

# Percentage of Residents Whose Behavioural Symptoms Worsened

Name	Percentage of Residents Whose Behavioural Symptoms Worsened
Short/Other Names	BEHD4
Description	Percentage of residents with worsened behavioural symptoms
Interpretation	A high number indicates a higher percentage of residents whose behavioural symptoms worsened; thus a lower percentage is desirable.
HSP Framework Dimension	Health System Outputs: Appropriate and effective
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	<a href="https://www.cihi.ca/sites/default/files/document/ccrs-quick-stats-2017-2018-en-web.xlsx">https://www.cihi.ca/sites/default/files/document/ccrs-quick-stats-2017-2018-en-web.xlsx</a>

## Identifying Information

Name Percentage of Residents Whose Behavioural Symptoms Worsened

Short/Other Names BEHD4

### Indicator Description and Calculation

Description Percentage of residents with worsened behavioural symptoms

Calculation: Residents with more behavioural symptoms present on their target assessment than on their prior assessment

Description Unit of Analysis: Resident

Calculation: Place of service  
Geographic Assignment

Calculation: Percentage or proportion  
Type of Measurement

Calculation: The following covariates are used in risk adjustment:  
Adjustment Individual covariates: Cognitive Performance Scale (CPS); motor agitation; age younger than 65  
Applied Facility-level stratification: CPS

Calculation: Stratification, direct standardization, indirect standardization  
Method of Adjustment **Standard Population:**  
3,000 facilities in 6 U.S. states and 92 residential care facilities and continuing care hospitals in Ontario and Nova Scotia

**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

Denominator

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 are comatose (B1 = 1)

- Description:**  
Residents with more behavioural symptoms present on their target assessment than on their prior assessment. Variables include
- Wandering (E4aA)
  - Verbally Abusive (E4bA)
  - Physically Abusive (E4cA)

– Socially Inappropriate (E4dA)

**Inclusions:**

- Numerator
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

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**Exclusions:**

1. Residents who are comatose (B1 = 1)

Background, Interpretation and Benchmarks

Rationale

CCRS quality indicators were developed by interRAI ([www.interrai.org](http://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

A high number indicates a higher percentage of residents whose behavioural symptoms worsened; thus a lower percentage is desirable.

HSP Framework Dimension

Health System Outputs: Appropriate and effective

Areas of Need

Living With Illness, Disability or Reduced Function  
CIHI: None

Targets/Benchmarks

Health Quality Ontario (external): 8% for long-term care

Canadian Institute for Health Information. *CCRS Quality Indicators Risk Adjustment Methodology*. 2013.

Canadian Institute for Health Information. *When a Nursing Home Is Home: How Do Canadian Nursing Homes Measure Up on Quality?* 2013.

Health Quality Ontario. *Long-Term Care Benchmarking Resource Guide*. 2013.

Health Quality Ontario. *Results From Health Quality Ontario's Benchmark Setting for Long-Term Care Indicators*. 2017.

References

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

**Type of Year:**

Fiscal

Available Data Years

**First Available Year:**

2003

**Last Available Year:**

2017

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

**Web Tool:**

Indicator Results

Quick Stats

**URL:** <https://www.cihi.ca/sites/default/files/document/ccrs-quick-stats-2017-2018-en-web.xlsx>

Updates

Not applicable

Quality Statement

The Continuing Care Reporting System (CCRS) frame does not currently contain all facilities in all provinces and territories that make up the CCRS population of interest. Users should be cautious when interpreting results from CCRS, as the population covered by CCRS may not be representative of all continuing care facilities across Canada.

Caveats and

Coverage is incomplete in the following jurisdictions:

Limitations – Manitoba (includes all facilities in Winnipeg Regional Health Authority only)

- New Brunswick
- Nova Scotia

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

Trending 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 affect 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).

Issues The CCRS quality indicators use four 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 four times.

Comments Although the CCRS quality indicators are reported publicly at the provincial/territorial level only, indicator results are available at other levels (facility, corporation, region) to data submitters in the CCRS eReports application. Data in CCRS eReports is updated on a quarterly basis.