Worsened Pressure Ulcer in Long-Term Care

Name	Worsened Pressure Ulcer in Long-Term Care
Short /Other Names	Percentage of Residents Whose Stage 2 to 4 Pressure Ulcer Worsened
Description	This indicator looks at the number of long-term care residents whose stage 2 to 4 pressure ulcer had worsened since the previous assessment. Pressure ulcers can happen when a resident sits or lies in the same position for a long period of time. Immobility may be due to many physical and psychological factors, neurological diseases like Alzheimer's and improper nutrition or hydration. Careful monitoring is required to ensure good quality of care.
Interpretation	Lower is better. It means that a lower percentage of residents had a stage 2 to 4 pressure ulcer that worsened.
HSP Framework Dimension	Health System Outputs: Safe
Areas of Need	Living With Illness, Disability or Reduced Function
Geographic Coverage	Newfoundland and Labrador, New Brunswick, Nova Scotia, Ontario, Manitoba, Saskatchewan, Alberta, British Columbia, Yukon
Reporting Level /Disaggregation	Province/Territory, Region, Facility, Corporation, Sector (residential and hospital-based continuing care)
Indicator Results	Accessing Indicator Results on Your Health System: In Depth (PDF)

Identifying Information	
Name	Worsened Pressure Ulcer in Long-Term Care
Short/Other Names	Percentage of Residents Whose Stage 2 to 4 Pressure Ulcer Worsened
Indicator Description and Calculation	
Description	This indicator looks at the number of long-term care residents whose stage 2 to 4 pressure ulcer had worsened since the previous assessment. Pressure ulcers can happen when a resident sits or lies in the same position for a long period of time. Immobility may be due to many physical and psychological factors, neurological diseases like Alzheimer's and improper nutrition or hydration. Careful monitoring is required to ensure good quality of care.
Calculation: Description	This indicator examines the percentage of residents whose stage 2 to 4 pressure ulcer had worsened since the previous assessment. It is calculated by dividing the number of residents whose stage 2 to 4 pressure ulcer worsened by the number of all residents with valid assessments (excluding those who had a stage 4 ulcer on their prior assessment) within the applicable time period. Unit of Analysis: Resident
Calculation: Geographic Assignment	Place of service
Calculation: Type of Measurement	Percentage or proportion
Calculation: Adjustment Applied	The following covariates are used in risk adjustment: Individual covariates: Resource Utilization Group (RUG); late loss of activities of daily living (ADLs); age younger than 65 Facility-level stratification: Case Mix Index (CMI)
Calculation: Method of Adjustment	Stratification, direct standardization, indirect standardization; **Standard Population:** 3,000 facilities in 6 U.S. states and 92 residential care facilities and continuing care hospitals in Ontario and Nova Scotia

Denominator	**Description:** Residents with valid assessments **Inclusions:** 1. Residents with valid assessments. To be considered valid, the target assessment must a. Be the latest assessment in the quarter b. Be carried out more than 92 days after the Admission Date c. Not be an Admission Full Assessment As this is an incidence indicator, the resident must also have had an assessment in the previous quarter, with 45 to 165 days between the target and prior assessments. If multiple assessments in the previous quarter meet the time period criteria, the latest assessment is selected as the prior assessment. **Exclusions:** 1. Residents who had a stage 4 ulcer (M2a = 4) on their prior assessment (cannot get worse)
Numerator	**Description:** Residents who have a pressure ulcer at stage 2 to 4 on their target assessment and for whom the stage of pressure ulcer is greater on their target assessment than on their prior assessment **Inclusions:** 1. Residents with a stage 2 to 4 pressure ulcer (M2a = 2, 3 or 4) 2. Residents with valid assessments. To be considered valid, the target assessment must a. Be the latest assessment in the quarter b. Be carried out more than 92 days after the Admission Date c. Not be an Admission Full Assessment As this is an incidence indicator, the resident must also have had an assessment in the previous quarter, with 45 to 165 days between the target and prior assessments. If multiple assessments in the previous quarter meet the time period criteria, the latest assessment is selected as the prior assessment. **Exclusions:** 1. Residents who had a stage 4 ulcer (M2a = 4) on their prior assessment (cannot get worse)

