Quality Standards

Early Pregnancy Complications and Loss

Care for Adults in All Settings

Measurement Guide

September 2019

DRAFT

Health Quality Ontario

Let's make our health system healthier

Ontario

Contents

1   How to Use the Measurement Guide

This document is meant to serve as a measurement guide to support the adoption of the Early Pregnancy Complications and Loss quality standard. Care for people experiencing early pregnancy complications and/or loss is a critical issue, and there are significant gaps and variations in the quality of care that people receive in Ontario. Recognizing this, Health Quality Ontario released this quality standard to identify opportunities that have a high potential for quality improvement.

This guide is intended for use by those looking to adopt the Early Pregnancy Complications and Loss quality standard, including health care professionals working in regional or local roles.

This guide has dedicated sections for each of the two types of measurement within the quality standard:

- **Local measurement:** what you can do to assess the quality of care that you provide locally
- **Provincial measurement:** how we can measure the success of the quality standard on a provincial level using existing provincial data sources

Important Resources for Quality Standard Adoption
Health Quality Ontario has created resources to assist with the adoption of quality standards:

- A *Getting Started Guide* that outlines a process for using quality standards as a resource to deliver high-quality care. It includes links to templates, tools, and stories and advice from health care professionals, patients, and caregivers. You can use this guide to learn about evidence-based approaches to implementing changes to practice
- A *Quality Improvement Guide* to give health care teams and organizations in Ontario easy access to well-established quality improvement tools. The guide provides examples of how to adapt and apply these tools to our Ontario health care environments
- An online community called Quorum that is dedicated to working together to improve the quality of health care across Ontario. Quorum can support your quality improvement efforts

2   Quality Indicators in Quality Standards

Quality standards inform providers and patients about what high-quality health care looks like for aspects of care that have been deemed a priority for quality improvement in the province. They are intended to guide quality improvement, monitoring, and evaluation.

Measurability is a key element in developing and describing the quality statements; each statement is accompanied by one or more indicators. This section describes the measurement principles behind the quality indicators, the process for developing these indicators, and the technical definitions of the indicators.

An effective quality statement must be measurable. Measurement is necessary to demonstrate if a quality statement has been properly implemented, and if it is improving care for patients. This is a key part of the Plan-Do-Study-Act improvement cycle. If measurement shows there has been no improvement, you need to consider a change or try something different.

2.1   Measurement Principles

Health Quality Ontario uses the process, structure, and outcome indicator framework developed by Donabedian in 1966 to develop indicators for quality standards. The three indicator types play essential and interrelated roles in measuring the quality of health care and the impact of introducing and using quality standards.

The indicators provided are merely suggestions. It is not expected that every provider, team, or organization will be able measure all of them (or even want to measure all of them), but they can identify which indicators best capture areas of improvement for their care and what can be measured given existing local data sources.

2.2   Process Indicators

Process indicators assess the activities involved in providing care. They measure the percentage of individuals, episodes, or encounters for which an activity (process) is performed. In most cases, the numerator should specify a timeframe in which the action is to be performed, established through evidence or expert consensus. When a quality statement applies to a subset of individuals rather than the total population, the denominator should reflect the population of the appropriate subgroup, rather than the entire Ontario population. If exclusions are required or stratifications are suggested, they are reflected in the indicator specifications.

Process indicators are central to assessing whether or not the quality statement has been achieved; nearly all quality statements are associated with one or more process indicators. In most cases, the numerator and denominator for process indicators can be derived from the language of the quality statement itself; additional parameters (such as a timeframe) can also appear in the background and definitions sections. In some cases, a proxy indicator is provided that indirectly measures the process. Proxy indicators are used only when the actual indicator cannot be measured with currently available data.

While most quality statements focus on a single concept and are linked with a single process indicator, some statements include two or more closely related concepts. In these cases, multiple process indicators can be considered to capture all aspects of the quality statement. For example, a quality statement might suggest the need for a comprehensive assessment with several components, and each of those components might have a process indicator.

Examples of process indicators include the percentage of patients with hip fracture who receive surgery within 48 hours, or the percentage of patients with chronic obstructive pulmonary disease who are offered clozapine after first- and second-line antipsychotics have been ineffective. Please refer to the published quality standards for more examples.

2.3   Structural Indicators

Structural indicators assess the structures and resources that influence and enable delivery of care. These can include equipment; systems of care; availability of resources; and teams, programs, policies, protocols, licences, or certifications. Structural indicators assess whether factors that are in place are known to help in achieving the quality statement.

Some quality statements have structural indicators associated with them. Structural indicators are binary or categorical and do not require the definition of a numerator and denominator. However, in some cases it could be useful to specify a denominator defining an organizational unit, such as a hospital, a primary care practice, or a local region. In many cases data to measure structural indicators are not readily available using existing administrative data, so local data collection might be required. This local data collection might require regional or provincial level data collection systems to be developed.

