Health Quality Ontario

The provincial advisor on the quality of health care in Ontario

Indicator Technical Specifications for the Quality Standard *Behavioural Symptoms of Dementia: Care for Patients in Hospitals and Residents in Long-Term Care Homes*

Technical Appendix

October 14, 2016

Ontario
Health Quality Ontario

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Technical Appendix Overview

This technical appendix accompanies Health Quality Ontario's Quality Standard *Behavioural Symptoms of Dementia: Care for Patients in Hospitals and Residents in Long-Term Care Homes*. The appendix provides additional information on the outcome indicators that were identified as important and that would provide comprehensive measurements of the overall quality of care associated with this quality standard. It also includes information on the definitions and technical details of the indicators, including data sources for indicators that can be consistently measured at the provincial level.

Indicators are categorized as follows:

- Currently measured in Ontario or similar health systems (i.e., the indicator is well defined and validated)
- Measurable with available provincial data (i.e., data are available to measure the indicator, but the indicator requires definition and validation)
- Developmental (i.e., the indicator is not well defined, and data sources do not currently exist to measure it consistently across providers and at the system level)

Outcome Indicators

Table 1a: Percentage of people living with dementia and symptoms of agitation or aggression who experience fewer or less frequent behavioural symptoms—long-term care home residents

GENERAL DESCRIPTION	Indicator description	The percentage of long-term care (LTC) home residents with dementia and symptoms of agitation or aggression who have experienced an improvement in behavioural symptoms since their previous resident assessment Directionality: A higher rate is better.
	Indicator status	**Measurable**
	Dimensions of quality	Effectiveness, safety

DEFINTION AND SOURCE INFORMATION	Calculation	**Denominator**
		LTC home residents with two valid resident assessments
		
		Inclusions
		• LTC home residents with valid RAI-MDS assessments
		  ○ Two valid assessments within consecutive quarters are required for a given resident to calculate the quality indicator.
		  ○ The following are required for an assessment to be selected as the "target" assessment in the current quarter:
		  ▪ The assessment must be the latest assessment in the quarter
		  ▪ The assessment must have been carried out more than 92 days after the Admission Date
		  ▪ The assessment must not be an Admission Full Assessment
		  ▪ The assessment must be for a resident who had an assessment in the previous quarter
		  ▪ There must be 45 to 165 days between the assessment from the previous quarter and the target assessment (*Note:* If there are multiple assessments from the previous quarter that meet the time period criteria, the latest assessment is selected as the "prior" assessment)
		• Diagnosis codes – Section I
		  ○ I1. Diseases
		  ▪ R. – Alzheimer's disease
		  ▪ V. – Dementia other than Alzheimer's disease
		  ○ I3. Other current diagnoses and ICD-10-CA codes
		ICD-10-CA codes
		F00 Dementia in Alzheimer disease
		F00.0 Dementia in Alzheimer disease with early onset
		F00.1 Dementia in Alzheimer disease with late onset
		F00.2 Dementia in Alzheimer disease, atypical or mixed type
		F00.9 Dementia in Alzheimer disease, unspecified
		F01 Vascular dementia
		F01.0 Vascular dementia of acute onset
		F01.1 Multi-infarct dementia
		F01.2 Subcortical vascular dementia
		F01.3 Mixed cortical and subcortical vascular dementia
		F01.8 Other vascular dementia
		F01.9 Vascular dementia, unspecified
		F02 Dementia in other diseases classified elsewhere
		F02.0 Dementia in Pick disease

