in the denominator who have received required childhood immunizations in accordance with the recommended schedule.		
		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 individuals currently age 7.		
		Inclusions		
		 Age of individual is 7 years 		
		Exclusions		
		None		
Data Source	Electronic medical record			
Notes	Jurisdictional Standards			
	 Jurisdictions with immunization schedules that differ from the NA recommended schedule can modify the indicator definition to ma their immunization schedule accordingly. 			
	Definitions of Terms			
	The NACI recore Immunization G	mmended schedule is published in the Canadian buide. ¹		
	Data Quality			
	 Reliable estimates of this indicator can be calculated fro jurisdictions with a representative sample of patients wit electronic medical records. 			
Interpretation	A high rate for t	his 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	v) (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; ³ this indicator follows NACI recommendations and describes a recommended schedule among seven-year-olds who are current with their primary series of immunizations. ¹		
	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	 National Advisory Committee on Immunization. Canadian Immunization Guide (CIG) 2006. Public Health Agency of Canada; 2006. http://www.phac-aspc.gc.ca/publicat/cig-gci/pdf/ cig-gci-2006_e.pdf. Accessed February 14, 2012. 		
	 Public Health Agency of Canada. Immunization Schedules. Recommendations from the National Advisory Committee on Immunization (NACI). http://www.phac-aspc.gc.ca/im/is-cv/ index-eng.php. Updated July 3, 2012. Accessed August 10, 2012. 		
	 MacDonald N. E. Routine Immunization in Young Children: Recommended Vaccine Schedule, Proven Benefits of Vaccines, Noted Adverse Effects of Vaccines, Best Practices for Vaccine Programs, Vaccine Programs for Special Needs and New Vaccines Recommended for Young Children. Centre of Excellence for Early Childhood Development; 2004. http://www.child-encyclopedia.com/ pages/pdf/macdonaldangxp.pdf. 		

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	Numerator	Number of individuals in the denominator who reported having received a screening test for colon cancer within the past 24 months.	
		Inclusions	
		 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	
	Denominator	Number of respondents, age 50 to 74.	
		Inclusions	
		 Age of individual is between 50 and 74 years 	
		Exclusions	
		None	
Data Source	Canadian Community Health Survey ¹		
Notes	Definitions of 1	lerms	
	• 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 Screenin (Indicator Set: Policy) (ng cont'd)		
	 Colorectal cancer screening guidelines were established by the Canadian Task Force on Preventive Health Care in 2001,⁶ and were followed by population screening recommendations from Health Canada's National Committee on Colorectal Cancer in 2002,⁷ 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.^{6, 8} 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.² 		
	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. ⁹		
References	 Statistics Canada. Canadian Community Health Survey. www.statcan.gc.ca/imdb-bmdi/3226-eng.htm. Accessed August 1, 2012. 		
	 Canadian Cancer Society's Steering Committee on Cancer Statistics. Canadian Cancer Statistics 2011. Toronto, ON: Canadian Cancer Society; 2011. www.cancer.ca/statistics. 		
	 Edwards BK, Ward E, Kohler BA, et al. Annual report to the nation on the status of cancer, 1975-2006, featuring colorectal cancer trends and impact of interventions (risk factors, screening, and treatment) to reduce future rates. <i>Cancer.</i> February 1, 2010; 116(3):544-573. PM:19998273. 		
	 Jorgensen OD, Kronborg O, Fenger C. A randomised study of screening for colorectal cancer using faecal occult blood testing: results after 13 years and seven biennial screening rounds. <i>Gut.</i> January, 2002;50(1):29-32. PM:11772963. 		
	 Mandel JS, Church TR, Ederer F, Bond JH. Colorectal cancer mortality: effectiveness of biennial screening for fecal occult blood. <i>J Natl Cancer Inst.</i> March 3, 1999;91(5):434-437. PM:10070942. 		
	 Canadian Task Force on Preventive Health Care. Colorectal Cancer Screening. http://www.canadiantaskforce.ca/recommendations/ 2001_03_eng.html. Accessed February 8, 2012. 		

Colon Cancer Screening (Indicator Set: Policy) (cont'd)			
7	 National Committee on Colorectal Cancer Screening. <i>Technical Report for the National Committee on Colorectal Cancer Screening</i>. 2002. http://www.phac-aspc.gc.ca/publicat/ncccs-cndcc. Accessed February 8, 2012. 		
8	 Colorectal cancer screening: Recommendation statement from the Canadian Task Force on Preventive Health Care. CMAJ. 2001;165(2):206-208. http://www.cmaj.ca/content/165/2/206.full. 		
9	 Canadian Partnership Against Cancer. Colorectal Cancer Screening. 2010. http://www.cancerview.ca/idc/groups/public/documents/ webcontent/rl_cancer_1crcscreen.pdf. 		

Breast Cancer Screening (Indicator Set: Policy)			
Descriptive Definition	Percentage of female population, age 50 to 74, who reported having had a mammogram.		
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 femaleAge 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). ⁴ The guidelines recommend routine screening with mammography every two to three years for women age 50 to 74. ^{4, 5}		
	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	1.	Statistics Canada. Canadian Community Health Survey. www.statcan.gc.ca/imdb-bmdi/3226-eng.htm. Accessed August 1, 2012.	
	2.	Canadian Cancer Society's Steering Committee on Cancer Statistics. <i>Canadian Cancer Statistics 2011</i> . Toronto, ON: Canadian Cancer Society; 2011. www.cancer.ca/statistics.	
	3.	Canadian Cancer Society/National Cancer Institute of Canada. <i>Canadian Cancer Statistics 2007</i> . Toronto, ON: Canadian Cancer Society; 2007.	
	4.	Tonelli M, Gorber SC, Joffres M, et al. Recommendations on screening for breast cancer in average-risk women aged 40-74 years. <i>CMAJ.</i> November 22, 2011;183(17):1991-2001. PM:22106103.	
	5.	Canadian Task Force on Preventive Health Care. Screening for Breast Cancer. http://www.canadiantaskforce.ca/recommendations/ 2011_01_eng.html. Accessed February 8, 2012.	

Cervical Cancer Scree (Indicator Set: Policy)	ning		
Descriptive Definition	Percentage of female population, age 18 to 69, who reported having had a Papanicolaou test.		
Method of Calculation	Numerator	Number of individuals in the denominator who reported having had a Papanicolaou test within the past 36 months.	
		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 femaleAge 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 car detection of pre-cancerous lesions before they progress cervical cancer. ^{4, 5} Furthermore, studies have found that diagnosis of invasive cervical cancer were less likely to h screened during the five years previous to diagnosis or h received appropriate follow-up after an abnormal Pap tes highlight the importance of screening and follow-up by pr care (PHC) providers in reducing the incidence and mort the disease.		

Cervical Cancer Scree (Indicator Set: Policy) (ing cont'd)		
	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 n their patients by performing Pap tests according to guidelines and monitoring test results.		
References	 Statistics Canada. Canadian Community Health Survey. www.statcan.gc.ca/imdb-bmdi/3226-eng.htm. Accessed August 1, 2012. 		
	 Public Health Agency of Canada. Performance Monitoring for Cervical Cancer Screening Programs in Canada. 2009. http://www.phac-aspc.gc.ca/cd-mc/cancer/pmccspc-srpdccuc/ pdf/cervical-eng.pdf. 		
	 Canadian Cancer Society's Steering Committee on Cancer Statistics. <i>Canadian Cancer Statistics 2011</i>. Toronto, ON: Canadian Cancer Society; 2011. www.cancer.ca/statistics. 		
	 Ng E, Wilkins R, Fung MF, Berthelot JM. Cervical cancer mortality by neighbourhood income in urban Canada from 1971 to 1996. <i>CMAJ.</i> May 11, 2004;170(10):1545-1549. PM:15136547. 		
	 Spence AR, Goggin P, Franco EL. Process of care failures in invasive cervical cancer: systematic review and meta-analysis. <i>Prev Med.</i> August, 2007;45(2-3):93-106. PM:17651792. 		
	 Public Health Agency of Canada. Cervical Cancer Screening in Canada: 1998 Surveillance Report. 1998. http://www.phac-aspc.gc.ca/publicat/ccsic-dccuac/. 		
	7. Canadian Task Force on Preventive Health Care. Current Task Force recommendations. http://www.canadiantaskforce.ca/ recommendations_current_eng.html. Accessed February 8, 2012.		
	 Health Canada. It's Your Health. Screening for Cervical Cancer. http://www.hc-sc.gc.ca/hl-vs/iyh-vsv/diseases-maladies/ cervical-uterus-eng.php. Accessed February 8, 2012. 		

Screening in Adults (Indicator Set: Polic	With Diabetes y)	
Descriptive Definition	 Percentage of population, age 20 and older, with diabetes mellitus who received testing for all of the following: Hemoglobin A1c (HbA1c); Full fasting lipid profile screening; Foot examination; Blood pressure measurement; and Obesity/overweight screening. 	
Method of Calculation	Numerator	 Number of individuals in the denominator who reported having received testing for all of the following: 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. 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 care professional measured their blood pressure during diabetes-related appointments Individual reported having had their weight measured by a health professional measured their blood pressure during diabetes-related appointments
	Denominator	 Number of respondents, age 20 and older, with diabetes mellitus Inclusions Age of individual is at least 20 years Individual has a diagnosis of diabetes mellitus Exclusions None

Screening in Adults (Indicator Set: Polic	with Diabetes ey) (cont'd)		
Data Source	Survey of Living With Chronic Diseases in Canada ¹		
Notes	Definitions of Terms		
	 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 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.³ 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 "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. 		
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	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.		

Screening in Adults (Indicator Set: Polic	With Diabetes y) (cont'd)
	It is estimated that 2.4 million Canadians (6.8%) live with diabetes. ⁵ 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. ⁵
	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. ⁶
	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. ^{6, 7}
References	 Statistics Canada. Survey on Living with Chronic Diseases in Canada. www.statcan.gc.ca/imdb-bmdi/5160-eng.htm. Accessed August 1, 2012.
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Screening in Adults (Indicator Set: Policy	With y) (Co	n Diabetes ont'd)
	6.	Canadian Diabetes Association. Canadian Diabetes Association 2008 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada. <i>Canadian Journal of Diabetes</i> . 2008; 32(Supplement 1) http://www.diabetes.ca/files/cpg2008/cpg-2008.pdf.
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Eye Examinations in (Indicator Set: Policy)	Adults With Diabet	es
Descriptive Definition	Percentage of pop had an eye exam.	pulation, age 20 and older, with diabetes mellitus who
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 V	/ith Chronic Diseases in Canada ¹
Notes	Not applicable	
Interpretation	 A high rate for t The results of t providers who h care provider vertices 	this indicator can be interpreted as a positive result. his indicator would not distinguish between types of nad performed the eye exam (that is, primary health ersus specialist, or referral to a specialist).
Indicator Rationale	Damage to the ret of new cases of le 10,000 Canadians Resulting from the approximately 80% more and can lead retinopathy increa diabetes. In addition increased risk of of fractures, as well a	ina, or diabetic retinopathy, is the most common cause gal blindness in adults. ² It is estimated that in 2026, will be blind as a result of diabetic retinopathy. ³ disease process, diabetic retinopathy occurs in 6 of patients suffering from diabetes for 10 years or d to blindness. ⁴ The chances of developing diabetic se in relation to the number of years an individual has on, loss or impairment of vision is associated with an ther serious health outcomes such as falls and hip as an increased risk of early death. ^{5, 6}

