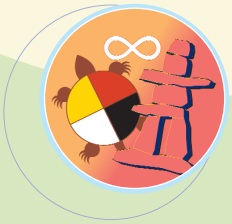

Pan-Canadian Primary Health Care Indicators

Report 1, Volume 2

Pan-Canadian Primary Health Care Indicator Development Project

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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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Forward

The following is the second volume that accompanies *Pan-Canadian Primary Health Care Indicators, Report 1, Volume 1*. It is also a companion report to *Enhancing The Primary Health Care Data Collection Infrastructure In Canada, Report 2*.

Volume 1 of *Pan-Canadian Primary Health Care Indicators* presents the context and background for the 105 agreed upon pan-Canadian PHC indicators. The PHC indicators were developed as part of the National Evaluation Strategy (NES) process funded by Health Canada for the Primary Health Care Transition Fund. Volume 2 includes detailed indicator specifications for all of the agreed-upon PHC indicators.

Executive Summary

Primary health care (PHC) has been called the foundation of Canada's health system and is the most common type of health care that Canadians experience.[1] The Primary Health Care Transition Fund (PHCTF) was established in September 2000 as a shared commitment between federal and provincial/territorial governments to work together on improving PHC across the country, and to explore new ways of delivering PHC.

Currently, we know little about how the structure of our PHC system is evolving or about the way services are delivered and the results of these services. Measuring PHC renewal in Canada requires harnessing and enhancing data sources at the local, regional, provincial/ territorial and pan-Canadian levels. PHC indicators and the data required to report these indicators can contribute to the measurement and management of PHC in Canada.

The PHCTF National Evaluation Strategy (NES)—The Context of the PHC Indicator Development Project

The PHC indicators, described in this report, were developed to correspond to a series of agreed-upon NES Objectives, Supports and Evaluation Questions. This guiding framework was developed in April 2005 through a collaborative process of literature review, expert advice and stakeholder participation.[2]

Building on this process, the CIHI led pan-Canadian Primary Health Care Indicator Development Project, funded through Health Canada's PHCTF, aimed to:

- Develop a set of agreed-upon PHC indicators with which to compare and measure PHC at multiple levels within jurisdictions across Canada.
- Provide advice on a future data collection infrastructure that could supply the data to report these indicators across Canada.

This two-volume report is one of two reports produced by the Canadian Institute for Health Information (CIHI) for this project. This report reflects the outcome of a collaborative process to develop a list of agreed-upon PHC indicators. A companion report outlining options for enhancing the pan-Canadian data collection infrastructure (*Enhancing the Primary Health Care Data Collection Infrastructure in Canada*) is also available.

A Process for Establishing a List of PHC Indicators

In early 2005, CIHI launched an extensive process to develop an agreed-upon list of pan-Canadian PHC indicators, relevant to the previously agreed upon evaluation questions. A variety of strategies were used to generate input and build agreement, including:

- **Environmental Scan**—National and international documents on PHC frameworks and indicators were reviewed in order to develop a preliminary list of indicators.
- **Two Consensus Conferences**—Over 80 policy makers, providers, researchers and system managers participated in consensus conferences to review potential indicators.
- **Working Groups**—More than 60 policy makers, providers, researchers and system managers participated in refining the indicators and developing technical specifications.
- **Pan-Canadian/International Consultations**—Throughout the process, we collected additional input through consultations with provincial/territorial and regional stakeholders, professional health associations, and international researchers.
- **Delphi Process**—Over 70 individuals participated in each of the three rounds of a modified Delphi process to rate the indicators for importance.

Measuring PHC: What Is Important and How Do We Measure It?

Through a consensus building process, 105 PHC indicators were identified and agreed upon by a broad audience of stakeholders. The development of the 105 agreed-upon PHC indicators was informed by:

- the NES Objectives, Support, and Evaluation Questions;
- advice and support of Canadian PHC policy makers, providers, researchers and system managers;
- current literature and evidence;
- Canadian and international PHC evaluation and indicator initiatives; and
- Delphi process that confirmed a high level of support for the indicators from a broad range of stakeholders.

These indicators can be grouped into eight categories:

- access to PHC through a regular provider;
- comprehensive care, preventive health and chronic condition management;
- continuity through integration and coordination;
- 24/7 access to PHC;

- patient-centred PHC;
- enhancing population orientation;
- quality in PHC—primary prevention, secondary prevention for chronic conditions, patient safety, treatment goals and outcomes; and
- PHC inputs and supports—health human resources, interdisciplinary teams, information technology, provider payment method.

The development of the indicators was not limited to those for which data are currently available. Also, the definition of PHC varies at some policy levels. The indicators are intended to be useful across a range of PHC definitions and evaluation frameworks, but it is recognized that, in some circumstances, additional indicators may be required to report on current or future priorities. It is anticipated that the list of 105 indicators will be used to create subsets of indicators to serve different perspectives and purposes. An example of an abridged list of 30 PHC indicators is attached to this executive summary.

The 105 indicators cover a broad range of important elements of PHC that are relevant to stakeholders across the country. Reporting these indicators will help fill information gaps for PHC in Canada.

These indicators can also be used to inform the enhancement of the pan-Canadian PHC data infrastructure. Over time, enhancements to a pan-Canadian data collection infrastructure will help provide reliable and comparable information required for reporting a broader range of these indicators than is possible using existing data sources. The companion report, *Enhancing the Primary Health Care Data Collection Infrastructure in Canada*, provides an overview of the current availability of data to report the list of agreed-upon indicators, and options for enhancing the pan-Canadian data collection infrastructure.

SAMPLE ABRIDGED LIST OF PHC INDICATORS		
ACCESS TO PHC THROUGH A REGULAR PROVIDER	**COMPREHENSIVE CARE, PREVENTIVE HEALTH AND CHRONIC CONDITION MANAGEMENT**	**CONTINUITY THROUGH INTEGRATION AND COORDINATION**
• Population with a regular PHC provider • Difficulties accessing routine PHC*	• Scope of PHC services • Health risk screening in PHC* • PHC client/patient registries for chronic conditions* • PHC programs for chronic conditions* • Client/patient participation in PHC treatment planning	• Collaborative care with other health care organizations
24/7 ACCESS TO PHC	**PATIENT-CENTRED PHC**	**ENHANCING POPULATION ORIENTATION**
• Difficulties obtaining urgent, non-emergent PHC on evenings and weekends • PHC after hours coverage • Difficulties accessing routine PHC*	• Client/patient satisfaction with PHC providers • Language barriers when communicating with PHC providers	• PHC client/patient registries for chronic conditions* • PHC programs for chronic conditions* • Specialized PHC programs for vulnerable/special needs populations
QUALITY IN PHC		
Primary Prevention • Influenza immunization, 65+ • Cervical cancer screening • Health risk screening in PHC* **Secondary Prevention for Chronic Conditions** • Screening for modifiable risk factors in adults with coronary artery disease • Screening for modifiable risk factors in adults with hypertension • Screening for modifiable risk factors in adults with diabetes	**Patient Safety** • Use of medication alerts in PHC • Antidepressant medication monitoring **Treatment Goals and Outcomes** • Glycemic control for diabetes • Blood pressure control for hypertension • Treatment of dyslipidemia • Treatment of depression • Ambulatory care sensitive conditions	
PHC INPUTS AND SUPPORTS		
Health Human Resources • PHC organizations accepting new clients/patients **Interdisciplinary Teams** • PHC FPs/GPs/NPs working in interdisciplinary teams/networks **Provider Payment Methods** • PHC provider remuneration method	**Information Technology** • Uptake of information and communication technology in PHC organizations **Allocations for PHC** • Average per capita PHC operational expenditures	

EQUITY

* Indicator repeated because it reflects multiple dimensions.

1.0 Indicator Development Process and Template

Work groups comprised of policy makers, researchers, providers and system managers were established to develop detailed specifications for each potential indicator that were later reviewed through three rounds of a modified Delphi process. The work groups were assigned a list of NES Objectives, Supports and Evaluation Questions that were clustered within four themes:

A—Accessibility, Responsiveness and Needs-Based Allocation;
B—Integration, Coordination and Health Human Resources;
C—Quality of Services; and
D—Scope of Services and Whole Person Care.

Developing Detailed Indicator Specifications

Health indicators are standardized measures that can be used to measure any number of dimensions, such as health status, non-medical determinants of health, health system performance as well as a variety determinants of health and health system or community characteristics, across different populations, between jurisdictions, or over time.[3] Primarily, health indicators are a tool to help provinces/territories, regions and organizations monitor and track progress in the improvement and maintenance of a population's health and health system.[3] Indicators can be used to measure performance or progress, for strategic planning and priority setting, supporting quality improvement, and for conveying important health information to the public, for example.[3]

This report includes detailed specifications for each of the 105 agreed-upon PHC indicators that were developed through the CIHI led Pan-Canadian Primary Health Care Indicator Development Project. The purpose of these specifications is to describe the measures precisely and with sufficient detail that knowledgeable persons across a wide variety of settings would be able to understand and apply them in a consistent manner.[4] The detailed indicator specifications provide information on the key components of each indicator, including:

- A clearly operational definition of the indicator;
- Explicit definitions of the key terms included in the definition;
- Any inclusion or exclusion criteria (Does the indicator pertain to a specific age group, for example?); and
- The underlying rationale for each indicator, stating why the indicator is important, what it means and how it should be interpreted, including the evidence or a specific policy direction on which the indicator is based.

These detailed indicator specifications identify the type of data required for each indicator, and serve as a blueprint for the data requirements and computation of the indicators as well as a guide to their interpretation.

Additional Dimensions of Development, Analysis and Interpretation

Many of the indicators described in this report will benefit from additional analysis or methodological improvements. For example, standardizing indicators by age and/or sex, where appropriate, or introducing risk adjustment methodologies can enhance the comparability of the indicators across jurisdictions, populations, or over time. The most suitable method for standardization will be identified as detailed technical specifications are developed.

Further analysis of the indicators can also help identify disparities that may exist between various socioeconomic groups, age groups, rural versus urban populations or other dimensions[3]. Equity can be viewed as a cross-cutting theme, therefore additional analyses of this nature can be applied to many of the indicators described here as long as the available data allow. While indicators alone cannot explain disparities, this type of analysis can serve to identify variations in the availability of services offered, the type of care received, as well as health outcomes, among other factors.

This set of indicators will evolve over time. New indicators may be added as new needs arise, and existing indicators may be modified as new evidence and policy directions emerge. Rapid advances are being made in our knowledge of clinical conditions, which are reflected in advances in the scientific literature and changes in professional opinion. Ensuring that the indicators are in keeping with current evidence, clinical guidelines and policy will require an on-going process.[5]

Understanding the Format for the Indicator Specification Template

The indicator specification describes a number of attributes in a measure's summary. The table below provides descriptions of each attribute.

Label: Identifies the title of the measure.

INDICATOR NUMBER	Sequential number assigned to each indicator.
INDICATOR DEFINITION	Description of indicator: Provides a concise statement of the specific aspects of health care, the PHC client/patient population, providers, setting(s) of care, and time period that the measure addresses.
DEFINITION OF RELEVANT TERMS	Objective, standardized and comprehensible definition of key words or phrases included in the indicator definition.
METHOD OF CALCULATION	Numerator and denominator for rate-based indicators, or other method of calculation, is presented.
NUMERATOR	Provides the description of the general specifications of any component (e.g. screened for depression) that is the basis for inclusions and exclusions in the numerator.
DENOMINATOR	Provides the description of the general specifications of any component (e.g. pregnant or post partum) that is the basis for inclusions and exclusions in the denominator.
DATA SOURCE AND AVAILABILITY	Identifies the likely data source(s) necessary to calculate the measure (e.g. clinical administrative data, other administrative or survey) and whether it is available on a pan-Canadian basis. "Partial" refers to indicators that can be calculated for only some dimensions of the indicator (e.g. indicator can be calculated for physicians but not all PHC provider types). "No data source" refers to indicators that either would require a new data source, or would require that additions (i.e. new survey questions) be made to an existing data source to support pan-Canadian reporting.
RATIONALE AND INTERPRETATION	Identifies the justification for the indicator and briefly explains the importance of the measure (i.e. why it is used), description of the best available evidence or literature to support the need for the indicator, and how the results can be interpreted. The evidence/policy base for indicators include: a. Clinical indicators—Grade A/B recommendations or Level 1 evidence. b. System indicators (non-clinical)—strong support by health policy initiatives; systematic literature reviews; NES objectives; participant consensus. Interpretation of score (directional statement) is classified according to whether the quantitative summary measure is associated with a higher score, a lower score, a score falling within a defined interval, or a passing score.

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2.0 Indicator Specifications

Access to PHC Through a Regular PHC Provider

Objective 1: **To increase the proportion of the population that receives ongoing care from a primary health care provider who assumes principal responsibility for their care and who knows their personal and health characteristics**

Evaluation Question 1—What proportion of the population can identify a primary care provider who assumes principal responsibility for their care and knows their health needs and personal values systematically?

1. Population with a regular PHC provider
2. Difficulties accessing routine PHC
3. Difficulties accessing PHC health information or advice
4. Difficulties accessing urgent, non-emergent PHC

Evaluation Question 1.1—Does that proportion differ by geographic region? By socio-economic group? By health status? By cultural or ethnic group? This question proposes a number of analytic dimensions to facilitate analysis of results for indicators included in Evaluation Question 1 and other questions.

Additional analytical dimensions suggested:
Important additions: Age/gender/sex/recent immigration status/special populations (people with disabilities)/rural or urban
Other dimensions (report by, if available): education/language/aboriginal people/ vulnerable populations (homeless, mentally ill, drug users)/sexual orientation

POPULATION WITH A REGULAR PHC PROVIDER

INDICATOR NUMBER	1
INDICATOR DEFINITION	% of population who currently have a regular PHC provider, by type of PHC provider.
DEFINITION OF RELEVANT TERMS	Regular care provider is the primary care provider that a patient identifies as "theirs". This relationship implies longitudinality and continuity, and exists for a defined period of time or indefinitely until explicitly changed.[1]
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of survey respondents who report that they currently have a regular PHC provider
DENOMINATOR	Total number of survey respondents
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source partially available in the Canadian Community Health Survey (CCHS), but only for Family Physician and/or General Practitioner (FP/GP) providers.
RATIONALE AND INTERPRETATION	The 2003 *First Ministers' Accord on Healthcare Renewal* identified access to a regular family doctor as a key performance indicator".[2] In most models of care a regular care provider is likely to take principal responsibility for their PHC client/patient and will also build and maintain a provider-patient relationship that results in strong continuity of care.[3] Continuity of care and principal responsibility of a regular care provider is associated with increased quality of care, patient satisfaction and effective patient management.[3, 4, 5, 6, 7] A high percentage of the population with a regular care provider is interpreted as a positive result.

DIFFICULTIES ACCESSING ROUTINE PHC

INDICATOR NUMBER	2
INDICATOR DEFINITION	% of population, 18 years and over, who experienced difficulties obtaining required routine or ongoing PHC services, from their regular PHC provider, over the past 12 months.
DEFINITION OF RELEVANT TERMS	Difficulty obtaining routine or ongoing PHC services could include any of the following: • Difficulty contacting regular PHC provider; • Difficulty getting an appointment with regular PHC provider; • Do not have a regular PHC provider (due to either lack of PHC providers in area, lack of PHC providers accepting clients/patients, preference not to have a regular PHC provider, etc.); • Waited too long to get an appointment with provider; • Waited too long to see the PHC provider (in-office waiting); • Service not available at time required; • Service not available in the area; • Transportation problem; • Language problem; • Cost; • Did not know where to go (i.e. information problem); • Unable to leave the house because of a health problem; and • Other.[8] Routine or ongoing care can include such things as medical exams or follow-up visits, and is received from a provider over time within a single health episode or over separate health care episodes.[1, 8]
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of survey respondents who report that they had difficulties obtaining routine or ongoing PHC services, from a regular PHC provider over the past 12 months for self, child(ren), elderly family member or disabled family member
DENOMINATOR	Total number of survey respondents, 18 years and over
DATA SOURCE AND AVAILABILITY	Potential Pan-Canadian data source could be partially available in the CCHS with modifications to the survey.
RATIONALE AND INTERPRETATION	Difficulties in accessing primary health care may be due to a variety of factors.[8, 9] The ability to obtain routine PHC services when needed is believed to be important in maintaining health, preventing health emergencies and preventing the inappropriate use of services (e.g. use of hospital emergency rooms for non-emergencies).[9, 10, 11] A low percentage of the population experiencing difficulty accessing routine PHC care for self, a family member or dependent is interpreted as a positive result.





DIFFICULTIES ACCESSING PHC HEALTH INFORMATION OR ADVICE

INDICATOR NUMBER	3
INDICATOR DEFINITION	% of population, 18 years and over, who experienced difficulties obtaining required health information or advice, from their regular PHC provider, over the past 12 months.
DEFINITION OF RELEVANT TERMS	Difficulty obtaining health information or advice from PHC provider could include any of the following: • Difficulty contacting a PHC provider; • Did not have a phone number; • Could not get through (i.e. no answer); • Waited too long to speak to someone; • Did not get adequate info or advice; • Language problem; • Did not know where to go/call/uninformed; and • Other.[8]
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of population survey respondents who report that they had difficulties obtaining health information or advice, from a regular PHC provider over the past 12 months for self, child(ren), elderly family member or disabled family member
DENOMINATOR	Total number of population survey respondents, 18 years and over
DATA SOURCE AND AVAILABILITY	Potential Pan-Canadian data source could be partially available in the CCHS with modifications to the survey.
RATIONALE AND INTERPRETATION	Difficulties in obtaining health information or advice from a PHC provider may be due to a variety of factors.[8, 12] The ability to obtain information and advice when needed is believed to be important in maintaining health, preventing health emergencies and preventing the inappropriate use of services (e.g. use of hospital emergency rooms for non-emergencies).[10, 11, 12] A low percentage of the population experiencing difficulty accessing health information and advice is interpreted as a positive result.

DIFFICULTIES ACCESSING URGENT, NON-EMERGENT PHC

INDICATOR NUMBER	4
INDICATOR DEFINITION	% of population, 18 years and over, who experienced difficulties obtaining immediate care for an emergent but minor health problem, from their regular PHC provider, over the past 12 months.
DEFINITION OF RELEVANT TERMS	Difficulty accessing immediate care from a regular PHC provider could include any of the following: • Difficulty contacting regular PHC provider; • Difficulty getting an appointment with regular PHC provider; • Do not have a regular PHC provider (due to either lack of PHC providers in area, lack of PHC providers accepting PHC clients/patients, preference not to have a regular PHC provider, etc.); • Waited too long to get an appointment with provider; • Waited too long to see the PHC provider (in-office waiting); • Service not available at time required; • Service not available in the area; • Transportation problem; • Language problem; • Cost; • Did not know where to go (i.e. information problem); • Unable to leave the house because of a health problem; and • Other.[8] Immediate care for an emergent but minor health problem refers to same-day service for a problem such as a fever, headache, sprained ankle, vomiting or an unexplained rash.[8]
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of survey respondents who report that they had difficulties obtaining urgent PHC services, from a regular PHC provider over the past 12 months for self, child(ren), elderly family member or disabled family member
DENOMINATOR	Total number of survey respondents, 18 years and over
DATA SOURCE AND AVAILABILITY	Potential Pan-Canadian data source could be partially available in the CCHS with modifications to the survey.
RATIONALE AND INTERPRETATION	Difficulties in obtaining immediate care from a PHC provider may be due to a variety of factors.[8, 13] The ability to obtain urgent PHC services when needed is believed to be important in maintaining health, preventing health emergencies and preventing the inappropriate use of services (e.g. use of hospital emergency rooms for non-emergencies).[10, 11, 13] A low percentage of the population experiencing difficulty accessing immediate care is interpreted as a positive result.

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Enhancing the Population Orientation of PHC

Objective 2: To increase the number of primary health care organizations who are responsible for providing planned services to a defined population

Evaluation Question 2—Do PHC organizations know the composition of their catchment and practice populations in terms of age structure, morbidity profile, cultural diversity, socio-economic status, social and physical environment?

5. PHC needs-based planning

Evaluation Question 2.1—Do PHC organizations have a registry of patients with chronic conditions (diabetes, asthma, heart disease, stroke, depression) for whom they develop specific programs?

6. PHC client/patient registries for chronic conditions
7. PHC programs for chronic conditions

Evaluation Question 3—What processes for planning services for their defined population do PHC organizations have?