		F02.1 Dementia in Creutzfeldt-Jakob disease F02.2 Dementia in Huntington disease F02.3 Dementia in Parkinson disease F02.4 Dementia in human immunodeficiency virus [HIV] disease F02.8 Dementia in other specified diseases classified elsewhere F03 Unspecified dementia F05.1 Delirium superimposed on dementia F06.5 Organic dissociative disorder F06.6 Organic emotionally labile [asthenic] disorder F06.8 Other specified mental disorders due to brain damage and dysfunction and to physical disease F06.9 Unspecified mental disorder due to brain damage and dysfunction and to physical disease F09 Unspecified organic or symptomatic mental disorder G30 Alzheimer disease G30.0 Alzheimer disease with early onset G30.1 Alzheimer disease with late onset G30.8 Other Alzheimer disease G30.9 Alzheimer disease, unspecified G31 Other degenerative diseases of nervous system, not elsewhere classified G31.0 Circumscribed brain atrophy G31.1 Senile degeneration of brain, not elsewhere classified R54 Senility (old age without mention of psychosis) *Exclusion* • Residents who were comatose (B1 = 1) • Residents with no verbally abusive or physically abusive behavioural symptoms **Numerator** The number of LTC home residents with fewer behavioural symptoms on their target RAI-MDS 2.0 assessment compared to their prior assessment *Inclusions* • T_COUNT – T_Prev_Count < 0, where o T_COUNT = number of behavioural symptoms at target assessment o T_Prev_Count = number of behavioural symptoms at prior assessment The number of behavioural symptoms for the population of interest is based on the bolded variables below (for RAI-MDS 2.0 in LTC): • E4aA (Wandering) [0 to 3] • **E4bA (Verbally Abusive) [0 to 3]** • **E4cA (Physically Abusive) [0 to 3]** • E4dA (Socially Inappropriate) [0 to 3] Where, Each variable is scored according to the behavioural symptom frequency in last 7 days: • 0 = Behaviour not exhibited • 1 = Behaviour of this type occurred 1 to 3 days • 2 = Behaviour of this type occurred 4 to 6 days, but less than daily • 3 = Behaviour of this type occurred daily **Method** Numerator ÷ Denominator × 100

	Data source	CCRS
	Risk adjustment, age/sex standardization	The indicator as calculated in the general LTC home population for all behavioural symptoms is risk-adjusted at the individual covariate level and through direct standardization and also at the facility level using direct and indirect standardization. Individual covariates • Moderate/impaired decision-making problem • Motor agitation • Age younger than 65 Facility level • Cognitive Performance Scale (CPS)
GEOGRAPHY AND TIMING	Timing and frequency of data release	Available quarterly as a rolling four-quarter average (fiscal quarters, starting from Q4 2009/10)
	Levels of comparability	Province, LHIN region, corporation, and facility
ADDITIONAL INFORMATION	Limitations	• Rolling four-quarter averages stabilize the rates from quarter-to-quarter variations, especially for smaller facilities, but make it more difficult to detect quarterly changes • Adjusted rates are censored if the denominator is less than 30 • General limitations when using RAI-MDS 2.0 data, including random errors, coding errors, and missing values
	Comments	This indicator was selected as it is currently reported and could be reported for the purpose of this Quality Standard with a few modifications. A similar indicator could also be developed based on the Aggressive Behaviour Scale (ABS), which uses the following variables in the RAI-MDS tool: Verbally Abusive, Physically Abusive, Socially Inappropriate/Disruptive Behaviour, and Resists Care.
	Alignment	CIHI public reporting

Abbreviations: ABS, Aggressive Behaviour Scale; CIHI, Canadian Institute for Health Information; CCRS, Continuing Care Reporting System; CPS, Cognitive Performance Scale; HIV, human immunodeficiency virus; ICD-10-CA, *International Statistical Classification of Diseases and Related Health Problems*, 10th revision, Canada; LHIN, local health integration network; LTC, long-term care; RAI-MDS, Resident Assessment Instrument–Minimum Data Set.

Table 1b: Percentage of people living with dementia and symptoms of agitation or aggression who experience fewer or less frequent behavioural symptoms—patients in hospital

GENERAL DESCRIPTION	Indicator description	The percentage of patients in hospital (complex continuing care and inpatient mental health) with dementia and symptoms of agitation or aggression who experience an improvement in behavioural symptoms between admission and discharge Directionality: A higher rate is better.
	Indicator status	**Measurable**
	Dimensions of quality	Effectiveness, safety

DEFINTION AND SOURCE INFORMATION	Calculation	**Denominator**
		Patients with two valid RAI-MDS assessments
		