Eye Examinations in (Indicator Set: Policy)	Adults With Diabetes) (cont'd)	
	Research indicates that effective screening and monitoring of the eyes can significantly reduce new cases of diabetic retinopathy. ⁷ 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. ⁸	
	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 2 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	 Statistics Canada. Survey on Living with Chronic Diseases in Canada. www.statcan.gc.ca/imdb-bmdi/5160-eng.htm. Accessed August 1, 2012. 	
	 Klein R, Klein B. Vision Disorders in Diabetes. <i>Diabetes In America</i>. 2 ed. Bethesda, Maryland: National Institutes of Health; 1995;293-338. 	
	 A Clear Vision: Solutions to Canada's Vision Loss Crisis. Toronto, Ontario: Canterbury Communications; 2004. http://www.costofblindness.org/. Accessed August 27, 2012. 	
	4. <i>Evidence Based Eye Care</i> . Philadelphia, Pennsylvania: Lippincott Williams & Wilkins; 2007.	
	5. Vu HTV, Keeffe JE, McCarty CA, Taylor HR. Impact of unilateral and bilateral vision loss on quality of life. [Report]. <i>British Journal of Ophthalmology.</i> March, 2005;89(3):360-363.	
	 Cusick MM, Meleth ADB, Agron EM, et al. Associations of Mortality and Diabetes Complications in Patients With Type 1 and Type 2 Diabetes: Early Treatment Diabetic Retinopathy Study report no. 27. [Article]. <i>Diabetes Care.</i> March, 2005;28(3):617-625. 	
	 Tapp RJ, Shaw JEM, Harper CAM, et al. The Prevalence of and Factors Associated With Diabetic Retinopathy in the Australian Population. [Article]. <i>Diabetes Care.</i> June, 2003;26(6):1731-1737. 	
	8. Canadian Diabetes Association. Canadian Diabetes Association 2008 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada. <i>Canadian Journal of Diabetes</i> . 2008;32(Supplement 1) http://www.diabetes.ca/files/cpg2008/ cpg-2008.pdf.	
Anti-Depressant Med (Indicator Set: Policy)	ication Monitoring	
------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------
Descriptive Definition	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.	
Method of Calculation	Numerator	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.
		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
		Exclusions
		None
	Denominator	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.
		Inclusions
		 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
		 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 Med (Indicator Set: Policy)	lication Monitoring) (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.¹ 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. ² Mood disorders cause significant distress, can impair social and occupational functioning and increase the risk of suicide. ²
	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. ³ It has been estimated that 9.2% of Canadian men and 15.1% of Canadian women experience depression in their lifetime. ⁴
	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. ⁴ 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. ²
	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. ⁵ 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. ⁶ Regular follow-up for

Anti-Depressant Med (Indicator Set: Policy)	icati (co	on Monitoring nt'd)
	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 re prin	ecent study on quality of care recommended an indicator to track nary care follow-up after prescription of an anti-depressant. ⁷
References	1.	Hauser J. <i>Depression Medications: Antidepressants</i> . Psych Central; 2012. http://psychcentral.com/lib/2007/depression-medications-antidepressants. Accessed July 23, 2012.
	2.	Clinical guidelines for the treatment of depressive disorders. <i>Can J Psychiatry.</i> June, 2001;46 Suppl 1:5S-90S. PM:12371438.
	3.	<i>Mood Disorders, 2009. Health Fact Sheets.</i> Statistics Canada; 2009. (82-625-XIE).
	4.	Government of Canada. <i>The Human Face of Mental Health and</i> <i>Mental Illness in Canada</i> . 2006. http://www.phac-aspc.gc.ca/ publicat/human-humain06/pdf/human_face_e.pdf. Accessed February 28, 2012. (HP5-19/2006E).
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	6.	Depression. The Treatment and Management of Depression in Adults. Update of NICE Clinical Guideline 23. National Institute for Health and Clinical Excellence.; October, 2009. http://www.nice.org.uk/nicemedia/pdf/CG90NICEguideline.pdf. Accessed February 29, 2012.
	7.	Katz A., De Coster C., Bogdanovic C., Soodeen R., and Chateau D. Using Administrative Data to Develop Indicators of Quality in Family Practice. Winnipeg, MN: Manitoba Centre for Health Policy; 2004.

Scope of PHC Service (Indicator Set: Policy)	S	
Descriptive Definition	Percentage of prima provide a range of F	ary health care (PHC) organizations that currently PHC services.
Method of Calculation	Numerator	 Number of organizations in the denominator that report currently offering the following services: Management of care for an emergent but minor health problem; Non-urgent routine care; Prevention and health promotion and/or education services; Maternity care; Child care; Primary mental health care; Rehabilitation services; End-of-life care; and At least one of the following services: Psychosocial services; Liaison with home care;
		 Nutrition counselling services; and Home visits. 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 rehabilitation services

Scope of PHC Service (Indicator Set: Policy) (s (cont'd)	
		 Organization respondent reported currently providing follow-up for at least one of the following: Psychosocial services Liaison with home care Nutrition counselling services Home visits
		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	
Notes	Definitions of Tern	ns
	 PHC organization general practition and material (for health care profe general population PHC often include PHC often include Prevention and and injuries) Basic immedia Referrals to or and specialist Primary menta End-of-life cara Health promoria Child care Primary materia Rehabilitation 	ns include entities with at least one family physician, her or nurse practitioner who shares human, fiscal example, office space) resources with other essionals to provide PHC services to a broad on. les the following services: ² d routine care (for example, for common diseases ate care for minor problems ther levels of care (such as to hospitals s) al health care re tion mity care services
Interpretation	A high rate for th	is indicator can be interpreted as a positive result.
	Further Analysis	
	This indicator can services separate	n be restricted to measure individual ely.

Scope of PHC Service (Indicator Set: Policy)	s (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	 Canadian Institute for Health Information. Primary Health Care: Pan-Canadian Primary Health Care Survey Questions and Tools. http://www.cihi.ca/CIHI-ext-portal/internet/EN/TabbedContent/ types+of+care/primary+health/cihi006583. Updated 2011. Accessed September 5, 2012. 		
	 Health Canada. About Primary Health Care. http://www.hc-sc.gc.ca/hcs-sss/prim/about-apropos-eng.php. Updated 2012. Accessed September 11, 2012. 		
	3. Canadian Institute for Health Information. <i>Experiences With Primary Health Care in Canada</i> . Ottawa, Ontario: CIHI; 2009.		
	 Health Canada. Canada's Health Care System. http://www.hc-sc.gc.ca/hcs-sss/pubs/system-regime/ 2011-hcs-sss/index-eng.php. Updated 2012. Accessed September 11, 2012. 		
	5. Glazier RH. Balancing equity issues in health systems: perspectives of primary healthcare. [Review] [29 refs]. <i>Healthcarepapers</i> . 2007;8:Spec-45.		

Scope of PHC Services (Indicator Set: Policy) (cont'd)		
	6.	Health Council of Canada. <i>Canadian Survey of Experiences With</i> <i>Primary Health Care in 2007: A Data Supplement to: Fixing the</i> <i>Foundation: An Update on Primary Health Care and Home Care</i> <i>Renewal in Canada</i> . Toronto, Ontario: Health Council; 2008.

Collaborative Care Wit (Indicator Set: Policy)	h Other Health Car	e Organizations
Descriptive Definition	Percentage of primary health care (PHC) organizations that currently have arrangements with other health care organizations to manage patients together.	
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; andMedical 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 Organization Com	-Based Primary Health Care Survey Tools: ponent ¹
Notes	Definitions of Ter	ms
	 PHC organization general practition material (for examprofessionals to professionals to Arrangements the and informal arr health care organ and medical spon 	ons include entities with at least one family physician, ner or nurse practitioner who shares human, fiscal and imple, office space) resources with other health care provide PHC services to a broad general population. o manage patients together include both formal rangements between a PHC organization and other anizations, which include other PHC clinics, hospitals ecialist clinics.

Collaborative Care Wit (Indicator Set: Policy)	th Other Health Care Organizations (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. ² Several 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. ³ 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. ⁴			
	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. ⁵ 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. ⁶ Collaborative care in the PHC setting provides important benefits to patients and providers, especially in continuity of care. ^{7, 8} 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 Wit (Indicator Set: Policy)	h Ot (con	ther Health Care Organizations t'd)
References	1.	Canadian Institute for Health Information. Primary Health Care: Pan-Canadian Primary Health Care Survey Questions and Tools. http://www.cihi.ca/CIHI-ext-portal/internet/EN/TabbedContent/ types+of+care/primary+health/cihi006583. Updated 2011. Accessed September 5, 2012.
	2.	Health Canada. Primary Health Care Transition Fund. http://www.hc-sc.gc.ca/hcs-sss/prim/phctf-fassp/index-eng.php. Updated 2007. Accessed September 6, 2012.
	3.	Macfarlane D. <i>Current State of Collaborative Mental Health Care</i> . Mississauga, Ontario: Collaborative Mental Health Initiative; 2005.
	4.	Health Canada. Enhancing Interdisciplinary Collaboration in Primary Health Care. http://www.apps.hc-sc.gc.ca/hcs-sss/prim/ phctf-fassp/pchtf.nsf/WebFactSheet_E/0027?OpenDocument. Updated 2006. Accessed September 6, 2012.
	5.	Wilson DR, Moores DG, Lyons SCW, Cave AJ, Donoff MG. Family physicians' interest and involvement in interdisciplinary collaborative practice in Alberta, Canada. [References]. <i>Primary</i> <i>Health Care Research and Development</i> . July, 2005;(3):224-231.
	6.	Health Council of Canada. <i>Canadian Survey of Experiences With</i> <i>Primary Health Care in 2007: A Data Supplement to: Fixing the</i> <i>Foundation: An Update on Primary Health Care and Home Care</i> <i>Renewal in Canada</i> . Toronto, Ontario: Health Council; 2008.
	7.	Deber R. and Baumann A. <i>Barriers and Facilitators to Enhancing</i> <i>Interdisciplinary Collaboration in Primary Health Care</i> . Ottawa, Ontario: The Conference Board of Canada; 2005.
	8.	Nolte J. <i>Enhancing Interdisciplinary Collaboration in Primary</i> <i>Health Care in Canada</i> . Ottawa, Ontario: The Conference Board of Canada; 2005.

Descriptive Definition	Age-standardize appropriate am admission to ho	Age-standardized acute care hospitalization rate for conditions where appropriate ambulatory care may prevent or reduce the need for admission to hospital, per 100,000 population.	
Method of Calculation	Numerator	Number of acute care hospitalizations for ambulatory care sensitive conditions (ACSCs).	
		Inclusions	
		 Admission to an acute care hospital for an individual in the denominator Admission to an acute care hospital with one of the following as most responsible diagnosis: Grand mal status and other epileptic convulsions Chronic obstructive pulmonary disease Asthma Heart failure and pulmonary edema Hypertension Angina Diabetes 	
		Exclusions	
		 Individual died before discharge Admission category recorded as newborn or stillbirth 	
	Denominator	Mid-year population age 75 and younger, per 100,000 (age adjusted).	
		Inclusions	
		 Age of individual is younger than 75 years 	
		Exclusions	
		None	
Data Sources	 Discharge A Information, de la Santé Census for t 	bstract Database, ¹ Canadian Institute for Health and Fichier des hospitalisations MED-ÉCHO, ministère et des Services sociaux du Québec, ² for the numerator the denominator	

Ambulatory Care Sens (Indicator Set: Policy)	sitive Conditions Hospitalization Rate (cont'd)		
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. ³		

Ambulatory Care Sensitive Conditions Hospitalization Rate (Indicator Set: Policy) (cont'd)		
References	1.	Canadian Institute for Health Information. Discharge Abstract Database. http://www.cihi.ca/CIHI-ext-portal/internet/en/document/ types+of+care/hospital+care/acute+care/dad_metadata. Accessed August 1, 2012.
	2.	Canadian Institute for Health Information. Hospital Morbidity Database. http://www.cihi.ca/CIHI-ext-portal/internet/en/document/ types+of+care/hospital+care/acute+care/services_hmdb. Accessed August 1, 2012.
	3.	Canadian Institute for Health Information. Indicator Definitions: Health System Performance. http://www.cihi.ca/CIHI-ext-portal/ internet/en/document/health+system+performance/indicators/ health/indic_def_health_system_12. Accessed August 30, 2012.
	4.	Billings J, Zeitel L, Lukomnik J, Carey TS, Blank AE, Newman L. Impact of socioeconomic status on hospital use in New York City. <i>Health Aff (Millwood).</i> 1993;12(1):162-173. PM:8509018.
	5.	Billings J, Anderson GM, Newman LS. Recent findings on preventable hospitalizations. <i>Health Aff (Millwood)</i> . 1996;15(3): 239-249. PM:8854530.
	6.	Magan P, Otero A, Alberquilla A, Ribera JM. Geographic variations in avoidable hospitalizations in the elderly, in a health system with universal coverage. <i>BMC Health Services Research</i> . 2008;8:42.
	7.	Sanmartin C., Khanand S., and the LHAD research team. <i>Hospitalizations for Ambulatory Care Sensitive Conditions (ACSC):</i> <i>The Factors That Matter</i> . Statistics Canada: 2011. http://www.statcan.gc.ca/pub/82-622-x/82-622-x2011007-eng.pdf. Accessed February 22, 2012. 82-622-X - No. 007.

