

Health Quality Ontario

The provincial advisor on the quality of health care in Ontario

Indicator Technical Specifications for the Quality Standard *Venous Leg Ulcers: Care for Patients in All Settings*

Technical Appendix

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Technical Appendix Overview: Venous Leg Ulcers

This technical appendix accompanies Health Quality Ontario's Quality Standard *Venous Leg Ulcers: Care for Patients in All Settings*. Early in the development of each quality standard, a small number of performance indicators are chosen 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 appendix includes information on the definitions and technical details of the indicators listed below, including data sources for indicators that can be consistently measured across providers, across the sectors of health care, and at the provincial level.

- Percentage of patients with a new venous leg ulcer in a 6-month period (incidence)
- Percentage of patients with a venous leg ulcer in a 6-month period (prevalence)
- Percentage of patients with a closed venous leg ulcer in a 12-week period
- Percentage of patients with a healed venous leg ulcer who were diagnosed with a secondary venous leg ulcer within 1 year (recurrence)
- Percentage of patients with a venous leg ulcer who had a diagnosed wound infection in a 6-month period
- Percentage of patients with a venous leg ulcer in a 12-month period who reported high satisfaction with the care provided

Indicators are categorized as:

- Currently measurable in Ontario or similar health systems (the indicator is well defined and validated); or
- Developmental (the indicator is not well defined, and data sources do not currently exist to measure it consistently across providers and at the system level)

Quality Standard Scope

This quality standard focuses on care for people who have developed or are at risk of developing a venous leg ulcer. The scope of the standard covers all settings, including primary care, home and community care, long-term care, and acute care. It also provides guidance on optimal care when a person transitions between these settings—for example, when someone is discharged from a hospital to their home or a long-term care home. It is one of three quality standards related to wound care; the other two are for pressure injuries and diabetic foot ulcers.

In this quality standard, the term *patient* includes community care clients and residents of long-term care homes.

Questions or Comments?

Please email: info@HQOntario.ca

Currently Measureable Indicators

The following two indicators are currently measureable in at least one sector (acute care) of Ontario’s health care system:

- Percentage of patients with a new venous leg ulcer in a 6-month period (incidence)
- Percentage of patients with a venous leg ulcer in a 6-month period (prevalence)

Methodological details are as follows:

Table 1: Percentage of patients with a new venous leg ulcer in a 6-month period (incidence)

GENERAL DESCRIPTION	Indicator description	The percentage of patients with a new venous leg ulcer in a 6-month period Directionality: A lower percentage is better
	Indicator status	Measureable in acute care and acute inpatient rehabilitation Developmental in primary care, home care, long-term care, and complex continuing care
	Dimensions of quality	Effective
DEFINITION & SOURCE INFORMATION	Calculation: General	Denominator Total number of patients Numerator Number of patients with a newly diagnosed venous leg ulcer within the prior 6 months <i>Exclusions</i> Patients with a venous leg ulcer on their previous assessment Method $\text{Numerator/denominator} \times 100$
	Calculation: Acute care	Denominator Total number of patients discharged from an acute care facility within the past 6 months Numerator Number of patients in the denominator with a diagnostic code for venous leg ulcer <i>Inclusions</i> Diagnosis code in ICD-10-CA: <ul style="list-style-type: none"> • L97 Ulcer of lower limb • I83.0 Varicose veins of lower extremities with ulcer • I83.2 Varicose veins with both ulcer and inflammation • I83.9 Varicose veins of lower extremities without ulcer, inflammation or other complication