		Inclusions
		• Patients with valid RAI-MDS assessments
		  ○ An initial assessment and an assessment upon discharge are necessary to calculate the indicator
		• Health conditions and possible medication side effects
		  ○ I11. Medical diagnosis – h. to m.
		• Psychiatric diagnostic information – Q1B, Q2
		ICD-10-CA codes
		F00 Dementia in Alzheimer disease
		F00.0 Dementia in Alzheimer disease with early onset
		F00.1 Dementia in Alzheimer disease with late onset
		F00.2 Dementia in Alzheimer disease, atypical or mixed type
		F00.9 Dementia in Alzheimer disease, unspecified
		F01 Vascular dementia
		F01.0 Vascular dementia of acute onset
		F01.1 Multi-infarct dementia
		F01.2 Subcortical vascular dementia
		F01.3 Mixed cortical and subcortical vascular dementia
		F01.8 Other vascular dementia
		F01.9 Vascular dementia, unspecified
		F02 Dementia in other diseases classified elsewhere
		F02.0 Dementia in Pick disease
		F02.1 Dementia in Creutzfeldt-Jakob disease
		F02.2 Dementia in Huntington disease
		F02.3 Dementia in Parkinson disease
		F02.4 Dementia in human immunodeficiency virus [HIV] disease
		F02.8 Dementia in other specified diseases classified elsewhere
		F03 Unspecified dementia
		F05.1 Delirium superimposed on dementia
		F06.5 Organic dissociative disorder
		F06.6 Organic emotionally labile [asthenic] disorder
		F06.8 Other specified mental disorders due to brain damage and dysfunction and to physical disease
		F06.9 Unspecified mental disorder due to brain damage and dysfunction and to physical disease
		F09 Unspecified organic or symptomatic mental disorder
		G30 Alzheimer disease
		G30.0 Alzheimer disease with early onset
		G30.1 Alzheimer disease with late onset
		G30.8 Other Alzheimer disease

		G30.9 Alzheimer disease, unspecified G31 Other degenerative diseases of nervous system, not elsewhere classified G31.0 Circumscribed brain atrophy G31.1 Senile degeneration of brain, not elsewhere classified R54 Senility (old age without mention of psychosis) *Exclusions:* • Patients who were comatose (B1 = 1) • Patients with no verbally abusive or physically abusive behavioural symptoms **Numerator** The number of patients with fewer behavioural symptoms on their discharge assessment compared to their initial assessment *Inclusions:* • T_COUNT – T_Prev_Count < 0, where o T_COUNT = number of behavioural symptoms at target assessment o T_Prev_Count = number of behavioural symptoms at prior assessment The number of behavioural symptoms for the population of interest is based on the bolded variables below: For RAI-MH in inpatient mental beds: • E1a (Wandering) [0 to 3] • **E1b (Verbally Abusive)** [0 to 3] • **E1c (Physically Abusive)** [0 to 3] • E1d (Socially Inappropriate) [0 to 3] • E1e (Inappropriate Public Sexual Behaviour) [0 to 3] • E1f (Resistance to Care) [0 to 3] • E1g (Elopement Attempts/Threats) [0 to 3] For RAI-MDS 2.0 in complex continuing care: • E4aA (Wandering) [0 to 3] • **E4bA (Verbally Abusive) [0 to 3]** • **E4cA (Physically Abusive) [0 to 3]** • E4dA (Socially Inappropriate) [0 to 3] Where, Each variable is scored according to the behavioural symptom frequency in last 7 days: • 0 = Behaviour not exhibited • 1 = Behaviour of this type occurred 1 to 3 days • 2 = Behaviour of this type occurred 4 to 6 days, but less than daily • 3 = Behaviour of this type occurred daily **Method** Numerator ÷ Denominator × 100
	Data sources	CCRS, OMHRS
	Risk adjustment, age/sex standardization	Further investigation required

GEOGRAPHY AND TIMING	Timing and frequency of data release	Available quarterly as a rolling four-quarter average (fiscal quarters, starting from 2005/06)
	Levels of comparability	Province, LHIN region, corporation, and facility
ADDITIONAL INFORMATION	Limitations	• Rolling four-quarter averages stabilize the rates from quarter-to-quarter variations, especially for smaller facilities, but make it more difficult to detect quarterly changes • Adjusted rates are censored if the denominator is less than 30 • General limitations when using RAI-MDS 2.0 data, including random errors, coding errors, and missing values
	Comments	A similar indicator could also be developed using the Aggressive Behaviour Scale (ABS), which uses the following variables in the RAI-MDS tool: Verbally Abusive, Physically Abusive, Socially Inappropriate/Disruptive Behaviour, and Resists Care.
	Alignment	

Abbreviations: ABS, Aggressive Behaviour Scale; CCRS, Continuing Care Reporting System; HIV, human immunodeficiency virus; ICD-10-CA, *International Statistical Classification of Diseases and Related Health Problems*, 10th revision, Canada; LHIN, local health integration network; LTC, long-term care; OMHRS, Ontario Mental Health Reporting System; RAI-MDS, Resident Assessment Instrument–Minimum Data Set; RAI-MH, Resident Assessment Instrument-Mental Health.