Emergency Department Visits for Asthma (Indicator Set: Policy)			
Descriptive Definition	Percentage of population, age 6 to 55, with asthma who visited an emergency department for treatment of asthma.		
Method of Calculation	Numerator	Number of individuals, age 6 to 55, who visited an emergency department for treatment of asthma within the past 12 months.	
		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,¹ 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 20% of Canadians		

Emergency Department Visits for Asthma (Indicator Set: Policy) (cont'd)			
	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 adv con visit	e intent of this indicator is to monitor the severity of asthma and erse events related to the disease. A Canadian expert panel vened in 2004 recommended monitoring emergency department is to assess the appropriateness of asthma care management. ⁷	
References	1.	Canadian Institute for Health Information. National Ambulatory Care Reporting System. http://www.cihi.ca/cihi-ext-portal/internet/ en/document/types+of+care/hospital+care/emergency+care/ services_nacrs. Accessed August 1, 2012.	
	2.	Statistics Canada. Canadian Community Health Survey. www.statcan.gc.ca/imdb-bmdi/3226-eng.htm. Accessed August 1, 2012.	
	3.	Global Strategy for Asthma Management and Prevention. Global Initiative for Asthma (GINA). 2006. www.ginasthma.org.	
	4.	Chen Y., Johansen H, Thillaiampalam S., and Sambell C. <i>Asthma</i> . Ottawa, Ontario: Statistics Canada; 2005. (Health Reports, Vol. 16, No. 2, 82-003-XIE).	
	5.	Statistics Canada. Table 105-0501 - Health indicator profile, annual estimates, by age group and sex, Canada, provinces, territories, health regions (2011 boundaries) and peer groups. Updated 2012. Accessed August 31, 2012. CANSIM (database).	
	6.	Public Health Agency of Canada. <i>Life and Breath: Respiratory Disease in Canada</i> . Ottawa, Ontario: Public Health Agency of Canada; 2007.	
	7.	Steer P., Spier S., To T., and Vande Wetering S. <i>Asthma Health</i> <i>Indicators: In Establishing Child and Youth Health Indicators</i> <i>Workshop "Part Deux"</i> . Montreal, Quebec: Canadian Association of Paediatric Health Centres; 2004. http://www.ccyhc.org/docs_ indicators/health_indicators/chronic_conditions_expert_panel_ recommendations.pdf. Accessed February 22, 2012.	

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

Blood Pressure Contro (Indicator Set: Policy)	ol for Hypertension (cont'd)		
Data Source	Survey of Living With Chronic Diseases in Canada ¹		
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 Contro	ol for	Hypertension
(Indicator Set: Policy)	(con	ťd)
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Complications of Diabe (Indicator Set: Policy)	etes		
Descriptive Definition	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.		
Method of Calculation	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.	
		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	
	Denominator	Number of individuals age 50 to 74 with diabetes mellitus.	
		Inclusions	
		 Age of individual is between 50 and 74 years Individual has a diagnosis of diabetes mellitus 	
		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 Survey³ 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 Diabe (Indicator Set: Policy)	etes (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.		
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	 Statistics Canada. Canadian Community Health Survey. www.statcan.gc.ca/imdb-bmdi/3226-eng.htm. Accessed August 1, 2012. 		
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Complications of Diabetes (Indicator Set: Policy) (cont'd)			
	5.	Graham M., Norris C., Majumdar S. R., and Johnson J. A. <i>Acute</i> <i>Coronary Syndrome and Diabete: In Alberta Diabetes Atlas 2007.</i> Institute of Health Economics; 2007. www.ihe.ca/documents/ Alberta_Diabetes_Atlas_2007.pdf.	
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Point-of-Care Access to PHC Client/Patient Health Information (Indicator Set: Policy)			
Descriptive Definition	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.		
Method of Calculation	Numerator	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.	
		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 Component ¹		
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 ,		
	Canada's Primar of care as the ab provider over tim implying that the services to meet patient accesses	ry Care Toolkit for Family Physicians defines continuity bility of patients to access health care through the same ne. It also allies continuity with comprehensiveness, family physician has access to a variety of health care a patient's needs throughout his or her lifetime. ⁵ As the s services, availability of up-to-date, documented	

Point-of-Care Access t (Indicator Set: Policy) (o Pł (con	HC Client/Patient Health Information	
	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.		
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PHC Physician Remun (Indicator Set: Policy)	neration Method		
Descriptive Definition	Percentage of general practitioners and family physicians who were primarily remunerated by the following types of payment systems, by type of payment system:		
	 Fee for service Salary; Capitation; an Mixed system 	e; d	
Method of Calculation	Numerator	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: • Fee for service; • Salary; • Capitation; and • Mixed system	
		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 	

PHC Physician Remur (Indicator Set: Policy)	eration Method (cont'd)	
		 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
	Denominator	Number of primary health care (PHC) physicians providing patient care.
		Inclusions
		 Individual reported being a family physician or general practitioner Individual reported providing patient care
		Exclusions
		None
Data Source	National Physician Survey ¹	
Notes	Definitions of Te	erms
	 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 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 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)			
	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.		
Interpretation	• This is a contextual measure that supports other PHC indicators and research questions.		
Indicator Rationale	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. ³ 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. ³		
	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. ^{4, 5} 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. ⁶		
	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.		

PHC Physician Remuneration Method (Indicator Set: Policy) (cont'd)		
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	5.	Gosden T, Forland F, Kristiansen IS, et al. Capitation, salary, fee- for-service and mixed systems of payment: effects on the behaviour of primary care physicians. [Review] [31 refs]. <i>Cochrane Database</i> <i>of Systematic Reviews (3):CD002215, 2000.</i> 2000;(3):CD002215.
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PHC Needs-Based Pla (Indicator Set: Policy)	anning	
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	Numerator	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.
		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
	Denominator	Number of PHC organization respondents.
		Inclusions
		PHC organization
		Exclusions
		None
Data Source	Canadian Practice- Organization Comp	Based Primary Health Care Survey Tools: onent ¹
Notes	Definitions of Terr	ns
	 PHC organizatio general practition and material (for health care profe general population) 	ns include entities with at least one family physician, ner or nurse practitioner who shares human, fiscal example, office space) resources with other essionals to provide PHC services to a broad on.
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 healt status. ² 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 the health care services will be based on perception and not current needs of the services accordingly.		
	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. ⁴ This indicator measures the extent to which PHC organizations use needs-based planning to allocate resources to serve their practice population.		
References	1. Canadian Institute for Health Information. Primary Health Care: Pan-Canadian Primary Health Care Survey Questions and Tools. http://www.cihi.ca/CIHI-ext-portal/internet/EN/TabbedContent/ types+of+care/primary+health/cihi006583. Updated 2011. Accessed September 5, 2012.		
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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 Commu	nity Health Survey ¹	
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 O (Indicator Set: Poli	besity Rate cy) (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.			
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Overweight and Obesity Rate (Indicator Set: Policy) (cont'd)				
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Smoking Rate (Indicator Set: Policy)		
Descriptive Definition	Percentage of population, age 12 and older, who reported being a daily or occasional smoker.	
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 Communi	ity 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 age 12 to 19 to e	n be modified to measure the rate among individuals xamine 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 cos costs of \$4.4 billion.	st of \$17 billion a year and direct health care

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. ⁴ 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. ⁴		
	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	 Statistics Canada. Canadian Community Health Survey. www.statcan.gc.ca/imdb-bmdi/3226-eng.htm. Accessed August 1, 2012. 		
	 Statistics Canada. Health Profile, June 2012: Definitions, sources and symbols. http://www12.statcan.gc.ca/health-sante/82-228/ help-aide/DQ-QD04.cfm?Lang=E. Updated 2011. Accessed August 31, 2012. 		
	 U.S.Department of Health and Human Services. <i>The Health</i> <i>Consequences of Smoking: a Report of the Surgeon General.</i> Atlanta, Georgia: Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 2004. http://www.cdc.gov/tobacco/ data_statistics/sgr/sgr_2004/chapters.htm. Accessed September 4, 2012. 		
	4. Reid J, Hammond D, and Burkhalter R. <i>Tobacco Use in Canada:</i> <i>Patterns and Trends, 2012 Edition.</i> Waterloo, ON: Propel Centre for Population Health Impact, University of Waterloo; 2012. http://www.tobaccoreport.ca/2012/TobaccoUseinCanada_2012.pdf.		
	5. Gaudette L. A., Altmayer C. A., Wysocki M., and Gao R. <i>Cancer</i> <i>Incidence and Mortality Across Canada</i> . Ottawa, Ontario: Statistics Canada; 1998. (Health Reports, Vol. 10, No. 1, 82-003-XIB).		
	 Surgeon General. Reducing the Health Consequences of Smoking: 25 Years of Progress. Washington, DC: US Government Printing Office; 1989. 		

Smoking Rate (Indicator Set: Policy) (cont	.'d)
	7.	Baliunas D, Patra J, Rehm J, Popova S, Kaiserman M, Taylor B. Smoking-attributable mortality and expected years of life lost in Canada 2002: conclusions for prevention and policy. <i>Chronic</i> <i>Diseases in Canada</i> . 2007;27(4):154-162.
	8.	Rehm J., Baliunas D., Brochu S., et al. <i>The Costs of Substance Abuse in Canada 2002</i> . Ottawa, Ontario: Canadian Centre on Substance Abuse; 2006.