Background, Interpretation and Benchmarks

Rationale	CCRS quality indicators were developed by interRAI (www.interrai.org), an international research network, to provide organizations with measures of quality across key domains, including physical and cognitive function, safety and quality of life. Each indicator is adjusted for resident characteristics that are related to the outcome and independent of quality of care. The indicators can be used by quality leaders to drive continuous improvement efforts. They are also used to communicate with key stakeholders through report cards and accountability agreements.
Interpretation	Lower is better. It means that a lower percentage of residents had a stage 2 to 4 pressure ulcer that worsened.
HSP Framework Dimension	Health System Outputs: Safe
Areas of Need	Living With Illness, Disability or Reduced Function
Targets /Benchmarks	CIHI: None Health Quality Ontario (external): 1% for long-term care
References	Canadian Institute for Health Information. *CCRS Quality Indicators Risk Adjustment Methodology (PDF)*. 2013. Canadian Institute for Health Information. *When a Nursing Home Is Home: How Do Canadian Nursing Homes Measure Up on Quality? (PDF)* 2013. Health Quality Ontario. *Long-Term Care Benchmarking Resource Guide (PDF)*. 2013. Health Quality Ontario. *Results From Health Quality Ontario's Benchmark Setting for Long-Term Care Indicators (PDF)*. 2017. Health Quality Ontario. Health Quality Ontario Indicator Library. Accessed October 4, 2017. Hirdes JP, Mitchell L, Maxwell CJ, White N. Beyond the "iron lungs of gerontology": Using evidence to shape the future of nursing homes in Canada . *Canadian Journal on Aging*. 2011. Hirdes JP, Poss JW, Caldarelli H, et al. An evaluation of data quality in Canada's Continuing Care Reporting System (CCRS): Secondary analyses of Ontario data submitted between 1996 and 2011. *BMC Medical Informatics and Decision Making*. 2013. Jones RN, Hirdes JP, Poss JW, et al. Adjustment of nursing home quality indicators. *BMC Health Services Research*. 2010.

Availability of Data Sources and Results

Data Sources	CCRS

Available Data Years	**Type of Year:** Fiscal **First Available Year:** 2010 **Last Available Year:** 2019
Geographic Coverage	Newfoundland and Labrador, New Brunswick, Nova Scotia, Ontario, Manitoba, Saskatchewan, Alberta, British Columbia, Yukon
Reporting Level /Disaggregation	Province/Territory, Region, Facility, Corporation, Sector (residential and hospital-based continuing care)
Result Updates	
Update Frequency	Every year
Indicator Results	**Web Tool:** Your Health System: In Depth **URL:** Accessing Indicator Results on Your Health System: In Depth (PDF)
Updates	Not applicable

Quality Statement

This measure uses data collected by long-term care facilities using the Resident Assessment Instrument–Minimum Data Set 2.0 (RAI-MDS 2.0) and submitted to the Continuing Care Reporting System (CCRS). Users should be cautious when interpreting results from CCRS because the CCRS frame does not currently contain all facilities in all provinces and territories that make up the CCRS population of interest; thus the population covered by CCRS may not be representative of all continuing care facilities across Canada.

Some jurisdictions have implemented or are in the process of implementing the new interRAI Long-Term Care Facilities (LTCF), the next-generation clinical assessment instrument for long-term care. Data collected using this assessment instrument will be submitted to the Integrated interRAI Reporting System (IRRS). Results for these jurisdictions as of the fiscal year of interRAI LTCF implementation are not available at this time. Historical results based on the RAI-MDS 2.0 are available.

Caveats and Limitations

Coverage is incomplete for some fiscal years in the following jurisdictions:

- Saskatchewan (implemented and started collecting data using the interRAI LTCF in 2019–2020)
- Manitoba (includes all facilities in Winnipeg Regional Health Authority only)
- New Brunswick (implemented and started collecting data using the interRAI LTCF in 2017–2018)
- Nova Scotia

Indicators are risk-adjusted to control for potential confounding factors.

Trending Issues

Since 2003, the number of facilities and jurisdictions submitting to CCRS has been increasing. With the addition of new jurisdictions, it is possible that differences in care practices may impact indicator rates; however, changes to the underlying population would be controlled for using risk adjustment. There is also evidence to suggest that trending and use of data from the entire time series is not an issue and that data quality is consistent over time (Hirdes et al., 2013).

Comments

The CCRS quality indicators use 4 rolling quarters of data for calculations in order to have a sufficient number of assessments for risk adjustment. Since residents are assessed on a quarterly basis, each resident can contribute to the indicator up to 4 times.

Data for this indicator is also available in the Quick Stats tool, which includes results for both the residential and hospital-based continuing care sectors: https://www.cihi.ca/en/quick-stats.