		<p><i>Exclusions</i> Patients with a previous venous leg ulcer within the past 6 months</p> <p>Method Numerator/denominator × 100</p> <p>Data source: Discharge Abstract Database</p>
	<p>Calculation: Acute rehabilitation</p>	<p>Denominator Total number of patients discharged from an acute inpatient rehabilitation care facility within the past 6 months</p> <p>Numerator Number of patients in the denominator with a post-admit comorbid health condition diagnostic code for venous leg ulcer</p> <p><i>Inclusions</i> Diagnosis code in ICD-10-CA:</p> <ul style="list-style-type: none"> • L97 Ulcer of lower limb • I83.0 Varicose veins of lower extremities with ulcer • I83.2 Varicose veins with both ulcer and inflammation • I83.9 Varicose veins of lower extremities without ulcer, inflammation or other complication <p><i>Exclusions</i> Patients with a previous venous leg ulcer (coded as most responsible health condition or pre-admit comorbid health condition) on their previous assessment within the past 6 months</p> <p>Method Numerator/denominator × 100</p> <p>Data source: National Rehabilitation Reporting System</p>
	<p>Calculation: Home care</p>	<p>Denominator Total number of patients who have received home care services for at least 6 months</p> <p>Numerator Number of patients in the denominator with diagnostic code for venous leg ulcer</p> <p><i>Exclusions</i> Patients with a venous leg ulcer on their previous assessment Patients whose venous leg ulcer formed while in another care setting, e.g., in acute care</p> <p>Method Numerator/denominator × 100</p> <p>Data source: local data collection; could be identified by linking diagnosis coding in the Client Health and Related Information System (CHRIS)</p>

	Calculation: Long-term care and complex continuing care	<p>Denominator Total number of long-term care residents or complex continuing care patients</p> <p>Numerator Number of patients in the denominator with a diagnostic code for venous leg ulcer</p> <p><i>Exclusions</i> Patients with a venous leg ulcer on their previous assessment Patients whose venous leg ulcer formed while in another care setting, e.g., in acute care</p> <p>Method Numerator/denominator × 100</p> <p>Data source: Continuing Care Reporting System</p>
	Calculation: Primary care	<p>Denominator Total number of unique patients rostered who you have seen in your practice within the past 6 months</p> <p>Numerator Number of patients in the denominator with a diagnostic code for venous leg ulcer</p> <p><i>Inclusions</i> Diagnosis code in ICD-10-CA:</p> <ul style="list-style-type: none"> • L97 Ulcer of lower limb • I83.0 Varicose veins of lower extremities with ulcer • I83.2 Varicose veins with both ulcer and inflammation • I83.9 Varicose veins of lower extremities without ulcer, inflammation or other complication <p><i>Exclusions</i> Patients with a venous leg ulcer at least 6 months ago</p> <p>Method Numerator/denominator × 100</p> <p>Data source: Ontario Health Insurance Plan Claims Database</p>
GEOGRAPHY & TIMING	Levels of comparability	Overall province, LHIN, sub-LHIN region, patient characteristics (subject to sample size)
ADDITIONAL INFORMATION	Comments	<p>The indicator only captures new venous leg ulcers. If a patient develops a secondary venous leg ulcer while the first injury has not healed, this will not be counted in the indicator.</p> <p>This indicator measures incidence, so it is a measure of prevention, not treatment.</p>

Abbreviations: ICD, International Classification of Diseases; LHIN, local health integration network.

Table 2: Percentage of patients with a venous leg ulcer in a 6-month period (prevalence)

GENERAL DESCRIPTION	Indicator description	The percentage of patients with a venous leg ulcer in the previous 6 months Directionality: A lower percentage is better
	Indicator status	Measureable in acute care and acute inpatient rehabilitation Developmental in primary care, home care, long-term care, and complex continuing care
	Dimensions of quality	Effective
DEFINITION & SOURCE INFORMATION	Calculation: General	Denominator Total number of patients Numerator Number of patients with a documented venous leg ulcer within the prior 6 months <i>Exclusions</i> Patients with a venous leg ulcer on their previous assessment Method Numerator/denominator × 100
	Calculation: Acute care	Denominator Total number of patients discharged from an acute care facility within the past 6 months Numerator Number of patients in the denominator with a diagnostic code (pre- or post-admit) for a venous leg ulcer <i>Inclusions</i> Diagnosis code in ICD-10-CA: <ul style="list-style-type: none"> • L97 Ulcer of lower limb • I83.0 Varicose veins of lower extremities with ulcer • I83.2 Varicose veins with both ulcer and inflammation • I83.9 Varicose veins of lower extremities without ulcer, inflammation or other complication Method Numerator/denominator × 100 Data source: Discharge Abstract Database
	Calculation: Acute rehabilitation	Denominator Total number of patients discharged from an acute inpatient rehabilitation care facility within the past 6 months Numerator Number of patients in the denominator with a most responsible health condition, pre-admit comorbid health condition, or post-admit comorbid health condition diagnostic code for venous leg ulcer