5. PHC needs-based planning
8. Community input for PHC planning

Evaluation Question 4—Do regional health authorities support PHC organizations with information and processes that allow them to target services and provide referrals to hard-to-reach individuals and communities (e.g. ethnic minorities, intravenous drug users, shut-ins, adolescent parents, those in remote areas)?

9. PHC outreach services for vulnerable/special needs populations
10. Specialized programs for PHC vulnerable/special needs populations
11. Support for PHC vulnerable/special needs populations

PHC NEEDS-BASED PLANNING

INDICATOR NUMBER	5
INDICATOR DEFINITION	% of PHC organizations who used information on the composition of their practice population to allocate resources for programs/services, over the past 12 months.
METHOD OF CALCULATION	(Numerator/Denominator) X 100
NUMERATOR	Number of PHC organizations who used information on the composition of their practice population to allocate resources for programs/services, over the past 12 months
DENOMINATOR	Total number of PHC organization survey respondents
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Survey data source required.
RATIONALE AND INTERPRETATION	This indicator measures the extent to which needs-based planning is used by PHC organizations to allocate resources to serve their practice population. In the Primary Health Care Transition Fund, there is a common objective "to increase the proportion of the population with access to primary health care organizations which are accountable for the planned provision of comprehensive services to a defined population."[1] Important elements of strategic and service planning for primary health care organizations include demographic and epidemiological information on their practice population and/or community.[2, 3, 4] A high percentage rate of PHC organizations using needs-based information to allocate resources for programs/services can be interpreted as a positive result.

PHC CLIENT/PATIENT REGISTRIES FOR CHRONIC CONDITIONS

INDICATOR NUMBER	6
INDICATOR DEFINITION	% of PHC organizations who currently have a client/patient registry for chronic conditions.
DEFINITION OF RELEVANT TERMS	Registry: Electronic, searchable directory that uniquely identifies PHC clients/patients, health care providers and facilities to correctly link information electronically.
METHOD OF CALCULATION	(Numerator/Denominator) X 100
NUMERATOR	Number of PHC organizations that currently have a PHC client/patient registry for chronic conditions
DENOMINATOR	Total number of PHC organization survey respondents
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Survey data source required.
RATIONALE AND INTERPRETATION	Chronic care registries are considered a critical first step toward the active care management of chronic conditions through PHC programs and services.[5, 6, 7, 8, 9] Registries separate the organizational management of chronic diseases from acute problems to plan and implement processes of care including planned visits, case management of high risk and complex clients/patients, as well as reminders to the PHC team of follow-up requirements.[5, 6] A high percentage of PHC organizations using registries in their practices indicate that preventive action is being taken to manage chronic conditions and can be interpreted as a positive result.

PHC PROGRAMS FOR CHRONIC CONDITIONS

INDICATOR NUMBER	7
INDICATOR DEFINITION	% of PHC organizations who currently have specific programs for PHC clients/patients with specific chronic conditions.
DEFINITION OF RELEVANT TERMS	Specialized programs may include health promotion, case coordination for high need clients/patients,[10] and the enhancement of skills required for self-management, disease problem-solving and health decision-making (e.g. glucose monitoring, advice from a dietitian, foot care and disease management for diabetes).[11] Initiatives may also focus on preventable chronic disease by targeting risk factors such as smoking, physical inactivity and unhealthy eating.[12]
METHOD OF CALCULATION	(Numerator/Denominator) X 100
NUMERATOR	Number of PHC organizations who currently have specific programs for PHC clients/patients with specific chronic conditions
DENOMINATOR	Total number of PHC organization survey respondents
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Survey data source required.
RATIONALE AND INTERPRETATION	Provision of special programs for PHC clients/patients with chronic conditions has the potential to improve the management of these conditions.[5, 6] Findings regarding improved health status and quality of life are mixed depending on the chronic condition and program interventions being examined.[5] A high percentage of PHC organizations that provide special programs in their practices may be interpreted as a positive result.

COMMUNITY INPUT FOR PHC PLANNING

INDICATOR NUMBER	8
INDICATOR DEFINITION	% of PHC organizations who currently have processes for community input for planning the organization's services (e.g. advisory committees, focus groups).
METHOD OF CALCULATION	(Numerator/Denominator) X 100
NUMERATOR	Number of PHC organizations who currently have processes for community input into planning the organization's services (e.g. advisory committees, focus groups)
DENOMINATOR	Total number of PHC organization survey respondents
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Survey data source required.
RATIONALE AND INTERPRETATION	This indicator measures the extent to which community input is used by PHC organizations to inform the organizations planning. In the Primary Health Care Transition Fund, there is a common objective "to increase the proportion of the population with access to primary health care organizations which are accountable for the planned provision of comprehensive services to a defined population".[1] Important elements of strategic and service planning for primary health care organizations include community feedback on health issues and service preferences.[2, 3, 4] Different processes may include education and feedback on the web or via telephone, survey, focus groups, public advisory panels on specific issues, and expert advisory committees.[13, 14] A higher proportion of PHC organizations that have processes for obtaining input into their services may be interpreted a positive result.

PHC OUTREACH SERVICES FOR VULNERABLE/SPECIAL NEEDS POPULATIONS

INDICATOR NUMBER	9
INDICATOR DEFINITION	% of PHC organizations that currently do outreach to deliver PHC services to vulnerable/special needs populations.
DEFINITION OF RELEVANT TERMS	Vulnerable/special needs populations characterize groups of individuals who have a greater probability of having poor health status and outcomes because of social, environmental, health, or economic conditions, and/or whose needs are not often well addressed by traditional service delivery. Issues affecting these groups can include, but are not limited to, language, culture, gender, socio-economic status, age, serious mental illness and substance abuse.
METHOD OF CALCULATION	(Numerator/Denominator) X 100
NUMERATOR	Number of PHC organizations that currently do outreach to deliver PHC services to vulnerable/special needs populations
DENOMINATOR	Total number of PHC organization survey respondents
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Survey data source required.
RATIONALE AND INTERPRETATION	This indicator measures the extent to which PHC organizations actively try to engage hard-to-reach population groups in need of health care. Many marginalized, vulnerable and hard-to-reach populations face unique challenges in the access and availability of continuous PHC services. Outreach activities that actively seek out and engage hard-to-reach individuals are more likely to reduce barriers, and use a whole person care approach that requires inter-organizational linkages beyond health care.[15] A higher proportion of PHC organizations reporting outreach PHC services can be interpreted as a positive result.

SPECIALIZED PROGRAMS FOR PHC VULNERABLE/SPECIAL NEEDS POPULATIONS

INDICATOR NUMBER	10
INDICATOR DEFINITION	% of PHC organizations that currently provide specialized programs for vulnerable/special needs populations.
DEFINITION OF RELEVANT TERMS	Vulnerable/special needs populations characterize groups of individuals who have a greater probability of having poor health status and outcomes because of social, environmental, health, or economic conditions, and/or whose needs are not often well addressed by traditional service delivery. Issues affecting these groups can include, but are not limited to, language, culture, gender, socio-economic status, age, serious mental illness and substance abuse.
METHOD OF CALCULATION	(Numerator/Denominator) X 100
NUMERATOR	Number of PHC organizations that currently provide specialized programs for vulnerable/special needs populations
DENOMINATOR	Total number of PHC organization survey respondents
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Survey data source required.
RATIONALE AND INTERPRETATION	This indicator monitors the extent to which PHC organizations provide specialized programs for people with vulnerable/special needs. Many vulnerable/special needs populations face unique challenges in the access and availability of continuous PHC services that meet their needs in their community. Issues affecting these groups can include language, culture, gender, socio-economic status, age, serious mental illness and substance abuse.[15] A high proportion of PHC organizations that provide specialized programs is interpreted as a positive result.

SUPPORT FOR PHC VULNERABLE/SPECIAL NEEDS POPULATIONS

INDICATOR NUMBER	11
INDICATOR DEFINITION	% of PHC organizations that currently receive information or process support from their health region to serve vulnerable/special needs populations.
DEFINITION OF RELEVANT TERMS	Vulnerable/special needs populations characterize groups of individuals who have a greater probability of having poor health status and outcomes because of social, environmental, health, or economic conditions, and/or whose needs are not often well addressed by traditional service delivery. Issues affecting these groups can include, but are not limited to, language, culture, gender, socio-economic status, age, serious mental illness and substance abuse.
METHOD OF CALCULATION	(Numerator/Denominator) X 100
NUMERATOR	Number of PHC organizations that currently receive information or process support from their health region to serve vulnerable/special needs populations
DENOMINATOR	Total number of PHC organization survey respondents
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Survey data source required.
RATIONALE AND INTERPRETATION	This indicator measures whether PHC organizations receive help to address the specialized needs of their practice populations. Although generalized information is often available at the provincial or national level, the unique characteristics of vulnerable/special needs populations often require localized knowledge to develop effective programs. A higher percentage of PHC organizations that report they receive support from their health regions to serve vulnerable/special needs population groups is interpreted as a positive result.

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Fostering Comprehensive Whole Person Care

Objective 3: To enhance the provision of whole-person, comprehensive primary health services, including acute episodic and ongoing care with increased emphasis on health promotion, disease and injury prevention, management of common mental health conditions and chronic diseases

Evaluation Question 5—Do PHC organizations have defined policies to ensure that their practice populations receive: rapid management of acute, urgent health problems; timely provision of non-urgent routine care (including well care and chronic illness management), recommended preventive services; referral to hospitals and specialist; follow-up care after hospitalization; primary mental health care; full maternity and child care; coordinated care of the frail elderly; end-of-life care?

12. Scope of PHC services

Evaluation Question 6—Has there been a reduction in health risk (lower BMI, lower smoking rates, higher activity, lower rates of sexually transmitted disease, lower adolescent pregnancy rates, less substance misuse)? Do people attribute reduced health risks to orientation and advice that they received in primary health care?

13. Health risk screening in PHC
14. Smoking cessation advice in PHC
15. Alcohol consumption advice in PHC
16. Dietary advice in PHC
17. Advice on physical activity in PHC
18. PHC initiatives for reducing health risks
19. Health region programs for reducing health risks
20. Smoking rate
21. Fruit and vegetable consumption rate
22. Overweight rate
23. Physical activity rate
24. Heavy drinking rate

Evaluation Question 7—Do PHC organizations enable patients with chronic health conditions (e.g. diabetes, asthma, coronary heart disease, depression, hypertension) develop competencies and self-efficacy for better managing their health?

25. PHC resources for self-management of chronic conditions
26. PHC support for informal caregivers
27. Time with PHC provider
28. Client/patient participation in PHC treatment planning

Evaluation Question 7.1—Do self-management strategies for patients with chronic conditions significantly improve quality of life, reduce the number of visits to specialists, reduce hospital admissions (number and length of stay) and achieve better health outcomes? Other analytical approach required.

SCOPE OF PHC SERVICES

INDICATOR NUMBER	12
INDICATOR DEFINITION	% of PHC organizations who currently provide the following services: • Management of care for an emergent but minor health problem (e.g. sprained ankle, unexplained rash); • Non-urgent routine care (e.g. well care [baby, child, woman and/or man], chronic illness management); • Prevention and health promotion and/or education services; • Full maternity and child care; • Primary mental health care; • Psychosocial services (e.g. counselling advice for physical/emotional/ financial problems); • Liaison with home care; • Referral to and follow-up care from specialized agencies such as hospitals, youth centers, specialists and/or other providers (through formalized arrangements and/or agreements); • Rehabilitation services; • Nutrition counselling services; • Provision of home visits by PHC physicians/nurses/nurse practitioners/ pharmacists; and • End-of-life care.

SCOPE OF PHC SERVICES (cont'd)

DEFINITION OF RELEVANT TERMS	Health promotion is the process of enabling people to increase control over and to improve their health (e.g. health literacy).[1] Prevention is the concept of stopping or slowing the development of disease and promoting health through screening programs and lifestyle guidelines.[2] Mental health in primary care is the provision of basic preventive and curative mental health at the first level of the health care system. Usually this means that care is provided by a non-specialist who can refer complex cases to a more specialized mental health professional.[3] Rehabilitation is the restoration of a person by therapeutic measures and re-education to participation in the activities of normal life within the limitation of the person's disorder or disability.[2] Well baby care: The goals of visits for well-baby care are to 1) immunize, 2) provide parents with reassurance and counselling on safety, nutrition and behavioral problems; and 3) identify and treat physical, developmental and parenting problems.[4] Well child care: Pediatric well-child visits are most frequent when the child's development is most rapid. Each visit includes a complete physical examination. This will assess the infant or young child's growth and development and help identify problems early. Height, weight, and other important information is recorded and considered. Hearing, vision, and other tests will be a part of some visits. Such preventive care is important for raising healthy children.[5] Well woman care: A well woman visit involves a physical assessment including a pap smear, pelvic exam, breast exam, and blood pressure check.[6] Well man care: A well man examination includes screening to determine risk factors and a physical assessment and education around pertinent health issues, such as testicular self-exams.[6] End-of-life care is care of persons who are dying.[7]
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC organizations that report they provide a range of PHC services to their practice population
DENOMINATOR	Total number of PHC organizations
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Survey data source required.
RATIONALE AND INTERPRETATION	This indicator measures the comprehensiveness of services offered by PHC organizations.[8, 10] Comprehensive service provision and continuity of care by PHC organizations are important factors in comprehensive care and patient outcomes.[8, 9, 10] A high rate for this indicator can be interpreted as a positive result.





HEALTH RISK SCREENING IN PHC

INDICATOR NUMBER	13
INDICATOR DEFINITION	% of PHC clients/patients, 12 years and over, who were screened by their PHC provider for the following common health risks over the past 12 months: • Tobacco use; • Unhealthy eating habits; • Problem drug use; • Physical inactivity; • Overweight status; • Problem alcohol drinking; • Unintentional injuries (home risk factors); • Unsafe sexual practices; and • Unmanaged psychosocial stress and/or depression.
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC clients/patients who report being screened by their PHC provider for common health risks over the past 12 months
DENOMINATOR	Total number of PHC clients/patients, 12 years and over
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Survey data source required.
RATIONALE AND INTERPRETATION	The Canadian Task Force on Preventive Health Care (CTFPHC) recommended a number of areas in which PHC providers should provide screening and advice on common health risks.[11] These recommendations were based on strong evidence indicating that PHC can have a positive effect on long-term behavioural changes. A high rate for this indicator can be interpreted as a positive result.

SMOKING CESSATION ADVICE IN PHC

INDICATOR NUMBER	14
INDICATOR DEFINITION	% of PHC clients/patients who are smokers, 12 years and over, who received specific help or information to quit smoking from their PHC provider, over the past 24 months.
DEFINITION OF RELEVANT TERMS	Current smoker refers to those people who report that they are daily or occasional smokers.[12]
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC clients/patients who are current smokers who report that they received specific help or information to quit smoking by their PHC provider, over the past 24 months
DENOMINATOR	Total number of PHC clients/patients, 12 years and over, who are current smokers
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source could be partially available in the CCHS, but only for FP/GP provider support.
RATIONALE AND INTERPRETATION	Measuring the number of current smokers that are receiving help and information to quit smoking from their PHC provider estimates whether PHC providers are offering the necessary support to individuals engaging in this health risk behaviour. Tobacco smoking is widely acknowledged as the most important preventable cause of death in industrialized countries.[13] Smoking cessation counselling and/or nicotine replacement therapy provided to PHC clients/patients by PHC providers has a positive effect on reducing smoking rates in the population, a manoeuvre that is a Grade A recommendation by the Canadian Task Force on Preventative Health Care.[11, 14] A high rate for this indicator can be interpreted as a positive result.

ALCOHOL CONSUMPTION ADVICE IN PHC

INDICATOR NUMBER	15
INDICATOR DEFINITION	% of PHC clients/patients with problem alcohol drinking, 12 years and over, who received specific help or information to manage alcohol consumption, over the past 24 months.
DEFINITION OF RELEVANT TERMS	Problem drinking refers to alcohol consumption patterns (either excessive regular consumption or binge drinking) that put individuals at high risk for physical, psychological or social consequences, are termed problem, hazardous, harmful, heavy, or excessive drinking, or mild to moderate alcohol dependency (no internationally-recognized criteria have been developed to classify problem drinking).[15]
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC clients/patients with problem alcohol drinking who report that they received specific help or information on problem drinking by their PHC provider, over the past 24 months
DENOMINATOR	Total number of PHC clients/patients, 12 years and over, with problem alcohol drinking
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Survey data source required.
RATIONALE AND INTERPRETATION	This indicator will provide an estimate of whether PHC providers are offering the necessary support to PHC clients/patients engaging in this health risk behaviour. Problem alcohol drinking may put PHC clients/patients at high risk for negative physical, psychological or social consequences.[16] Primary care providers can identify problem drinkers through screening measures and successfully treat them with brief counselling intervention.[16, 17] A Grade B recommendation by the Canadian Task Force on Preventative Health Care indicates the manoeuvre of routine detection and counselling advice by PHC providers helps to reduce rates of problem PHC client/patient alcohol consumption.[11] A high rate for this indicator can be interpreted as a positive result.

DIETARY ADVICE IN PHC

INDICATOR NUMBER	16
INDICATOR DEFINITION	% of PHC clients/patients with unhealthy eating habits, 12 years and over, who received specific help or information on healthy dietary practices from their PHC provider, over the past 12 months.
DEFINITION OF RELEVANT TERMS	Health dietary practices refers to the average number of times per day an individual consumes fruits and vegetables.[12]
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC clients/patients with unhealthy eating habits who report that they received specific help or information on healthy dietary practices from their PHC provider, over the past 12 months
DENOMINATOR	Total number of PHC clients/patients, 12 years and over, with unhealthy eating habits
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Survey data source required.
RATIONALE AND INTERPRETATION	This indicator will provide an estimate of whether PHC providers are offering the necessary support to PHC clients/patients engaging in this health risk behaviour. A Grade B recommendation for the manoeuvre of general dietary advice by the Canadian Task Force on Preventative Health Care[18] suggests that counselling by PHC providers may produce long-term behavioural changes for a number of health risk behaviours including unhealthy dietary practices.[11] A high rate for this indicator can be interpreted as a positive result.

ADVICE ON PHYSICAL ACTIVITY IN PHC

INDICATOR NUMBER	17
INDICATOR DEFINITION	% of inactive PHC clients/patients, 12 years and over, who received specific help or information on regular physical activity from their PHC provider, over the past 12 months.
DEFINITION OF RELEVANT TERMS	In the CCHS, physical activity is classified into three groups: active, moderately active or inactive based on an index of average daily physical activity over the past 3 months. For each leisure time physical activity engaged in by the respondent, an average daily energy expenditure is calculated by multiplying the number of times the activity was performed by the average duration of the activity by the energy cost (kilocalories per kilogram of body weight per hour) of the activity. The index is calculated as the sum of the average daily energy expenditures of all activities. Respondents are classified as follows: 3.0 kcal/kg/day or more = physically active; 1.5–2.9 kcal/kg/day = moderately active; less than 1.5 kcal/kg/day = inactive.[12]
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of inactive PHC clients/patients who report that they received specific help or information on regular physical activity from their PHC provider, over the past 12 months
DENOMINATOR	Total number of inactive PHC clients/patients, 12 years and over
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Survey data source required.
RATIONALE AND INTERPRETATION	This indicator shows that providers are offering the necessary support to their practice population. A sedentary lifestyle may put individuals at higher risk for chronic diseases such as coronary heart disease, diabetes, or osteoporosis.19 Studies suggest that counselling about lifestyle changes (e.g. climbing stairs, walking) can result in higher levels of physical activity among PHC clients/patients.[20] The Canadian Task Force on Preventative Health Care states that physical inactivity is an appropriate target for counselling.[11] A high rate for this indicator can be interpreted as a positive result.

PHC INITIATIVES FOR REDUCING HEALTH RISKS

INDICATOR NUMBER	18
INDICATOR DEFINITION	% of PHC organizations who currently have specific programs and/or initiatives (including self help and self management groups) to reduce the following health risks in their practice population: • Tobacco use; • Unhealthy eating habits; • Problem alcohol drinking; • Obesity; and • Physical inactivity.
DEFINITION OF RELEVANT TERMS	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.[21] 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.[22]
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC organizations that have specific programs and/or initiatives (including self-help and self-management groups) to reduce the certain health risks in their practice population
DENOMINATOR	Total number of PHC organizations
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Survey data source required.
RATIONALE AND INTERPRETATION	Preventive health services and health promotion have the potential to influence the health behaviours of individuals. The Canadian Task Force for Preventive Health Services has recommended that PHC providers should provide screening and advice on common health risks.[11] A review of counselling recommendations in primary health care supports the relevance of counselling for high risk behaviours such as smoking, unhealthy dietary patterns, problem drinking, and physical inactivity.[11, 14, 15, 16, 18, 20] A high rate for this indicator can be interpreted as a positive result.

