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Long-Term Care Practice Report

Dr. Sample Data 2

Period Ending: September 30, 2016

Ontario
Long Term Care
Clinicians

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Report Overview

The *Long-Term Care Practice Report* provides easy access to your long-term care (LTC) practice data and provincial data, and supports quality improvement.

This confidential report focuses on indicators related to the prescribing of antipsychotics and of some medications associated with an increased risk of falls. This information may help you to better understand your prescribing patterns and set quality improvement targets.

This report is intended to complement other sources of information you may receive (e.g., your pharmacy reports). A new report will be provided to you each quarter, and Health Quality Ontario will notify you by email of each release.

For more information about the methodology, including data sources and limitations (e.g., rates include as-needed (PRN) prescriptions), see page 17.

We want this report to be useful for you. If you have any questions, concerns, or suggestions, please contact Health Quality Ontario at: **Toll-Free**: 1-866-623-6868 or by **Email**: practicereport@hqontario.ca.

Summary

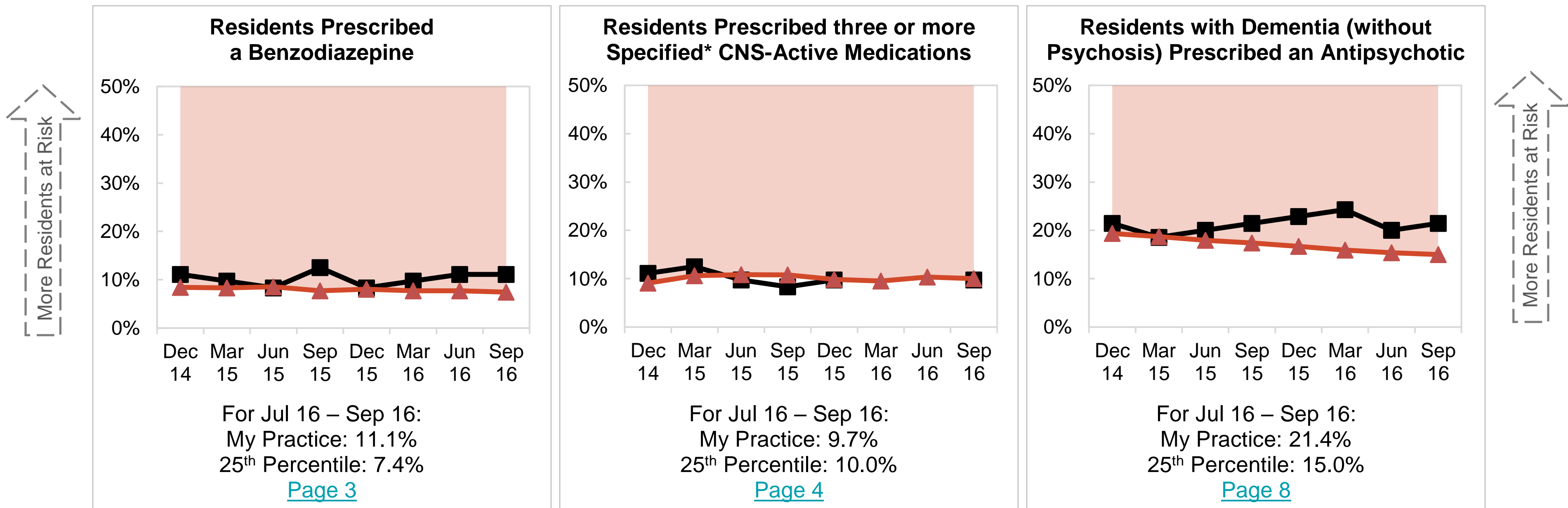
This practice report provides feedback on certain prescribing practices that may be associated with a risk of harm for your LTC residents when not appropriate.

How do my prescribing practices compare?

My Practice — 25th Percentile

Data reporting period: July 1, 2016 – September 30, 2016

Note: 'Sep-16' represents data from July 1 to September 30, 2016.



3 additional resident(s) in my practice may be at increased risk associated with benzodiazepines (compared to Ontario LTC physicians with lower prescribing rates†).