Table 2: Percentage of people living with dementia and symptoms of agitation or aggression who are admitted to mental health beds in hospital under the *Mental Health Act* (Form 1)

GENERAL DESCRIPTION	Indicator description	The percentage of people with dementia and symptoms of agitation or aggression* who were admitted to mental health beds in hospital under the *Mental Health Act* (Form 1) Directionality: A lower rate is better. *The indicator is not currently measurable with available data in patients with dementia who have symptoms of agitation or aggression. A proxy measure that includes all patients with dementia is instead described below.
	Indicator status	**Developmental**
	Dimensions of quality	Effectiveness, safety

DEFINTION AND SOURCE INFORMATION	Calculation	**Denominator**
		Total number of patients with dementia admitted to an inpatient mental health bed
		
		Inclusions
		• Health conditions and possible medication side effects
		  ○ I11. Medical diagnosis – h. to m.
		• Psychiatric diagnostic information – Q1B, Q2
		  DSM-IV codes
		  290.0 Uncomplicated (Alzheimer's, Late Onset)
		  290.10 Dementia Due to Creutzfeldt–Jakob Disease, Dementia Due to Pick's Disease, Dementia of the Alzheimer's Type, With Early Onset, Uncomplicated
		  290.11 With Delirium
		  290.12 With Delusions
		  290.13 With Depressed Mood
		  290.20 With Delusions
		  290.21 With Depressed Mood
		  290.41 With Delirium (vascular)
		  290.42 With Delusions
		  290.43 With Depressed Mood
		  290.3 With Delirium
		  291.2 Alcohol-Induced Persisting Dementia
		  292.82 Drug-Induced Persisting Dementia
		  294.1 Dementia Due to Head Trauma, Dementia Due to Huntington's Disease, Dementia Due to Parkinson's Disease
		  294.11 Dementia of the Alzheimer's Type with Behavioural Disturbance
		  294.8 Dementia Not Otherwise Specified
		  294.9 Dementia Due to HIV Disease
		  780.93 Age-Related Cognitive Decline
		
		Numerator
		Total number of patients with dementia admitted to an inpatient mental health bed with an inpatient status of Form 1 for risk to self or risk to others
		
		Inclusion
		• A3a: 1 – application for psychiatric assessment or order for psychiatric examination

		Method Numerator ÷ Denominator × 100
	Data source	OMHRS
	Risk adjustment, age/sex standardization	Reported as a crude rate
GEOGRAPHY AND TIMING	Timing and frequency of data release	Available quarterly as a rolling four-quarter average (fiscal quarters, starting from Q4 2009/10)
	Levels of comparability	
ADDITIONAL INFORMATION	Limitations	
	Comments	
	Alignment	

Abbreviations: DSM-IV, *Diagnostic and Statistical Manual of Mental Disorders*, 4th edition; HIV, human immunodeficiency virus; OMHRS, Ontario Mental Health Reporting System.

Table 3: Percentage of long-term care home placement applications that are rejected by a long-term care home owing to an inability to meet client care needs

GENERAL DESCRIPTION	Indicator description	The percentage of long-term care (LTC) home placement applications that are rejected by a LTC home due to an inability to meet client care needs. Directionality: A lower rate is better.
	Indicator status	**Currently measured**
	Dimension of quality	Effectiveness
DEFINTION AND SOURCE INFORMATION	Calculation	**Denominator** Total number of LTC home placement applications *Inclusions* • Records with a facility response date within the last 24 months • LTC home open before and closed after the end of reporting period *Exclusions* • Missing facility response reason • Clients awaiting transfer between LTC homes • Client death occurred on or before the facility response date **Numerator** The number of rejected LTC home placement applications *Inclusions* • Records with a facility response date within the last 24 months • LTC home open before and closed after the end of reporting period *Exclusions* • Missing facility response reason • Clients awaiting transfer between LTC homes • Client death occurred on or before the facility response date **Method** Numerator ÷ Denominator × 100
	Data source	Client Profile (CPRO) Database
	Risk adjustment, age/sex standardization	Reported as a crude rate
GEOGRAPHY AND TIMING	Timing and frequency of data release	CPRO is updated monthly
	Levels of comparability	Province, LHIN/CCAC, and LTC home