HEALTH REGION PROGRAMS FOR REDUCING HEALTH RISKS

INDICATOR NUMBER	19
INDICATOR DEFINITION	% of health regions who currently have specific programs and/or initiatives (including self help and self management groups) to reduce the following health risks in the population: • Tobacco use; • Unhealthy eating habits; • Problem alcohol drinking; • Obesity; and • Physical inactivity.
DEFINITION OF RELEVANT TERMS	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.[21] 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.[22]
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of health regions that have specific programs and/or initiatives (including self-help and self-management groups) to reduce the certain health risks in their practice population
DENOMINATOR	Total number of health regions
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Survey data source required.
RATIONALE AND INTERPRETATION	Preventive health services and health promotion have the potential to influence individual behaviours. The Canadian Task Force for Preventive Health Services has recommended that PHC providers should provide screening and advice on common health risks.[11] A review of counselling recommendations in primary health care supports the relevance of counselling for risky health behaviours such as smoking, unhealthy dietary patterns, problem drinking, and physical inactivity.[11, 14, 15, 16, 18, 20] A high rate for this indicator can be interpreted as a positive result.

SMOKING RATE

INDICATOR NUMBER	20
INDICATOR DEFINITION	% of population, 12 years and over, who are current smokers.
DEFINITION OF RELEVANT TERMS	Current smokers are those people who report that they are daily or occasional smokers.[12]
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of survey respondents who report being daily or occasional smokers
DENOMINATOR	Number of survey respondents, 12 years and over
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source available in the CCHS.
RATIONALE AND INTERPRETATION	Smoking is a highly addictive behaviour that is linked to an increased risk of poor general health and frequent hospitalization.[23] Smoking has also been attributed to numerous diseases such as cancer, heart disease and stroke.[23] Evidence shows that individuals generally begin smoking in early to middle adolescence, and that adult smoking patterns are usually established between the ages of 15 to 18.[23, 24, 25] A low rate for this indicator can be interpreted as a positive result.

FRUIT AND VEGETABLE CONSUMPTION RATE

INDICATOR NUMBER	21
INDICATOR DEFINITION	% of population, 12 years and over, who currently consume five or more servings of fruits and vegetables daily.
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of survey respondents who report that they consume five or more servings of fruits and vegetables per day
DENOMINATOR	Number of survey respondents, 12 years and over
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source available in the CCHS.
RATIONALE AND INTERPRETATION	According to Canada's Food Guide to Healthy Eating, people aged four years and older should eat 5 to 10 servings of fruits and vegetables each day.[26] Regular consumption of fruits and vegetables is an essential contributor to a healthy, productive population with many benefits including a reduced risk of cancer[27, 28] cardiovascular disease, stroke and many age-associated functional declines.[26] A high rate for this indicator can be interpreted as a positive result.

OVERWEIGHT RATE

INDICATOR NUMBER	22
INDICATOR DEFINITION	% of population who are currently overweight or obese.
DEFINITION OF RELEVANT TERMS	Body Mass Index (BMI): For adults, the ratio of body weight (in kilograms) to height squared (in meters). A normal or healthy BMI ranges from 18.5 to 24.9. A BMI of 25.0 to 29.9 is classified as overweight and a BMI of 30.0 or more is classified as obese. For children and teens (2–20 years), body fatness changes over the years as they grow. This is why BMI for children, also referred to as BMI-for-age, is gender and age specific. BMI-for-age is plotted on gender specific growth charts. A normal BMI-for-age is classified 5th percentile to < 85th percentile; at risk for overweight BMI-for-age is classified as 85th percentile to < 95th percentile; and obese BMI-for-age is classified as $\geq$ 95th percentile.[29]
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	For adults: Number of population survey respondents 21 years and over with a BMI $\geq$25 For children: Number of population survey respondents 2–21 years of age with a BMI-for-age $\geq$ 85th percentile
DENOMINATOR	Number of population survey respondents (or proxy) 2 years and over (excluding pregnant women and breastfeeding women)
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source available in the CCHS.
RATIONALE AND INTERPRETATION	Overweight or obesity is a recognized health risk that may lead to an increased likelihood of certain diseases such as hypertension, dyslipidemia, type 2 diabetes, coronary heart disease, stroke, gallbladder disease, osteoarthritis, sleep apnea, respiratory problems and certain cancers.[30] In addition, being overweight or obese is associated with increased overall morbidity and mortality.[31] A low rate for this indicator can be interpreted as a positive result.

PHYSICAL ACTIVITY RATE

INDICATOR NUMBER	23
INDICATOR DEFINITION	% of population who currently engage in regular physical activity.
DEFINITION OF RELEVANT TERMS	In the CCHS, physical activity is classified into three groups: active, moderately active or inactive based on an index of average daily physical activity over the past 3 months. For each leisure time physical activity engaged in by the respondent, an average daily energy expenditure is calculated by multiplying the number of times the activity was performed by the average duration of the activity by the energy cost (kilocalories per kilogram of body weight per hour) of the activity. The index is calculated as the sum of the average daily energy expenditures of all activities. Respondents are classified as follows: 3.0 kcal/kg/day or more = physically active; 1.5 - 2.9 kcal/kg/day = moderately active; less than 1.5 kcal/kg/day = inactive.[12]
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of population survey respondents who report engaging in regular physical activity
DENOMINATOR	Number of population survey respondents
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source available in the CCHS.
RATIONALE AND INTERPRETATION	Physical activity has positive effects in the prevention of chronic diseases including coronary artery disease, hypertension, non-insulin-dependent diabetes mellitus, osteoporosis, colon cancer, depression and anxiety.[30] Lack of physical activity is a risk factor for cardiovascular disease, and the principal cause of mortality and morbidity in developed countries.[8] A high rate for this indicator can be interpreted as a positive result.

HEAVY DRINKING RATE

INDICATOR NUMBER	24
INDICATOR DEFINITION	% of population, 12 years and over, who report heavy alcohol drinking behaviour in the past 12 months.
DEFINITION OF RELEVANT TERMS	Heavy drinking behaviour refers to current drinkers who reported drinking 5 or more drinks on one occasion, 12 or more times a year.[12] 1 standard drink: [32] • 5 oz/142 mL of wine (12% alcohol); • 1.5 oz/43 mL of spirits (40% alcohol); • 12 oz/341 mL of regular strength beer (5% alcohol).
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of respondents who report heavy alcohol drinking behaviour in the past 12 months
DENOMINATOR	Number of respondents, 12 years and over, who are current alcohol drinkers
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source available in the CCHS.
RATIONALE AND INTERPRETATION	This indicator is a measure of individuals who engage in episodes of risky drinking behaviour. Individuals with regular excessive alcohol consumption are at higher risk of developing alcohol-related health problems (e.g. liver damage, disorders of the pancreas), socio-economic problems and other chronic health outcomes caused by excessive alcohol use.[33, 34, 35] Alcohol-related problems are also linked to increased incidence of depression and other health issues, family problems, employment issues, motor vehicle accidents, crime and violence.[33] Left untreated, problem drinking can contribute to hypertension, diabetes mellitus, gastrointestinal illness, psychiatric problems and fetal damage.[17] A low rate for this indicator can be interpreted as a positive result.

PHC RESOURCES FOR SELF-MANAGEMENT OF CHRONIC CONDITIONS

INDICATOR NUMBER	25
INDICATOR DEFINITION	% of PHC clients/patients, 18 years and over, with a chronic health condition(s), whose PHC organization provided them with resources to support self-management or self-help groups.
DEFINITION OF RELEVANT TERMS	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.[21] 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.[22]
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC clients/patients with a chronic health condition(s), who report that their PHC organization provided them with resources to support self-management or self-help groups
DENOMINATOR	Total number of PHC clients/patients, 18 years and over, with a chronic health condition
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Survey data source required.
RATIONALE AND INTERPRETATION	It has been suggested that self-management programs have the potential to improve health status and reduce health care utilization in clients/patients with chronic diseases.[36, 37] PHC organizations that provide easily accessible resources may make it easier for clients/patients to understand and manage their disease processes, treatment options and/or self-care practices that may be available to them.[8] A high rate for this indicator can be interpreted as a positive result.

PHC SUPPORT FOR INFORMAL CAREGIVERS

INDICATOR NUMBER	26
INDICATOR DEFINITION	% of informal caregivers who received support for their care giving role from their PHC organization over the past 12 months.
DEFINITION OF RELEVANT TERMS	Informal caregivers (or informal assistance) refers to help or supervision (usually unpaid) that is provided to persons with one or more disabilities by family, friends or neighbours (may or may not be living with them in a household).[7] Support for the caregiver can range from:[38] • Psychological support; • Social support; • Financial and/or employment support; • Respite (e.g. 1 day/week, vacation, crisis support); and • Training or education.
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of informal caregivers in PHC population who report that they received support for their care giving role from their PHC organization over the past 12 months
DENOMINATOR	Total number of PHC informal caregivers
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Survey data source required.
RATIONALE AND INTERPRETATION	Providing care for friends or loved ones remains a strong social value; however, when care is constantly required, or is prolonged for months and years, the burden of care giving may become overwhelming.[38] Increased demands may be placed on informal caregivers, without proper consideration to the mental, physical and emotional well being of the individual(s).[39] A lack of resources for caregivers, can create stress and lead to personal difficulties, particularly among caregivers who are also employed.[40] This may lead to a breakdown in relationships between the caregiver, the client/patient and/or the provider. A high rate for this indicator can be interpreted as a positive result.

TIME WITH PHC PROVIDER

INDICATOR NUMBER	27
INDICATOR DEFINITION	% of PHC clients/patients, 18 years and over, with a chronic condition(s), who had sufficient time in most visits to confide their health-related feelings, fears and concerns to their PHC provider.
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC clients/patients with a chronic condition(s) who report that they had sufficient time in most visits to confide their health-related feelings, fears and concerns to their PHC provider
DENOMINATOR	Total number of PHC clients/patients, 18 years and over, with a chronic condition(s)
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Survey data source required.
RATIONALE AND INTERPRETATION	PHC providers care for PHC clients/patients with chronic conditions who require complex interventions tailored to their individual needs.[41] If PHC clients/patients are provided with sufficient time in their visit, they may more accurately and thoroughly discuss their medical history and symptoms and share questions and concerns about medical decisions or procedures, which may pre-empt ineffective treatment or errors.[42, 43, 44] A high rate for this indicator can be interpreted as a positive result.

CLIENT/PATIENT PARTICIPATION IN PHC TREATMENT PLANNING

INDICATOR NUMBER	28
INDICATOR DEFINITION	% of PHC clients/patients, 18 years and over, with a chronic condition(s), who actively participated in the development of a treatment plan with their PHC provider over the past 12 months.
DEFINITION OF RELEVANT TERMS	Treatment plan[45] refers to a multidisciplinary care plan that includes "specific services to be delivered, the frequency of services, expected duration, community resources, treatment goals, and assessment of the patient's environment. The plan is updated monthly and modified when appropriate."[45] These plans are developed in collaboration with the PHC provider, client/patient and/or their caregiver.
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC clients/patients with a chronic health condition(s), who actively participated in the development of a treatment plan with their PHC provider over the past 12 months
DENOMINATOR	Total number of PHC clients/patients, 18 years and over, with a chronic health condition(s)
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Survey data source required.
RATIONALE AND INTERPRETATION	Client/patient participation in treatment and care planning alongside their PHC provider is an important aspect of patient-centered care. The active involvement of a PHC client/patient in his/her treatment is associated with higher levels of general satisfaction and improved outcomes.[43] This helps to ensure that treatment plans are made that take into account the client's/patient's family, workplace and community context and facilitate the their ability to follow clinical advice.[46] Also, it has been suggested that an individual's ability to manage their disease is strongly associated with satisfaction with their regular care provider, and their ability to be pro-active in their own care.[46] A high rate for this indicator can be interpreted as a positive result.

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Enhancing an Integrated Approach to 24/7 Access

Objective 4: To enhance 24/7 access for patient-initiated urgent care, which is effectively linked with the patient's usual primary health care provider

29. Difficulties obtaining urgent, non-emergent PHC on evenings and weekends

Evaluation Question 8—What proportion of the population has a usual primary health care provider that has organizational arrangements for 24/7 access that are effectively linked to the usual provider?

30. PHC after hours coverage

31. Average number of PHC extended hours

Evaluation Question 9—What are the costs and consequences of providing 24/7 access alternatives for patient-initiated urgent care (other than contact physician services) in terms of health outcomes, patient and provider satisfaction, and utilization of health care? Other analytical approach required.

Evaluation Question 10—What is the wait time for acute and episodic care? For routine non-urgent care (including well care and chronic illness management)? For referred care?

32. Wait time for PHC urgent, non-emergent PHC

Evaluation Question 10.1—What is the level of patient satisfaction with wait times?

33. Satisfaction with wait times for urgent, non-emergent PHC

34. Satisfaction with wait times for routine PHC

Evaluation Question 10.2—Do wait times differ systematically by urban/rural/remote region? By socio-economic group? By ethnic group? This question proposes a number of analytic dimensions for the analysis of the indicators included in Evaluation Question 10.2 and other questions.

DIFFICULTIES OBTAINING URGENT, NON-EMERGENT PHC ON EVENINGS AND WEEKENDS

INDICATOR NUMBER	29
INDICATOR DEFINITION	% of population, 18 years and over, who experienced difficulties obtaining immediate care for an emergent but minor health problem, from their regular PHC provider, during evenings and weekends (5:00 pm to 9:00 pm, Monday to Friday or 9:00 am to 5:00 pm, Saturdays and Sundays), over the past 12 months.
DEFINITION OF RELEVANT TERMS	Difficulty accessing immediate care from a regular PHC provider could include any of the following: • Difficulty contacting regular PHC provider; • Difficulty getting an appointment with regular PHC provider; • Do not have a regular PHC provider (due to either lack of PHC providers in area, lack of PHC providers accepting PHC clients/patients, preference not to have a regular PHC provider, etc.); • Waited too long to get an appointment with regular PHC provider; • Waited too long to see the PHC provider (in-office waiting); • Service not available at time required; • Service not available in the area; • Transportation problem; • Language problem; • Cost; • Did not know where to go (i.e. information problem); • Unable to leave the house because of a health problem; and • Other.[1] Immediate care for an emergent but minor health problem refers to same-day service for a problem such as a fever, headache, sprained ankle, vomiting or an unexplained rash.[1]
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of survey respondents who experienced difficulties obtaining immediate care for an emergent but minor health problem, from their regular PHC provider, during evenings and weekends (5:00 to 9:00 pm, Monday to Friday or 9:00 am to 5:00 pm, Saturdays and Sundays), over the past 12 months
DENOMINATOR	Number of survey respondents, 18 years and over
DATA SOURCE AND AVAILABILITY	Potential Pan-Canadian data source could be available in the CCHS with modifications to the survey.
RATIONALE AND INTERPRETATION	In the *10-Year Plan to Strengthen Health Care*, the First Ministers recommended that 50% of the Canadian population have access to 24/7 PHC services by multidisciplinary teams by the year 2011.[2] The ability to obtain urgent PHC services when needed is believed to be important in maintaining health, preventing health emergencies and preventing the inappropriate use of services (e.g. use of hospital emergency rooms for non-emergencies).[3] Several provinces have introduced policy on after-hours coverage in PHC.[4] A low percentage of the population experiencing difficulty accessing immediate care in extended hours is interpreted as a positive result.

PHC AFTER HOURS COVERAGE

INDICATOR NUMBER	30
INDICATOR DEFINITION	% of PHC organizations who currently provide after hours coverage (beyond 9:00 am to 5:00 pm Monday to Friday) for their practice population.
DEFINITION OF RELEVANT TERMS	After hours coverage could include any of the following: • Provision of extended regular office hours, beyond MF 9–5; • Provision of individualized 24/7 medical telephone advice (provided by you jointly with other PHC providers in the practice or region); and • Provision of instructions to go to after hours clinic that is staffed by you jointly with other PHC providers in the practice or region.
METHOD OF CALCULATION	(Numerator/Denominator)
NUMERATOR	Number of PHC organizations who currently provide after hours coverage (beyond 9:00 am to 5:00 pm Monday to Friday) for their practice population
DENOMINATOR	Number of PHC organization survey respondents
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Survey data source required.
RATIONALE AND INTERPRETATION	In the *10-Year Plan to Strengthen Health Care*, the First Ministers recommended that 50% of the Canadian population have access to 24/7 PHC services by multidisciplinary teams by the year 2011.[2] Several provinces have introduced policies on after-hours coverage in PHC.[4] A higher proportion of PHC organizations providing after hours coverage can be interpreted as a positive result.

AVERAGE NUMBER OF PHC EXTENDED HOURS

INDICATOR NUMBER	31
INDICATOR DEFINITION	Average number of extended hours (beyond 9:00 am to 5:00 pm, Monday to Friday), provided by PHC organizations per month, by PHC organization.
DEFINITION OF RELEVANT TERMS	After hours coverage could include any of the following: • Provision of extended regular office hours, beyond MF 9–5; • Provision of individualized 24/7 medical telephone advice (provided by you jointly with other PHC providers in the practice or region); and • Provision of instructions to go to after hours clinic that is staffed by you jointly with other PHC providers in the practice or region.
METHOD OF CALCULATION	(Numerator/Denominator)
NUMERATOR	Sum of extended hours provided per organization over one year
DENOMINATOR	Number of months in a year (12 months)
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Survey data source required.
RATIONALE AND INTERPRETATION	In the *10-Year Plan to Strengthen Health Care*, the First Ministers recommended that 50% of the Canadian population have access to 24/7 PHC services by multidisciplinary teams by the year 2011.[2] Several provinces have introduced policies on after-hours coverage in PHC.[4] A higher average number of extended hours per organization can be interpreted as a positive result.

WAIT TIME FOR PHC URGENT, NON-EMERGENT PHC

INDICATOR NUMBER	32
INDICATOR DEFINITION	Average length of time in days between client/patient appointment request with their regular PHC provider and the appointment for an emergent but minor health problem.
DEFINITION OF RELEVANT TERMS	Immediate care for an emergent but minor health problem refers to same-day service for a problem such as a fever, headache, sprained ankle, vomiting or an unexplained rash.[1]
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of days from date of client/patient appointment request to the date of the third available appointment for an emergent but minor health problem
DENOMINATOR	Number of client/patient request studies completed
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Administrative data source required.
RATIONALE AND INTERPRETATION	In the *10-Year Plan to Strengthen Health Care*, the First Ministers recommended that 50% of the Canadian population have access to 24/7 PHC services by multidisciplinary teams by the year 2011.[2] Excessive wait times can be a barrier to access to healthcare and are frequently monitored to indicate system performance and service supply constraints.[5] Measurement of the third available appointment assesses wait time by taking into account same day appointments kept available by providers for one or two urgent clients/patients.[5] A lower average wait time is interpreted as a positive result.

SATISFACTION WITH WAIT TIMES FOR URGENT, NON-EMERGENT PHC

INDICATOR NUMBER	33
INDICATOR DEFINITION	% of PHC clients/patients, 18 years and over, who are satisfied with wait time to obtain an appointment with their regular PHC provider for an emergent but minor health problem.
DEFINITION OF RELEVANT TERMS	Immediate care for an emergent but minor health problem refers to same-day service for a problem such as a fever, headache, sprained ankle, vomiting or an unexplained rash.[1]
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC clients/patients who are satisfied with wait time to obtain an appointment with their regular PHC provider for an emergent but minor health problem
DENOMINATOR	Number of PHC client/patient survey respondents, 18 years and over
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Survey data source required.
RATIONALE AND INTERPRETATION	In the *10-Year Plan to Strengthen Health Care*, the First Ministers recommended that 50% of the Canadian population have access to 24/7 PHC services by multidisciplinary teams by the year 2011.[2] Excessive wait times can be a barrier to access to healthcare and are frequently monitored to indicate system performance and service supply constraints.[5] A higher level of client/patient satisfaction is interpreted as a positive result.