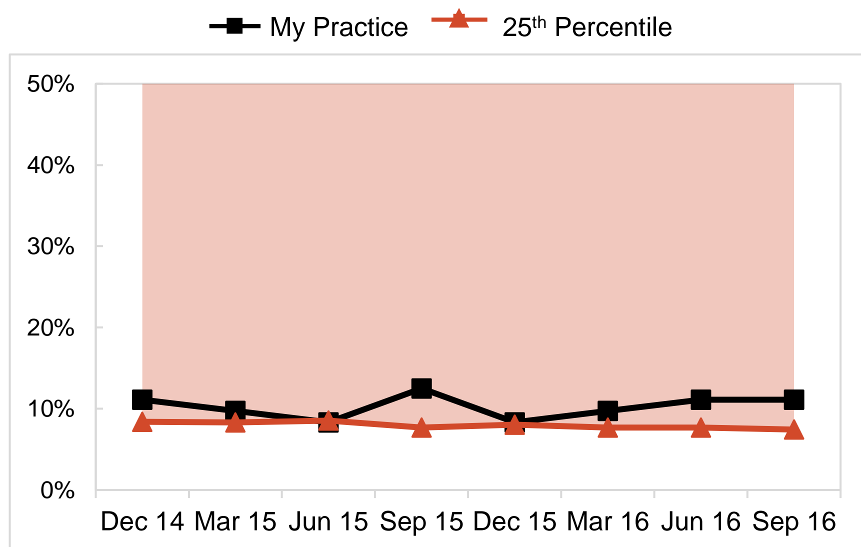
Who are all my residents? Between July 1, 2016 and September 30, 2016, my LTC practice had 75 residents (26% male, 74% female), with a mean age of 84, and 15% were new residents (in LTC home for less than 100 days.)

†Lower prescribing rates reflect the 25th percentile. | Suppression denoted by N/R (Not Reported) or a gap in graph; N/A: Not Available.
*Specified medications include: antipsychotics, opioids, benzodiazepines (oral), and antidepressants (including TCAs and trazodone). Refer to page 17 for more details.

Residents Prescribed a Benzodiazepine:

Percentage of residents aged 66 and older who were prescribed a benzodiazepine. Excludes residents who were in palliative care or were new to LTC (in the LTC home for less than 100 days). (1) (2)

How many of my residents are exposed to risks (e.g., falls) related to benzodiazepines?



Suppression denoted by N/R (Not Reported) or a gap in graph; N/A: Not Available.
Data includes PRN prescriptions.

Between July 1, 2016 to September 30, 2016, 11.1% of my residents had a prescription for a benzodiazepine, and the 25th Percentile was 7.4%.

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of my residents were prescribed a benzodiazepine.

Change Ideas to manage falls

(page 5)

Among my residents aged 66 and older and not new to LTC, 9.7% were prescribed a benzodiazepine for at least 90 continuous days in the most recent quarter.

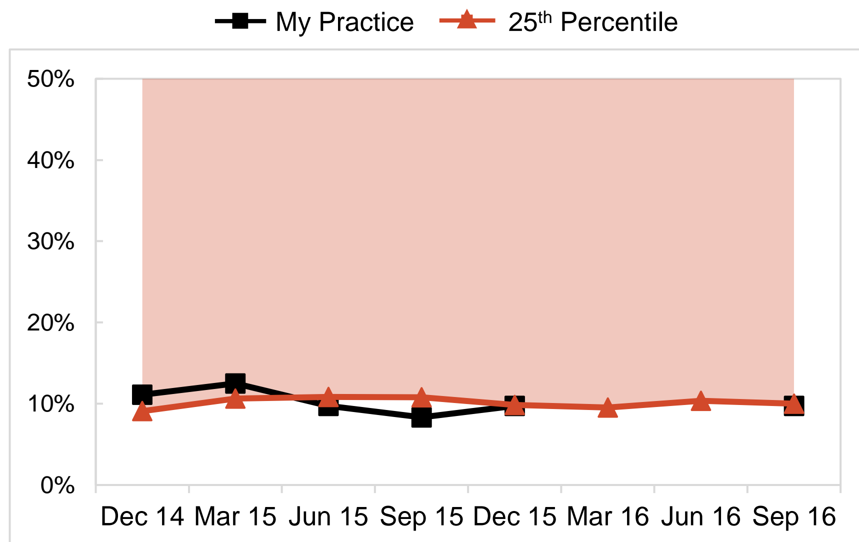
For more information about this indicator, please refer to the Methodology (page 17).