Structural indicators should be defined for a quality statement or for the quality standard as a whole when there is strong evidence that a particular resource, capacity, or characteristic is important for enabling the effective delivery of a process of care. It should be theoretically feasible for these structural elements to be implemented across Ontario, even if adoption is aspirational in some cases. In rare instances, a quality statement might have two or more associated structural indicators, if the quality standard advisory committee decides that multiple factors are crucial to the delivery of the quality statement. Structural indicators should align with the Recommendations for Adoption, which outline gaps in resources in the province.

Examples of structural indicators include the availability of a stroke unit, the existence of discharge planning protocols, or access to a specialized behavioural support team. Please refer to the published quality standards for more examples.

2.4   Outcome Indicators

Outcome indicators assess the end results of the care provided. They are crucial and are arguably the most meaningful measures to collect, but many health outcomes—such as mortality or unplanned hospital readmissions—are often the product of a variety of related factors and cannot be reliably attributed to a single process of care. For this reason, although relatively few quality statements are directly linked to an outcome indicator, a set of overall measures—including key outcome indicators—is defined for the quality standard as a whole, reflecting the combined effect of all of the quality statements in the standard. Similar to process indicators, outcome indicators should be specified using a defined denominator and a numerator that, in most cases, should include a clear timeframe.

Examples of outcome indicators include mortality rates, improvement (or decline) in function, and patients' experience of care. Please refer to the published quality standards for more examples.

2.5   Balancing Measures

Balancing measures indicate if there are important unintended adverse consequences in other parts of the system. Examples include staff satisfaction and workload. Although they are not the focus of the standard and generally not included in the standard, the intention of these types of measures is to monitor the unintended consequences.

3   Local Measurement

As part of the Early Pregnancy Complications and Loss quality standard, *specific* indicators were identified for each of the statements to support measurement for quality improvement.

As an early step in your project, we suggest that your team complete an *initial assessment* of the relevant indicators in the standard and come up with a draft measurement plan.

Here are some concrete next steps:

1. Review the list of identified indicators, and determine which ones you will use as part of your adoption planning, given your knowledge of current gaps in care
2. Determine the availability of data related to the indicators you have chosen
3. Identify a way to collect local data related to your chosen indicators. This may be through clinical chart extraction or administration of local surveys for example.
4. Develop a draft measurement plan

The earlier you complete the above steps, the more successful your quality improvement project is likely to be.

3.1   Local Data Collection

Local data collection refers to data collection at the health provider or team level for indicators that cannot be assessed using provincial administrative or survey databases (such as databases held by the Institute for Clinical Evaluative Sciences or the Canadian Institute for Health Information). Examples of local data include data from electronic medical records, clinical patient records, regional data collection systems, and locally administered patient surveys. Indicators that require local data collection can signal an opportunity for local measurement, data advocacy, or data quality improvement.

Local data collection has many strengths: it is timely, can be tailored to quality improvement initiatives, and is modifiable on the basis of currently available data. However, caution is required when comparing indicators using local data collection between providers and over time to ensure consistency in definitions, consistency in calculation, and validity across patient groups.

3.2   Measurement Principles for Local Data Collection

Three types of data can be used to construct measures in quality improvement: continuous, classification, and count data. For all three types of data, it is important to consider clinical relevance when analyzing results (i.e. not every change is a clinically relevant change).

3.2.1   Continuous Data

Continuous data can take any numerical value in a range of possible values. These values can refer to a dimension, a physical attribute, or a calculated number. Examples include patient weight, number of calendar days, and temperature.

3.2.2   Classification Data

Classification (or categorical) data are recorded in two or more categories or classes. Examples include sex, race or ethnicity, and number of patients with depression versus number of patients without depression. In some cases, you might choose to convert continuous data into categories. For example, you could classify patient weight as underweight, normal weight, overweight, or obese.

Classification data are often presented as percentages. To calculate a percentage from classification data, you need a numerator and a denominator (a percentage is calculated by dividing the numerator by the denominator and multiplying by 100). The numerator includes the number of observations meeting the criteria (e.g., number of patients with depression), and the denominator includes the total number of observations measured (e.g., total number of patients in clinic). Note that the observations in the numerator must also be included in the denominator (source population).

Examples of measures that use classification data include percentage of patients with a family physician and percentage of patients who receive therapy.

3.2.3   Count Data

Count data often focus on attributes that are unusual or undesirable. Examples include number of falls in a long-term care home and number of medication errors.

Count data are often presented as a rate, such as the number of events per 100 patient-days or per 1,000 doses. The numerator of a rate counts the number of events/nonconformities, and the denominator counts the number of opportunities for an event. It is possible for the event to occur more than once per opportunity (e.g., a long-term care resident could fall more than once).

$$Rate\ of\ 30\text{-}day\ hospital\ readmission =$$

$$\frac{Number\ of\ hospital\ readmissions\ within\ 30\ days\ of\ discharge\ [\mathbf{numerator}]}{Number\ of\ discharges\ from\ hospital\ [\mathbf{denominator}]}$$

3.2.4   Benefits of Continuous Data

It is common practice in health care to measure toward a target instead of reporting continuous measures in their original form. An example would be measuring the number of patients who saw their primary care physician within 7 days of hospital discharge instead of measuring the number of days between hospital discharge and an appointment with a primary care physician. Targets should be evidence-based or based on a high degree of consensus across clinicians.