SATISFACTION WITH WAIT TIMES FOR ROUTINE PHC

INDICATOR NUMBER	34
INDICATOR DEFINITION	% of PHC clients/patients, 18 years and over, who are satisfied with wait time to obtain an appointment with their regular PHC provider for non-urgent routine care.
DEFINITION OF RELEVANT TERMS	Non-urgent care includes such things as a medical exam or follow-up visit.[1]
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC clients/patients who are satisfied with wait time to obtain an appointment with their regular PHC provider for non-urgent routine care
DENOMINATOR	Number of PHC client/patient survey respondents, 18 years and over
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Survey data source required.
RATIONALE AND INTERPRETATION	In the *10-Year Plan to Strengthen Health Care*, the First Ministers recommended that 50% of the Canadian population have access to 24/7 PHC services by multidisciplinary teams by the year 2011.[2] Excessive wait times can be a barrier to access to healthcare and are frequently monitored to indicate system performance and service supply constraints.[5] A higher level of client/patient satisfaction is interpreted as a positive result.

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Strengthening the Quality of PHC

Objective 5: To deliver high quality and safe primary health services and to promote a culture of quality improvement in primary health care organizations

35. Ambulatory care sensitive conditions
36. Complications of diabetes
37. Emergency department visits for asthma
38. Emergency department visits for congestive heart failure
39. Glycemic control for diabetes
40. Blood pressure control for hypertension

Evaluation Question 11—What percent of recommended preventive care guidelines by the Canadian Task Force on Preventive Health Services are implemented by PHC providers?

Health Promotion, Screening and Prevention

41. Influenza immunization, 65+
42. Pneumococcal immunization, 65+
43. Well baby screening
44. Child immunization
45. Breast-feeding education
46. Depression screening for pregnant and post-partum women
47. Counselling on home risk factors for children
48. Colon cancer screening
49. Breast cancer screening
50. Cervical cancer screening
51. Bone density screening
52. Dyslipidemia screening for women
53. Dyslipidemia screening for men
54. Blood pressure testing

Secondary Prevention for PHC Clients/Patients with Coronary Artery Disease, Hypertension and Diabetes Mellitus

55. Screening for modifiable risk factors in adults with coronary artery disease
56. Screening for modifiable risk factors in adults with hypertension
57. Screening for modifiable risk factors in adults with diabetes

Evaluation Question 12—Does the care for specific key conditions (diabetes, COPD/asthma, congestive heart failure, depression, hypertension, smoking) conform to current evidence and commonly accepted standards?

Diabetes Mellitus

58. Screening for visual impairment in adults with diabetes

Asthma

59. Asthma control

Congestive Heart Failure

60. Treatment of congestive heart failure

Coronary Artery Disease

61. Treatment of dyslipidemia

62. Treatment of acute myocardial infarction

Mental Health

63. Antidepressant medication monitoring

64. Treatment of depression

65. Treatment of anxiety

Addictive Substance(s) Use Problems

66. Treatment for illicit or prescription drug use problems

Evaluation Question 12.1—Does the emphasis on management of common chronic diseases (diabetes, COPD/asthma, heart disease, depression) compromise the quality of care received by people with other chronic diseases or with multiple co-morbidities? Other analytical approach required.

Evaluation Question 13—Do PHC organizations have defined, non-prejudicial confidential processes for staff to report potential errors in delivery, treatment or management?

67. PHC support for medication incident reduction

Evaluation Question 14—Do PHC organizations measure their performance against recognized standards and modify their practices in response (including issues of patient safety)?

68. Use of medication alerts in PHC

69. Implementation of PHC clinical quality improvement initiatives

Evaluation Question 14.1—Are there structures and processes in place to ensure optimal and safe medication management?

70. Maintaining medication and problem lists in PHC

71. Information about prescribed medication by PHC providers

Evaluation Question 14.2—Do PHC professionals participate in continuing profession development that reflects the needs of the PHC organization and the local health needs of the community?

72. Professional development for PHC providers and support staff

AMBULATORY CARE SENSITIVE CONDITIONS (ACSC)

INDICATOR NUMBER	35
INDICATOR DEFINITION	Age-standardized acute care hospitalization rate for conditions where appropriate ambulatory care prevents or reduces the need for admission to hospital, per 100,000 population 75 years and under.
DEFINITION OF RELEVANT TERMS	ACSC selected conditions include grand mal status and other epileptic convulsions, chronic obstructive pulmonary disease, asthma, congestive heart failure, hypertension, angina and diabetes.[1, 2]
METHOD OF CALCULATION	Total number of hospital admissions for selected ACSC/Total mid-year population 75 years and under per 100,000 (age adjusted).
NUMERATOR	Total number of hospital admissions for selected ACSC
DENOMINATOR	Total mid-year population 75 years and under per 100,000 (age adjusted)
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source available in Hospital Morbidity Database (HMDB).
RATIONALE AND INTERPRETATION	Ambulatory Care Sensitive Conditions (ACSCs) include long-term health conditions, which can often be managed with timely and effective treatment in the community. ACSCs include chronic conditions such as diabetes, asthma, hypertension and others. Optimizing management and treatment of these conditions in the community, including the PHC setting, can potentially contribute to both improved client/patient health outcomes and more efficient resource utilization. Variations over time, and differences between regions, should be examined to determine the extent to which they are attributable to the accessibility and quality of community-based care, hospital admitting practices, or prevalence and acuity of these chronic health conditions.[3] A low rate for this indicator can be interpreted as a positive result.

COMPLICATIONS OF DIABETES

INDICATOR NUMBER	36
INDICATOR DEFINITION	% of PHC clients/patients, ages 18 to 64 years, with established diabetes mellitus (Type 1 and Type 2) who have had an acute myocardial infarction or above or below knee amputation or began chronic dialysis within the past 12 months.
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC clients/patients with established diabetes mellitus (Type 1 and 2) who have had an acute myocardial infarction or above or below knee amputation or began chronic dialysis within the past 12 months
DENOMINATOR	Total number of PHC clients/patients, ages 18 to 64 years with established diabetes mellitus (Type 1 and Type 2) within the past 12 months
DATA SOURCE AND AVAILABILITY	Potential Pan-Canadian data source could be available using the Discharge Abstract Database (DAD) or Hospital Morbidity Database (HMDB) with PHC encounter data.
RATIONALE AND INTERPRETATION	Impairment caused by complications of diabetes such as cardiovascular disease, amputation or end-stage renal failure leading to chronic dialysis can be potentially avoided through successful management of glucose, lipids and blood pressure levels.[5] Dialysis is costly, and can have a devastating effect on quality and length of life.[4] Research shows that these complications can potentially be avoided or delayed in clients/patients with diabetes mellitus by effective management, in the community, of glucose levels, dyslipidemia and hypertension.[5] A low rate for this indicator can be interpreted as a positive result.

EMERGENCY DEPARTMENT VISITS FOR ASTHMA

INDICATOR NUMBER	37
INDICATOR DEFINITION	% of PHC clients/patients, ages 6 to 55 years, with asthma who visited the emergency department in the past 12 months.
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC clients/patients with asthma who visited the emergency department in the past 12 months
DENOMINATOR	Total number of PHC clients/patients, ages 6 to 55 years, with asthma in the past 12 months
DATA SOURCE AND AVAILABILITY	Potential Pan-Canadian data source could be available using the National Ambulatory Care Reporting System (NACRS) with PHC encounter data.
RATIONALE AND INTERPRETATION	The healthcare costs of acute asthma in Canada exceeded $100 million per year where emergency department (ED) costs were an estimated $22 million and in-patient costs an estimated $84 million per year.[6] Despite improved understanding of disease pathophysiology and pharmacological options, complications still occur.[6] The intent of this indicator is to monitor the frequency of an increase in asthma severity or in any of its signs or symptoms, to monitor adverse events related to asthma, and to monitor the impact and costs of asthma for the community (in terms of use of ED services) and the individual.[7] A Canadian expert panel convened in 2004 recommended monitoring ED visits to assess the appropriateness of asthma care management.[8] A low rate for this indicator can be interpreted as a positive result.

EMERGENCY DEPARTMENT VISITS FOR CONGESTIVE HEART FAILURE (CHF)

INDICATOR NUMBER	38
INDICATOR DEFINITION	% of PHC clients/patients, ages 20 to 75 years, with CHF who visited the emergency department for CHF in the past 12 months.
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC clients/patients with CHF who visited the emergency department for CHF in the past 12 months
DENOMINATOR	Number of PHC clients/patients, ages 20 to 75 years, with CHF
DATA SOURCE AND AVAILABILITY	Potential Pan-Canadian data source could be available using the National Ambulatory Care Reporting System with PHC encounter data.
RATIONALE AND INTERPRETATION	This outcome measure assesses clients/patients with diagnosed CHF who visited the emergency department (ED) for an acute exacerbation, as a proxy measure for CHF community-based management. CHF hospital amissions tend to be related primarily to behavioural factors (e.g. non-adherence to heart failure medication and dietary regimen) or social factors (e.g. inadequate social support network, and insufficient follow-up).[9, 10, 11, 12, 13] In 2003, the Canadian Cardiovascular Outcomes Research Team/Canadian Cardiovascular Society Heart Failure Quality Indicator Panel[14] recommended outcome indicators concerning ED visits for CHF within 30 days or one year of discharge. A low rate for this indicator can be interpreted as a positive result.

GLYCEMIC CONTROL FOR DIABETES

INDICATOR NUMBER	39
INDICATOR DEFINITION	% of PHC clients/patients, 18 years and over, with diabetes mellitus in whom the last HbA1c was 7.0% or less (or equivalent test/reference range depending on local laboratory) in the last 15 months.
DEFINITION OF RELEVANT TERMS	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."[5]
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC clients/patients with diabetes mellitus in whom the last HbA1c was 7.0% or less (or equivalent test/reference range depending on local laboratory) in the past 15 months
DENOMINATOR	Total number of PHC clients/patients, 18 years and over with diabetes mellitus within the past 15 months
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Clinical administrative data source required.
RATIONALE AND INTERPRETATION	This indicator measures the percentage of clients/patients with diabetes mellitus for whom the ideal treatment goal of HbA1c less than 7% is met. Type 2 diabetes may be present for several years before being diagnosed[15] and, in some clients/patients with diabetes, short-term hyperglycemia can result in vascular changes.[16] The Canadian Diabetes Association[17] guidelines recommend "aiming aggressively for glycemic targets as close to normal as early as possible to reduce risk of microvascular and macrovascular diseases. The glycemic target for most people with diabetes is HbA1c less than or equal to 7.0% (measured every 3 months)." A similar HbA1c proxy outcome indicator is included in the Quality and Outcomes Framework for England.[18] A rate for this indicator can be interpreted as a positive result.

BLOOD PRESSURE CONTROL FOR HYPERTENSION

INDICATOR NUMBER	40
INDICATOR DEFINITION	% of PHC clients/patients, 18 years and over, with hypertension for duration of at least one year, who have blood pressure measurement control (i.e. less than 140/90 mmHg).
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC clients/patients with hypertension for duration of at least one year, who have blood pressure measurement control (i.e. less than 140/90 mmHg)
DENOMINATOR	Total number of PHC clients/patients, 18 years and over, with hypertension for duration of at least one year
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Clinical administrative data source required.
RATIONALE AND INTERPRETATION	Achieving a target blood pressure of less than 140/90 mmHg for a PHC client/patient with hypertension reflects effective control of hypertension. The Canadian Heart Health Survey[19] found that although 22% of adult Canadians have hypertension, only 16% have it controlled with drug therapy. Hypertension management is often suboptimal; substantial proportions of clients/patients receive no treatment and are not controlled for hypertension (19%) or have hypertension that is uncontrolled despite receiving treatment (23%), even though numerous studies have proven the benefit of lowering blood pressure.[20] An estimated one third of Coronary Heart Disease events in men and more than half of these events in women could be prevented with satisfactory control of blood pressure in clients/patients with hypertension.[21] A high rate for this indicator can be interpreted as a positive result.

INFLUENZA IMMUNIZATION, 65+

INDICATOR NUMBER	41
INDICATOR DEFINITION	% of PHC clients/patients, 65 years and over, who received an influenza immunization within the past 12 months.
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC clients/patients who received an influenza immunization within the past 12 months
DENOMINATOR	Total number of PHC clients/patients 65 years and over within the past 12 months
DATA SOURCE AND AVAILABILITY	No Pan-Canadian clinical administrative data source currently available. CCHS includes a related survey question.
RATIONALE AND INTERPRETATION	The influenza virus is responsible for substantial morbidity and mortality in Canada that may, in part, be preventable through immunization programs. The National Advisory Committee on Immunization (NACI)[22] recommends, "to reduce the morbidity and mortality associated with influenza and the impact of illness in our communities, immunization programs should focus on those at high risk for influenza-related complications." NACI[23] recommends that people 65 years and over receive influenza vaccine every year. For elderly people, influenza and pneumococcal vaccines are reported as more cost-effective than all other preventive, screening and treatment interventions that have been studied.[23] A high rate for this indicator can be interpreted as a positive result.

PNEUMOCOCCAL IMMUNIZATION, 65+

INDICATOR NUMBER	42
INDICATOR DEFINITION	% of PHC clients/patients, 65 years and over, who have received a pneumococcal immunization.
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC clients/patients who received a pneumococcal immunization
DENOMINATOR	Total number of PHC clients/patients 65 years and over
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Clinical administrative data source required.
RATIONALE AND INTERPRETATION	Pneumonia, among other respiratory infections, represents an important threat to older clients/patients' health.[24] The National Advisory Committee on Immunization[23] recommends, "people 65 years and over should receive, on a one-time basis, a dose of pneumococcal vaccine. For elderly people, influenza and pneumococcal vaccines are reported as more cost-effective than all other preventive, screening and treatment interventions that have been studied." A high rate for this indicator can be interpreted as a positive result.

WELL BABY SCREENING

INDICATOR NUMBER	43
INDICATOR DEFINITION	% of PHC clients/patients who received screenings for congenital hip displacement, eye and hearing problems by 3 years of age.
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC clients/patients who received screening for congenital hip displacement, eye and hearing problems by 3 years of age
DENOMINATOR	Number of PHC clients/patients, 3 years of age
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Clinical administrative data source required.
RATIONALE AND INTERPRETATION	Early detection and treatment of congenital hip displacement, eye and hearing problems in infants can potentially reduce the burden of suffering related to these physical conditions. For example, if profound hearing loss is identified within the first year of life, the resultant problems with speech and learning may be mitigated.[27] Tests for strabismus can help detect "wandering" eye and allow for timely treatment.[25] In a study of congenital hip dislocation, the amount of open surgery required was much less and long-term results much better among infants whose condition has been diagnosed at birth and treated before 1 month of age than among those diagnosed later in the first year.[26] Evidence reviewed by the Canadian Task Force on Preventive Health Care (CTFPHC) indicates that the burden of disease can be reduced if: children have their congenital hip dislocation fixed before the age of 1 month, if infants have their eyes aligned before the age of 24 months, and if hearing aids and training are introduced before 3 years of age. The CTFPHC recommends repeated examination of hips, eyes and hearing, especially in the first year of life (grade A recommendation).[27] A high rate for this indicator can be interpreted as a positive result.

CHILD IMMUNIZATION

INDICATOR NUMBER	44
INDICATOR DEFINITION	% of PHC clients/patients who received required primary childhood immunizations by 7 years of age.
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC clients/patients who received required primary childhood immunizations at recommended schedule
DENOMINATOR	Total number of PHC clients/patients 7 years of age
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Clinical administrative data source required.
RATIONALE AND INTERPRETATION	Few measures in preventive medicine are of such proven value as routine primary childhood immunization against infectious diseases. Immunization carried out according to the recommended schedule provides good basic protection for most children against these diseases.[23] This measure is used to assess the percentage of seven-year-olds who are up-to-date with their primary series of immunizations. The Canadian Task Force on Preventive Health Care recommends vaccination with diphtheria-pertussis-tetanus (DPT) and polio vaccines at 2, 4, 6, 18 months and 4–6 years; hemophilus influenzae type b (Hib) conjugate vaccine at 2, 4, 6 and 18 months and measles-mumps-rubella (MMR) vaccine at 12 months and 4–6 years (grade A recommendation).[28] A high rate for this indicator can be interpreted as a positive result.

BREAST-FEEDING EDUCATION

INDICATOR NUMBER	45
INDICATOR DEFINITION	% of women PHC clients/patients who had a live birth and received counseling on breast feeding, education programs and postpartum support to promote breast feeding.
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of women PHC clients/patients who had a live birth in the past year and received counseling on breast feeding, education programs and postpartum support to promote breast feeding
DENOMINATOR	Number of women PHC clients/patients who have had a live birth in the past year
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Clinical administrative data source required.
RATIONALE AND INTERPRETATION	Breast-feeding has been shown to improve the health of infants and their mothers.[29] Studies indicate that breastfeeding counseling during antenatal care is effective at improving both initiation and continuation of breast-feeding during the first two months postpartum, compared with usual care.[30] The Canadian Task Force on Preventive Health Care recommends the provision of structured antenatal counseling. There is good evidence to recommend provision of structured antepartum educational programs and postpartum support (grade A recommendation).[30] A high rate for this indicator can be interpreted as a positive result.

DEPRESSION SCREENING FOR PREGNANT AND POST PARTUM WOMEN

INDICATOR NUMBER	46
INDICATOR DEFINITION	% of women PHC clients/patients who are pregnant or post partum who have been screened for depression.
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of women PHC clients/patients who are pregnant or post partum who have been screened for depression
DENOMINATOR	Total number of women PHC clients/patients who are pregnant or post partum
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Clinical administrative data source required.
RATIONALE AND INTERPRETATION	Pregnancy and post partum is a high-risk time for new onset or reactivated depression. The literature indicates, "early detection of depression is critical for initiating treatment and potentially reducing the resultant cognitive, emotional, and behavioural consequences for mothers and their children."[31] A high rate for this indicator can be interpreted as a positive result.

COUNSELLING ON HOME RISK FACTORS FOR CHILDREN

INDICATOR NUMBER	47
INDICATOR DEFINITION	% of PHC clients/patients with children under 2 years who were given information on child injury prevention in the home.
DEFINITION OF RELEVANT TERMS	Information is defined as safety advice about preventive measures for childhood injuries, including: use of car seats for infant/toddler; never leave a young child alone in bathtub; encourage swimming lessons, diving and boating safety; install smoke detectors in the home; use non-inflammable sleepwear; use safe toys and safe food (i.e. avoid hard, small and round, smooth and sticky solid food); do not use baby walkers; wear bike helmets; have Poison Control Centre number handy, and safety proof cupboards and drawers containing medicine, cleaners and solvents.[32]
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC clients/patients who were given information on child injury prevention in the home
DENOMINATOR	% of PHC clients/patients with children under 2 years
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Clinical administrative data source required.
RATIONALE AND INTERPRETATION	Injuries in the home are a significant problem for preschool children. Evidence suggests that counselling on home risk factors is effective in improving parental knowledge and behaviour.[33] The Canadian Task Force on Preventive Health Care recommends the provision of individual counselling on the hazards in the home (grade B recommendation).[33] A high rate for this indicator can be interpreted as a positive result

COLON CANCER SCREENING

INDICATOR NUMBER	48
INDICATOR DEFINITION	% of PHC clients/patients, 50 years and over, who received screening for colon cancer with Hemoccult test within the past 24 months.
DEFINITION OF RELEVANT TERMS	Hemoccult Test (also known as FOBT, fecal occult blood test, stool occult blood, hemoccult, guaiac smear test, gFOBT, immunochemical FOBT, immunoassay FOBT, and iFOBT) is one or more stool samples to screen for gastrointestinal bleeding, which may be an indicator of colon cancer.[34]
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC clients/patients who received screening for suspected colon cancer with Hemoccult test
DENOMINATOR	Total number of PHC clients/patients 50 years and over
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Clinical administrative data source required.
RATIONALE AND INTERPRETATION	Colorectal cancer, the third most common cancer, affects both men and women. An estimated 20,000 new cases are diagnosed annually in Canada, where one-third of these cases will be fatal.[35] Screening may allow detection of tumors at an early stage, which would improve the prognosis.[35] Evidence from randomized controlled trials show that fecal occult blood testing (FOBT) results in a significant decrease in mortality from colorectal cancer, but not in overall mortality.[36] The Canadian Task Force on Preventive Health Care, Health Canada and Cancer Care Ontario recommend that everyone aged 50 and over have a FOBT every one to two years to detect and even prevent colorectal cancer.[37, 38] A high rate for this indicator can be interpreted as a positive result.