ADDITIONAL INFORMATION	Limitations	This indicator does not directly link home rejections to a client's behavioural symptoms.
	Comments	This indicator captures both tier 1 and tier 2 rejections. Tier 1 rejection represents those applications that are rejected when a CCAC forwards an eligible placement application to an LTC home. Tier 2 rejection represents those applications that were initially accepted but for which the client's care needs changed significantly while awaiting the LTC bed, and an LTC home can no longer meet the client's care needs. Tier 1 rejection reasons include the following: • Lack of nursing expertise (LTC, SSR, and SS-Interim) • Lack of physical facilities necessary for care (LTC, SSR, and SS-Interim) • No demonstrated evidence of functional potential (SSCC) • Undetermined/unrealistic discharge plan (SSCC) • Not appropriate related to medical stability/interventions (SSCC) • No demonstrated motivation to participate in rehabilitation program (SSCC) • Active psychiatric diagnosis (SSCC) • No demonstrated physical ability for 30–60-minute daily therapy (SSCC) • Client's needs would be better addressed in other setting (IRU) (SSCC) Further investigation is needed to determine rejection reasons commonly associated with BPSD. Once a person applies to an LTC home, their application is reviewed to ensure that the facility can meet the client's care needs. LTC homes can withhold approval only for one of two reasons (*Long-Term Care Homes Act*, 2007, Section 44[7]): • The home does not have the physical facilities necessary to meet the client's care requirements; or • Staff members at the LTC home lack the nursing expertise necessary to meet the client's care requirements. If an LTC home rejects a client's application, the LTC home must provide the reason for rejection in writing to the client, the CCAC, and the Ministry of Health and Long-Term Care (*Long-Term Care Homes Act Regulations*, Section 162). When an LTC home rejects a client, the case manager and the LTC home may have a discussion about addressing the client's care needs, such as providing increased staff training or applying for high-intensity needs funding. These options should be considered prior to accepting the LTC home's rejection.
	Alignment	

Abbreviations: BPSD, behavioural and psychological symptoms of dementia; CCAC ,Community Care Access Centre; IRU, Inpatient Rehabilitation Unit; LHIN, local health integration network; LTC, long-term care; SSCC, Short-Stay Convalescent Care; SS-Interim, Short Stay–Interim; SSR, Short Stay Respite.

Table 4: Percentage of people living with dementia and symptoms of agitation or aggression who are readmitted within 30 days of hospital discharge

GENERAL DESCRIPTION	Indicator description	The percentage of people with dementia and symptoms of agitation or aggression* who are readmitted within 30 days following a hospital discharge Directionality: A lower rate is better. *The indicator is not currently measurable with available data in patients with dementia who have symptoms of agitation or aggression. A measureable proxy indicator that includes all patients with dementia is instead described below.
	Indicator status	**Measurable**
	Dimension of quality	Effectiveness
DEFINTION AND SOURCE INFORMATION	Calculation	**Denominator** Acute care discharges from an episode of care where a diagnosis of dementia is present (CIHI: diagnosis type = M, 1, 2, 3, 5, 6; OMHRS: I11. Medical diagnosis – h. to m.,Q2, or Q1B) in the first hospitalization of the episode within each fiscal year (minus last 30 days for follow-up) *Inclusions* • ***DSM-IV codes*** 290.0 Uncomplicated (Alzheimer's, Late Onset) 290.10 Dementia Due to Creutzfeldt–Jakob Disease, Dementia Due to Pick's Disease, Dementia of the Alzheimer's Type, With Early Onset, Uncomplicated 290.11 With Delirium 290.12 With Delusions 290.13 With Depressed Mood 290.20 With Delusions 290.21 With Depressed Mood 290.41 With Delirium (Vascular) 290.42 With Delusions 290.43 With Depressed Mood 290.3 With Delirium 291.2 Alcohol-Induced Persisting Dementia 292.82 Drug-Induced Persisting Dementia 294.1 Dementia Due to Head Trauma, Dementia Due to Huntington's Disease, Dementia Due to Parkinson's Disease 294.11 Dementia of the Alzheimer's Type with Behavioural Disturbance 294.8 Dementia Not Otherwise Specified 294.9 Dementia Due to HIV Disease 780.93 Age-Related Cognitive Decline • ***ICD-10-CA codes*** F00 Dementia in Alzheimer disease F00.0 Dementia in Alzheimer disease with early onset F00.1 Dementia in Alzheimer disease with late onset F00.2 Dementia in Alzheimer disease, atypical or mixed type F00.9 Dementia in Alzheimer disease, unspecified F01 Vascular dementia F01.0 Vascular dementia of acute onset F01.1 Multi-infarct dementia F01.2 Subcortical vascular dementia F01.3 Mixed cortical and subcortical vascular dementia F01.8 Other vascular dementia F01.9 Vascular dementia, unspecified