When a choice exists, continuous data sometimes are more useful than count or classification data for learning about the impact of changes tested. Measures based on continuous data are more responsive and can capture smaller changes than measures based on count data; therefore, it is easier and faster to see improvement with measures based on continuous data. This is especially true when the average value for the continuous measure is far from the target. Continuous data are also more sensitive to change. For example, while you might not increase the number of people who are seen within 7 days, you might reduce how long people wait.

3.3   Benchmarks and Targets

Benchmarks are markers of excellence to which organizations can aspire. Benchmarks should be evidence-based or based on a high degree of consensus across clinicians. At this time, Health Quality Ontario does not develop benchmarks for the indicators. Users of these standards have variable practices, resources, and patient populations, so one benchmark might not be practical for the entire province.

Targets are goals for care that are often developed in the context of the local care environment. Providers, teams, and organizations are encouraged to develop their own targets appropriate to their patient populations, their current performance and their quality improvement work. Organizations that include a quality standard indicator in their quality improvement plans are asked to use a target that reflects improvement. Timeframe targets, like the number of people seen within 7 days, are typically provided with process indicators intended to guide quality improvement.

In many cases, achieving 100% on an indicator is not possible. For example, someone might not receive care in a wait time benchmark due to patient unavailability. This is why it is important to track these indicators over time, to compare results against those of colleagues, to track progress, and to aim for the successful implementation of the standard.

For guidance on setting benchmarks and targets at a local level, refer to:

- Approaches to Setting Targets for Quality Improvement Plans
- Long-Term Care Benchmarking Resource Guide

4   Provincial Measurement

In its quality standards, Health Quality Ontario strives to incorporate measurement that is standardized, reliable, and comparable across providers to assess the impact of the standards provincially. Where possible, indicators should be measurable using province-wide data sources. However, in many instances data are unavailable for indicator measurement. In these cases, the source is described as local data collection.

For more information on the data sources referenced in this standard, please see the **appendix.**

4.1   Accessing Provincially Measurable Data

Provincial platforms are available to users to create custom analyses to help you calculate results for identified measures of success. Examples of these platforms include IntelliHealth and eReports. Please refer to the links below to determine if you have access to the platforms listed.

4.1.1   *IntelliHealth—Ministry of Health*

IntelliHealth is a knowledge repository that contains clinical and administrative data collected from various sectors of the Ontario healthcare system. IntelliHealth enables users to create queries and run reports through easy web-based access to high quality, well organized, integrated data.

4.1.2   *eReports—Canadian Institute for Health Information*

Quick Reports offer at-a-glance comparisons for the organizations you choose. The tool also provides some ways to manipulate the pre-formatted look and feel of the reports. Flexible or Organization Reports offer you many choices to compare your organization's data with those of other organizations. With these customizable reports, you can view data by different attributes and for multiple organizations.

4.1.3   *Applied Health Research Questions (AHRQ) — Institute for Clinical Evaluative Sciences*

ICES receives funds from the Ministry of Health and Long-Term Care to provide research evidence to organizations from across the Ontario health care system (Knowledge Users). This knowledge is used to inform planning, policy and program development. Knowledge Users can submit an Applied Health Research Question (AHRQ) to ICES. As a health services research institute that holds Ontario's administrative data, ICES is well positioned to respond to AHRQs that directly involve the use of ICES data holdings.

5   How Success Can Be Measured for This Quality Standard

This measurement guide accompanies Health Quality Ontario's Early Pregnancy Complications and Loss quality standard. During the development of each quality standard, a few performance indicators are chosen by the Quality Standards Advisory Committee to measure the success of the entire standard. These indicators guide the development of the quality standard so that every statement within the standard aids in achieving the standard's overall goals.

This measurement guide includes information on the definitions and technical details of the indicators listed below which were selected as the overall measures of success for this standard:
- Number of emergency department visits by people with early pregnancy complications and/or loss
- Percentage of repeat emergency department visits within 30 days of the initial visit for early pregnancy complications or loss
- Percentage of repeat emergency department visits within 30 days of the initial visit for tubal ectopic pregnancy and complications
- Percentage of emergency department and inpatient visits for early pregnancy complications or loss that required a blood transfusion
- Average time that people with early intrauterine pregnancy loss who need a dilatation and curettage (D&C) procedure wait for a D&C
- Average wait time from first presentation to a health care professional of early pregnancy complications or loss, to a diagnosis via transvaginal ultrasound of early pregnancy complications or loss
- Percentage of people with early pregnancy complications or loss who are satisfied with the care they receive

Indicators are categorized as:

- Provincially measurable (the indicator is well defined and validated) or
- Locally measurable (data sources or specifications do not currently exist to measure it consistently across providers and at the system level)

For more information on statement-specific indicators, please refer to the quality standard.