BREAST CANCER SCREENING

INDICATOR NUMBER	49
INDICATOR DEFINITION	% of women PHC clients/patients, ages 50 to 69 years, who received mammography and clinical breast examination within the past 24 months.
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of women PHC clients/patients who were offered and/or received mammography and clinical breast exam
DENOMINATOR	Total number of women PHC clients/patients ages 50 to 69 years within the past 24 months
DATA SOURCE AND AVAILABILITY	Pan-Canadian clinical administrative data source currently not available. CCHS has a related survey question.
RATIONALE AND INTERPRETATION	Early detection of breast cancer is an important strategy in offering women more treatment options, as well as improved survival outcomes. Among women aged 50 and older, mammography screening has been shown to reduce mortality by 20 to 40 percent.[39] The Canadian Task Force on Preventive Health Care concludes that there is good evidence for screening women ages 50 to 69 years by clinical breast examination and mammography (Grade A recommendation). The best available data support screening every 1–2 years.[40] A high rate for this indicator can be interpreted as a positive result.

CERVICAL CANCER SCREENING

INDICATOR NUMBER	50
INDICATOR DEFINITION	% of women PHC clients/patients, ages 18 to 69 years, who received a papanicolaou smear within the past 3 years.
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of women PHC clients/patients who received a papanicolaou smear within the past 3 years
DENOMINATOR	% of women PHC clients/patients, ages 18 to 69 years
DATA SOURCE AND AVAILABILITY	Pan-Canadian clinical administrative data source currently not available. CCHS has a related survey question.
RATIONALE AND INTERPRETATION	Although the incidence of cervical cancer has declined dramatically since the 1950s, in 2005, an estimated 1,350 women in Canada will be diagnosed with cancer of the cervix and 400 will die of their disease.[41] Studies show that "cervical smears reduce the risk of developing invasive carcimona of the cervix in women who have been sexually active."[42] The Canadian Task Force on Preventive Health Care recommends papanicolaou smear annual screening following initiation of sexual activity or age 18; after 2 normal smears, screen every 3 years to age 69 (grade B recommendation).[42] A high rate for cervical cancer screening by pap tests can be interpreted as a positive result.

BONE DENSITY SCREENING

INDICATOR NUMBER	51
INDICATOR DEFINITION	% of women PHC clients/patients, 65 years and over, who received screening for low bone mineral density at least once.
DEFINITION OF RELEVANT TERMS	Bone mineral density tests use X-rays to measure how many grams of calcium and other bone minerals, collectively known as bone mineral content, are packed into a segment of bone. And the denser the bones, the stronger they are and the less likely they are to break. Physicians use a bone density test to determine if one has, or are at risk of, osteoporosis or fracture.[43]
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of women PHC clients/patients who received screening for low bone mineral density at least once
DENOMINATOR	Total number of women PHC clients/patients 65 years or older
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Clinical administrative data source required.
RATIONALE AND INTERPRETATION	One in six Canadian women, over age 50 years, are affected by osteoporosis where the major clinical consequence is bone fracture.[44] The Canadian Task Force on Preventive Health Care concludes that there is fair evidence to recommend screening postmenopausal women to prevent fragility fracture (no or low trauma factures) (grade B recommendation).[45] Studies show "although there is no direct evidence that screening reduces fractures, there is good evidence that screening is effective in identifying postmenopausal women with low bone mineral density and that treating osteoporosis can reduce the risk of fractures in this population (grade A recommendation)".[45] Recommended risk assessment tools for low bone mineral density screening include S.C.O.R.E.[46], and the Osteoporosis Risk Assessment Instrument.[47]A high rate for this indicator can be interpreted as a positive result.

DYSLIPIDEMIA SCREENING FOR WOMEN

INDICATOR NUMBER	52
INDICATOR DEFINITION	% of PHC women clients/patients, 55 years and over, who had a full fasting lipid profile measured within the past 24 months.
DEFINITION OF RELEVANT TERMS	Full fasting lipid profile is a group of tests that are often ordered together to determine risk of coronary artery disease. Tests that make up a lipid profile are good indicators of whether someone is likely to have a heart attack or stroke caused by blockage of blood vessels (hardening of the arteries). Lipid profile includes total cholesterol, HDL–cholesterol, LDL–cholesterol, and triglycerides.[55]
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC women clients/patients who had a full fasting lipid profile measured within the past 24 months
DENOMINATOR	Total number of PHC women clients/patients, 55 years and over, within the past 24 months
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Clinical administrative data source required.
RATIONALE AND INTERPRETATION	Routine screening for dyslipidemia is recommended for women who are postmenopausal or over 50 years of age. Patients of any age may be screened if certain risk factors are present, for example, hypertension, use of tobacco products, abdominal obesity, or a strong family history.[48] A high rate for this indicator can be interpreted as a positive result.

DYSLIPIDEMIA SCREENING FOR MEN.

INDICATOR NUMBER	53
INDICATOR DEFINITION	% of PHC men clients/patients, 40 years and over, who had a full fasting lipid profile measured within the past 24 months.
DEFINITION OF RELEVANT TERMS	Full fasting lipid profile is a group of tests that are often ordered together to determine risk of coronary artery disease. Tests that make up a lipid profile are good indicators of whether someone is likely to have a heart attack or stroke caused by blockage of blood vessels (hardening of the arteries). Lipid profile includes total cholesterol, HDL–cholesterol, LDL–cholesterol, and triglycerides.[55]
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC men clients/patients who had a fasting lipid profile measured within the past 24 months
DENOMINATOR	Total number of PHC men clients/patients 40 years and over
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Clinical administrative data source required.
RATIONALE AND INTERPRETATION	Routine screening for dyslipidemia is recommended for men over 40 years of age. Patients of any age may be screened if certain risk factors are present, for example, hypertension, use of tobacco products, abdominal obesity, or a strong family history.[48] A high rate for this indicator can be interpreted as a positive result.

BLOOD PRESSURE TESTING

INDICATOR NUMBER	54
INDICATOR DEFINITION	% of PHC clients/patients, 18 years and over, who had their blood pressure measured in the past 24 months.
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC clients/patients who had their blood pressure measured by their PHC provider in the past 24 months
DENOMINATOR	Total number of PHC clients/patients 18 years and over, in the past 24 months
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Clinical administrative data source required.
RATIONALE AND INTERPRETATION	Regular blood pressure measurement helps identify individuals with hypertension, a major cause of a heart attack or stroke. Despite advances in the management of hypertension there remains a gap at the "front-end" of disease management, that is, in the detection and diagnosis of hypertension.[20, 49] Substantial proportions of clients/patients are unaware they have hypertension (42% in the most recent Canadian Heart Health Survey),[19] even though numerous studies have proven the benefit of lowering blood pressure.[50] A high rate for this indicator can be interpreted as a positive result.

SCREENING FOR MODIFIABLE RISK FACTORS IN ADULTS WITH CORONARY ARTERY DISEASE (CAD)

INDICATOR NUMBER	55
INDICATOR DEFINITION	% of PHC clients/patients, 18 years and over, with coronary artery disease (CAD) who received annual testing, within the past 12 months, for all of the following: • Fasting blood sugar; • Full fasting lipid profile screening; • Blood pressure measurement; and • Obesity/overweight screening.
DEFINITION OF RELEVANT TERMS	Coronary artery disease (CAD) (with or without angina): Examples include clients/patients with prior myocardial infarctions, prior revascularization, angiographically proven coronary atherosclerosis, or reliable noninvasive evidence of myocardial ischemia.[51] 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.[55] Obesity/overweight screening measures may include: • Body Mass Index (BMI), a method of assessing body weight while taking height into account; calculated by dividing weight by height squared.[5] • 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 (CVD).[52]
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC clients/patients who received annual testing for all of the following • Fasting blood sugar • Full fasting lipid profile screening • Blood pressure measurement • Obesity/overweight screening
DENOMINATOR	Total number of PHC clients/patients, 18 years and over, with CAD within the past 12 months
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Clinical administrative data source required.

SCREENING FOR MODIFIABLE RISK FACTORS IN ADULTS WITH CORONARY ARTERY DISEASE (CAD) (cont'd)

RATIONALE AND INTERPRETATION	Atherosclerotic vascular disease, particularly CAD, continues to be the leading cause of death and disability for Canadian men and women. Clients/patients who have had an Acute Myocardial Infarction remain at high risk for successive ischemic vascular events and/or death. However, this risk can be lowered through optimal control of known modifiable cardiovascular risk factors, for example, use of tobacco products, dyslipidemia, hypertension, diabetes and physical inactivity. Moreover, risk factor modification in this high-risk population has been shown to be cost-effective.[53] Yan and colleagues[54] showed that for individuals with no cardiovascular risk factors as well as for those with one or more risk factors, those who are obese in middle age have a higher risk of hospitalization and mortality from CAD, CVD and diabetes in older age than those who are normal weight. A high rate for this indicator can be interpreted as a positive result.

SCREENING FOR MODIFIABLE RISK FACTORS IN ADULTS WITH HYPERTENSION

INDICATOR NUMBER	56
INDICATOR DEFINITION	% of PHC clients/patients, 18 years and over, with hypertension who received annual testing, within the past 12 months, for all of the following: • Fasting blood sugar; • Full fasting lipid profile screening; • Test to detect renal dysfunction (e.g. serum creatinine); • Blood pressure measurement; and • Obesity/overweight screening.
DEFINITION OF RELEVANT TERMS	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.[55] Obesity/overweight screening measures may include: • Body Mass Index (BMI), a method of assessing body weight while taking height into account; calculated by dividing weight by height squared.[5] • 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 patients with Cardiovascular Disease.[52] • Creatinine is a substance in the blood to determine if the kidneys are functioning normally and to monitor treatment for kidney disease.[56]
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC clients/patients with Hypertension who received annual testing for all of the following • Fasting blood sugar • Full fasting lipid profile screening • Test to detect renal dysfunction (e.g. serum creatinine) • Blood pressure measurement • Obesity/overweight screening
DENOMINATOR	Total number of PHC clients/patients with hypertension within the past 12 months
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Clinical administrative data source required.

SCREENING FOR MODIFIABLE RISK FACTORS IN ADULTS WITH HYPERTENSION (cont'd)

RATIONALE AND INTERPRETATION	Hypertension is a key modifiable risk factor for myocardial infarction and the third leading risk factor for death and disability. Optimal control of blood pressure in people with hypertension could prevent almost half of all atherosclerotic cardiovascular events in North America.[21] Over one-fifth of Canadians have hypertension.[19] Evaluating and addressing all modifiable risk factors in adults with hypertension, including smoking of any amount, elevated blood pressure, elevated serum total cholesterol, low-density lipoprotein cholesterol, low serum high-density lipoprotein and diabetes mellitus is a secondary prevention maneuver.[20, 57] A high rate for this indicator can be interpreted as a positive result.

SCREENING FOR MODIFIABLE RISK FACTORS IN ADULTS WITH DIABETES

INDICATOR NUMBER	57
INDICATOR DEFINITION	% of PHC clients/patients, 18 years and over, with diabetes mellitus who received annual testing, within the past 12 months, for all of the following: • Hemoglobin A1c testing (HbA1c); • Full fasting lipid profile screening; • Nephropathy screening (e.g. albumin/creatinine ratio, microalbuminuria); • Blood pressure (BP) measurement; and • Obesity/overweight screening.
DEFINITION OF RELEVANT TERMS	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.[55] 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.[5] Nephropathy screening is looking for the presence of protein in the urine that might direct the choice of pharmacologic agent for hypertensive clients/patients. Diabetics require screening for nephropathy with random albumin to creatinine ratio and have their creatinine clearance estimated (using, for example, the Cockcroft-Gault formula).[16] Random microalbumin or microalbumin/creatinine ratio are screening tests for people with diabetes mellitus that put them at an increased risk of developing kidney failure. Studies show that identifying very early stages of kidney disease (microalbuminuria) helps adjust treatment. With better control of diabetes and hypertension, the progression of diabetic kidney disease can be slowed or prevented.[58] Obesity/overweight screening measures may include: • Body Mass Index (BMI): a method of assessing body weight while taking height into account; calculated by dividing weight by height squared.[5] • 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.[52]
METHOD OF CALCULATION	(Numerator/Denominator) x 100

SCREENING FOR MODIFIABLE RISK FACTORS IN ADULTS WITH DIABETES (cont'd)

NUMERATOR	Number of PHC clients/patients with diabetes mellitus, whose medical record indicates that they had a HbA1c level, full fasting lipid profile and nephropathy screening, blood pressure and obesity screening measurement performed at least once in the last year
DENOMINATOR	Total number of PHC clients/patients, 18 years and over, with diabetes mellitus in the past 12 months
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Clinical administrative data source required.
RATIONALE AND INTERPRETATION	Early screening and aggressive management of diabetic clients/patients is recommended by the evidence-based Canadian Diabetes Association guidelines.[17] Increasing prevalence of Type 2 diabetes in Canada can be traced, in part, to an aging population, increasing immigration among high-risk ethnic populations, increasing obesity among children and adults, and low levels of physical activity. As 80% of people with diabetes will die as a result of a vascular event, all coronary risk factors must be treated aggressively. Cardiovascular disease (CVD) in diabetic clients/patients is also the costliest.[16, 59] Secondary prevention maneuvers including, HbA1c testing, lipid profile and nephropathy screening, blood pressure measurement and obesity screening can potentially overt more serious complications of diabetes. The National Primary Care Research and Development Centre and RAND Corp.[60] recommended an annual HbA1c, lipid profile within past 3 years, and treatment for sustained proteinuria for all diabetics. A high rate for this indicator can be interpreted as a positive result.

SCREENING FOR VISUAL IMPAIRMENT IN ADULTS WITH DIABETES

INDICATOR NUMBER	58
INDICATOR DEFINITION	% of PHC clients/patients, 18 to 75 years, with diabetes mellitus who saw an optometrist or ophthalmologist within the past 24 months.
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC clients/patients with diabetes mellitus who saw an optometrist or ophthalmologist within the past 24 months
DENOMINATOR	Total number of PHC clients/patients, ages 18 to 75 years, with diabetes mellitus within the past 24 months
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Clinical administrative data source required.
RATIONALE AND INTERPRETATION	Effective use of eye exams can potentially minimize diabetes related disease of the retina. The Canadian Diabetes Association[17, 61] recommends that people with type 2 diabetes see, at the time of diagnosis, an experienced professional for retinopathy assessment. Follow-up assessments are recommended. The recommended interval is 1 to 2 years for individuals with no retinopathy at diagnosis; once per year or less if retinopathy is present at diagnosis. The procedure used to perform a retinal assessment is a fundoscopy. This procedure may be performed by an appropriate PHC provider, but is frequently provided by a regular eye care provider, such as an optometrist or ophthalmologist.[62] A high rate for this indicator can be interpreted as a positive result.

ASTHMA CONTROL

INDICATOR NUMBER	59
INDICATOR DEFINITION	% of PHC clients/patients, ages 6 to 55 years, with asthma, who were dispensed high amounts (greater than 4 canisters) of short-acting beta2-agonist (SABA) within the past 12 months AND who received a prescription for preventer/controller medication (e.g. inhaled corticosteroid—ICS).
DEFINITION OF RELEVANT TERMS	Preventer medications, predominantly inhaled corticosteroids (ICS), are recommended treatment for moderate and severe asthma. Their use is directed at improving control, improving lung function and preventing exacerbations. These drugs are also used in the management of other respiratory conditions, including chronic obstructive pulmonary disease.[63] Short-acting beta-agonists—SABA have been used for symptom relief and should be used only on demand at the minimum dose and frequency required.[64]
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC clients/patients with asthma, who were dispensed high amounts (greater than 4 canisters) of short-acting beta2-agonist (SABA) within the past 12 months AND who received a prescription for preventer/controller medication (e.g. inhaled corticosteroid)
DENOMINATOR	Total number of PHC clients/patients, ages 6 to 55 years, with asthma within past 12 months
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Clinical administrative data source required.
RATIONALE AND INTERPRETATION	Canadian Asthma Consensus Guidelines[64] recommend regular use of an inhaled corticosteroid (ICS) for asthma control if a short-acting beta-agonist (SABA) is used in excess of recommended quantities (i.e. more than three times per week). Furthermore, the guidelines recommend that those with poor asthma control receive at least a moderate dose of ICS. ICS have been shown to reduce symptoms and exacerbations, prevent hospitalization and reduce mortality.[65, 66] An expert panel convened in 2004 recommends monitoring use of inhaled corticosteroids per client/patient (e.g. number of inhaled corticosteroid prescriptions filled).[8] A high rate for this indicator can be interpreted as a positive result.

TREATMENT FOR CONGESTIVE HEART FAILURE (CHF)

INDICATOR NUMBER	60
INDICATOR DEFINITION	% of PHC clients/patients, 18 years and over, with CHF who are using ACE inhibitors or ARBs.
DEFINITION OF RELEVANT TERMS	Angiotensin-converting enzyme (ACE) inhibitors: pharmacological treatment for CHF. Angiotensin receptor blockers (ARBs): pharmacological treatment for CHF for people who experience side effects to ACE inhibitors.
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC clients/patients with CHF who are using ACE inhibitors or ARBs
DENOMINATOR	Number of PHC clients/patients, 18 years and over, with CHF
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Clinical administrative data source required.
RATIONALE AND INTERPRETATION	As in most Western countries, the burden of heart failure in Canada is increasing, primarily because of the aging of the population, but also in part because of improved survival among clients/patients with hypertension and coronary artery disease.[13] Despite major advances in treatment over the past 25 years, there have been only modest improvements in heart failure outcomes on a population-wide basis. One factor that contributes to worsening heart failure is under-use (both under-prescription and under-dosing) of proven and recommended heart failure therapies such as angiotensin-converting-enzyme inhibitors and beta blockers.[9, 10, 13] In 2003, the Canadian Cardiovascular Outcomes Research Team/Canadian Cardiovascular Society Heart Failure Quality Indicator Panel[14] recommended this indicator. A high rate for this indicator can be interpreted as a positive result.

TREATMENT FOR DYSLIPIDEMIA

INDICATOR NUMBER	61
INDICATOR DEFINITION	% of PHC clients/patients, 18 years and over, with established CAD and elevated LDL-C (i.e. greater than 2.5 mmol/L) who were offered lifestyle advice and/or lipid lowering medication.
DEFINITION OF RELEVANT TERMS	Coronary Artery Disease (CAD) (with or without angina): Examples include clients/patients with prior myocardial infarctions, prior revascularization, angiographically proven coronary atherosclerosis, or reliable noninvasive evidence of myocardial ischemia.[51] LDL-C (low-density lipoprotein-cholesterol): a type of lipoprotein that carries cholesterol in the blood. LDL is considered to be undesirable because it deposits excess cholesterol in walls of blood vessel and contributes to "hardening of the arteries" and heart disease. Hence, LDL cholesterol is often termed "bad" cholesterol. Test for LDL measures the amount of LDL cholesterol in blood.[67] Lipid lowering medications include Statins, Resins, Cholesterol Absorption Inhibitors, Fibrates and Niacin.
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC clients/patients with established CAD and elevated LDL-C (i.e. greater than 2.5 mmol/L) who were offered lifestyle advice and/or lipid lowering medication
DENOMINATOR	Total number of PHC clients/patients, 18 years and over, with established CAD and elevated LDL-C (i.e. greater than 2.5 mmol/L)
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Clinical administrative data source required.
RATIONALE AND INTERPRETATION	Association between elevated blood cholesterol levels and cardiovascular disease (CVD) is well established by several studies. CVD is the leading cause of death in Canada. Medication therapy to lower LDL-C levels can be considered for primary and secondary prevention for clients/patients at high risk of CAD.[68] The Working Group on Hypercholesterolemia and other dyslipidemias[48] released recommendations for management of dyslipidemia and prevention of CVD and supports use of this indicator in relation to high risk category of patients. Clients/patients in the high-risk category includes individuals with a history of any atherosclerotic disease. The target lipid levels for these high-risk category clients/patients are a LDL-C level of less than 2.5 mmol/L, and total cholesterol: HDL-C ratio of less than 4.0. For some high-risk individuals, lifestyle changes have shown to be effective. These changes include dietary interventions and increased physical activity.[48, 53] A high rate for this indicator can be interpreted as a positive result.

TREATMENT OF ACUTE MYOCARDIAL INFARCTION (AMI)

INDICATOR NUMBER	62
INDICATOR DEFINITION	% of PHC clients/patients who have had an AMI and are currently prescribed a beta-blocking drug.
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number PHC clients/patients who have had an AMI and are currently prescribed a beta-blocking drug
DENOMINATOR	Number of PHC clients/patients who have had an AMI
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Clinical administrative data source required.
RATIONALE AND INTERPRETATION	This indicator measures if commonly accepted standards of care are met for secondary prevention in post-AMI clients/patients. Despite widespread dissemination of evidence-based guidelines for the management of AMI, many patients are not receiving recommended treatments. For example, from 1997 to 2000, rates of prescription for beta blockers within 30 days of discharge for elderly patients with AMI were as low as 43% in certain Canadian regions.[69, 70] In 2003, the Canadian Cardiovascular Outcomes Research Team/Canadian Cardiovascular Society Acute Myocardial Infarction Quality Indicator Panel[71] recommended this indicator. A high rate for this indicator can be interpreted as a positive result.