	<p><i>Inclusions</i> Diagnosis code in ICD-10-CA:</p> <ul style="list-style-type: none"> • L97 Ulcer of lower limb • I83.0 Varicose veins of lower extremities with ulcer • I83.2 Varicose veins with both ulcer and inflammation • I83.9 Varicose veins of lower extremities without ulcer, inflammation or other complication <p>Method Numerator/denominator × 100</p> <p>Data source: National Rehabilitation Reporting System</p>
Calculation: Home care	<p>Denominator Total number of patients who have received home care services for at least 6 months</p> <p>Numerator Number of patients in the denominator with a diagnostic code for venous leg ulcer</p> <p>Method Numerator/denominator × 100</p> <p>Data source: local data collection; could be identified by linking diagnosis coding in the Client Health and Related Information System (CHRIS)</p>
Calculation: Long-term care and complex continuing care	<p>Denominator Total number of long-term care residents or complex continuing care patients</p> <p>Numerator Number of patients in the denominator with a diagnostic code for venous leg ulcer</p> <p>Method Numerator/denominator × 100</p> <p>Data source: Continuing Care Reporting System</p>

	Calculation: Primary care	<p>Denominator Total number of unique patients rostered who you have seen in your practice within the past 6 months</p> <p>Numerator Number of patients in the denominator with at least one diagnostic code for a venous leg ulcer</p> <p><i>Inclusions</i> Diagnosis code in ICD-10-CA:</p> <ul style="list-style-type: none"> • L97 Ulcer of lower limb • I83.0 Varicose veins of lower extremities with ulcer • I83.2 Varicose veins with both ulcer and inflammation • I83.9 Varicose veins of lower extremities without ulcer, inflammation or other complication <p>Method Numerator/denominator × 100</p> <p>Data source: Ontario Health Insurance Plan Claims Database</p>
GEOGRAPHY & TIMING	Levels of comparability	Overall province, LHIN, sub-LHIN region, patient characteristics (subject to sample size)
ADDITIONAL INFORMATION	Comments	<p>This indicator can include patients with a venous leg ulcer on their previous assessment.</p> <p>The indicator only captures 1 venous leg ulcer per person, so a patient with more than 1 venous leg ulcer will only be counted once in the numerator.</p> <p>This indicator measures prevalence, so it is a measure of both prevention and treatment.</p>

Abbreviations: ICD, International Classification of Diseases; LHIN, local health integration network.

Developmental Indicators

Given the difficulty of capturing venous leg ulcers in current Ontario administrative data sources, the majority of the indicators selected rely on local data collection in most care settings. The following four indicators are currently developmental and rely on local data collection for reporting:

- Percentage of patients with a closed venous leg ulcer in a 12-week period
- Percentage of patients with a healed venous leg ulcer who were diagnosed with a secondary venous leg ulcer within 1 year (recurrence)
- Percentage of patients with a venous leg ulcer who had a diagnosed wound infection in a 6-month period
- Percentage of patients with a venous leg ulcer in a 12-month period who reported high satisfaction with the care provided

Methodological details are as follows:

Table 3: Percentage of patients with a closed venous leg ulcer in a 12-week period