5.1   Quality Standard Scope

This quality standard addresses care for people experiencing early pregnancy complications (such as pain and vaginal bleeding) and/or loss in the first trimester of pregnancy. This standard applies to all settings and includes diagnosis, follow-up, management, and psychosocial aspects of care for early pregnancy complications and loss up to 13 completed weeks of pregnancy. The standard includes:

- Pregnancy of unknown location (a temporary diagnosis meaning a person has a positive pregnancy test but no pregnancy is visible on ultrasound)
- Tubal ectopic pregnancy (a pregnancy in which the embryo implants in a fallopian tube)
- Intrauterine pregnancy loss (missed, complete, or incomplete miscarriage)

This standard does not address other types of ectopic pregnancy, termination of pregnancy (therapeutic abortion), or molar pregnancy (gestational trophoblastic disease, a rare pregnancy-related condition in which the cells that form the placenta develop abnormally).

5.2   Cohort Identification

People experiencing early pregnancy complications and/or loss in the first trimester of pregnancy can be identified by the following:

- Pregnancy of unknown location (a temporary diagnosis meaning a person has a positive pregnancy test but no pregnancy is visible on ultrasound)
- Tubal ectopic pregnancy (a pregnancy in which the embryo implants in a fallopian tube)
- Intrauterine pregnancy loss (missed, complete, or incomplete miscarriage)

These conditions were identified in the emergency department and inpatient settings by the following ICD-10 CA codes in Table 1:

Table 1: ICD-10 CA codes for early pregnancy complications/and loss

O001 Tubal pregnancy O008 Other ectopic pregnancy O009 Ectopic pregnancy, unspecified
O03 Spontaneous Abortion O030 Spontaneous Abortion, incomplete, complicated by genital tract and pelvic infection 0031 Spontaneous abortion, incomplete, complicated by delayed or excessive haemorrhage 0032 Spontaneous abortion, incomplete, complicated by embolism 0033 Spontaneous abortion, incomplete, with other and unspecified complications 0034 Spontaneous abortion, incomplete, without complication 0035 Spontaneous abortion, complete or unspecified, complicated by genital tract and pelvic infection 0036 Spontaneous abortion, complete or unspecified, complicated by delayed or excessive haemorrhage 0037 Spontaneous abortion, complete or unspecified, complicated by embolism 0038 Spontaneous abortion, complete or unspecified, with other and unspecified complications 0039 Spontaneous abortion, complete or unspecified, without complication
O02 Other Abnormal Products of Conception O020 Blighted ovum and nonhydatidiform mole O021 Missed abortion O028 Other specified abnormal products of conception O029 Abnormal product of conception, unspecified
O08 Complication following Ectopic and Molar Pregnancy
O20 Hemorrhage in early pregnancy

National Ambulatory Care Reporting System (NACRS) and Discharge Abstract Database (DAD) were the administrative databases that we used to examine the cohort in emergency department and inpatient settings in this standard.

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5.3   How Success Can Be Measured Provincially

The following indicators are currently provincially measurable in Ontario's health care system:

- Number of emergency department visits by people with early pregnancy complications and/or loss
- Percentage of repeat emergency department visits within 30 days of the initial visit for early pregnancy complications or loss
- Percentage of repeat emergency department visits within 30 days of the initial visit for tubal ectopic pregnancy and complications
- Percentage of emergency department and inpatient visits for early pregnancy complications or loss that required a blood transfusion

Methodologic details for the provincially measurable indicators are described in the tables below.

Table 2: Number of emergency department visits by people with early pregnancy complications and/or loss

<table>
<tr>
<td rowspan="4">GENERAL DESCRIPTION</td>
<td>Indicator description</td>
<td>This indicator measures the number of emergency department visits by people with early pregnancy complications and/or loss (EPCL)

Directionality: Lower is better</td>
</tr>
<tr>
<td>**Measurability**</td>
<td>**Measurable at the provincial level**</td>
</tr>
<tr>
<td>Dimension of quality</td>
<td>Effective</td>
</tr>
<tr>
<td>Quality statement alignment</td>
<td>All quality statements</td>
</tr>
<tr>
<td rowspan="2">DEFINITION & SOURCE INFORMATION</td>
<td>Calculation: General</td>
<td>Count of the number of emergency department visits by people with early pregnancy complications and/or loss *(see Table 1 for the ICD-10 CA codes)*

Exclusions

• ED visits where patient was <13 or >64 years of age
• ED visits where patients did not have a valid health insurance number
• Patients without an Ontario residence
• Scheduled ED visits
• ED visits for Molar pregnancy, ICD-10-CA code: O01
• ED visits for Abdominal Pregnancy, ICD-10-CA code: O000
• ED visits for Ovarian Pregnancy, ICD-10-CA code: O002

Method
Count of the number of ED visits</td>
</tr>
<tr>
<td>Data source</td>
<td>National Ambulatory Care Reporting System (NACRS), accessed using IntelliHealth Ontario</td>
</tr>
</table>

ADDITIONAL INFORMATION	Indicator Limitations	Many patients with EPCL visit the emergency department because access to early pregnancy services (24 hours and 7 days a week) is limited in the province. This indicator does not tell us whether the emergency department was appropriately used and if the visit was necessary for the patient's care.