Sometimes benzodiazepines are appropriate. The data cannot weigh the benefits against harm for each resident but it can point to practice patterns worthy of reflection. The *Change Ideas* (page 5) suggest ways that you can work with others in the home right now to limit the risk of harm for your residents (e.g., find resources to start a trial of weaning to discontinue benzodiazepines where appropriate).

Residents Prescribed three or more Specified* CNS-Active Medications:

Percentage of residents aged 66 and older who on a given day had prescriptions for three or more specified* CNS-active medications. Excludes residents who were in palliative care or were new to LTC (in the LTC home for less than 100 days). (3)

How many of my residents are exposed to risks (e.g., falls) related to three or more specified* CNS-Active medications?



Suppression denoted by N/R (Not Reported) or a gap in graph; N/A: Not Available.
Data includes PRN prescriptions.

Between July 1, 2016 to September 30, 2016, 9.7% of my residents had a prescription for three or more CNS-active medications, and the 25th Percentile was 10.0%.

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of my residents were prescribed three or more specified* CNS-active medications.

Change Ideas to manage falls

(page 5)

For more information about this indicator, please refer to the Methodology (page 17).

Sometimes three or more CNS-active medications are appropriate (e.g., for residents with complex psychiatric conditions). These data cannot weigh the benefits against harm for each resident but it can point to practice patterns worthy of reflection. The *Change Ideas* (page 5) suggest ways that you can work with others in the home right now to limit the risk of harm for your residents (e.g., find resources to start a trial of weaning or substitution with a safer medication where appropriate).

*Specified medications include: antipsychotics, opioids, benzodiazepines (oral), and antidepressants (including TCAs and trazodone).

Change Ideas: Managing Residents at Increased Risk of Falls from Prescribed Medications

Some prescribed medications (or combination of medications) for long-term care (LTC) home residents in Ontario can increase their risk of adverse events, such as falls. To optimize (and potentially decrease) medication use to reduce the risk of falls, the following table provides change ideas that will help you identify areas for improvement based on key prescribing indicators. These indicators provide a snapshot of data that you can use to understand your current prescribing patterns, identify an improvement target, and test one or more of the following change ideas to help you move toward that target.

To learn more about *how* to make changes in your practice, visit the Quality Improvement Tools and Resources section of Health Quality Ontario's website.

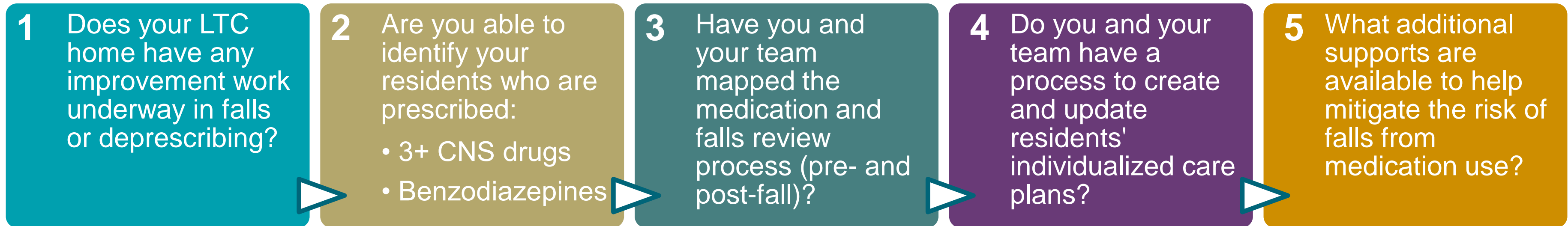
Opportunities for Improvement	Indicator	Current Performance	Set Your Target
Optimize medication use to reduce risk of falls	Residents Prescribed a Benzodiazepine: Percentage of residents aged 66 and older who were prescribed a benzodiazepine	11.1%	Decrease/maintain By how much? ________% By when? ____________ (date)
	Residents Prescribed three or more Specified* CNS-Active Medications: Percentage of residents aged 66 and older who on a given day had prescriptions for three or more specified* CNS-active medications	9.7%	Decrease/maintain By how much? ________% By when? ____________ (date)