Fruit and Vegetable Consumption Rate (Indicator Set: Policy)				
Descriptive Definition	Percentage of population, age 12 and older, who reported consuming fruits and vegetables five or more times daily.			
Method of Calculation	Numerator	Number of individuals in the denominator who reported consuming fruits and vegetables five or more times daily.		
		Inclusions		
		 Individual is in the denominator Individual reported consuming fruits and vegetables five or more times daily 		
		Exclusions		
		None		
	Denominator	Number of respondents age 12 and older.		
		Inclusions		
		Age of individual is at least 12 years		
		Exclusions		
		None		
Data Source	Canadian Commu	nity Health Survey ¹		
Notes	 This measure c they ate fruits a fruits and veget 	elassifies individuals based on the total number of times and vegetables per day (frequency), not the quantity of ables they consumed per day. ²		
Interpretation	A high rate for t	his indicator can be interpreted as a positive result.		
Indicator Rationale	<i>Eating Well With Canada's Food Guide 2011</i> recommends that people age 4 and older should eat 5 to 10 servings of fruits and vegetables per day. ³ Research indicates that consuming a diet rich in fruits and vegetables may help prevent cardiovascular disease ⁴ and certain types of cancer ⁵ and is associated with healthy weights and decreased risk of obesity. ⁶ 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. ⁷			
	In a recent survey, found to be falling and vegetable con older than age 12 vegetables per day frequently than ma	, more than half of Canadians age 12 and older were short of the recommended five-serving minimum of fruit sumption per day. Forty-three percent of Canadians reported consuming five or more servings of fruits and y, with females consuming five or more servings more ales (approximately 50% and 36%, respectively). ⁸		
Fruit and Vegetable (Indicator Set: Polic	Con y) (c	sumption Rate ont'd)		
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	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 eatin habits. ⁹ The primary health care provider is perfectly positioned to suppor his or her patients in developing healthy eating and other lifestyle habits that promote optimal health and prevent disease.			
References	1.	Statistics Canada. Canadian Community Health Survey. www.statcan.gc.ca/imdb-bmdi/3226-eng.htm. Accessed August 1, 2012.		
	2.	Health Canada. <i>Technical Specifications for Additional Indicators:</i> <i>In Federal Report on Comparable Health Indicators</i> . 2006. http://www.hc-sc.gc.ca/hcs-sss/pubs/system-regime/ 2006-fed-comp-indicat/tech-eng.php. Accessed August 31, 2012.		
	3.	Health Canada. <i>Eating Well With Canada's Food Guide</i> . Ottawa, Ontario: Health Canada; 2011.		
	4.	Hung HC, Joshipura KJ, Jiang R, et al. Fruit and Vegetable Intake and Risk of Major Chronic Disease. [Article]. <i>Journal of the National</i> <i>Cancer Institute</i> . November 3, 2004;96(21):1577-1584.		
	5.	World Cancer Research Fund / American Institute for Cancer Research. <i>Food, Nutrition, Physical Activity, and the Prevention of</i> <i>Cancer: a Global Perspective</i> . Washington DC: AICR; 2007.		
	6.	Hall JN, Moore S, Harper SB, Lynch JW. Global variability in fruit and vegetable consumption. <i>American Journal of Preventive Medicine</i> . May, 2009;36(5):402-409.		
	7.	Pérez C. E. <i>Fruit and Vegetable Consumption</i> . Ottawa, Ontario: Statistics Canada; 2002. (Health Reports, Vol. 13, No. 3, 82-003-XIE).		
	8.	Statistics Canada. <i>Fruit and Vegetable Consumption</i> . Ottawa, Ontario: Statistics Canada; 2011. http://www.statcan.gc.ca/pub/82-625-x/ 2011001/article/11461-eng.htm. Accessed August 31, 2012. (Health Fact Sheets, 82-625-X).		
	9.	Garriguet D. <i>Canadians' Eating Habits</i> . Ottawa, Ontario: Statistics Canada: 2007. (Health Reports, Vol. 18, No. 2, 82-003-XIE).		

Physical Activity Rat (Indicator Set: Policy	te y)		
Descriptive Definition	Percentage of population, age 12 and older, who reported a moderately active or active level of leisure-time physical activity.		
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 Commu	nity Health Survey ¹	
Notes	Definitions of Terms		
	 Respondents are based on an incomonths (from the activity engaged expenditure is comover was performed cost (kilocalorie The index is cal expenditures of 3.0 kcal/kg/day moderately activity 	re classified as active, moderately active or inactive dex of average daily physical activity over the past three he date of the survey). For each leisure time physical d in by the respondent, average daily energy calculated by multiplying the number of times the activity by the average duration of the activity by the energy s per kilogram of body weight per hour) of the activity. culated as the sum of the average daily energy all activities. Respondents are classified as follows: or more = physically active; 1.5 to 2.9 kcal/kg/day = we; less than 1.5 kcal/kg/day = inactive. ²	

Physical Activity R (Indicator Set: Poli	ate icy) (cont'd)			
Interpretation	A high rate for this indicator can be interpreted as a positive result.			
	Further Analysis			
	• The indicator can be restricted to adults age 18 and older or to children age 12 to 17 to further break it down.			
Indicator Rationale	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.			

Physical Activity Ra (Indicator Set: Polic	te y) (c	ont'd)
References	1.	Statistics Canada. Canadian Community Health Survey. www.statcan.gc.ca/imdb-bmdi/3226-eng.htm. Accessed August 1, 2012.
	2.	Statistics Canada. Health Profile, June 2012: Definitions, sources and symbols. http://www12.statcan.gc.ca/health-sante/82-228/ help-aide/DQ-QD04.cfm?Lang=E. Updated 2011. Accessed August 31, 2012.
	3.	Kesaniemi A, Dandforth E, Jensen MD, Kopelman PG, Lefebvre P, Reeder BA. Dose-response issues concerning physical activity and health: an evidence-based symposium. <i>Medicine & Science in Sports & Exercise</i> . June, 2001;33(6):S351-S358.
	4.	Gilmour H. <i>Physically Active Canadians</i> . Ottawa, Ontario: Statistics Canada; 2007. (Health Reports, Vol. 18, No. 3, 82-003-XWE).
	5.	Pate RR, Pratt M, Blair SN, et al. Physical Activity and Public Health: A Recommendation From the Centers for Disease Control and Prevention and the American College of Sports Medicine. [Article]. <i>JAMA Feb 1, 1995;273(5):402-407.273</i> (5):402-407.
	6.	U.S.Department of Health and Human Services Centers for Disease Control and Prevention National Center for Chronic Disease Prevention and Health Promotion. <i>Physical Activity and Health: A</i> <i>Report of the Surgeon General.</i> Atlanta, Georgia: U.S. Department of Health and Human Services; 1996.
	7.	Warburton DE, Charlesworth S, Ivey A, Nettlefold L, Bredin SS. A systematic review of the evidence for Canada's Physical Activity Guidelines for Adults. <i>International Journal of Behavioral Nutrition & Physical Activity</i> . 2010;7:39.
	8.	World Cancer Research Fund / American Institute for Cancer Research. <i>Food, Nutrition, Physical Activity, and the Prevention of</i> <i>Cancer: a Global Perspective</i> . Washington DC: AICR; 2007.
	9.	Katzmarzyk PT, Janssen I. The economic costs associated with physical inactivity and obesity in Canada: an update. <i>Canadian Journal of Applied Physiology.</i> February, 2004;29(1):90-115.
	10.	Public Health Agency of Canada. Government of Canada supports new physical activity guidelines: News Release. http://www.phac-aspc.gc.ca/media/nr-rp/2011/2011_0124-eng.php. Updated 2011. Accessed August 31, 2012.

Uptake of Information (Indicator Set: Policy)	and Communication	on Technology by PHC Providers	
Descriptive Definition	Percentage of primary health care (PHC) providers who use electronic systems to complete their professional tasks.		
Method of Calculation	Numerator	 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: 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; and Electronic interface to other external systems (for example, hospitals, other clinics) for accessing or sharing patient information. 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 reminders for recommended patient notes Individual reported currently using at least two of the following for patient care: Electronic reminders for recommended patient care Electronic reminders for recommended patient care Electronic interface to external pharmacy/pharmacist Electronic interface to external pharmacy/pharmacist 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 	
		None	

Uptake of Information a (Indicator Set: Policy) (and Communicati cont'd)	on Technology by PHC Providers	
	Denominator	Number of PHC providers who reported providing patient care.	
		Inclusions	
		PHC providerIndividual reported providing patient care	
		Exclusions	
		None	
Data Source	National Physicia	an Survey ¹	
Notes	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	r this indicator can be interpreted as a positive result.	

Uptake of Information a (Indicator Set: Policy) (and Communication Technology by PHC Providers [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	 The College of Family Physicians of Canada, Canadian Medical Association, and Royal College of Physicians and Surgeons of Canada. National Physician Survey. http://www.nationalphysiciansurvey.ca/nps/. Accessed August 1, 2012.
	2. Allin S., Watson D., and The Commonwealth Fund. <i>The Canadian Health Care System, 2011: In International Profiles of Health Care Systems, 2011.</i> Washington, DC: The Commonwealth Fund; 2011.
	 Health Council of Canada. Progress Report 2011: Health Care Renewal in Canada. Toronto, Ontario: Health Council of Canada; 2011.

Uptake of Information a (Indicator Set: Policy) (and (con	Communication Technology by PHC Providers t'd)
	4.	Terry A. L., Stewart M., Thind A., et al. <i>Primary Health Care Electronic Medical Records: Gaps in Knowledge and Research in Canada</i> . Canadian Institutes of Health Research; 2010.
	5.	Canadian Medical Association. <i>Toward Patient-Centred Care:</i> <i>Digitizing Health Care Delivery</i> . Ottawa, Ontario: Canadian Medical Association; 2010.

PHC Provider Supply (Indicator Set: Policy)			
Descriptive Definition	Practising primary health care (PHC) providers per 100,000 population, by type of PHC provider.		
Method of	Numerator	Number of active PHC providers.	
Calculation		1) To measure the supply of physician providers:	
		Inclusions	
		Medical activity code is activePhysician 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 E Institute for Heal Census for the d 	Database ¹ and Nursing Database, ² Canadian th Information, for the numerator enominator	
Notes	Definitions of Tern	ns	
	 Practising physic "active" with regate Practising physic care and other physic prerequisite for the physic 	tian providers are defined within the database as and to medical activity. ³ tian providers include those who provide patient hysicians for whom their medical education is a 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 <i>unknown</i> 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. ⁹ 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.		

PHC Provider Supply (Indicator Set: Policy) (cont	'd)
References	1.	Canadian Institute for Health Information. Scott's Medical Database. http://www.cihi.ca/cihi-ext-portal/internet/en/document/ spending+and+health+workforce/workforce/physicians/ hhrdata_smdb. Accessed August 1, 2012.
	2.	Canadian Institute for Health Information. Nursing Database. http://www.cihi.ca/cihi-ext-portal/internet/en/document/ spending+and+health+workforce/workforce/other+providers/ ndb_metadata. Accessed August 1, 2012.
	3.	Canadian Institute for Health Information. <i>Appendix C: In Supply, Distribution and Migration of Canadian Physicians, 2010</i> . Ottawa, Ontario: CIHI; 2011.
	4.	Canadian Institute for Health Information. <i>Registered Nurses Data Dictionary and Processing Manual, Version 12.0.</i> Ottawa, Ontario: CIHI; 2011.
	5.	Canadian Institute for Health Information. <i>Licensed Practical</i> <i>Nurses Data Dictionary and Processing Manual, Version 11.0.</i> Ottawa, Ontario: CIHI; 2011.
	6.	Canadian Institute for Health Information. <i>Registered Psychiatric</i> <i>Nurses Data Dictionary and Processing Manual, Version 10.0.</i> Ottawa, Ontario: CIHI; 2011.
	7.	Canadian Institute for Health Information. <i>Supply, Distribution and Migration of Canadian Physicians, 2010</i> . Ottawa, Ontario: CIHI; 2011.
	8.	Glazier RH. Balancing equity issues in health systems: perspectives of primary healthcare. [Review] [29 refs]. <i>Healthcarepapers.</i> 2007;8:Spec-45.
	9.	Health Canada. <i>Healthy Canadians-A Federal Report on</i> <i>Comparable Health Indicators 2010</i> . Ottawa, Ontario: Health Canada; 2011. http://www.hc-sc.gc.ca/hcs-sss/pubs/ system-regime/2010-fed-comp-indicat/index-eng.php. Accessed September 4, 2012.
	10.	Barrett J., Curran V., Glynn L., and Godwin M. <i>CHSRF Synthesis:</i> <i>Interprofessional Collaboration and Quality Primary Healthcare</i> . Ottawa, Ontario: Canadian Health Services Research Foundation; 2007.
	11.	Khan S., McIntosh C., Sanmartin C., Watson D., and Leeb K. <i>Primary Health Care Teams and Their Impact on Processes and</i> <i>Outcomes of Care</i> . Ottawa, Ontario: Statistics Canada; 2008.