Table 3: Percentage of repeat emergency department visits within 30 days of the initial visit for early pregnancy complications or loss

GENERAL DESCRIPTION	Indicator description	This indicator measures the percentage of repeat emergency department visits for a) Any reason b) Any obstetric reason, within 30 days of the initial emergency department visit for early pregnancy complications and/or loss Directionality: Lower is better
	Measurability	**Measurable at the provincial level**
	Dimension of quality	Effective, Efficient, Patient-Centered
	Quality statement alignment	All quality statements
DEFINITION & SOURCE INFORMATION	Calculation: General	**Denominator** Emergency department visits for an episode of care in which early pregnancy complications and/or loss (see ICD-10 CA codes in Table 1) is diagnosed ***Exclusions*** • ED visits where patient was <13 or >64 years of age • ED visits where patients did not have a valid health insurance number • Patients without an Ontario residence • Scheduled ED visits • ED visits where not seen by a physician • Transfers from an ED • ED visits where there is a prior visit for EPCL in the previous 90 days. • ED visits for molar pregnancy: ICD-10-CA code: O01 • ED visits for Abdominal Pregnancy: ICD-10-CA code: O000 • ED visits for Ovarian Pregnancy: ICD-10-CA code: O002

		Numerator Subsequent (first) emergency department visits within 30 days following index ED visit for early pregnancy complications and/or loss: a) any reason b) obstetric reason *Inclusions:* • An ED visit for any obstetric reason/any reason within 30 days of the initial visit for EPCL, including separate visit on the day of the initial EPCL visit • Counting one re-visit per person within the 30 day period • Re-visits that can occur in the next fiscal year *Exclusions* • ED visits where patient was <13 or >64 years of age • ED visits where patients did not have a valid health insurance number • Patients without an Ontario residence • Scheduled ED visits • ED visits where not seen by a physician • Transfers from an ED **Method** Numerator divided by the denominator times 100
	Data Source	National Ambulatory Care Reporting System (NACRS), provided by Institute for Clinical Evaluative Sciences (ICES)
ADDITIONAL INFORMATION	Indicator Limitations	This indicator does not tell us whether the emergency department was appropriately used and if the visit was necessary for the patient's care. The results of this indicator should be used with caution as we are not only examining revisits for EPCL but revisits for any reason and obstetric reasons. It is possible that some of these revisits are not directly attributable to the first index EPCL visit the patient had.

Table 4: Percentage of repeat emergency department visits within 30 days of the initial visit for tubal ectopic pregnancy and complications

<table>
<tr>
<td rowspan="5">GENERAL DESCRIPTION</td>
<td>Indicator description</td>
<td>This indicator measures the percentage of repeat emergency department visits for a) Any reason b) Any obstetric reason, within 30 days of the initial emergency department visit for tubal ectopic pregnancy and complications

Directionality: Lower is better</td>
</tr>
<tr>
<td>**Measurability**</td>
<td>**Measurable at the provincial level**</td>
</tr>
<tr>
<td>Dimension of quality</td>
<td>Effective, Efficient, Patient-Centered</td>
</tr>
<tr>
<td>Quality statement alignment</td>
<td>**Quality Statement 1: Comprehensive Assessment**
People with signs or symptoms of early pregnancy complications receive a comprehensive assessment that includes a transvaginal ultrasound and serum beta-hCG measurement

Quality Statement 2: Early Pregnancy Assessment Services
People experiencing early pregnancy complications and loss have access to early pregnancy assessment services.

Quality Statement 3: Pregnancy of Unknown Location
People with a pregnancy of unknown location (not visible in the uterus or adnexa, on ultrasound) receive two serial serum beta-hCG measurements taken 48 hours apart. They are followed until a final diagnosis is made or until beta-hCG returns to zero

Quality Statement 4: Diagnosis of Intrauterine Early Pregnancy Loss
Pregnant people who experience intrauterine early pregnancy loss receive this diagnosis as quickly as possible based on transvaginal ultrasound. While waiting to learn whether or not the pregnancy is viable, they receive information on who to contact, where to go, and how long it should take to receive a diagnosis. A diagnosis of early pregnancy loss is also communicated to the person's primary or other relevant care providers

Quality Statement 5: Management Options for Intrauterine Early Pregnancy Loss
People with intrauterine early pregnancy loss receive information on all potential management options (expectant, medical, and surgical) and are supported in making an informed decision on the most appropriate management approach for them, based on their diagnosis, clinical situation, values, and preferences</td>
</tr>
</table>