N/R: Not Reported due to suppression; N/A: Not Available

*Specified medications include: antipsychotics, opioids, benzodiazepines (oral), and antidepressants (including TCAs and trazodone).

Change Ideas to Identify Areas for Improvement and Test Changes

Identify areas of focus to improve your benzodiazepine and CNS-active medication prescribing indicators by asking yourself:



Once you identify the areas you would like to improve, review the change ideas that accompany each question:

1. Change Ideas to Assess Current or Planned Improvement Efforts	2. Change Ideas to Identify Your Residents at Risk for Falls	3. Change Ideas to Improve the Medication Review Process	4. Change Ideas to Update and Implement Individualized Care Plans	5. Additional Supports
Determine if there are any planned or current falls prevention resources at your LTC home. For example: • Deprescribing Projects • Falls Prevention Team • Quality Committees • Quality Improvement Plans (QIP) and QIP Query (An online searchable database containing QIPs submitted to Health Quality Ontario. To find new and emerging change ideas you can use queries to compare findings by indicator, compare by LHIN, selected organizations,	Review data received from your LTC home/ pharmacy provider to verify: a) Number of residents prescribed benzodiazepines and three or more CNS-active medications, duration, and administration rate b) Number of residents identified for risk of falls (page 3 of Centre for Effective Practice Discussion Guide for falls risk assessment) (4)	The following strategies can assist with regular medication reviews at ***all*** transitions: a) Team approach involving the physician, pharmacist, and nurse to prepare and review the medication summary (see Sample Fall Assessment and Medication Review Flow Sheet below) b) Review history of falls and changes to falls risk assessment status (page 4 of Centre for Effective Practice Discussion Guide) (4)	Consider implementing an individualized, multi-factorial approach, which includes: a) A process to inform attending physician post-fall (page 6 of Centre for Effective Practice Discussion Guide for BEEEACH Checklist (4) b) Communication of results to team through regular team huddles c) Performing an assessment at each transition (new admission, change in	a) Tools and Resources: • Quality Standard: Behavioural Symptoms of Dementia Care for Patients in Hospitals and Residents in Long-Term Care Homes (9) • START/STOPP Toolkit Supporting Medication Review (10) • Institute for Safe Medication Practices in Canada: BEERs List (11) b) Learn from your peers through: • Health Quality Ontario's LTC Community of Practice • Choosing Wisely Canada Talks

or size of long-term care home.)		c) Consider medication reduction using the Choosing Wisely Canada Toolkit (5), deprescribing algorithms (6) or deprescribing checklists (7) d) Calculate anticholinergic burden and risk scales (page 9 of Centre for Effective Practice Discussion Guide) (4) e) Consider your residents' functional and cognitive status (Cognitive Performance Scale) (8)	status) to inform your falls management plan	• Ontario Long Term Care Clinicians • brainXChange and Behavioural Supports Ontario • Long Term Care Medical Directors Association of Canada • Regional Specialized Programs of Ontario c) Involve residents, families, substitute decision makers: • Choosing Wisely Canada: Patient Education Tools • Family Councils Ontario • Ontario Association of Residents' Councils