PHC Provider Supply (Indicator Set: Policy)	(cont'd)
	 Buske L. Projections of Physician Supply in Canada. Ottawa, Ontario: Canadian Medical Association; 2007.
	 Organisation for Economic Co-operation and Development. Health at a Glance 2011: OECD Indicators. Paris, France: OECD Publishing; 2011.

Appendix 5: Technical Specifications for Priority Indicators Within the Primary Health Care Provider Set

PHC Services Meeting (Indicator Set: Primary	Services Meeting Client's/Patient's Needs ator Set: Primary Health Care Providers)		
Descriptive Definition	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.		
Method of Calculation	Numerator	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.	
		Inclusions	
		 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	
	Denominator	Number of PHC clients/patients age 18 and older.	
		Inclusions	
		PHC client/patientAge of individual is at least 18 years	
		Exclusions	
		 Individual reported that support for health concerns was not needed 	
Data Source	Canadian Practice-Based Primary Health Care Survey Tools: Patient Component ¹		
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 an increased adherence to treatment and provider recommendations, increased likelihood of seeking care in the future and improved psychological well-being. ² 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. ²		
	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. ³ 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. ³		
	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. ⁴		
References	 Canadian Institute for Health Information. Primary Health Care: Pan-Canadian Primary Health Care Survey Questions and Tools. http://www.cihi.ca/CIHI-ext-portal/internet/EN/TabbedContent/ types+of+care/primary+health/cihi006583. Updated 2011. Accessed September 5, 2012. 		
	 Health Canada. Healthy Canadians-A Federal Report on Comparable Health Indicators 2010. Ottawa, Ontario: Health Canada; 2011. http://www.hc-sc.gc.ca/hcs-sss/pubs/ system-regime/index-eng.php. Accessed September 4, 2012. 		
	3. Canadian Institute for Health Information. <i>Experiences With Primary Health Care in Canada</i> . Ottawa, Ontario: CIHI; 2009.		
	4. Nolte J. <i>Enhancing Interdisciplinary Collaboration in Primary</i> <i>Health Care in Canada</i> . Ottawa, Ontario: The Conference Board of Canada; 2005.		

Wait Time for Immedia (Indicator Set: Primary	te Care for a Minor He Health Care Providers	alth Problem)
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	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 ¹	
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.² 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. ³ 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. ² 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. ⁴ 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. ⁴ 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. ⁵		
	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. ^{6, 7} Research indicates that advanced access booking can improve practice capacity and continuity of care in PHC and increase patient satisfaction. ⁷		
References	 Canadian Institute for Health Information. Primary Health Care: Pan-Canadian Primary Health Care Survey Questions and Tools. http://www.cihi.ca/CIHI-ext-portal/internet/EN/TabbedContent/ types+of+care/primary+health/cihi006583. Updated 2011. Accessed September 5, 2012. 		
	2. Health Canada. <i>Healthy Canadians-A Federal Report on Comparable Health Indicators 2010</i> . Ottawa, Ontario: Health Canada; 2011. http://www.hc-sc.gc.ca/hcs-sss/pubs/system-regime/2010-fed-comp-indicat/index-eng.php. Accessed September 4, 2012.		
	 Glazier RH. Balancing equity issues in health systems: perspectives of primary healthcare. [Review] [29 refs]. <i>Healthcarepapers.</i> 2007;8:Spec-45. 		
	4. Canadian Institute for Health Information. <i>Experiences With Primary Health Care in Canada</i> . Ottawa, Ontario: CIHI; 2009.		

Wait Time for Immediate Care for a Minor Health Problem (Indicator Set: Primary Health Care Providers) (cont'd) 5. Sanmartin C, Ross N. Experiencing difficulties accessing firstcontact health services in Canada: Canadians without regular doctors and recent immigrants have difficulties accessing firstcontact healthcare services. Reports of difficulties in accessing care vary by age, sex and region. *Healthcare Policy.* January, 2006;1(2):103-119. 6. Murray M, Berwick DM. Advanced access: reducing waiting and delays in primary care. *JAMA*. February 26, 2003;289(8):1035-1040. 7. The College of Family Physicians of Canada and Canadian Medical Association. *...And Still Waiting: Exploring Primary Care Wait Times in Canada*. The Primary Care Wait Time Partnership; 2008. Discussion Paper.

Child Immunization (Indicator Set: Primar	ry Health Care Prov	riders)
Descriptive Definition	Percentage of patient population, currently age 7, who have received recommended childhood immunizations.	
Method of Calculation	Numerator	Number of individuals in the denominator who have received childhood immunizations in accordance with the recommended schedule.
		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/patientAge of individual is 7 years
		Exclusions
		None
Data Source	Electronic medical	record
Notes	Definitions of Ter	ms
	 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 t	his 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: Primar	y 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	 National Advisory Committee on Immunization. <i>Canadian</i> <i>Immunization Guide (CIG) 2006</i>. Public Health Agency of Canada; 2006. http://www.phac-aspc.gc.ca/publicat/cig-gci/pdf/ cig-gci-2006_e.pdf. Accessed February 14, 2012. 	
	 Gold R. and Martell A. Childhood Immunizations. Canadian Guide to Clinical Preventive Health Care. Ottawa: Health Canada; 1994. http://www.phac-aspc.gc.ca/publicat/clinic-clinique/pdf/s3c33e.pdf. Accessed February 14, 2012. 	

Colon Cancer Screenin (Indicator Set: Primary	ng Health Care Provide	rs)	
Descriptive Definition	Percentage of patient population, age 50 to 74, who had a screening test ordered for colon cancer.		
Method of Calculation	Numerator	Number of individuals in the denominator who had a screening test for colon cancer ordered within an appropriate time frame.	
		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/patientAge of individual is between 50 and 74 years	
		Exclusions	
		None	
Data Source	Electronic medical re	ecord	
Notes	Definitions of Term	IS	
	 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 Screenin (Indicator Set: Primary	ng 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	 Canadian Cancer Society's Steering Committee on Cancer Statistics. <i>Canadian Cancer Statistics 2011</i>. Toronto, ON: Canadian Cancer Society; 2011. www.cancer.ca/statistics. 		
	 Edwards BK, Ward E, Kohler BA, et al. Annual report to the nation on the status of cancer, 1975-2006, featuring colorectal cancer trends and impact of interventions (risk factors, screening, and treatment) to reduce future rates. <i>Cancer.</i> February 1, 2010; 116(3):544-573. PM:19998273. 		
	 Jorgensen OD, Kronborg O, Fenger C. A randomised study of screening for colorectal cancer using faecal occult blood testing: results after 13 years and seven biennial screening rounds. <i>Gut.</i> January, 2002;50(1):29-32. PM:11772963. 		

Colon Cancer Screening (Indicator Set: Primary Health Care Providers) (cont'd)			
References	4.	 Mandel JS, Church TR, Ederer F, Bond JH. Colorectal cancer mortality: effectiveness of biennial screening for fecal occult blood. <i>J Natl Cancer Inst.</i> March 3, 1999;91(5):434-437. PM:10070942. 	
	 Canadian Task Force on Preventive Health Care. Colorectal Cancer Screening.http://www.canadiantaskforce.ca/ recommendations/2001_03_eng.html. Accessed February 8, 2012 National Committee on Colorectal Cancer Screening. <i>Technical</i> <i>Report for the National Committee on Colorectal Cancer Screening</i> 2002. http://www.phac-aspc.gc.ca/publicat/ncccs-cndcc. Accessed February 8, 2012. 		
	7.	Colorectal cancer screening: Recommendation statement from the Canadian Task Force on Preventive Health Care. <i>CMAJ</i> . 2001;165(2):206-208. http://www.cmaj.ca/content/165/2/206.full.	
	8.	Canadian Partnership Against Cancer. <i>Colorectal Cancer</i> <i>Screening</i> . 2010. http://www.cancerview.ca/idc/groups/public/ documents/webcontent/rl_cancer_1crcscreen.pdf.	

Breast Cancer Screening (Indicator Set: Primary Health Care Providers)				
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 Scree (Indicator Set: Primar	ning y Health Care Providers) (cont'd)		
Indicator Rationale	ast cancer is the most common cancer among Canadian women, with estimated 23,400 new cases occurring in 2011, ¹ comprising more 1 30% of all new cancer diagnoses in women age 20 to 69, and 20% romen age 70 and older. One in 9 Canadian women will be diagnosed 1 breast cancer in their lifetime, and 1 in 27 will die of the disease. ²		
	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. ²		
	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). ³ The guidelines recommend routine screening with mammography every two to three years for women age 50 to 74. ^{3, 4}		
	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	 Canadian Cancer Society's Steering Committee on Cancer Statistics. <i>Canadian Cancer Statistics 2011</i>. Toronto, ON: Canadian Cancer Society; 2011. www.cancer.ca/statistics. 		
	 Canadian Cancer Society/National Cancer Institute of Canada. Canadian Cancer Statistics 2007. Toronto, ON: Canadian Cancer Society; 2007. 		
	 Tonelli M, Gorber SC, Joffres M, et al. Recommendations on screening for breast cancer in average-risk women aged 40-74 years. <i>CMAJ</i>. November 22, 2011;183(17):1991-2001. PM:22106103. 		
	4. Canadian Task Force on Preventive Health Care. Screening for Breast Cancer. http://www.canadiantaskforce.ca/recommendations/ 2011_01_eng.html. Accessed February 8, 2012.		

Cervical Cancer Screening (Indicator Set: Primary Health Care Providers)		
Descriptive Definition	Percentage of female patient population, age 18 to 69, who had a Papanicolaou test.	
Method of Calculation	Numerator	Number of individuals in the denominator who had a Papanicolaou test within the past 36 months.
		Inclusions
		 Individual is in the denominator Individual had a Papanicolaou test within the past 36 months
		Exclusions
		None
	Denominator	Number of female primary health care (PHC) clients/patients, age 18 to 69.
		Inclusions
		 PHC client/patient Sex of individual is female Age of individual is between 18 and 69 years
		Exclusions
		 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 ind	icator 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, ¹ 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. ²	
	Research indicates that screening for cervical cancer can result in early detection of pre-cancerous lesions before they progress to invasive cervical cancer. ^{3, 4} Furthermore, studies have found that women with a diagnosis of invasive cervical cancer were less likely to have been	

Cervical Cancer Scre	enin	g	
(Indicator Set: Primar	ъ Не	ealth Care Providers) (cont'd)	
	screened during the five years previous to diagnosis or had not received appropriate follow-up after an abnormal Pap test. ⁴ The findings highlight the importance of screening and follow-up by PHC providers in reducing the incidence and mortality of the disease.		
	Gui 198 Pre scre with guio	delines for cervical cancer screening in Canada were established in 9 and are currently under evaluation by the Canadian Task Force on ventive Health Care. ⁵ Health Canada guidelines recommend eening for women age 18 and older or after becoming sexually active, in a second test after one year. If these screens are satisfactory, delines recommend rescreening every three years until age 69. ⁶	
	PH thei moi	C providers play an important role in screening for cervical cancer in in patients by performing Pap tests according to guidelines and nitoring test results.	
References	1.	Canadian Cancer Society's Steering Committee on Cancer Statistics. <i>Canadian Cancer Statistics 2008</i> . Toronto, ON: Canadian Cancer Society; 2008.	
	2.	Canadian Cancer Society's Steering Committee on Cancer Statistics. <i>Canadian Cancer Statistics 2011</i> . Toronto, ON: Canadian Cancer Society; 2011. www.cancer.ca/statistics.	
	3.	Ng E, Wilkins R, Fung MF, Berthelot JM. Cervical cancer mortality by neighbourhood income in urban Canada from 1971 to 1996. <i>CMAJ.</i> May 11, 2004;170(10):1545-1549. PM:15136547.	
	4.	Spence AR, Goggin P, Franco EL. Process of care failures in invasive cervical cancer: systematic review and meta-analysis. <i>Prev Med.</i> August, 2007;45(2-3):93-106. PM:17651792.	
	5.	Canadian Task Force on Preventive Health Care. Current Task Force recommendations. http://www.canadiantaskforce.ca/ recommendationscurrent_eng.html. Accessed February 8, 2012.	
	6.	Health Canada. It's Your Health. Screening for Cervical Cancer. http://www.hc-sc.gc.ca/hl-vs/iyh-vsv/diseases-maladies/ cervical-uterus-eng.php. Accessed February 8, 2012.	