		Quality Statement 6: Management Options for Tubal Ectopic Pregnancy People with a confirmed tubal ectopic pregnancy receive information on all potential management options (expectant, medical, and surgical) and are supported to make an informed decision about their care. They have access to their preferred management option. Health care professionals closely monitor signs and symptoms and arrange appropriate access to follow-up care.
DEFINITION & SOURCE INFORMATION	Calculation: General	**Denominator** Emergency department visits for an episode of care in which tubal ectopic pregnancy and complications (see ICD-10 CA codes in the chart below) is diagnosed **ICD-10 CA codes for tubal ectopic pregnancy and complications** O001 Tubal pregnancy O008 Other ectopic pregnancy O009 Ectopic pregnancy, unspecified O08 Complication following Ectopic and Molar Pregnancy *Exclusions* • ED visits where patient was <13 or >64 years of age • ED visits where patients did not have a valid health insurance number • Patients without an Ontario residence • Scheduled ED visits • ED visits where not seen by a physician • Transfers from an ED • ED visits where there is a prior visit for EPCL in the previous 90 days. • ED visits for molar pregnancy: ICD-10-CA code: O01 • ED visits for Abdominal Pregnancy: ICD-10-CA code: O000 • ED visits for Ovarian Pregnancy: ICD-10-CA code: O002

		Numerator
		Subsequent (first) emergency department visits within 30 days following index ED visit for tubal ectopic pregnancy and complications:
		a) any reason
		b) obstetric reason
		
		Inclusions:
		    • An ED visit for any obstetric reason/any reason within 30 days of the initial visit for tubal ectopic pregnancy and complications including separate visit on the day of the initial tubal ectopic pregnancy and complications visit
		    • Counting one re-visit per person within the 30 day period
		    • Re-visits that can occur in the next fiscal year
		
		Exclusions
		    • ED visits where patient was <13 or >64 years of age
		    • ED visits where patients did not have a valid health insurance number
		    • Patients without an Ontario residence
		    • Scheduled ED visits
		    • ED visits where not seen by a physician
		    • Transfers from an ED
		
		Method
		Numerator divided by the denominator times 100

	Data Source	National Ambulatory Care Reporting System (NACRS), provided by Institute for Clinical Evaluative Sciences (ICES)
ADDITIONAL INFORMATION	Indicator Limitations	This indicator does not tell us whether the emergency department was appropriately used and if the visit was necessary for the patient's care. The results of this indicator should be used with caution as we are not only examining revisits for tubal ectopic pregnancy and complications in this indicator but revisits for any reason and obstetric reasons. It is possible some of these revisits are not directly attributable to the first index ED tubal ectopic pregnancy and complications visit the patient had.

Table 5: Percentage of emergency department and inpatient visits for early pregnancy complications and/or loss that required a blood transfusion

<table>
<tr>
<td rowspan="4">GENERAL DESCRIPTION</td>
<td>Indicator description</td>
<td>This indicator measures the percentage of emergency department and inpatient visits for early pregnancy complications and/or loss that required a blood transfusion

Directionality: Lower is better</td>
</tr>
<tr>
<td>Measurability</td>
<td>Measurable at the provincial level</td>
</tr>
<tr>
<td>Dimension of quality</td>
<td>Effective, Efficient, Patient-Centered</td>
</tr>
<tr>
<td>Quality statement alignment</td>
<td>Quality Statement 1: Comprehensive Assessment
People with signs or symptoms of early pregnancy complications receive a comprehensive assessment that includes a transvaginal ultrasound and serum beta-hCG measurement

Quality Statement 6: Management Options for Tubal Ectopic Pregnancy
People with a confirmed tubal ectopic pregnancy receive information on all potential management options (expectant, medical, and surgical) and are supported to make an informed decision about their care. They have access to their preferred management option. Health care professionals closely monitor signs and symptoms and arrange appropriate access to follow-up care.</td>
</tr>
<tr>
<td rowspan="1">DEFINITION & SOURCE INFORMATION</td>
<td>Calculation: General</td>
<td>Denominator
Number of emergency department and inpatient visits for early pregnancy complications and/or loss (see ICD-10 CA codes in Table 1) in a given year

Exclusions
ED visits where patient was <13 or >64 years of age
ED visits where patients did not have a valid health insurance number
Patients without an Ontario residence
Scheduled ED visits
ED visits where not seen by a physician
Transfers from an ED
ED visits for molar pregnancy: ICD-10-CA code: O01
ED visits for Abdominal Pregnancy: ICD-10-CA code: O000
ED visits for Ovarian Pregnancy: ICD-10-CA code: O002</td>
</tr>
</table>

		Numerator Of the number of emergency department and inpatient visits in the denominator that required blood transfusion ***Exclusions*** • ED visits where patient was <13 or >64 years of age • ED visits where patients did not have a valid health insurance number • Patients without an Ontario residence • Scheduled ED visits • ED visits where not seen by a physician • Transfers from an ED **Method** Numerator divided by the denominator times 100
	Data Source	National Ambulatory Care Reporting System (NACRS),and Discharge Abstract Database (DAD) accessed using IntelliHealth Ontario
ADDITIONAL INFORMATION	Indicator Limitations	This indicator does not tell us about why the blood transfusion occurred and at which stage the patient was when it occurred.