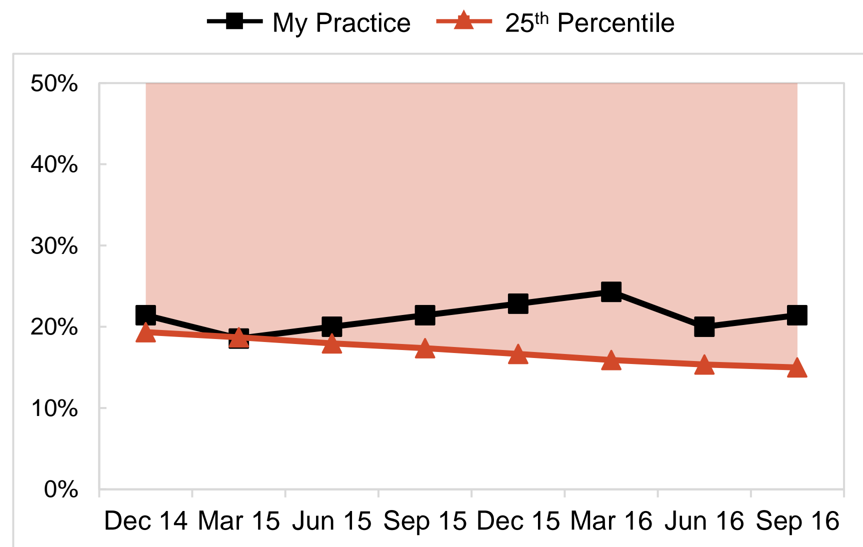
Sample Fall Assessment and Medication Review Flow Sheet

Age	Number of Falls/ Quarter	Fractures (Y/N)	Morse Fall Score	Blood Pressure	Central Nervous System Drugs	Blood Pressure medications	Osteoporosis Prevention	Resident Goal (Start, Stop, Maintain)

Residents with Dementia (without Psychosis) Prescribed an Antipsychotic:

Percentage of residents aged 66 and older diagnosed with dementia, without psychosis, who were prescribed an antipsychotic. Excludes residents who were in palliative care, were new to LTC (in the LTC home for less than 100 days), and those who have a recorded diagnosis of psychosis (schizophrenia, bipolar disorder, other psychoses, tics or Huntington's disease). (12) (13) (14)

How many of my residents are exposed to risks related to antipsychotics?



Suppression denoted by N/R (Not Reported) or a gap in graph; N/A: Not Available.
Data includes PRN prescriptions.

Between July 1, 2016 to September 30, 2016, 21.4% of my residents diagnosed with dementia without psychosis had a prescription for an antipsychotic, and the 25th Percentile was 15.0%.

15/70
of my residents with dementia (without psychosis) were prescribed an antipsychotic medication.

*Change Ideas to manage BPSD**

(page 9)

*Behavioural & Psychological Symptoms of Dementia

Among my LTC homes, I have the opportunity to help the most residents by focusing my efforts on Fox Ridge Care Community, where my rate is 23.3%.

Among my residents aged 66 and older and diagnosed with dementia without psychosis, 8.6% were newly prescribed an antipsychotic in the most recent quarter (no prescription in last 12 months) (18).

For more information about this indicator, please refer to the Methodology (page 17).

Sometimes antipsychotic medications are appropriate. These data cannot weigh the benefits against harm for each resident but it can point to practice patterns worthy of reflection. The *Change Ideas* (page 9) suggest ways that you can work with others in the home right now to limit the risk of harm for your residents.

Change Ideas: Managing Residents with Behavioural and Psychological Symptoms of Dementia

For some residents of Ontario's long-term care homes, antipsychotic medications improve quality of life and reduce suffering. But for other residents, these drugs may bring more risks than benefits. To optimize antipsychotic use, the following table will help you identify areas for improvement based on key antipsychotic prescribing indicators. These indicators provide a snapshot of data that you can use to understand your current prescribing patterns and identify an improvement target, as well as to test one or more of the following change ideas to help you move toward that target.