ANTIDEPRESSANT MEDICATION MONITORING

INDICATOR NUMBER	63
INDICATOR DEFINITION	% of PHC clients/patients with depression who are taking antidepressant drug treatment under the supervision of a PHC provider, and who had follow-up contact by a PHC provider for review within two weeks of initiating antidepressant drug treatment.
DEFINITION OF RELEVANT TERMS	Antidepressants are medicines used to help people who have depression. Most antidepressants are believed to work by slowing the removal of certain chemicals called neurotransmitters from the brain. Neurotransmitters are needed for normal brain function. Antidepressants help people with depression by making these natural chemicals more available to the brain.[72] Follow-up contact methods may include a return office visit, home visit or telephone contact.
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC clients/patients with depression who are taking antidepressant drug treatment under the supervision of a PHC provider, and who had follow-up contact by a PHC provider for review within two weeks of initiating antidepressant drug treatment
DENOMINATOR	Total number of PHC clients/patients, 18 years and over, with depression who are taking antidepressant drug treatment under the supervision of a PHC provider
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Clinical administrative data source required.
RATIONALE AND INTERPRETATION	Depressive disorders can impair personal, social and family functioning and increase the risk of suicide. Studies demonstrate that clients/patients with depression, compared with a non-depressed group, experience deficiencies in physical and role functioning, more days lost of work and decreased productivity. They also make considerable use of health services, with hospitalizations accounting for a high proportion of costs. Antidepressant medications are effective in ameliorating these impacts and continuous antidepressant medication treatment in acute phase of an episode has been shown to have good expectations for continued adherence.[73] Guidelines recommend that all clients/patients with major depressive disorder be followed at least weekly or biweekly until they show clear improvement.[74] Regular follow-up (non-pharmacological treatment) for clients/patients taking antidepressant medication is important because antidepressants do not begin to have a clinical effect for some time after initiating therapy (length of time depends on which drug is prescribed) and clients/patients with major depression are at risk of suicide.[75, 76, 77, 78, 62] Katz and colleagues' study on quality of care included an indicator to track follow-up after prescribing an antidepressant.[62] A high rate for this indicator can be interpreted as a positive result.





TREATMENT OF DEPRESSION

INDICATOR NUMBER	64
INDICATOR DEFINITION	% of PHC clients/patients, 18 years and over, with depression who were offered treatment (pharmacological and/or non-pharmacological) or referral to a mental health provider.
DEFINITION OF RELEVANT TERMS	Mental Health Provider is a caregiver with mental health expertise, for example, Psychologist, Psychiatrist, Occupational Therapist, Psychiatric Registered Nurse or Social Worker.
NUMERATOR	Number of PHC clients/patients with depression who were offered treatment (pharmacological and/or non-pharmacological) or referral to a mental health provider
DENOMINATOR	Total number of PHC clients/patients, 18 years and over, with depression
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Clinical administrative data source required.
RATIONALE AND INTERPRETATION	The significant economic costs and disability associated with depressive illness are reduced by effective treatment.[79] National Institute for Clinical Excellence[80] guidelines on depression recommend that for mild and moderate depression either drug treatments or psychological treatments specifically focused on depression (such as problem-solving therapy, Cognitive Behavioural Therapy and counseling) be offered as treatment options. The Canadian Network for Mood and Anxiety Treatments'[75] guidelines for treatment of individuals diagnosed with major depressive disorders recommend structured, time-limited psychotherapies or pharmacotherapy for mildly to moderately severe major depression. Combining antidepressant and psychotherapy treatment is recommended for clients/patients with severe or chronic depression. A high rate for this indicator can be interpreted as a positive result.

TREATMENT OF ANXIETY

INDICATOR NUMBER	65
INDICATOR DEFINITION	% of PHC clients/patients, 18 years and over, with a diagnosis of panic disorder or generalized anxiety disorder who are offered treatment (pharmacological and/or non-pharmacological) or referral to a mental health provider.
DEFINITION OF RELEVANT TERMS	Mental Health Provider: a caregiver with mental health expertise (i.e. Psychologist, Psychiatrist, Occupational Therapist, Psychiatric Registered Nurse or Social Worker).
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC clients/patients with a diagnosis of panic disorder or generalized anxiety disorder who are offered treatment (pharmacological and/or non-pharmacological) or referral to a mental health provider
DENOMINATOR	Total number of PHC clients/patients, 18 years and over, with a diagnosis of panic disorder or generalized anxiety disorder
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Clinical administrative data source required.
RATIONALE AND INTERPRETATION	Anxiety disorders are common, chronic, the cause of considerable distress and disability, and are often unrecognized and untreated. If left untreated they are costly to both the individual and society. A range of effective interventions is available to treat anxiety disorders, including medication, psychological therapies and self-help (grade A recommendation).[81] A high rate for this indicator can be interpreted as a positive result.

TREATMENT FOR ILLICIT OR PRESCRIPTION DRUG USE PROBLEMS

INDICATOR NUMBER	66
INDICATOR DEFINITION	% of PHC clients/patients, with prescription or illicit drug use problems who were offered, provided or directed to treatment by the PHC provider.
DEFINITION OF RELEVANT TERMS	Prescription drugs: The three classes or prescription drugs that are most commonly abused are: Opioids for pain relief; Central nervous system depressants used to treat anxiety and sleep disorders; and Stimulants, which are prescribed to treat the sleep disorder narcolepsy and attention-deficit hyperactivity disorder.[82] Illicit/street drugs are illegal drugs such as crystal meth, marijuana, ecstasy, and phencyclidine (PCP; "angel dust"). At risk substance use is defined as using any illicit drugs.[83]
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC clients/patients, with prescription or illicit drug use problems who were offered, provided or directed to treatment by the PHC provider
DENOMINATOR	Total number of PHC clients/patients with prescription or illicit drug use problems
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Clinical administrative data source required.
RATIONALE AND INTERPRETATION	Use of addictive substances such as the abuse of prescription and illicit drugs is problematic and interferes with a productive life. Single and colleagues[84] report that the number of deaths related to illicit drug use in 1995 in Canada was estimated at 805, which represents 0.4% of all deaths. Although deaths caused by illicit drug use were less common than deaths attributable to alcohol and tobacco use, the people who died were younger. There is solid research to show that "treatment for a range of drug and alcohol problems is effective and can improve mental and physical health and social functioning. Treatment of families minimizes the intergenerational transmission of substance-use problems. However, most treatment programs engage only a small proportion of the people with drug and alcohol dependence."[85] A high rate for this indicator can be interpreted as a positive result.

SUPPORT FOR PHC MEDICATION INCIDENT REDUCTION

INDICATOR NUMBER	67
INDICATOR DEFINITION	% of PHC providers whose PHC organization has processes and structures in place to support a non-punitive approach to medication incident reduction.
DEFINITION OF RELEVANT TERMS	Non-punitive approaches to reporting medication incidents are voluntary in nature and sensitive to the privacy of the individuals involved.[86]
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC providers whose PHC organization has processes and structures in place to support a non-punitive approach to medication incident reduction
DENOMINATOR	Total number of PHC provider survey respondents
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Survey data source required.
RATIONALE AND INTERPRETATION	It is widely accepted that desired improvements in client/patient safety require a change in the culture within health care.[87] The Institute of Medicine[88] report "To Err Is Human" concluded "the status quo is no longer acceptable… Health care organizations must develop a culture of safety." A key attribute of a culture of safety is to foster a non-punitive approach to reporting client/patient safety incidents. Assigning blame tends to discourage reporting and can be a powerful barrier to collaborative problem solving. Conversely, a non-punitive approach assists in focusing on processes thereby identifying the root causes for the problems and improves the chances that future events will be reduced.[86] A high rate for this indicator can be interpreted as a positive result.

USE OF MEDICATION ALERTS IN PHC

INDICATOR NUMBER	68
INDICATOR DEFINITION	% of PHC organizations who currently use an electronic prescribing/drug ordering system that includes client/patient specific medication alerts.
DEFINITION OF RELEVANT TERMS	Alert: high priority reminder messages for medications. An alert is a check system to ensure that the prescription matches the right client/patient to the right medication, right dose, right frequency, right route, right duration and evaluates for drug interactions.[89] Electronic prescribing/drug ordering system: computer-based system capable of tracking and analyzing data for online medication screening and risk alerting; not paper-based.[89]
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC organizations that currently use an electronic prescribing/drug ordering system that includes client/patient specific medication alerts
DENOMINATOR	Total number of PHC organization survey respondents
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Survey data source required.
RATIONALE AND INTERPRETATION	Adverse clinical events related to inappropriate prescribing practices are a threat to client/patient safety. Minimizing or eliminating inappropriate prescribing in community settings, where the majority of prescriptions are written, offers a major area of opportunity to improve quality of care and outcomes. Electronic medication order entry systems, with automated clinical risk screening and online alerting capabilities, appear as a particularly promising tool in such settings. More research will have to be conducted about physician response to alerts and client/patient outcomes in order to determine the utility of electronic drug ordering system with client/patient specific medication alerts as a measure of quality care.[89] A high rate for this indicator can be interpreted as a positive result.

IMPLEMENTATION OF PHC CLINICAL QUALITY IMPROVEMENT INITIATIVES

INDICATOR NUMBER	69
INDICATOR DEFINITION	% of PHC organizations who implemented at least one or more changes in clinical practice as a result of quality improvement initiatives over the past 12 months.
DEFINITION OF RELEVANT TERMS	Quality improvement is an activity concerning improving care using whatever method is most suitable (e.g. risk management or practicing safely, developing information systems, audit, significant event audit, professional development or working out PHC provider priorities, taking into account local and national priorities and the needs of her/his practice).[90] Examples of a change in clinical practice include: the development of a standardized form to manage diabetes mellitus or coronary artery disease clients/patients, or working with Canada-wide priorities such as mental health services for PHC clients/patients.
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC organizations that implemented at least one or more changes in clinical practice as a result of quality improvement initiatives over the past 12 months
DENOMINATOR	Number of PHC organization survey respondents
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Survey data source required.
RATIONALE AND INTERPRETATION	Quality has come to the forefront as evidenced by the recent quality initiatives and emergence of Health Quality Councils in many jurisdictions in Canada. The mandate of the Ontario Health Quality Council, for example, is "to monitor and report to Ontarians on access to publicly funded health services and related health human resources, consumer population health status and health system outcomes. In this way, it will support continuous quality improvement."[91] PHC organizations can implement quality improvement initiatives to improve quality of care. A high rate for this indicator can be interpreted as a positive result.

MAINTAINING MEDICATION AND PROBLEM LISTS IN PHC

INDICATOR NUMBER	70
INDICATOR DEFINITION	% of PHC organization with a process in 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/Denominator) x 100
NUMERATOR	Number of PHC organizations with a process in place to ensure that a current medication and problem list is recorded in the PHC client's/patient's health record
DENOMINATOR	Total number of PHC organization survey respondents
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Survey data source required.
RATIONALE AND INTERPRETATION	Adequate record keeping facilitates good care delivered to PHC clients/patients. The Council of the College of Physicians and Surgeons of Alberta, the Canadian Medical Protective Association and the Canadian Medical Association[92] encourage physicians to keep a summary sheet at the front of the chart to highlight important information such as past history, current medications, and known allergies. This policy statement notes that the goal of adequate medical records is "to record sufficient information so that another practitioner is able to assume the client's/patient's care at any point in the course of treatment without loss of continuity."[92] A peer review of medical records conducted in a randomized sample of family physicians in Montreal showed a moderate association between good record keeping and the amount of continuing medical education and quality of care.[93] A high rate for this indicator can be interpreted as a positive result.

INFORMATION ABOUT PRESCRIBED MEDICATION BY PHC PROVIDER

INDICATOR NUMBER	71
INDICATOR DEFINITION	% of PHC clients/patients who report that their regular PHC provider (e.g. FP/GP, NP) has not explained the side effects of medications when prescribed, within the past 12 months.
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC clients/patients who report that their regular PHC provider (e.g. FP/GP, NP) has not explained the side effects of medications when prescribed, within the past 12 months
DENOMINATOR	Number of PHC client/patient survey respondents
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Survey data source required.
RATIONALE AND INTERPRETATION	Clients'/patients' knowledge of the proper use of medications and their associated side effects enhances compliance.[96] The advent of more complex pharmaceutical care intensifies the need for physician review and discussions with clients/patients to minimize risks and help clients/patients adhere to medication regimens.[94] Recent survey results from five countries indicated that a high proportion of clients/patients are not informed of possible medication side effects.[95] A 2005 survey of sicker adults in Australia, Canada, Germany, New Zealand, the United Kingdom and the United States[94], patients report a sizable gap in physicians' explanations about side effects. Among those taking multiple medications, this lack of review raises the risk of adverse drug interactions, as well as potentially undermining the effectiveness of care. In a study of 43 patients, only 14% were able to state the common side effect(s) of prescribed medications.[96] A low rate for this indicator can be interpreted as a positive result.

PROFESSIONAL DEVELOPMENT FOR PHC PROVIDERS AND SUPPORT STAFF

INDICATOR NUMBER	72
INDICATOR DEFINITION	% of PHC providers and support staff whose PHC organization provided them with support to participate in continuing professional development within the past 12 months, by type of PHC provider and support staff.
DEFINITION OF RELEVANT TERMS	Support to participate in continuing professional development may refer to either financial support or providing time (e.g. release from PHC work-related activities, relief coverage) so that PHC providers and support staff may participate in professional development activities. Support staff includes the following roles: Business Officer, receptionist, filing clerk, Data Manager, secretary, unregulated health care provider such as clinical assistant. Continuing professional development (CPD) is defined as Professional development of physicians (and PHC providers, support staff) which is a life-long commitment that builds on formal and informal opportunities to learn emerging science, apply innovations in clinical settings, and expand understandings of caring for patients.[97]
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC providers and support staff whose PHC organization provided them with support to participate in continuing professional development within the past 12 months, by type of PHC provider and support staff
DENOMINATOR	Total number of PHC provider and support staff survey respondents
DATA SOURCE AND AVAILABILITY	Potential Pan-Canadian data source could be partially available in the NPS with modifications to the survey, but only for FP/GP providers.
RATIONALE AND INTERPRETATION	Continuing professional development (CPD) for PHC providers is an important strategic instrument for improving health care. CPD can help ensure high standards of care; and can have positive benefits for recruiting, motivating and retaining high quality staff.[98] The majority of Health Professional Regulatory Agencies promote education as an ongoing, interactive and iterative process. For example, a principle of "Mainpro," the College of Family Physicians of Canada's (CFPC) continuing professional development program, states that, "maintenance of effective, patient-oriented family practice depends on the ongoing responsibility of physicians, both individually and collectively, to maintain and enhance their knowledge and skills."[99] Research has shown that certain types of continuing education, such as reflective practice, can influence practice patterns and thereby contribute to improved quality of care.[99] A high rate for this indicator can be interpreted as a positive result.

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Building PHC Through Patient-Centred Care

Objective 6: To ensure that primary health care is acceptable to patients and that it meets their reasonable expectations of how they should be treated (responsiveness)

73. Client/patient satisfaction with PHC providers
74. Client/patient satisfaction with telephone health lines
75. Recommendation of PHC provider to others
76. Client/patient participation in PHC clinical decision-making

Evaluation Question 15—Are patients satisfied that the PHC organization and providers respect their right to privacy, confidentiality and dignity?

77. Client/patient satisfaction with PHC privacy practices

Evaluation Question 16—Are patients confident that PHC organizations and providers are responsive to their culture and language needs?

78. Language barriers when communicating with PHC providers

CLIENT/PATIENT SATISFACTION WITH PHC PROVIDERS

INDICATOR NUMBER	73
INDICATOR DEFINITION	% of PHC clients/patients, 18 years and over, who were satisfied with the care received from their regular PHC provider(s) over the past 12 months.
DEFINITION OF RELEVANT TERMS	A regular care provider is the primary care provider that a PHC client identifies as "theirs". In the context of this relationship the provider acknowledges a formal or informal contract that the provider is the regular source of person-focused (not disease-focused) care. This relationship implies longitudinality and continuity and exists for a defined period of time or indefinitely until explicitly changed.[1]
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC clients/patients who were satisfied with the care received from their regular PHC provider(s) over the past 12 months
DENOMINATOR	Number of client/patient survey respondents, 18 years and over
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source available in the Canadian Community Health Survey (CCHS) only for Family Physician and/or General Practitioner (FP/GP) providers.
RATIONALE AND INTERPRETATION	PHC client/patient satisfaction is closely linked to perception of responsiveness and is positively associated with continuity of care and effective PHC client/patient management.[2, 3] Satisfaction is also related to increased compliance and follow-up visits.[2] A higher level of PHC client/patient satisfaction is interpreted as a positive result.

CLIENT/PATIENT SATISFACTION WITH TELEPHONE HEALTH LINES

INDICATOR NUMBER	74
INDICATOR DEFINITION	% of the population, 18 years and over, who were satisfied with the telephone health information or advice line over the past 12 months.
DEFINITION OF RELEVANT TERMS	Telephone health information advice line or help line includes HealthLinks, Telehealth Ontario, HealthLink, Health-Line, TeleCare, and Info-Santé.
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of survey respondents who were satisfied with the telephone health information or advice line over the past 12 months
DENOMINATOR	Number of survey respondents, 18 years and over
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source available in the CCHS.
RATIONALE AND INTERPRETATION	PHC client/patient satisfaction and assessment of services is one way to measure client/patient perception of responsiveness. Assessment of PHC client/patient satisfaction can provide information on how useful clients/patients find the service and if overall needs are being met.[3, 4] A high rate of PHC client/patient satisfaction is interpreted as a positive result.

RECOMMENDATION OF PHC PROVIDER TO OTHERS

INDICATOR NUMBER	75
INDICATOR DEFINITION	% of PHC clients/patients, 18 years and over, who would recommend their regular PHC provider to their family or friends.
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC client/patient survey respondents who would recommend their regular PHC provider to their family or friends
DENOMINATOR	Number of PHC client/patient survey respondents, 18 years and over
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Survey data source required.
RATIONALE AND INTERPRETATION	This indicator is a measure of client/patient overall satisfaction with the care received from their PHC provider.[5] If the client/patient is willing to recommend the PHC provider to family or friends, there is likely a high degree of comfort with the provider and satisfaction with the care received.[5, 6, 7] A high rate of PHC client/patient satisfaction is interpreted as a positive result.

CLIENT/PATIENT PARTICIPATION IN PHC CLINICAL DECISION-MAKING

INDICATOR NUMBER	76
INDICATOR DEFINITION	% of PHC clients/patients, 18 years and over, who were involved in clinical decision-making regarding their health, with their regular PHC provider, over the past 12 months.
DEFINITION OF RELEVANT TERMS	PHC client/patient involvement in clinical decision-making involves the client/patient and provider working together to develop a treatment plan.
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC client/patient survey respondents who were involved in clinical decision-making regarding their health, with their regular PHC provider, over the past 12 months
DENOMINATOR	Number of PHC client/patient survey respondents, 18 years and over
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Survey data source required.
RATIONALE AND INTERPRETATION	Participation in clinical decision-making reflects responsiveness of PHC providers to the needs of their practice population and involvement in care planning. A client's/patient's health status may be influenced by their perception of being a full participant in clinical decision-making.[8, 9] Agreements between provider and client/patient were found to be a key factor influencing health outcomes.[8] Involvement of clients/patients in clinical decisions ensures that family, workplace and community contexts are taken into account, and facilitates the client's/patient's ability to follow clinical advice.[9, 10, 11] A high rate of PHC clients/patients reporting involvement in decision-making is interpreted as a positive result.

CLIENT/PATIENT SATISFACTION WITH PHC PRIVACY PRACTICES

INDICATOR NUMBER	77
INDICATOR DEFINITION	% of clients/patients who were satisfied with the level of privacy provided by their PHC organization (e.g. staff in reception, clinicians in exam room), over the past 12 months.
DEFINITION OF RELEVANT TERMS	Privacy is the right of individuals to be left alone, and to determine when, how, and to what extent they share information about themselves with others.[12]
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of client/patient survey respondents who were satisfied with the level of privacy provided by their PHC organization
DENOMINATOR	Number of client/patient survey respondents
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Survey data source required.
RATIONALE AND INTERPRETATION	This indicator measures the extent to which clients/patients are satisfied with the level of privacy received from their PHC organization. Providers who respect the privacy of PHC clients'/patients' personal health information show responsiveness to PHC client/patient needs.[13] A high rate of client/patient satisfaction is interpreted as a positive result.