Smoking Cessation A (Indicator Set: Primar	Ndvice in PHC Ty Health Care Prov	iders)	
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	Numerator	Number of individuals in the denominator who were offered specific help or information to quit smoking within the past 15 months.	
		Inclusions	
		 Individual is in the denominator Individual was offered smoking cessation education within the past 15 months 	
		Exclusions	
		None	
	Denominator	Number of primary health care (PHC) clients/patients, age 12 and older, who are smokers.	
		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/pa provider at leas provider dating Smoker is defin documented on 	atient is an individual who has had contact with the t once in the past year and has a record with the back at least two years. ed as an individual who is a current smoker as the patient's electronic medical record (EMR).	
Interpretation	 This indicator m smoking cessat does not measu example, patier A high rate for t 	neasures only individuals who have an intervention of ion education appearing in their EMR. The indicator are whether the individual received the education (for int refusal). his indicator can be interpreted as a positive result.	

Smoking Cessation A (Indicator Set: Primar	dvice in PHC y 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 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	1. Reid J, Hammond D, and Burkhalter R. <i>Tobacco Use in Canada:</i> <i>Patterns and Trends, 2012 Edition.</i> Waterloo, ON: Propel Centre for Population Health Impact, University of Waterloo; 2012. http://www.tobaccoreport.ca/2012/TobaccoUseinCanada_2012.pdf.		
	 Gaudette LA, Altmayer CA, Wysocki M, Gao RN. Cancer incidence and mortality across Canada. <i>Health Rep.</i> 1998;10(1):51-66. PM:9836886. 		
	 Surgeon General. Reducing the Health Consequences of Smoking: 25 Years of Progress. Washington, DC: US Government Printing Office; 1989. 		
	 Baliunas D, Patra J, Rehm J, Popova S, Kaiserman M, Taylor B. Smoking-attributable mortality and expected years of life lost in Canada 2002: conclusions for prevention and policy. <i>Chronic Dis</i> <i>Can.</i> 2007;27(4):154-162. PM:17623561. 		

Smoking Cessation Advice in PHC (Indicator Set: Primary Health Care Providers) (cont'd)		
	5.	Rehm J, Baliunas D, Brochu S, Fischer B, Gnam W, and Patra J. <i>The Costs of Substance Abuse in Canada, 2002.</i> Ottawa, ON: Canadian Centre on Substance Abuse; 2006. http://www.ccsa.ca/ 2006%20CCSA%20Documents/ccsa-011332-2006.pdf.
	6.	Elford R., MacMillan H. Wathen C., and Canadian Task Force on Preventative Health Care. <i>Counseling for Risky Health Habits: A</i> <i>Conceptual Framework for Primary Care Practitioners.</i> London, ON: Canadian Task Force; 2001.

Influenza Immunizat (Indicator Set: Prima	tion, 65+ ary Health Care Pro	oviders)		
Descriptive Definition	Percentage of pa influenza immun	atient population, age 65 and older, who received an ization.		
Method of Calculation	Numerator	Number of individuals in the denominator who received an influenza immunization within the past 12 months.		
		Inclusions		
		 Individual is in the denominator Individual received an influenza immunization within the past 12 months 		
		Exclusions		
		None		
	Denominator	Number of primary health care (PHC) clients/patients, age 65 and older.		
		Inclusions		
		PHC client/patientAge of individual is at least 65 years		
		Exclusions		
		None		
Data source	Electronic medic	al record		
Notes	Definitions of T	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.			
	Data Quality			
	This indicator immunization unless the inc the electronic	does not include individuals who received an influenza from someone other than their regular PHC provider, lividual informed their PHC provider and it was noted on medical record.		
Interpretation	A high rate fo	r this indicator can be interpreted as a positive result.		

Influenza Immunizatio	on, 65+ v 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 <i>Canada Communicable Disease Report</i> , as well as in the current year's Statement on Seasonal Influenza Vaccine. ¹
References	 An Advisory Committee Statement (ACS) and National Advisory Committee on Immunization (NACI). Statement on Seasonal Influenza Vaccine for 2011-2012. Canada Communicable Disease Report. Ottawa, ON: Public Health Agency of Canada; 2011. http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/11vol37/acs-dcc-5/ index-eng.php.
	 Schanzer DL, Tam TW, Langley JM, Winchester BT. Influenza- attributable deaths, Canada 1990-1999. <i>Epidemiol Infect.</i> October, 2007;135(7):1109-1116. PM:17306052.

Influenza Immunization, 65+ (Indicator Set: Primary Health Care Providers) (cont'd)		
	3.	National Advisory Committee on Immunization. <i>Canadian</i> <i>Immunization Guide (CIG) 2006</i> . Public Health Agency of Canada; 2006. http://www.phac-aspc.gc.ca/publicat/cig-gci/pdf/ cig-gci-2006_e.pdf. Accessed February 14, 2012.
	4.	Govaert TM, Thijs CT, Masurel N, Sprenger MJ, Dinant GJ, Knottnerus JA. The efficacy of influenza vaccination in elderly individuals. A randomized double-blind placebo-controlled trial. <i>JAMA</i> . December 7, 1994;272(21):1661-1665. PM:7966893.
	5.	Praditsuwan R, Assantachai P, Wasi C, Puthavatana P, Kositanont U. The efficacy and effectiveness of influenza vaccination among Thai elderly persons living in the community. <i>J Med Assoc Thai.</i> February, 2005;88(2):256-264. PM:15962680.
	6.	Nichol KL, Nordin JD, Nelson DB, Mullooly JP, Hak E. Effectiveness of influenza vaccine in the community-dwelling elderly. <i>N Engl J Med.</i> October 4, 2007;357(14):1373-1381. PM:17914038.
	7.	Rivetti D, Jefferson T, Thomas R, et al. Vaccines for preventing influenza in the elderly. <i>Cochrane Database Syst Rev.</i> 2006;(3):CD004876. PM:16856068.

Well-Baby Screening		idovo)		
(Indicator Set: Primar	y Health Care Prov	ICICIS)		
Definition	screenings for congenital hip displacement, eye and hearing problems.			
Method of Calculation	Numerator	Number of individuals in the denominator who received screening for congenital hip displacement, eye and hearing problems.		
		Inclusions		
		 Individual is in the denominator Individual received screening for congenital hip displacement Individual received screening for eye problems Individual received screening for hearing problems 		
		Exclusions		
		None		
	Denominator	Number of primary health care (PHC) clients/patients, currently age 3.		
		Inclusions		
		PHC client/patientAge of individual is 3 years		
		Exclusions		
		None		
Data Source	Electronic medical record			
Notes	Definitions of Terms			
	 A PHC client/pa provider at leas provider dating 	atient is an individual who has had contact with the to nce in the past year and has a record with the back at least two years.		
Interpretation	A high rate for t	his indicator can be interpreted as a positive result.		
	Further Analysis			
	This indicator ca activities in order activity separate	an be modified to measure individual screening er to examine screening rates for each ely.		

Well-Baby Screening (Indicator Set: Primar	ry 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	1. Patel H, Feldman M. Universal newborn hearing screening. <i>Paediatr Child Health.</i> May, 2011;16(5):301-310. PM:22547950.		
	2. Vision screening in infants, children and youth. <i>Paediatr Child</i> <i>Health.</i> April, 2009;14(4):246-251. PM:20357924.		
	3. Feldman W. Well-Baby Care in the First 2 Years of Life. <i>Pediatric</i> <i>Preventive Care.</i> 1994;258-266. http://www.phac-aspc.gc.ca/ publicat/clinic-clinique/pdf/s2c24e.pdf.		
	4. Vision screening in infants, children and youth. <i>Paediatr Child Health.</i> April, 2009;14(4):246-251. PM:20357924.		
Well-Baby Screening (Indicator Set: Primary Health Care Providers) (cont'd)			
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	6.	Patel H. Preventive health care, 2001 update: screening and management of developmental dysplasia of the hip in newborns. <i>CMAJ.</i> June 12, 2001;164(12):1669-1677. PM:11450209.	
	7.	Williams R, Clinton J. Getting it right at 18 months: In support of an enhanced well-baby visit. <i>Paediatr Child Health.</i> 2011;16(10): 647-650. http://www.cps.ca/en/documents/position/enhanced-well- baby-visit.	

Blood Pressure Testin (Indicator Set: Primary	g Health Care Provide	ers)
Descriptive Definition	Percentage of patient population, age 18 and older, who have had their blood pressure measured by their primary health care (PHC) provider.	
Method of Calculation	Numerator	Number of individuals in the denominator who had their blood pressure measured by their PHC provider in the past 15 months.
		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/patientAge of individual is at least 18 years
		Exclusions
		None
Data Source	Electronic medical record	
Notes	Definitions of Terms	
	 A PHC client/pa provider at least provider dating l 	tient is an individual who has had contact with the once in the past year and has a record with the back at least two years.
Interpretation	A high rate for the for the for the formation of the	nis indicator can be interpreted as a positive result.
Indicator Rationale	High blood pressure cerebrovascular an cause of disability a in the world, causin	e, or hypertension, is a risk factor for cardiac, d other vascular diseases. ^{1–5} It is also a significant and is considered to be the major risk factor for death g an estimated 7.5 million deaths per year. ⁶
	The Canadian Hear and 1992, included Canada and estima Canadians was 229 made in Canada to the public's awaren	rt Health Surveys, which took place between 1985 direct measurements of blood pressure across ited that the prevalence of hypertension among %. ⁷ Since that time, significant efforts have been improve prevention and control and to increase ess of the disease. ⁸ While evidence shows

Blood Pressure Testing (Indicator Set: Primary	g Hea	alth Care Providers) (cont'd)		
	imp star still	rovements in the diagnosis and treatment of hypertension since the t of the Canadian Hypertension Education Program, ^{9–11} there are many gains to be made in lessening the burden of the disease. ¹²		
	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.			
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	3.	Lawes CM, Vander HS, Rodgers A. Global burden of blood-pressure-related disease, 2001. <i>Lancet.</i> May 3, 2008;371(9623):1513-1518. PM:18456100.		
	4.	Lee DS, Massaro JM, Wang TJ, et al. Antecedent blood pressure, body mass index, and the risk of incident heart failure in later life. <i>Hypertension.</i> November, 2007;50(5):869-876. PM:17893376.		
	5.	Lloyd-Jones DM, Larson MG, Leip EP, et al. Lifetime risk for developing congestive heart failure: the Framingham Heart Study. <i>Circulation.</i> December 10, 2002;106(24):3068-3072. PM:12473553.		
	6.	World Health Organization. <i>Global Health Risks: Mortality and Burden of Disease Attributable to Selected Major Risks</i> . Geneva: World Health Organization Press; 2009. http://www.who.int/ healthinfo/global_burden_disease/GlobalHealthRisks_report_ full.pdf.		
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	9.	Campbell NR, McAlister FA, Brant R, et al. Temporal trends in antihypertensive drug prescriptions in Canada before and after introduction of the Canadian Hypertension Education Program. <i>J Hypertens.</i> August, 2003;21(8):1591-1597. PM:12872055.		