		F02 Dementia in other diseases classified elsewhere F02.0 Dementia in Pick disease F02.1 Dementia in Creutzfeldt–Jakob disease F02.2 Dementia in Huntington disease F02.3 Dementia in Parkinson disease F02.4 Dementia in human immunodeficiency virus [HIV] disease F02.8 Dementia in other specified diseases classified elsewhere F03 Unspecified dementia F05.1 Delirium superimposed on dementia F06.5 Organic dissociative disorder F06.6 Organic emotionally labile [asthenic] disorder F06.8 Other specified mental disorders due to brain damage and dysfunction and to physical disease F06.9 Unspecified mental disorder due to brain damage and dysfunction and to physical disease F09 Unspecified organic or symptomatic mental disorder G30 Alzheimer disease G30.0 Alzheimer disease with early onset G30.1 Alzheimer disease with late onset G30.8 Other Alzheimer disease G30.9 Alzheimer disease, unspecified G31 Other degenerative diseases of nervous system, not elsewhere classified G31.0 Circumscribed brain atrophy G31.1 Senile degeneration of brain, not elsewhere classified R54 Senility (old age without mention of psychosis) **Numerator** The number of patients within the denominator who had a subsequent non-elective readmission to an acute care hospital within 30 days of discharge following index hospitalization *Exclusions* • Invalid IKN • Patients without an Ontario residence • Gender not recorded as male or female • Age > 120 years **Method** Numerator ÷ Denominator × 100
	Data sources	DAD, OMHRS
	Risk adjustment, age/sex standardization	Reported as a crude rate
GEOGRAPHY AND TIMING	Timing and frequency of data release	
	Levels of comparability	

ADDITIONAL INFORMATION	Limitations	
	Comments	
	Alignment	

Abbreviations: CIHI, Canadian Institute for Health Information; DAD, Discharge Abstract Database; DSM-IV, *Diagnostic and Statistical Manual of Mental Disorders*, 4th edition; ICD-10-CA, *International Statistical Classification of Diseases and Related Health Problems*, 10th revision, Canada; IKN, ICES (Institute for Clinical Evaluative Sciences) Key Number; OMHRS, Ontario Mental Health Reporting System.

Table 5: Rate of emergency room use by people living with dementia and symptoms of agitation or aggression, per 1,000 population

GENERAL DESCRIPTION	Indicator description	The rate of emergency department use by people with dementia and symptoms of agitation or aggression* per 1,000 population Directionality: The direction of improvement is unclear. *The indicator is not currently measurable with available data in patients with dementia who have symptoms of agitation or aggression. A measurable proxy indicator that includes all patients with dementia is instead described below.
	Indicator status	**Developmental**
	Dimension of quality	Effectiveness
DEFINTION AND SOURCE INFORMATION	Calculation	**Denominator** Total number of admissions to the emergency department **Numerator** Total number of emergency department admissions subsequently discharged with a diagnosis of dementia *Inclusions* • Discharge diagnosis of dementia – data element 137 • Main and Other Problem Cluster – data element 127 ***ICD-10-CA codes*** F00 Dementia in Alzheimer disease F00.0 Dementia in Alzheimer disease with early onset F00.1 Dementia in Alzheimer disease with late onset F00.2 Dementia in Alzheimer disease, atypical or mixed type F00.9 Dementia in Alzheimer disease, unspecified F01 Vascular dementia F01.0 Vascular dementia of acute onset F01.1 Multi-infarct dementia F01.2 Subcortical vascular dementia F01.3 Mixed cortical and subcortical vascular dementia F01.8 Other vascular dementia F01.9 Vascular dementia, unspecified F02 Dementia in other diseases classified elsewhere F02.0 Dementia in Pick disease F02.1 Dementia in Creutzfeldt–Jakob disease F02.2 Dementia in Huntington disease F02.3 Dementia in Parkinson disease F02.4 Dementia in human immunodeficiency virus [HIV] disease F02.8 Dementia in other specified diseases classified elsewhere F03 Unspecified dementia F05.1 Delirium superimposed on dementia F06.5 Organic dissociative disorder F06.6 Organic emotionally labile [asthenic] disorder F06.8 Other specified mental disorders due to brain damage and dysfunction and to physical disease F06.9 Unspecified mental disorder due to brain damage and dysfunction and to physical disease F09 Unspecified organic or symptomatic mental disorder G30 Alzheimer disease G30.0 Alzheimer disease with early onset