LANGUAGE BARRIERS WHEN COMMUNICATING WITH PHC PROVIDERS

INDICATOR NUMBER	78
INDICATOR DEFINITION	% of PHC clients/patients, 18 years and over, who experienced language barriers when communicating with their regular PHC provider, over the past 12 months.
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC client/patient survey respondents who experienced language barriers when communicating with their regular PHC provider, over the past 12 months
DENOMINATOR	Number of PHC client/patient survey respondents, 18 years and over
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Survey data source required.
RATIONALE AND INTERPRETATION	Difficulties in communicating with PHC providers due to language barriers can affect the way care is provided and health outcomes.[14, 15, 16] The ability of clients/patients to understand, and are understood by, their PHC providers can also affect satisfaction with care and perceptions about responsiveness.[14, 15] A low rate of PHC client/patients who experience language barriers when communicating with their regular PHC provider is interpreted as a positive result.

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Promoting Continuity Through Integration and Coordination

Objective 7: To facilitate integration and coordination between healthcare institutions and healthcare providers to achieve informational and management continuity of patient care

Evaluation Question 17—What types of structures and activities have been developed to link primary health care organizations with other health care organizations?

79. Use of standardized tools for coordinating PHC

80. Collaborative care with other health care organizations

81. Intersectoral collaboration

Evaluation Question 17.1—Do these structures and activities lead to active collaboration and facilitated referral and feedback between primary health care organizations and other health care organizations? Other analytical approach required.

Evaluation Question 18—Do patients experience management continuity of care?

82. PHC client/patient experiences with duplicate medical tests

Evaluation Question 18.1—Do patients undergo repeated investigations when they see different providers?

83. Unnecessary duplication of medical tests reported by PHC providers

Evaluation Question 19—Do providers experience informational continuity of care?

83. Unnecessary duplication of medical tests reported by PHC providers

Evaluation Question 19.1—Do providers have complete information at the point of care about individual patients' health and previous care received from other providers?

84. Point of care access to PHC client/patient health information

Evaluation Question 19.2—Are providers confident that their care plan and actions will be recognized and considered by other providers? Other analytical approach required.

USE OF STANDARDIZED TOOLS FOR COORDINATING PHC

INDICATOR NUMBER	79
INDICATOR DEFINITION	% of PHC organizations who currently coordinate client/patient care with other health care organizations using standardized clinical protocols or assessment tools.
DEFINITION OF RELEVANT TERMS	Standardized clinical tools and processes can include clinical guidelines, protocols, assessment tools, model programs and case management systems.
METHOD OF CALCULATION	(Numerator/Denominator) X 100
NUMERATOR	Number of PHC organizations who currently coordinate client/patient care with other health care organizations using standardized clinical protocols or assessment tools
DENOMINATOR	Total number of PHC organization survey respondents
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Survey data source required.
RATIONALE AND INTERPRETATION	Coordination of services is one of the main elements of primary health care.[1, 2] Standardized clinical tools support integration by promoting common assessment strategies and consistent inter-organizational communication to improve continuity of care.[3, 4] A high rate of PHC organizations with these processes in place is interpreted as a positive result.

COLLABORATIVE CARE WITH OTHER HEALTH CARE ORGANIZATIONS

INDICATOR NUMBER	80
INDICATOR DEFINITION	% of PHC organizations who currently have collaborative care arrangements with other health care organizations.
DEFINITION OF RELEVANT TERMS	Collaborative care arrangements are where health care providers from different organizations manage patients together.
METHOD OF CALCULATION	(Numerator/Denominator) X 100
NUMERATOR	Number of PHC organizations who currently have collaborative care arrangements with health care and other specialists
DENOMINATOR	Total number of PHC organization survey respondents
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Survey data source required.
RATIONALE AND INTERPRETATION	Interdisciplinary collaboration is increasingly promoted as necessary for continuity.[5, 6] The Primary Health Care Transition Fund established the National Strategy on Collaborative Care on the principle that collaborative care should be a foundation of PHC renewal.[7] Reporting this indicator will enhance our ability to assess the extent to which interdisciplinary PHC services through collaborative care arrangements are being offered to Canadians. In a collaborative care arrangement, a PHC provider establishes a formal working relationship with a provider(s) from another organization to share client/patient care and information.[8] A high rate of PHC organizations with collaborative care arrangements is interpreted as a positive result.

INTER-SECTORAL COLLABORATION

INDICATOR NUMBER	81
INDICATOR DEFINITION	% of PHC organizations who currently have collaborative care arrangements with providers/organizations beyond the health care sector (e.g. housing, justice, police, education).
DEFINITION OF RELEVANT TERMS	Collaborative care arrangements are where PHC providers manage PHC clients/patients together with people working outside of the health care sector.
METHOD OF CALCULATION	(Numerator/Denominator) X 100
NUMERATOR	Number of PHC organizations who currently have collaborative care arrangements with providers/organizations beyond the health care sector (e.g. housing, justice, police, education)
DENOMINATOR	Total number of PHC organization survey respondents
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Survey data source required.
RATIONALE AND INTERPRETATION	This indicator measures the extent to which primary health care organizations have created arrangements with services provided beyond the health care sector. The health needs of clients/patients do not function in isolation of factors such as education, justice, housing and social security.[9] Formal relationships between sectors enable a comprehensive approach to improving health.[5] A high rate of PHC organizations with collaborative care arrangements is interpreted as a positive result.

PHC CLIENT/PATIENT EXPERIENCES WITH DUPLICATE MEDICAL TESTS

INDICATOR NUMBER	82
INDICATOR DEFINITION	% of PHC clients/patients, 18 years and over, who felt that unnecessary medical tests were ordered because the test had already been done, over the past 12 months.
METHOD OF CALCULATION	(Numerator/Denominator) X 100
NUMERATOR	Number of PHC clients/patients, 18 years and over, who felt that unnecessary medical tests were ordered because the test had already been done, over the past 12 months
DENOMINATOR	Total number of PHC clients/patient survey respondents
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source is currently not available. Survey data source required.
RATIONALE AND INTERPRETATION	The unnecessary duplication of medical tests by different health care providers may reflect challenges in the exchange of information between providers. Duplication may also affect the continuity of patient-provider relationships when tests are not available at the point of care.[3] A low rate of PHC clients/patients reporting unnecessary medical tests is interpreted as a positive result.

UNNECESSARY DUPLICATION OF MEDICAL TESTS REPORTED BY PHC PROVIDERS

INDICATOR NUMBER	83
INDICATOR DEFINITION	% of PHC FPs/GPs/NPs who repeated tests because findings were unavailable over the past month.
METHOD OF CALCULATION	(Numerator/Denominator) X 100
NUMERATOR	Number of PHC FPs/GPs/NPs who repeated tests because findings were unavailable over the past month
DENOMINATOR	Total number of PHC provider survey respondents
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Survey data source required.
RATIONALE AND INTERPRETATION	Inappropriate duplication of tests adds unnecessary cost burden for the provision of health care.[10] It can also reflect problems with information exchange if test results are not available at the point of care.[3] A low rate of duplicated medical tests is interpreted as a positive result.

POINT OF CARE ACCESS TO PHC CLIENT/PATIENT RECORDS

INDICATOR NUMBER	84
INDICATOR DEFINITION	% of PHC providers who had complete information (essential demographic and clinical information) at the point of care, most of the time, over the past 12 months.
DEFINITION OF RELEVANT TERMS	Complete information is the essential PHC client/patient demographic and clinical information necessary for that visit.
METHOD OF CALCULATION	(Numerator/Denominator) X 100
NUMERATOR	Number of PHC providers who had complete information (essential demographic and clinical information) at the point of care, most of the time, over the past 12 months
DENOMINATOR	Total number of PHC provider survey respondents
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Survey data source required.
RATIONALE AND INTERPRETATION	The availability of relevant documented information in primary health care is considered a measure of continuity of care.[3] The indicator assumes that when information is not available, delays, duplication and potentially inappropriate action (e.g. treatment) can result.[11, 12] A high rate of providers reporting that they have complete information at the point of care is interpreted as a positive result.

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Health Human Resources

Support 1: Adequate supply of health human resources to meet primary health care needs

Evaluation Question 1—Are there sufficient number of PHC health professionals, in particular primary care nurse practitioners and family physicians, to meet the demand for PHC?

85. PHC provider full time equivalents

86. PHC providers entering/leaving the workforce

87. PHC organizations accepting new clients/patients

Evaluation Question 2—What incentives attract and retain health professionals in PHC organizations (financial, work flexibility, continuing professional development)? Other analytical approach required.

Evaluation Question 3—Are PHC professionals working to their full scope of practice (as per training and regulation)?

88. PHC provider satisfaction with use of professional skills

Evaluation Question 4—Is the quality of work-life acceptable to staff and health care providers?

89. PHC workplace safety

90. PHC workplace injuries

91. PHC provider burnout

92. PHC provider satisfaction with work-life balance

Evaluation Question 5—Does the regional authority have an assessment of health human resources to meet the community's needs?

93. Needs-based health human resources planning for PHC

Evaluation Question 6—Do provincial authorities have plans to recruit and train health human resource requirements to meet the needs of the jurisdiction? Other analytical approach required.

PHC PROVIDER FULL TIME EQUIVALENTS

INDICATOR NUMBER	85
INDICATOR DEFINITION	PHC provider full time equivalent (FTEs) per 100,000 population by type of PHC provider.
DEFINITION OF RELEVANT TERMS	The number of full time equivalent (FTE) providers is calculated as the number of hours worked per year (FTE = 37.5 hours X 52 weeks/year (1950 hours)) and includes full-time, part-time, contract etc. hours worked.
METHOD OF CALCULATION	Number of FTEs x 100,000/population
NUMERATOR	Number of full time equivalent PHC providers at end of reference year, by type of provider • Family physician/General practitioner (FP/GP) • Nurse practitioner • Registered nurse • Audiologist • Chiropractor • Dietitian • Occupational therapist • Pharmacist • Physiotherapist • Psychologist • Optometrist • Social worker • Speech-language pathologist • Other
DENOMINATOR	Total population
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source available in the Scott's Medical Database and the National Physician Database (NPDB), but only for FP/GP providers.
RATIONALE AND INTERPRETATION	Measuring full time equivalents is a way to assess the intensity of how PHC providers practice rather than the number of providers.[1, 2, 3] This is a standardized approach that helps quantify variations in the supply of PHC providers. While provider-to-population ratios are useful indicators of the number of providers relative to population, inferences regarding the adequacy of provider resources should not be based on this indicator alone. Many other factors may influence whether the supply of providers is sufficient. Other strategies for assessing provider resources include supply forecasting, utilization or demand forecasting, needs-based assessments, and benchmarking.[4] This is a contextual measure that supports the objectives and questions of other sections.

PHC PROVIDERS ENTERING/LEAVING THE WORKFORCE

INDICATOR NUMBER	86
INDICATOR DEFINITION	Ratio of PHC providers entering/leaving the workforce over the past 12 months, by type of PHC provider.
DEFINITION OF RELEVANT TERMS	Entering (net gain) is the providers who i) re-establish registration after a period away, ii) are new graduates, or iii) migrate from other provinces and countries. Leaving (net loss) is the providers who do not renew registration because of retirement, out-migration, career change, illness/injury/disability/maternity, and death.
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC providers entering the workforce over the past 12 months, by type of PHC provider • FP/GP • Nurse practitioner • Registered nurse • Audiologist • Chiropractor • Dietitian • Occupational therapist • Pharmacist • Physiotherapist • Psychologist • Optometrist • Social worker • Speech-language pathologist • Other
DENOMINATOR	Total number of providers leaving the workforce over the past 12 months, by type of PHC provider
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source available in the Scott's Medical Database and the NPDB, but only for FP/GP providers.
RATIONALE AND INTERPRETATION	This indicator measures changes in the overall number of PHC providers working in the health care system. Examining the flow (entering/leaving) of providers in any given year, factors that lead to an under supply of providers can be identified and controlled. For example, providers enter the health care system as professionals from other countries, returning from abroad, and new graduates; they leave the system through retirements, emigration and death.[5, 6] By understanding how these elements affect changes in supply, strategies can be implemented to ensure that enough providers are available in a jurisdiction to meet the need of service. This is a contextual measure that supports the objectives and questions of other sections.

PHC ORGANIZATIONS ACCEPTING NEW CLIENTS/PATIENTS

INDICATOR NUMBER	87
INDICATOR DEFINITION	% of PHC organizations that are currently accepting new PHC clients/patients.
METHOD OF CALCULATION	(Numerator/Denominator) X 100
NUMERATOR	Number of PHC organizations that are currently accepting new PHC clients/patients
DENOMINATOR	Total number of PHC organizations responding to a survey
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source partially available in the National Physician Survey (NPS), but only for FP/GP providers.
RATIONALE AND INTERPRETATION	This indicator reflects access to PHC care and assesses how many PHC organizations can accommodate new patients. Ensuring a sufficient supply of providers to meet health care needs across Canada is one of the key goals of the 2003 First Ministers Accord on Health Care Renewal.[7, 8] A high rate of practices accepting new PHC clients/patients is interpreted as a positive result.

PHC PROVIDER SATISFACTION WITH USE OF PROFESSIONAL SKILLS

INDICATOR NUMBER	88
INDICATOR DEFINITION	% of PHC providers who are satisfied that they utilize the full extent of their skills, by type of PHC provider.
DEFINITION OF RELEVANT TERMS	Skill is the capacity to perform a set of tasks developed through the acquisition of training, experience and professional scope of practice.
METHOD OF CALCULATION	(Numerator/Denominator) X 100
NUMERATOR	Number of PHC provider survey respondents who report that they are satisfied or very satisfied that they use the full extent of their skills in their employment situation, by type of PHC provider • FP/GP • Nurse practitioner • Registered nurse • Audiologist • Chiropractor • Dietitian • Occupational therapist • Pharmacist • Physiotherapist • Psychologist • Optometrist • Social worker • Speech-language pathologist • Other
DENOMINATOR	Total number of PHC provider survey respondents
DATA SOURCE AND AVAILABILITY	Potential Pan-Canadian data source could be partially available in the NPS with modifications to the survey, but only for FP/GP providers.
RATIONALE AND INTERPRETATION	This indicator measures the extent to which PHC providers are satisfied that the full extent of their professional skills are used in their work. Satisfaction levels tend to be higher when roles are clearly defined,[9] in order to ensure that provider skills are used in the most efficient manner, and not under-utilized.[10] A high satisfaction rate among PHC providers is interpreted as a positive result.

WORKPLACE SAFETY

INDICATOR NUMBER	89
INDICATOR DEFINITION	% of PHC providers who report that there are currently adequate provisions to ensure their safety in their workplace, by type of PHC provider.
METHOD OF CALCULATION	(Numerator/Denominator) X 100
NUMERATOR	Number of PHC providers who report that currently there are adequate provisions to ensure their safety in their workplace, by type of PHC provider • FP/GP • Nurse practitioner • Registered nurse • Audiologist • Chiropractor • Dietitian • Occupational therapist • Pharmacist • Physiotherapist • Psychologist • Optometrist • Social worker • Speech-language pathologist • Other
DENOMINATOR	Total number of PHC provider survey respondents
DATA SOURCE AND AVAILABILITY	Potential Pan-Canadian data source could be partially available in the National Survey of the Work and Health of Nurses (NSWHN) with modifications to the survey, but only for nurse providers.
RATIONALE AND INTERPRETATION	This indicator assesses the extent to which PHC providers believe that provisions exist to ensure safety in the workplace. Safety initiatives are part of a comprehensive workplace health strategy that address an organization's culture, policies and workplace practices, and includes disability management and injury prevention programs.[11] The BD Safety Conversion Initiative is an example of a 5-step process that organizations can implement to ensure the safety of their health care employees.[12] A high rate of respondents reporting adequate safety provisions in their PHC workplace is interpreted as a positive result.

WORKPLACE INJURIES

INDICATOR NUMBER	90
INDICATOR DEFINITION	% of PHC providers who had a workplace related injury over the past 12 months, by type of PHC provider.
METHOD OF CALCULATION	(Numerator/Denominator) X 100
NUMERATOR	Number of PHC providers who had a workplace related injury over the past 12 months, by type of PHC provider • FP/GP • Nurse practitioner • Registered nurse • Audiologist • Chiropractor • Dietitian • Occupational therapist • Pharmacist • Physiotherapist • Psychologist • Optometrist • Social worker • Speech-language pathologist • Other
DENOMINATOR	Total number of PHC provider survey respondents
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source partially available in the NPS and the NSWHN, but only for FP/GP and nurse providers.
RATIONALE AND INTERPRETATION	High quality work environments that attract and retain motivated and productive health care workers have lower rates of absenteeism[13] including short and long-term disability claims. These absences negatively affect the productive use of available resources and can affect quality of care as well.[14] A low rate of PHC providers reporting a work place related injury in the past year is interpreted as a positive result.

PHC PROVIDER BURNOUT

INDICATOR NUMBER	91
INDICATOR DEFINITION	% of PHC providers who missed work due to burnout (2 weeks or more) over the past 12 months, by type of PHC provider.
DEFINITION OF RELEVANT TERMS	Missed work includes absence of 2 weeks or more. Burnout is defined as exhaustion of physical or emotional strength or motivation usually as a result of prolonged stress or frustration.
METHOD OF CALCULATION	(Numerator/Denominator) X 100
NUMERATOR	Number of PHC providers who report having missed work due to burnout over the past 12 months, by type of PHC provider • FP/GP • Nurse practitioner • Registered nurse • Audiologist • Chiropractor • Dietitian • Occupational therapist • Pharmacist • Physiotherapist • Psychologist • Optometrist • Social worker • Speech-language pathologist • Other
DENOMINATOR	Total number of PHC provider survey respondents
DATA SOURCE AND AVAILABILITY	Potential Pan-Canadian data source could be partially available in the NPS and NSWHN with modifications to the survey, but only for FP/GP and nurse providers.
RATIONALE AND INTERPRETATION	There is increasing concern about the prevalence of burnout among health care providers.[15] Related absences affect the effective deployment of available staff in an organization and can negatively affect quality of care.[14] Research has shown that organizational factors are important to manage stress-related conditions in the workplace.[16] Burnout is related to stress due to workload, client/patient expectations, challenges of work-life balance, and relationships with other staff.[17] A low rate of PHC providers reporting that they missed work due to burnout in the past year is interpreted as a positive result.

SATISFACTION WITH WORK-LIFE BALANCE

INDICATOR NUMBER	92
INDICATOR DEFINITION	% of PHC providers who were satisfied with the overall quality of work-life balance over the past 12 months, by type of PHC provider.
DEFINITION OF RELEVANT TERMS	Work-life balance refers to a perceived balance of professional and private life.
METHOD OF CALCULATION	(Numerator/Denominator) X 100
NUMERATOR	% of PHC providers who report being satisfied or very satisfied with the overall quality of work-life balance over the past 12 months, by type of PHC provider • FP/GP • Nurse practitioner • Registered nurse • Audiologist • Chiropractor • Dietitian • Occupational therapist • Pharmacist • Physiotherapist • Psychologist • Optometrist • Social worker • Speech-language pathologist • Other
DENOMINATOR	Total number of PHC provider survey respondents
DATA SOURCE AND AVAILABILITY	Potential Pan-Canadian data source could be partially available in the NPS and NSWHN (with modifications to the NSWHN survey), but only for FP/GP and nurse providers.
RATIONALE AND INTERPRETATION	This indicator measures factors in the work environment that affect provider well-being, especially the balance between their work and life roles. Research shows that work life balance affects provider well-being[18] and job satisfaction, which in turn, influences the quality of the health care experiences of PHC clients/patients.[19] The shift to PHC organizations and interdisciplinary care teams is expected to improve the quality of life for PHC providers through a better work-life balance. A high rate of respondents who are satisfied with the quality of their work-life balance is interpreted as a positive result.

NEEDS-BASED HHR PLANNING

INDICATOR NUMBER	93
INDICATOR DEFINITION	% of health regions that are currently implementing a plan to meet their PHC health human resource needs.
DEFINITION OF RELEVANT TERMS	Health human resource needs-based planning examines the productivity of providers (number of services per provider), the health needs of the population, and the level of services per unit of need (how the need will be met).[14]
METHOD OF CALCULATION	(Numerator/Denominator) X 100
NUMERATOR	Number of health regions that are currently actively implementing a plan to meet their PHC health human resource needs
DENOMINATOR	Total number of health region survey respondents
DATA SOURCE AND AVAILABILITY	No data source currently available. Survey data source required.
RATIONALE AND INTERPRETATION	Health regions that use needs-based planning to allocate health human resources increase their ability to plan for the right number and mix of providers, when and where they are needed.[14] This strategy has an explicit goal of providing timely access to quality health services as identified in the 2003 *First Ministers' Accord on Health Care Renewal*.[7, 8] A high rate of health regions reporting the implementation of an HHR plan is interpreted as a positive outcome.