5.4 How Success Can Be Measured Locally

You might want to assess the quality of care you provide to your patients transitioning between hospital and home. You might also want to monitor your own quality improvement efforts. It can be possible to do this using your own clinical records, or you might need to collect additional data. In addition to the provincially measurable indicators, we recommend the following list of indicators, which cannot be measured provincially using currently available data:

- Average time that people with early intrauterine pregnancy loss who need a dilatation and curettage (D&C) procedure wait for a D&C
- Average wait time from first presentation to a health care professional of early pregnancy complications or loss, to a diagnosis via transvaginal ultrasound of early pregnancy complications or loss
- Percentage of people with early pregnancy complications or loss who are satisfied with the care they receive

Methodologic details are described in the tables below.

Table 6: Average time that people with early intrauterine pregnancy loss who need a dilatation and curettage (D&C) procedure wait for a D&C

GENERAL DESCRIPTION	Indicator description	This indicator measures the average time that people with early intrauterine pregnancy loss who need a dilatation and curettage (D&C) procedure wait for a D&C Directionality: Lower is better
	Measurability	**Measurable at the provincial level**
	Dimension of quality	Effective, Efficient, Patient-Centered
	Quality statement alignment	**Quality Statement 5: Management Options for Intrauterine Early Pregnancy Loss** People with intrauterine early pregnancy loss receive information on all potential management options (expectant, medical, and surgical) and are supported in making an informed decision on the most appropriate management approach for them, based on their diagnosis, clinical situation, values, and preferences.
DEFINITION & SOURCE INFORMATION	Calculation: General	**Description** Average number of hours that people with early intrauterine pregnancy loss who have been told by a health care provider that they needed a dilatation and curettage (D&C) procedure waited for the procedure *Population: People who were diagnosed with early intrauterine pregnancy loss that needed a D&C procedure* **Method** Number of hours
	Data source:	Local Data Collection
ADDITIONAL INFORMATION	Indicator Limitations	This indicator does not have a target wait time. It is therefore hard to describe whether the average wait time was appropriate or not. In addition, due to resource constraints at a local level it might be hard to measure this indicator.

Table 7: Average wait time from first presentation to a health care professional of early pregnancy complications or loss, to a diagnosis via transvaginal ultrasound of early pregnancy complications or loss

<table>
<tr>
<td rowspan="4">GENERAL DESCRIPTION</td>
<td>Indicator description</td>
<td>This indicator measures the average wait time from first presentation to a health care professional of early pregnancy complications or loss, to a diagnosis via transvaginal ultrasound of early pregnancy complications or loss

Directionality: Lower is better</td>
</tr>
<tr>
<td>**Measurability**</td>
<td>**Measurable at the provincial level**</td>
</tr>
<tr>
<td>Dimension of quality</td>
<td>Effective, Efficient, Patient-Centered</td>
</tr>
<tr>
<td>Quality statement alignment</td>
<td>**Quality Statement 1: Comprehensive Assessment**
People with signs or symptoms of early pregnancy complications receive a comprehensive assessment that includes a transvaginal ultrasound and serum beta-hCG measurement

Quality Statement 2: Early Pregnancy Assessment Services
People experiencing early pregnancy complications and loss have access to early pregnancy assessment services.

Quality Statement 3: Pregnancy of Unknown Location
People with a pregnancy of unknown location (not visible in the uterus or adnexa, on ultrasound) receive two serial serum beta-hCG measurements taken 48 hours apart. They are followed until a final diagnosis is made or until beta-hCG returns to zero

Quality Statement 4: Diagnosis of Intrauterine Early Pregnancy Loss
Pregnant people who experience intrauterine early pregnancy loss receive this diagnosis as quickly as possible based on transvaginal ultrasound. While waiting to learn whether or not the pregnancy is viable, they receive information on who to contact, where to go, and how long it should take to receive a diagnosis. A diagnosis of early pregnancy loss is also communicated to the person's primary or other relevant care providers</td>
</tr>
</table>

		Quality Statement 5: Management Options for Intrauterine Early Pregnancy Loss People with intrauterine early pregnancy loss receive information on all potential management options (expectant, medical, and surgical) and are supported in making an informed decision on the most appropriate management approach for them, based on their diagnosis, clinical situation, values, and preferences **Quality Statement 6: Management Options for Tubal Ectopic Pregnancy** People with a confirmed tubal ectopic pregnancy receive information on all potential management options (expectant, medical, and surgical) and are supported to make an informed decision about their care. They have access to their preferred management option. Health care professionals closely monitor signs and symptoms and arrange appropriate access to follow-up care.
DEFINITION & SOURCE INFORMATION	Calculation: General	**Description** Average number of days from first presentation to a health care professional of early pregnancy complications and/ or loss, to a diagnosis via transvaginal ultrasound of early pregnancy complications and/or loss *Population: People who were diagnosed with early pregnancy complications and/ or loss in hospital and community settings (see Table 1 of ICD-10 CA codes to identify the population)* **Method** Number of days
	Data source	Local Data Collection
ADDITIONAL INFORMATION	Indicator Limitations	This indicator does not have a target wait time. It is therefore hard to describe whether the average wait time was appropriate or not. In addition, due to resource constraints at a local level it might be hard to measure this indicator.