		G30.1 Alzheimer disease with late onset G30.8 Other Alzheimer disease G30.9 Alzheimer disease, unspecified G31 Other degenerative diseases of nervous system, not elsewhere classified G31.0 Circumscribed brain atrophy G31.1 Senile degeneration of brain, not elsewhere classified R54 Senility (old age without mention of psychosis) *Exclusions* • Invalid IKN • Patients without an Ontario residence • Gender not recorded as male or female • Age > 120 years **Method** Numerator ÷ Denominator × 1,000
	Data source	NACRS
	Risk adjustment, age/sex standardization	Reported as a crude rate
GEOGRAPHY AND TIMING	Timing and frequency of data release	Yearly
	Levels of comparability	Province, LHIN/CCAC
ADDITIONAL INFORMATION	Limitations	• The rate of emergency department visits by patients with dementia will naturally increase over time due to the increasing incidence of dementia in the population over time. • Patients with dementia who present at the emergency department might not have a diagnosis of dementia recorded.
	Comments	Owing to the lack of a dementia cohort, the denominator currently includes all emergency department visits. Further work is needed to define a dementia cohort. Further work is also needed to determine if this indicator has validity. Patients with dementia who present to the emergency department with symptoms of agitation or aggression could be treated for other conditions such as urinary tract infections which can be related to or be causing their behavioural symptoms. Therefore, these patients might not be captured in this indicator as their dementia diagnosis might not be recorded.
	Alignment	

Abbreviations: CCAC, Community Care Access Centre; ICD-10-CA, *International Statistical Classification of Diseases and Related Health Problems*, 10th revision, Canada; IKN, ICES (Institute for Clinical Evaluative Sciences) Key Number; LHIN, local health integration network; NACRS, National Ambulatory Care Reporting System.

Table 6: Number of incidents in hospitals and long-term care homes related to symptoms of aggression in dementia: patient-on-patient or patient-on-staff incidents

GENERAL DESCRIPTION	Indicator description	The average number of incidents in hospitals and LTC homes related to symptoms of aggression in dementia. In hospitals, this includes incidents of patient-on-patient assault, patient-on-staff assault, patient injury, and staff injury. In LTC homes, this includes incidents of resident-on-resident assault, resident-on-staff assault, resident injury, and staff injury. Directionality: A lower average is better.
	Indicator status	**Developmental**
	Dimensions of quality	Effectiveness, safety
DEFINTION AND SOURCE INFORMATION	Calculation	**Denominator** Total number of bed-days for people with a diagnosis of dementia in hospitals and LTC homes **Numerator** Number of incidents in hospitals and LTC homes related to symptoms of aggression in dementia by the following: • Patient-on-patient or resident-on-resident assault • Patient-on-staff or resident-on-staff assault • Patient or resident injury • Staff injury
	Data source	Critical incidents are collected and reported by hospitals and LTC homes. However, only medication- or IV fluid–related critical incidents in hospitals are required to be reported to the NSIR. No centralized database currently exists to calculate this indicator.
	Risk adjustment, age/sex standardization	Reported as a crude number
GEOGRAPHY AND TIMING	Timing and frequency of data release	Unknown
	Levels of comparability	
ADDITIONAL INFORMATION	Limitations	
	Comments	
	Alignment	

Abbreviations: IV, intravenous; LTC, long-term care; NSIR, National System of Incident Reporting.