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Interdisciplinary Teams

Support 2: Interdisciplinary primary health care teams

Evaluation Question 7—What is the extent and nature of interdisciplinary teams?

94. Access to interdisciplinary PHC organizations
95. PHC physicians working in solo practice
96. PHC physicians working in group practice
97. PHC FPs/GPs/NPs working in interdisciplinary teams/networks
98. Client/patient satisfaction with available PHC services

Evaluation Question 7.1—How should the mix and number of providers on a interdisciplinary team reflect the needs of the community or practice population? Other analytical approach required.

Evaluation Question 8—How do changes in the mix and number of providers on the PHC team impact on the responsiveness, quality and the cost-effectiveness of care? Other analytical approach required.

Evaluation Question 9—What factors facilitate health care providers working together to provide comprehensive PHC (scope of practice regulations, primary health care funding, training, continuing professional development)?

99. PHC team effectiveness score.

ACCESS TO INTERDISCIPLINARY PHC ORGANIZATIONS

INDICATOR NUMBER	94
INDICATOR DEFINITION	% of population who received PHC services from an interdisciplinary PHC organization, over the past 12 months.
DEFINITION OF RELEVANT TERMS	An interdisciplinary health care organization includes a group of individuals with diverse training who work as an identified unit to deliver patient care.
METHOD OF CALCULATION	(Numerator/Denominator) X 100
NUMERATOR	Number of survey respondents who received PHC services from an interdisciplinary PHC organization, over the past 12 months
DENOMINATOR	Total number of survey respondents
DATA SOURCE AND AVAILABILITY	Potential pan-Canadian survey data source could be available in the CCHS, with modifications to the survey.
RATIONALE AND INTERPRETATION	This indicator measures the proportion of Canadians receiving services from an interdisciplinary PHC organization. In 2004, the First Ministers' "reaffirmed the need to meet the objective of 50% of Canadians having 24/7 access to interdisciplinary organizations by 2011".[1] Reporting this indicator will enhance our ability to assess the extent to which interdisciplinary PHC services are being offered to Canadians. The approaches and benefits of interdisciplinary primary health care teams is still an emerging field.[2, 3] Teams may improve the cost effectiveness of PHC, as well as strengthen services through the use of specialized PHC knowledge.[2] A high rate of people receiving care from an interdisciplinary care team is interpreted as a positive result.

PHC PHYSICIANS WORKING IN SOLO PRACTICE

INDICATOR NUMBER	95
INDICATOR DEFINITION	% of FPs/GPs who currently work in a solo PHC practice as their main PHC practice setting.
DEFINITION OF RELEVANT TERMS	Solo PHC practice is a primary health care model involving physicians who practice independently of other providers.
METHOD OF CALCULATION	(Numerator/Denominator) X 100
NUMERATOR	Number of FPs/GPs who currently work in a solo PHC practice as their main PHC practice setting
DENOMINATOR	Total number of FP/GP survey respondents
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source available in the National Physician Survey (NPS).
RATIONALE AND INTERPRETATION	This indicator measures the extent to which FPs/GPs are continuing to practice in non-group practice, or non-interdisciplinary team PHC settings. This indicator is part of a set of indicators that monitors changes in the characteristics of the PHC system, including physician networks, physician/nurse collaborations and interdisciplinary care teams/networks. In 2004, 25% of family physicians/general practitioners indicated they were in solo practice. However, some of these respondents also marked other categories, suggesting that they work in more than one type of practice.[4] This is a contextual measure that supports the objectives and questions of other sections.





PHC PHYSICIANS WORKING IN GROUP PRACTICE

INDICATOR NUMBER	96
INDICATOR DEFINITION	% of FPs/GPs who currently work in a group physician PHC practice as their main PHC practice setting.
DEFINITION OF RELEVANT TERMS	Group practice is defined as an organization of FPs/GPs who work together, share client/patient records, office space, staff, technology, and on-call coverage.
METHOD OF CALCULATION	(Numerator/Denominator) X 100
NUMERATOR	Number of FPs/GPs who currently work in a group physician PHC practice as their main PHC practice setting
DENOMINATOR	Total number of FP/GP survey respondents
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source available in the NPS.
RATIONALE AND INTERPRETATION	This indicator measures the extent to which FPs/GPs work in a group physician PHC practice. This indicator is part of a set of indicators that monitors changes in the characteristics of the PHC system, including physician networks, physician/nurse collaborations and interdisciplinary care teams/networks. In 2004, 61% of FPs/GPs reported that they were in group practice.[4] This is a contextual measure that supports the objectives and questions of other sections.

PHC FPS/GPS/NPS WORKING IN INTERDISCIPLINARY TEAMS/NETWORKS

INDICATOR NUMBER	97
INDICATOR DEFINITION	% of FPs/GPs/NPs who are currently working in an interdisciplinary PHC team or network as their main practice setting, by type of PHC provider.
DEFINITION OF RELEVANT TERMS	An interdisciplinary health care team or network includes a group of individuals with diverse training who work together to deliver patient care.
METHOD OF CALCULATION	(Numerator/Denominator) X 100
NUMERATOR	Number of PHC providers who are currently working in an interdisciplinary PHC team or network as their main practice setting, by type of PHC provider: • Family physician/General practitioner • Nurse practitioner
DENOMINATOR	Total number of PHC provider survey respondents
DATA SOURCE AND AVAILABILITY	Potential pan-Canadian data source available for FPs/GPs (e.g. NPS) and nurse practitioners (e.g. NSWHS).
RATIONALE AND INTERPRETATION	This indicator measures the extent to which FPs/GPs and NPs work in interdisciplinary teams or networks. This indicator is part of a set of indicators that monitors changes in the characteristics of the PHC system, including physician networks, physician/nurse collaborations and interdisciplinary care teams/networks. It will also be essential to examine additional descriptive information regarding the composition of PHC teams. In 2004, the First Ministers' "reaffirmed the need to meet the objective of 50% of Canadians having 24/7 access to interdisciplinary organizations by 2011".[1] The approaches and benefits of interdisciplinary primary health care teams is still an emerging field.[2, 3] Teams may improve the cost effectiveness of PHC, as well as strengthen services through the use of specialized PHC knowledge.[2] A higher rate of PHC providers working on interdisciplinary teams indicates a positive result.

CLIENT/PATIENT SATISFACTION WITH AVAILABLE PHC SERVICES

INDICATOR NUMBER	98
INDICATOR DEFINITION	% of PHC clients/patients who report that the current range of services offered by their PHC organization meets their needs.
METHOD OF CALCULATION	(Numerator/Denominator) X 100
NUMERATOR	Number of PHC clients/patients who report that the current range of services offered by their PHC organization meets their needs
DENOMINATOR	Total number of PHC client/patient survey respondent
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Client/patient survey data source required.
RATIONALE AND INTERPRETATION	This indicator measures the satisfaction of clients/patients with the range of PHC services available from their PHC organization. In conjunction with other indicators that track changing characteristics of the PHC system (e.g. increased interdisciplinary teams), the indicator can assess, from a client/patient perspective, whether access to comprehensive PHC services is changing. Interdisciplinary care teams/networks can provide specialized services that fit the health requirements of their defined population and include providers with skill sets that reflect the needs of the community.[5] A high rate of PHC clients/patients reporting that PHC services meet their needs is interpreted as a positive result.

PHC TEAM EFFECTIVENESS SCORE

INDICATOR NUMBER	99
INDICATOR DEFINITION	Average team effectiveness score based on: • Strong leadership; • Clear objectives shared by all team members; • Mechanisms for working in and with the community; • Focus on quality care; • Client/patient focused goals; • Efficient and effective communication; • Appropriate variety of health care providers; • Mechanisms for conflict resolution; • Interdisciplinary professional development; • Shared decision-making; and • Clear understanding of scope of practice and team role.
METHOD OF CALCULATION	(Numerator/Denominator)
NUMERATOR	Sum of scores on team effectiveness scale based on • Strong leadership • Clear objectives shared by all team members • Mechanisms for working in and with the community • Focus on quality care • Client/patient focused goals • Efficient and effective communication • Appropriate variety of health care providers • Mechanisms for conflict resolution • Interdisciplinary professional development • Shared decision-making • Clear understanding of scope of practice and team role
DENOMINATOR	Total number of PHC provider survey respondents
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Provider survey data source required.
RATIONALE AND INTERPRETATION	This composite score reflects team effectiveness that could be derived from a survey instruments such as the Team Effectiveness Tool.[6] Facilitators and barriers to effective practice within interdisciplinary teams have been identified in the literature.[7, 8, 9] Facilitators of effective teams include clear leadership, shared knowledge of the community and shared objectives.[6] Barriers to effective teams include organizational resistance, provider-PHC client/patient relationships, overlapping roles and responsibilities. A high average score is interpreted as a positive result.

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Information Technology

Support 3: Information technology that is adapted to primary health care and links primary health care organizations with the rest of the health care system

Evaluation Question 10—Do PHC organizations have computerized information systems to support clinical activities (decision support, electronic health records, electronic prescribing, electronic test requisitions and reporting, electronic consultation reporting)? Which systems are being used?

100. Uptake of information and communication technology in PHC organizations

Evaluation Question 11—Do PHC organizations, in different geographic settings, have communication linkages with teletriage and advice services? with telehealth services? with emergency services? with hospitals? with laboratories? with long-term care facilities?

101. Use of information and communication technology modalities in PHC organizations

102. Use of two-way electronic communication in PHC organizations

UPTAKE OF INFORMATION AND COMMUNICATION TECHNOLOGY BY PHC ORGANIZATIONS

INDICATOR NUMBER	100
INDICATOR DEFINITION	% of PHC organizations that primarily use electronic systems to complete their professional tasks.
DEFINITION OF RELEVANT TERMS	Electronic information systems allow for the exchange of PHC client/patient information between PHC settings and laboratories, hospitals and other settings, including: Patient management systems: Information system that supports and links PHC client/patient information with PHC organizations, hospitals and other health entities. Registry: Electronic, searchable directories that uniquely identify PHC client/patients, health care providers and facilities to correctly link information electronically. Drug information system: Allow physicians to view their PHC client/patients' prescription drug profile and electronically send prescriptions. Allow pharmacists to view orders on-line and confirm electronically that a prescription has been filled. Diagnostic imaging systems: Allow specialists and physicians to view their PHC client/patients' lab results and reports on-line. Public health surveillance systems: Provide real-time ability to share and analyze health information critical for managing public health problems like SARS.
METHOD OF CALCULATION	(Numerator/Denominator) X 100

UPTAKE OF INFORMATION AND COMMUNICATION TECHNOLOGY BY PHC ORGANIZATIONS (cont'd)

NUMERATOR	Number of PHC organizations who primarily use electronic systems to complete these professional tasks • Electronic patient appointment scheduling • Electronic records to enter and retrieve clinical patient notes and data • Email colleagues for clinical purposes • Email clients/patients for clinical purposes • Email colleagues for administrative purposes • Email clients/patients for administrative purposes • Electronic patient registries for individuals with chronic conditions • Electronic decision aids (i.e. to assist in evaluating treatment options) • Electronic access to evidence-based drug information • Electronic warning systems for patient specific adverse prescribing and/or drug interactions • Electronic interface to external pharmacy/pharmacist to send drug prescriptions electronically • Electronic interface to external laboratory to send laboratory test requisitions electronically • Electronic interface to external laboratory to receive laboratory results electronically • Electronic interface to diagnostic imaging to send test requisitions electronically • Electronically interface to diagnostic imaging to receive text and image results electronically • Electronically send referral letters to other PHC providers • Electronically send requests for home care support • Electronically receive home care assessment results/reports • Electronically receive status notifications of admission/emergency room attendance from hospitals • Electronically receive discharge summaries from hospitals • Electronically receive consultation reports from other health care providers • Electronic billing • Electronic professional education • Other
DENOMINATOR	Total number of PHC organization survey respondents
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Survey data required.
RATIONALE AND INTERPRETATION	*The Commission of the Future of Health Care in Canada* (Romanow Commission) and Health Council of Canada both emphasized the importance of better information technology and management in primary health care.[1, 2] Reporting this indicator will enhance our ability to assess the extent to which PHC organizations are using electronic systems. For example, an estimated 26.3% of all physicians in Canada have electronic patient records, while only 20.6% actually use them.[3] A high rate of PHC organizations using electronic systems to complete their professional tasks is interpreted as a positive result.

USE OF INFORMATION COMMUNICATION TECHNOLOGY MODALITIES BY PHC ORGANIZATIONS

INDICATOR NUMBER	101
INDICATOR DEFINITION	% of PHC organizations that currently use a variety of electronic communication modalities in the exchange of health care information with other PHC providers.
DEFINITION OF RELEVANT TERMS	Electronic communication modalities may include teleconference, videoconference, Web casting and computer-to-computer messaging (online facilitating services).
METHOD OF CALCULATION	(Numerator/Denominator) X 100
NUMERATOR	Number of PHC organizations who currently use a variety of electronic communications modalities in the exchange of health care information with other PHC providers
DENOMINATOR	Total number of PHC organization survey respondents
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Survey data required.
RATIONALE AND INTERPRETATION	This indicator measures the increased use of electronic communication modalities in primary health care. Current research on telemedicine applications provides limited evidence to support increased use (e.g. email referrals and consultations), and further research is required for specific modalities and applications.[4, 5] An increased rate of PHC organizations that use electronic modalities is interpreted as a positive result.

USE OF TWO-WAY ELECTRONIC COMMUNICATION BY PHC ORGANIZATIONS

INDICATOR NUMBER	102
INDICATOR DEFINITION	% of PHC organizations that currently have two-way electronic communication linkages (beyond fax and telephone) with other health care organizations (e.g. hospitals, community mental health agencies, LTC facilities, public health).
DEFINITION OF RELEVANT TERMS	Two-way communications is when information is sent and received electronically.
METHOD OF CALCULATION	(Numerator/Denominator) X 100
NUMERATOR	Number of PHC organizations who currently have two-way electronic communication linkages (beyond fax and telephone) with other health care organizations (e.g. hospitals, community mental health agencies, LTC facilities, public health)
DENOMINATOR	Number of PHC organization survey respondents
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Survey data required.
RATIONALE AND INTERPRETATION	This measure reflects the extent to which information technology is integrated into the business processes of health care. Two-way electronic communication linkages between PHC and other health care organizations (hospitals, community mental health agencies, LTC facilities, and others) can enhance the clinical efficiency and effectiveness of their practice.[6] A high rate of PHC organizations with two-way exchange of information is interpreted as a positive result.

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Needs-Based Resource Allocations

Support 4: Needs-based resource allocations for primary health care

Evaluation Question 12—Do regional funding allocations for PHC reflect population age and morbidity structure and vulnerable groups? Other analytical approach required.

Evaluation Question 13—Has the range of publicly funded services provided (directly or indirectly) by PHC organizations increased over time? Other analytical approach required.

Evaluation Question 14—What is the per capita operational cost of providing primary health care services at a practice level? At a regional health authority level (accounting for geographic location)?

103. Average per capita PHC operational expenditures

Evaluation Question 15—Have capital investments increased for new technology and equipment for PHC? For physical facilities? For information technology? Other analytical approach required.

AVERAGE PER CAPITA PHC OPERATIONAL EXPENDITURES

INDICATOR NUMBER	103
INDICATOR DEFINITION	Average annual per capita operational expenditures of PHC services for: • Health human resources; – General Practitioners/Family Physicians; – Nurse Practitioners; – Other PHC providers; • Supplies; • Equipment; • Administration/overhead; and • Other.
DEFINITION OF RELEVANT TERMS	Operational expenditures are the costs of operating the PHC practice. Health Human Resources are the medical professionals employed within the organization. Supplies are the administrative and medical supplies used in the operation of a PHC organization (e.g. disinfectants, gloves). Equipment refers to the devices and machinery used in the operation of a PHC organization (e.g. computer, blood pressure monitor, scale). Administration/Overhead are costs and can include reception, records management, file storage, space rental, administrative personnel, utilities, etc.
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Total per-capita operational funding for cost component in one fiscal year
DENOMINATOR	Total mid-year population in one fiscal year
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source currently not available. Administrative data source required.
RATIONALE AND INTERPRETATION	Measuring the per capita costs of PHC is an important contextual measure for measuring variations and expenditures over time and across Canada.[1] This indicator can be calculated at both regional and provincial levels. This is a contextual measure that supports the objectives and questions of other sections.

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Provider Payment Methods

Support 5: Provider payment methods that align with primary health care goals

Evaluation Question 16—How are PHC providers paid?

104. PHC provider remuneration method.

105. Average PHC provider income by funding model.

Evaluation Question 17—How does provider remuneration method affect the volume, type and quality of services that are provided? Other analytical approach required.

Evaluation Question 17.1—Do non-FFS payment systems for physicians increase the proportion of clinical time dedicated to prevention and chronic disease management activities? To planning and quality improvement activities? Other analytical approach required.

PHC PROVIDER REMUNERATION METHOD

INDICATOR NUMBER	104
INDICATOR DEFINITION	% of PHC providers who were primarily remunerated by the following method over the past 12 months by type of provider: • Fee for service; • Salary; • Capitation; and • Mixed System.
DEFINITION OF RELEVANT TERMS	Salary is the annual wage paid to a PHC provider to work a set number of hours per week per year.[1] Capitation is payment is made for every patient for whom care is provided.[1] Fee-for-service refers to reimbursement being provided for each item of service provided and occurs after care has been provided.[1] Mixed System refers to a combination of fee-for-service and capitation, or fee-for-service and salary as payment for one PHC provider.[1] Primarily refers to more than 50% of total annual income from one source.
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Number of PHC provider survey respondents in each funding model
DENOMINATOR	Number of PHC provider survey respondents
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source partially available in the National Physician Survey (NPS), but only for FP/GP providers.
RATIONALE AND INTERPRETATION	PHC provider payment methods vary across Canada and include fee-for-service payments, salary, capitation, and others. As new models of PHC are adopted across the country, it can be expected that provider remuneration methods will also change. Evidence suggests that mode of payment can affect provider clinical behaviour in a practice setting.[2, 3] This is a contextual measure that supports the objectives and questions of other sections.

AVERAGE PHC PROVIDER INCOME BY FUNDING MODEL

INDICATOR NUMBER	105
INDICATOR DEFINITION	Average % of PHC provider income derived from each of the following PHC funding models for one fiscal year, by type of PHC provider: • Fee for service; • Salary; • Capitation; and • Mixed system.
DEFINITION OF RELEVANT TERMS	Salary is the annual wage paid to a PHC provider to work a set number of hours per week per year.[1] Capitation is payment made for every patient for whom care is provided.[1] Fee-for-service refers to reimbursement being provided for each item of service provided and occurs after care has been provided.[1] Mixed System refers to a combination of fee-for-service and capitation, or fee-for-service and salary as payment for one PHC provider.[1]
METHOD OF CALCULATION	(Numerator/Denominator) x 100
NUMERATOR	Cumulative percentage of salary gained per funding model by provider for one fiscal year
DENOMINATOR	Number of respondents to provider survey
DATA SOURCE AND AVAILABILITY	Pan-Canadian data source partially available in the NPS, but only for FP/GP providers.
RATIONALE AND INTERPRETATION	PHC provider payment methods vary across Canada and include fee-for-service payments, salary, capitation, and others. 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 mode of payment can affect provider clinical behaviour in a practice setting.[2, 3] This indicator monitors the distribution of payments by different methods of remuneration to PHC providers. This is a contextual measure that supports the objectives and questions of other sections.

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Support From Policy-Makers

Support 6: Ongoing support from policy-makers for primary health care

Other analytical approaches required for all questions in Support 6.

Evaluation Question 18—What kind of policies are in place to influence or contribute to ongoing renewal and sustainability of PHC? (e.g. FPT agreements, provincial plans, tripartite agreements, legislation).

Evaluation Question 19—Have the responsibilities of PHC organizations been clearly identified in the health system, especially related to a central role in coordination of patient care?

Evaluation Question 20—What amounts of financial and human resources are dedicated to PHC? Are there gaps in whole-person, comprehensive care because of resource limitations?