Blood Pressure Testing (Indicator Set: Primary	Health Care Providers) (cont'd)	
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	 Onysko J, Maxwell C, Eliasziw M, Zhang JX, Johansen H, Campbell NR. Large increases in hypertension diagnosis and treatment in Canada after a healthcare professional education program. <i>Hypertension</i>. November, 2006;48(5):853-860. PM:16982958. 	
	 Wilkins K., Campbell N. R., Joffres M. R., et al. <i>Blood Pressure in Canadian Adults</i>. Ottawa, ON: Statistics Canada; March, 2010. http://www.statcan.gc.ca/healthreports. Accessed July 26, 2012. 82-003-XPE. 	

Screening for Modifiab (Indicator Set: Primary	le Risk Factors in Adu Health Care Provide	ults With Coronary Artery Disease rs)	
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 p Blood pressure m Obesity/overweig 	rofile screening; easurement; and ht screening.	
Method of Calculation	Numerator	 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.	
		 Individual is in the denominator Individual had a lipid profile screening performed 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 Exclusions 	
		None	
	Denominator	Number of PHC clients/patients, age 18 and older, with CAD.	
		Inclusions	
		 PHC client/patient Age of individual is at least 18 years Individual has a diagnosis of CAD 	
		Exclusions	
		None	
Data Source	Electronic medical re	ecord	

Screening for Modifiab (Indicator Set: Primary	Ple Risk Factors in Adults With Coronary Artery Disease Prealth Care Providers) (cont'd)
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. 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 Modifiab (Indicator Set: Primary	le Risk Factors in Adults With Coronary Artery Disease 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 substance called plaque, made up of fatty deposits such as cholestere 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. ⁵ 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. ^{5, 6} 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. ⁷		
	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. ^{8, 9} Other risk factors include consuming less than recommended guidelines for fruit and vegetable consumption, physical inactivity and stress. ^{6, 7}		
	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.		
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	 American Association for Clinical Chemistry. Lipid Profile. http://labtestsonline.org/understanding/analytes/lipid/tab/glance. Updated January 4, 2009. Accessed July, 2012. 		
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Screening for Modifiable F (Indicator Set: Primary He	Risk Factors in Adults With Coronary Artery Disease alth Care Providers) (cont'd)
4.	Dagenais GR, Yi Q, Mann JF, Bosch J, Pogue J, Yusuf S. Prognostic impact of body weight and abdominal obesity in women and men with cardiovascular disease. <i>Am Heart J</i> . January, 2005; 149(1):54-60. PM:15660034.
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6.	Public Health Agency of Canada. <i>Tracking Heart Disease & Stroke in Canada—2009</i> . 2009. http://www.phac-aspc.gc.ca/publicat/2009/cvd-avc/pdf/cvd-avs-2009-eng.pdf.
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Screening in Adults (Indicator Set: Prima	With Diabetes ary Health Care Pro	oviders)
Descriptive Definition	 Percentage of patients Who received testing Hemoglobin A1 Full fasting lipid Nephropathy some microalbuminur Foot examination Blood pressure Obesity/overweight 	ent population, age 18 and older, with diabetes mellitus ng for all of the following: c (HbA1c); profile screening; creening (for example, albumin/creatinine ratio, ia); on; measurement; and ight screening.
Method of Calculation	Numerator	 Number of individuals in the denominator who received testing for all of the following: At least two HbA1c tests within the past 12 months; Full fasting lipid profile screening within the past 36 months; Nephropathy screening (for example, albumin/ creatinine ratio, microalbuminuria) within the past 12 months; Foot examination within the past 12 months; Blood pressure measurement within the past 12 months; and Obesity/overweight screening within the past 12 months.
		 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	widers) (cont'd)
		Exclusions
		None
	Denominator	Number of PHC clients/patients, age 18 and older, with diabetes mellitus
		Inclusions
		 PHC client/patient Age of individual is at least 18 years Individual has a diagnosis of diabetes mellitus
		Exclusions
		None
Data source	Electronic medical record	
Notes	Definitions of Terms	
	 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.¹ 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.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.² 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 	

Screening in Adul (Indicator Set: Pri	ts With Diabetes mary Health Care Providers) (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 each of the tests separately to analyze rates for each individual test.
Indicator Rationale	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.
	It is estimated that 2.4 million Canadians (6.8%) live with diabetes. ⁴ 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. ⁴
	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. ⁵
	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. ^{5, 6}

Screening in Adults (Indicator Set: Prima	With ary F	n Diabetes Iealth Care Providers) (cont'd)
References	1.	American Association for Clinical Chemistry. Lipid Profile. http://labtestsonline.org/understanding/analytes/lipid/tab/glance. Updated January 4, 2009. Accessed July, 2012.
	2.	Hux J. E., Booth G.L., Slaughter P. M., and Laupacis A. <i>Diabetes in Ontario: An ICES Practice Atlas.</i> Institute for Clinical Evaluative Sciences; 2003. http://www.ices.on.ca/file/DM_Intro.pdf . Accessed July, 2012.
	3.	Dagenais GR, Yi Q, Mann JF, Bosch J, Pogue J, Yusuf S. Prognostic impact of body weight and abdominal obesity in women and men with cardiovascular disease. <i>Am Heart J.</i> January, 2005;149(1):54-60. PM:15660034.
	4.	Public Health Agency of Canada. <i>Diabetes in Canada: Facts</i> <i>and Figures From a Public Health Perspective</i> . 2011. http://www.phac-aspc.gc.ca/cd-mc/publications/diabetes-diabete/ facts-figures-faits-chiffres-2011/pdf/facts-figures-faits-chiffres-eng.pdf.
	5.	Canadian Diabetes Association. Canadian Diabetes Association 2008 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada. <i>Canadian Journal of Diabetes</i> . 2008;32(Supplement 1) http://www.diabetes.ca/files/cpg2008/ cpg-2008.pdf.
	6.	Guidelines and Protocols Advisory Committee. <i>Diabetes Care</i> . Medical Services Commission, British Columbia Ministry of Health; September 1, 2010. http://www.bcguidelines.ca/pdf/diabetes.pdf.

Screening for Modifiab (Indicator Set: Primary	le Risk Factors in A Health Care Provid	dults With Hypertension ers)	
Descriptive Definition	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. 		
Method of Calculation	Numerator	 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	
	Denominator	Number of PHC clients/patients, age 18 and older with hypertension	
		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	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, 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.¹ 		
	 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.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.² 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.³ 		
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. ^{4–8} 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. ⁹		
	A recent study, based on results from the 2007–2009 Canadian Health Measures Survey, estimated that 19% of Canadian adults suffer from hypertension. ¹⁰ 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. ¹⁰		

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. ¹¹ 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. ¹²	
	Con add PHC thes carc	nprehensive screening and management of other risk factors in ition to hypertension can reduce cardiovascular disease risk by half. C providers play a vital role in the evaluation and management of se additional risk factors in Canadians with hypertension at risk for liovascular disease.
References	1. American Association for Clinical Chemistry. Lipid Profi http://labtestsonline.org/understanding/analytes/lipid/tab Updated January 4, 2009. Accessed July, 2012.	
	2.	Hux J. E., Booth G.L., Slaughter P. M., and Laupacis A. <i>Diabetes in Ontario: An ICES Practice Atlas</i> . Institute for Clinical Evaluative Sciences; 2003. http://www.ices.on.ca/file/DM_Intro.pdf. Accessed July, 2012.
	3.	Dagenais GR, Yi Q, Mann JF, Bosch J, Pogue J, Yusuf S. Prognostic impact of body weight and abdominal obesity in women and men with cardiovascular disease. <i>Am Heart J.</i> January, 2005; 149(1):54-60. PM:15660034.
	4.	Haider AW, Larson MG, Franklin SS, Levy D. Systolic blood pressure, diastolic blood pressure, and pulse pressure as predictors of risk for congestive heart failure in the Framingham Heart Study. <i>Ann Intern Med.</i> January 7, 2003;138(1):10-16. PM:12513039.
	5.	Kannel WB, D'Agostino RB, Silbershatz H, Belanger AJ, Wilson PW, Levy D. Profile for estimating risk of heart failure. <i>Arch Intern Med.</i> June 14, 1999;159(11):1197-1204. PM:10371227.
	6.	Lawes CM, Vander HS, Rodgers A. Global burden of blood-pressure-related disease, 2001. <i>Lancet</i> . May 3, 2008; 371(9623):1513-1518. PM:18456100.

Screening for Modifiable (Indicator Set: Primary H	e R Hea	isk Factors in Adults With Hypertension alth Care Providers) (cont'd)
	7.	Lee DS, Massaro JM, Wang TJ, et al. Antecedent blood pressure, body mass index, and the risk of incident heart failure in later life. <i>Hypertension.</i> November, 2007;50(5):869-876. PM:17893376.
8	8.	Lloyd-Jones DM, Larson MG, Leip EP, et al. Lifetime risk for developing congestive heart failure: the Framingham Heart Study. <i>Circulation.</i> December 10, 2002;106(24):3068-3072. PM:12473553.
S	9.	World Health Organization. <i>Global Health Risks: Mortality</i> <i>and Burden of Disease Attributable to Selected Major Risks</i> . Geneva: World Health Organization Press; 2009. http://www.who.int/healthinfo/global_burden_disease/ GlobalHealthRisks_report_full.pdf.
	10.	Wilkins K., Campbell N. R., Joffres M. R., et al. <i>Blood Pressure in Canadian Adults</i> . Ottawa, ON: Statistics Canada; March, 2010. http://www.statcan.gc.ca/healthreports. Accessed July 26, 2012. (82-003-XPE).
	11.	Khan N, Chockalingam A, Campbell NR. Lack of control of high blood pressure and treatment recommendations in Canada. <i>Canadian Journal of Cardiology.</i> June, 2002;18(6):657-661.
	12.	2012 Canadian Recommendations for the Management of Hypertension. Canadian Hypertension Education Program; 2012. http://www.hypertension.ca/images/2012_CHEPFull Recommendations_EN_HCP1009.pdf. Accessed July 16, 2012.