Table 8: Percentage of people with early pregnancy complications or loss who are satisfied with the care they receive

<table>
<tr>
<td rowspan="5">GENERAL DESCRIPTION</td>
<td>Indicator description</td>
<td>This indicator measures the percentage of people with early pregnancy complications and/or loss who are satisfied with the care they receive

Directionality: Higher is better</td>
</tr>
<tr>
<td>**Measurability**</td>
<td>**Measurable at the provincial level**</td>
</tr>
<tr>
<td>Dimension of quality</td>
<td>Effective, Efficient, Patient-Centered</td>
</tr>
<tr>
<td>Quality statement alignment</td>
<td>All quality statements</td>
</tr>
<tr>
<td rowspan="2">DEFINITION & SOURCE INFORMATION</td>
<td>Calculation: General</td>
<td>**Denominator**
Number of people with early pregnancy complications and/or loss

Population: People with early pregnancy complications and/ or loss in hospital and community settings (see Table 1 of ICD-10 CA codes to identify the population)

Numerator:
Of the number of people in the denominator the number who are satisfied with the care they receive

Method
Numerator divided by the denominator times 100</td>
</tr>
<tr>
<td>Data source</td>
<td>Local Data Collection

- An example of a validated survey question that can be used to inform your local data collection is available in the Health Care Experience Survey (Ministry of Health and Long-Term Care): *" In general, how satisfied are you with health care in your community: would you say very satisfied, somewhat satisfied, not very satisfied or not satisfied at all?" (Response options: "very satisfied, somewhat satisfied, not very satisfied, not satisfied at all, don't know, refused)*</td>
</tr>
</table>

	Indicator Limitations	This indicator has all the limitations that is normally associated with survey specific indicators (e.g., resource intensive, recall bias, etc.)
ADDITIONAL INFORMATION		

Resources and Questions

5.5 Resources

Several resources are available for more information:

- The **quality standard** provides information on the background, definitions of terminology, numerators and denominators for all statement-specific indicators
- The *Getting Started Guide* includes quality improvement tools and resources for health care professionals, including an action plan template
- The **case for improvement deck** provides data on why a particular quality standard has been created and the data behind it
- The **data tables** provide data that can be used to examine variations in indicator results across the province

5.6 Questions?

Please contact qualitystandards@hqontario.ca. We would be happy to provide advice on measuring quality standard indicators, or put you in touch with other providers who have implemented the standards and might have faced similar questions.

Health Quality Ontario offers an online community dedicated to improving the quality of health care across Ontario together called Quorum. Quorum can support your quality improvement work by allowing you to:

- Find and connect with others working to improve health care quality
- Identify opportunities to collaborate
- Stay informed with the latest quality improvement news
- Give and receive support from the community
- Share what works and what doesn't
- See details of completed quality improvement projects
- Learn about training opportunities
- Join a community of practice

6 Appendix: Data Sources Referenced in This Quality Standard

Within this quality standard, there are several data sources used for provincial measurement. The data source(s) for each indicator are listed within the individual indicator specifications. More details on the specific data sources that Health Quality Ontario used to produce the indicators are noted below.

Discharge Abstract Database (DAD)
The DAD is a database of information abstracted from hospital records that captures administrative, clinical and patient demographic information on all hospital inpatient separations, including discharges, deaths, signouts and transfers. CIHI receives Ontario data directly from participating facilities or from their respective regional health authorities or the MOHLTC. The DAD includes patient-level data for acute care facilities in Ontario. Data are collected, maintained and validated by CIHI. The main data elements of the DAD are patient identifiers (e.g. name, health care number), administrative information, clinical information (e.g. diagnoses and procedures) and patient demographics (e.g. age, sex, geographic location).

Health Care Experience Survey (HCES)
The HCES is a voluntary telephone survey aimed at Ontarians aged 16 and older and is conducted on a quarterly basis. The HCES asks randomly selected Ontarians for their views about their health care system, how healthy they are, if they have chronic conditions, if they have a primary care provider (family doctor, nurse practitioner or other health care provider), how long it takes to see their provider, their experience using the health care system, if they have been to an emergency room or a walk-in clinic, and their household and demographic characteristics. People living in institutions, in households without telephones, and those with invalid/missing household addresses in the Registered Persons Database (RPDB) are excluded. The Ministry of Health and Long-Term Care uses the information from the survey to understand the experience of Ontarians with respect to primary care.

National Ambulatory Care Reporting System (NACRS)
The NACRS contains data for all hospital-based and community-based emergency and ambulatory care, including day surgeries, outpatient clinics and emergency departments. Data are collected, maintained and validated by CIHI. CIHI receives Ontario data directly from participating facilities or from their respective regional health authorities or the MOHLTC. Data are collected, maintained and validated by CIHI. Data elements of the NACRS include patient identifiers (e.g. name, health care number), patient demographics (e.g. age, sex, geographic location), clinical information (e.g. diagnoses and procedures), and administrative information.