GENERAL DESCRIPTION	Indicator description	The percentage of patients with a venous leg ulcer that closed within a 12 week period Directionality: A higher percentage is better
	Indicator status	Developmental
	Dimensions of quality	Effective
DEFINITION & SOURCE INFORMATION	Calculation	<p>Denominator Number of patients with a diagnosis of a venous leg ulcer</p> <p>Numerator Number of patients in the denominator with a diagnosed venous leg ulcer within the prior 6 months that closed within 12 weeks</p> <p><i>Exclusions</i> Patients with a non-healable venous leg ulcer</p> <p>Method $\text{Numerator/denominator} \times 100$</p>
	Data source	Local data collection
ADDITIONAL INFORMATION	Limitations	Although the majority of closed venous leg ulcers eventually heal, this indicator would not capture venous leg ulcers that reopen beyond 12 weeks due to poor assessment or care
	Comments	If a patient has more than 1 venous leg ulcer, the indicator should capture the most severe venous leg ulcer

Table 4: Percentage of patients with a healed venous leg ulcer who were diagnosed with a secondary venous leg ulcer within 1 year (recurrence)

GENERAL DESCRIPTION	Indicator description	The percentage of patients with a healed venous leg ulcer who were diagnosed with a secondary venous leg ulcer within 1 year Directionality: A lower percentage is better
	Indicator status	Developmental
	Dimensions of quality	Effective
DEFINITION & SOURCE INFORMATION	Calculation	Denominator Number of patients with a healed venous leg ulcer within a 1-year period Numerator Number of patients with a newly diagnosed venous leg ulcer within the 1-year period Method $\text{Numerator/denominator} \times 100$
	Data source	Local data collection
ADDITIONAL INFORMATION	Limitations	
	Comments	This indicator measures the recurrence of a venous leg ulcer. If someone develops a secondary venous leg ulcer before the first heals, it would not be included in this indicator.

Table 5: Percentage of patients with a venous leg ulcer who had a diagnosed wound infection in a 6-month period

GENERAL DESCRIPTION	Indicator description	The percentage of patients with a venous leg ulcer who had a diagnosed wound infection in a 6-month period Directionality: A lower percentage is better
	Indicator status	Developmental
	Dimensions of quality	Safe; Effective
DEFINITION & SOURCE INFORMATION	Calculation	Denominator Number of patients with a diagnosis of a venous leg ulcer Numerator Number of patients with a diagnosed venous leg ulcer within the prior 6 months who had a diagnosed wound infection Method $\text{Numerator/denominator} \times 100$
	Data source	Discharge Abstract Database

Table 6: Percentage of patients with a venous leg ulcer in a 12-month period who reported high satisfaction with the care provided

GENERAL DESCRIPTION	Indicator description	The percentage of patients with a venous leg ulcer in a 12-month period who reported high satisfaction with the care provided Directionality: A higher percentage is better
	Indicator status	Developmental
	Dimensions of quality	Patient-centred
DEFINITION & SOURCE INFORMATION	Calculation	<p>Denominator Number of patients with a diagnosis of a venous leg ulcer</p> <p>Numerator Number of patients with a diagnosed venous leg ulcer (or their caregivers) who reported that their satisfaction with the wound care they received was “excellent” or “very good” in their most recent assessment within the prior 12 months</p> <p>Suggested survey question: Overall, how would you rate the wound care services that you received from the individuals who provided care to you?</p> <p><i>Inclusions</i> Caregivers should be surveyed in place of patients in the event that either (1) the patient is < 12 years of age at time of sample selection or (2) the patient is identified as cognitively incapable.</p> <p><i>Exclusions</i> Patients and caregivers who were unable to complete the survey (e.g., comatose, language barrier)</p> <p>Method $\text{Numerator/denominator} \times 100$</p>
	Data source	Local data collection
ADDITIONAL INFORMATION	Limitations	<p>A patient or caregiver may feel they cannot respond honestly because of risk to their services. This can be mitigated by the survey not being conducted by the provider.</p> <p>The patient's response may be influenced by other health care services being provided, in addition to the wound care.</p>
	Comments	
	Alignment	Aligns with the Client and Caregiver Experience Evaluation (CCEE) Survey, conducted in all LHINs

Abbreviations: LHIN, local health integration network.