Treatment of Dyslipide (Indicator Set: Primary	mia Health Care Provide	ers)
Descriptive Definition	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.	
Method of Calculation	Numerator	Number of individuals in the denominator who were offered lifestyle advice and lipid-lowering medication within the past 12 months.
		Inclusions
		 Individual is in the denominator Individual was offered lifestyle advice within the past 12 months Individuals who have one or both of the following: Individual was prescribed lipid-lowering medication within the past 12 months Individual has a documented contraindication to lipid-lowering medication
		Exclusions
		None
	Denominator	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).
		Inclusions
		 PHC client/patient Age of individual is at least 18 years Individual has a diagnosis of coronary artery disease Individual has an LDL-C value greater than 2.0 mmol/L
		Exclusions
		None
Data Source	Electronic medical record	

Treatment of Dyslipidemia (Indicator Set: Primary Health Care Providers) (cont'd)			
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. 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.¹ 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 vessel 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.² Lipid-lowering medication includes the following classes of drugs: statins, bile acid and/or cholesterol absorption inhibitors, fibrates and niacin.³ 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.³ 		
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. ⁴ 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. ⁵ The most important risk factor in the development of CAD is elevated cholesterol, specifically LDL-C. ⁶		
	Canadian guidelines focus on total cardiovascular disease risk, using the Framingham Risk Assessment Score. ⁶ 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. ³		

Treatment of Dyslipide (Indicator Set: Primary	mia 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. ³ 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. ³		
	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.		
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Treatment of Acute Myocardial Infarction (Indicator Set: Primary Health Care Providers)				
Descriptive Definition	Percentage of patient population who have had an acute myocardial infarction (AMI) and are currently prescribed a beta-blocking drug.			
Method of Calculation	Numerator	Number of individuals in the denominator who are currently prescribed a beta-blocking drug.		
		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. ¹ 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. ²			

Treatment of Acute My (Indicator Set: Primary	vocardial Infarction Health Care Providers) (cont'd)
	Patients who have suffered a heart attack and those with established cardiovascular disease are at very high risk of experiencing recurrent cardiovascular events. 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. ^{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. ^{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.
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Treatment of Anxiety (Indicator Set: Primary Health Care Providers)				
Descriptive Definition	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.			
Method of Calculation	Numerator	Number of individuals in the denominator who were offered treatment or referral to a mental health provider within the past 12 months.		
		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: Primar	y 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. ¹⁻⁴ Evidence suggests that between 10% and 29% of Canadians will experience an anxiety disorder during their lifetime. ⁵		
	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. ^{4, 5} 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. ⁵ 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.		
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PHC Support for Self-I (Indicator Set: Primary	Management of Chro Health Care Provide	onic Conditions ers)	
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 ¹		

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

PHC Support for Self-Management of Chronic Conditions (Indicator Set: Primary Health Care Providers) (cont'd) care costs.⁸ For example, self-management education in chronic obstructive pulmonary disease has been shown to result in decreased hospital admission rates.9 Self-help groups are an increasingly important resource in selfmanagement of chronic conditions.¹⁰ 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.^{11, 12} 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.¹³ References 1. Canadian Institute for Health Information. Primary Health Care: Pan-Canadian Primary Health Care Survey Questions and Tools. http://www.cihi.ca/CIHI-ext-portal/internet/EN/TabbedContent/ types+of+care/primary+health/cihi006583. Updated 2011. Accessed September 5, 2012. Health Canada. Supporting Self-Care: the Contribution of Nurses 2. and Physicians—An Exploratory Study. Ottawa, Ontario: Health Canada; 1997. 3. Institute of Medicine of the National Academies. The 1st Annual Crossing the Quality Chasm Summit: A Focus on Communities. Washington, D.C.: The National Academies Press; 2004 4. Broemeling AM, Watson DE, Prebtani F. Population patterns of chronic health conditions, co-morbidity and healthcare use in Canada: implications for policy and practice. Healthc Q. 2008;11(3):70-76. PM:18536538. 5. World Health Organization. Facing the Facts: The Impact of Chronic Disease in Canada In: Preventing Chronic Diseases: a Vital Investment. Geneva, Switzerland: WHO Press; 2005. www.who.int/chp/chronic disease report/media/CANADA.pdf. Accessed September 6, 2012. 6. Canadian Institute for Health Information. Seniors and the Health Care System: What Is the Impact of Multiple Chronic Conditions? Ottawa, Ontario: CIHI; 2011.

PHC Support for Self-Management of Chronic Conditions (Indicator Set: Primary Health Care Providers) (cont'd)		
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1	3. World Health Organization. <i>Innovative Care for Chronic Conditions:</i> <i>Building Blocks for Action</i> . Geneva, Switzerland: World Health Organization; 2002.	

PHC Team Effectivene (Indicator Set: Primary	ess Score / Health Care Providers	;)
Descriptive Definition	 Average team effectiv Vision; Participative safety Task orientation; and Support for innovation 	eness score based on ; nd tion.
Method of Calculation	Support for innovation	 tion. 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 respondent's satisfaction with his or her participation in administrative decision-making within the practice
		 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 the whether the practice is always seeking to improve through the development of new ways of doing or organizing things

PHC Team Effectivene (Indicator Set: Primary	ess Score 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 providerRespondents within same team
		Exclusions
		None
Data Source	Canadian Practice-Based Primary Health Care Survey Tools: Provider Component ¹	
Notes	Team Effectiveness Score	
	 scale, as follows: Not at all satisfie Not very satisfie Neutral or under Somewhat satis Very satisfied or 	ed or strongly disagree = 1 d or somewhat disagree = 2 cided = 3 fied or somewhat agree = 4 strongly agree = 5
	 The 11th and final question on team effectiveness (the converted on whether it is hard to make changes in the practice be providers are so busy seeing patients) is scored on a 5-pas 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 Effectivene (Indicator Set: Primary	ess Score Health Care Providers) (cont'd)
Interpretation	 A high average score for this indicator is interpreted as a positive result.
Indicator Rationale	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. ²
	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. ³ PHC teams have also been shown to increase provider satisfaction and reduce wait times. ⁴ Compared with non-team-based PHC settings, PHC teams offer a wider range of services and use resources more effectively. ⁴
	A 2007 study on interprofessional collaboration in PHC found that a range of tools exists to evaluate the effectiveness of PHC teams. ⁴ 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. ⁴
	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. ⁴ Organizations with higher perceived team effectiveness can have better outcomes for patients with chronic illnesses. ⁵
	One measure of team effectiveness is assessing team climate through the team climate inventory. ⁶ Team climate can be defined as a shared perception of the state of an organization (that is, its policies, practices and procedures). ⁷ Organizations with poor team climate can have a higher rate of employees intending to leave the organization and higher turnover rates. ⁸ Methods to assess team climate include using survey questions to measure four climate factors: vision, participative safety, task orientation and support for innovation. ⁷ This indicator derives a composite score from team effectiveness traits identified in the literature and survey instruments that incorporate the team climate inventory. ^{7, 9}

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 ¹ 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 k to an increased understanding of this emerging practice in PHC.		
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Descriptive	Percentage of pa	Health Care Providers) Percentage of patient population, age 18 and older, with hypertension		
Definition	for a duration of a measurement co	for a duration of at least 12 months, who have blood pressure measurement control.		
Method of Calculation	Numerator	Number of individuals in the denominator who have had blood pressure measurement control within the past 12 months.		
		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 140/90 If patient does have a diagnosis of diabetes mellitus: The latest blood pressure reading is less than 140/90 		
		Exclusions		
		None		
	Denominator	Number of PHC clients/patients, age 18 and older, with hypertension for duration of at least 12 months.		
		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 medic	Electronic medical record		

Blood Pressure Contro (Indicator Set: Primary	lood Pressure Control for Hypertension ndicator Set: Primary Health Care Providers) (cont'd)		
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. 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)			
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Unnecessary Duplication of Medical Tests Reported by PHC Providers (Indicator Set: Primary Health Care Providers)			
Descriptive Definition	Percentage of primary health care (PHC) providers who repeated medical tests because findings were unavailable over the past month.		
Method of Calculation	Numerator	Number of individuals in the denominator who repeated medical tests over the past month because findings were unavailable.	
		Inclusions	
		 Individual is in the denominator Individual reported repeating tests or procedures over the past month because findings were unavailable 	
		Exclusions	
		None	
	Denominator	Number of PHC provider respondents.	
		Inclusions	
		PHC provider	
		Exclusions	
		None	
Data Source	Canadian Practice-Based Primary Health Care Survey Tools: Provider Component ¹		
Notes	Not applicable		
Interpretation	• A low rate for this indicator is interpreted as a positive result.		
Indicator Rationale	naleThe inappropriate duplication of medical tests is disruptive to tand 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. ³ 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. ⁴ Among these, 161,000 persons (3.8%) reported one or more hospitalizations over a four-year period. ⁴ 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.5 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.⁶ References Canadian Institute for Health Information. Primary Health Care: 1. Pan-Canadian Primary Health Care Survey Questions and Tools. http://www.cihi.ca/CIHI-ext-portal/internet/EN/TabbedContent/ types+of+care/primary+health/cihi006583. Updated 2011. Accessed September 5, 2012. 2. Fyke K. J. Caring for Medicare: Sustaining a Quality System. Regina, Saskatchewan: Saskatchewan Health; 2001. www.health.gov.sk.ca/mc dp commission on medicare-bw.pdf. 3. Health Canada. Healthy Canadians-A Federal Report on Comparable Health Indicators 2010. Ottawa, Ontario: Health Canada; 2011. http://www.hc-sc.gc.ca/hcs-sss/pubs/ system-regime/index-eng.php. Accessed September 4, 2012. 4. Sanmartin C., Khanand S., and the LHAD research team. Hospitalizations for Ambulatory Care Sensitive Conditions (ACSC): The Factors That Matter. Statistics Canada: 2011. http://www.statcan.gc.ca/pub/82-622-x/82-622-x2011007-eng.pdf. Accessed February 22, 2012. 82-622-X - No. 007. 5. Health Council of Canada. Canadian Survey of Experiences With Primary Health Care in 2007: A Data Supplement to: Fixing the Foundation: An Update on Primary Health Care and Home Care Renewal in Canada. Toronto, Ontario: Health Council; 2008. Reid R., Haggerty J., and McKendry R. *Defusing the Confusion:* 6. Concepts and Measures of Continuity of Healthcare. Ottawa, Ontario: Canadian Health Services Research Foundation; 2002.
Maintaining Medica (Indicator Set: Prima	tion and Problem Lists ary Health Care Provid	ders)	
Descriptive Definition	Percentage of pr place to ensure t in the PHC client	Percentage of primary health care (PHC) organizations with a policy i place to ensure that a current medication and problem list is recorded in the PHC client's/patient's health record.	
Method of Calculation	Numerator	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.	
		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	
	Denominator	Number of PHC organization respondents.	
		Inclusions	
		PHC organization	
		Exclusions	
		None	
Data Source	Canadian Practic Organization Cor	Canadian Practice-Based Primary Health Care Survey Tools: Organization Component ¹	
Notes	Definitions of T	erms	
	 PHC organiza physician, ger human, fiscal with other hea broad general A policy can ir (such as docu 	itions include entities with at least one family neral practitioner or nurse practitioner who shares and material (for example, office space) resources alth care professionals to provide PHC services to a population. Include a written policy or policy-related materials imented processes).	
Interpretation	A high rate for	r this indicator can be interpreted as a positive result.	

Maintaining Medication (Indicator Set: Primary H	and Problem Lists in PHC 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.	
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Overweight and Ober (Indicator Set: Primar	sity Rate y Health Care P <u>rov</u>	iders)
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/patientAge 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 Obes (Indicator Set: Primar	sity Rate y 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.		
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Overweight and Obesity Rate (Indicator Set: Primary Health Care Providers) (cont'd)			
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Uptake of Information (Indicator Set: Primary	and Communication Health Care Provide	Technology in PHC Organizations ers)
Descriptive Definition	Percentage of primary health care (PHC) organizations that have access to electronic systems to complete their professional tasks.	
Method of Calculation	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
Data Source	Consider Drestice	INUTE
Data Source Canadian Practice-Based Primary Health Care Survey Tool Organization Component ¹		onent ¹

Uptake of Information a (Indicator Set: Primary	and Communication Technology in PHC Organizations Health Care Providers) (cont'd)		
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. 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; 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 a (Indicator Set: Primary	and Communication Technology in PHC Organizations Health Care Providers) (cont'd)
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PHC Provider Full-Tim (Indicator Set: Primary	e Equivalents Health Care Providers)	
Descriptive Definition	Primary health care (PHC) provider full-time equivalents (FTEs) per 1,000 patients, by type of PHC provider.	
Method of Calculation	Numerator	Number of reported PHC provider FTEs.
		Inclusions
		 PHC provider (specific to provider types listed in the Notes) FTEs reported by organization respondent
		Exclusions
		None
	Denominator	Number of PHC clients/patients divided by 1,000.
		Inclusions
		PHC client/patient
		Exclusions
		None
Data Source	Canadian Practice-Bas Organization Compone	ed Primary Health Care Survey Tools: nt ¹
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 Speech–language pathologist Social worker Occupational therapist Chiropractor 	

PHC Provider Full-Tim (Indicator Set: Primary	e Equivalents 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
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