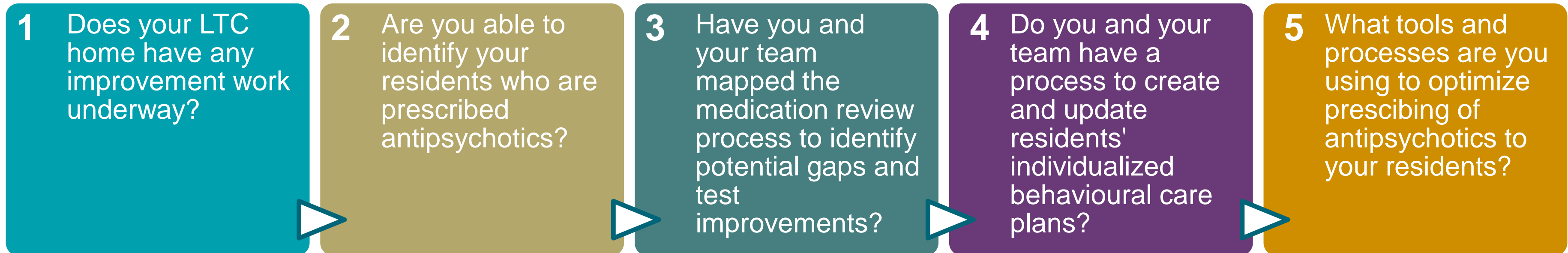
To learn more about *how* to make changes in your practice, visit the Quality Improvement Tools and Resources section of Health Quality Ontario's website.

Opportunities for Improvement	Indicator	Current Performance	Set Your Target
Optimize antipsychotic prescribing	Residents with Dementia (without Psychosis) Prescribed an Antipsychotic: Percentage of residents aged 66 and older diagnosed with dementia, without psychosis, who were prescribed an antipsychotic medication	21.4%	Decrease/maintain By how much? ________% By when? ____________ (date)

N/R: Not Reported due to suppression; N/A: Not Available

Identify areas for improvement and test changes

First, identify areas of focus to improve your antipsychotic prescribing indicators by asking yourself these questions:



Once you identify the areas you would like to improve, review the change ideas that accompany each question:

1 Find out if there are any improvement efforts planned and/or underway

For example, consider asking your nursing administrator:

a) What opportunities exist to work with current behavioural support resources/processes at the home? For example:
- Behavioural Response Team
- Champions
- Quality Improvement (QI) Plans
- QI Team

b) What external resources and supports are available?
For example:
- Psychogeriatric Resource Consultant, Behavioural Supports Ontario (BSO), specialized outreach teams

2 Change ideas to identify your residents

a) Consider what data you currently receive from your LTC home and pharmacy provider. Are there additional data you need (e.g., indications, new starts, summary of responsive behaviours and interventions used)?

b) Verify the data. For example:
- Look at your number of residents, total number of residents prescribed antipsychotics and associated indications, number of new starts, and number of PRNs ordered and administration rate

c) Ask your pharmacy provider for a medication tracking tool

3 Change ideas to improve the medication review process

Consider the following strategies to enhance regular quarterly medication reviews:

a) Team approach involving the physician, pharmacist and nurse (19)

b) Standardized and simplified medication review process and documentation. View a sample worksheet from Alberta Health Services (20)

c) Staff identify residents on antipsychotics who may be appropriate to trial reducing/adjusting the antipsychotic dose

d) Staff prepare a summary of residents’ recent behaviour prior to medication reviews

4 Change ideas to update and implement individualized behavioural care plans

a) Assess for Behavioural and Psychological Symptoms of Dementia and use findings to inform care plans and medication reviews (21) (22). Some standardized tools include:
- Dementia Observation System (DOS) detects behavioural patterns (23)
- Cohen Mansfield Agitation Inventory (CMAI) tracks the severity and disruptiveness of the behaviours (24)
- Kingston Standardized Behavioural Assessment (KSBA) assesses function, cognition and behaviour (25)

b) All behaviour has meaning: Screen and rule out possible medical problems or environmental triggers (e.g., pain, delirium, constipation) (26):
- Use the P.I.E.C.E.S.™ tool to assess for potential physical, intellectual, emotional, capabilities, environment and social causes of behaviours (27)
- Involve families/caregivers

c) Trial and review non-pharmacological strategies before considering antipsychotic medications, where appropriate (26) (28):
- Consider P.I.E.C.E.S.™, Montessori Methods, Gentle Persuasive Approaches. Click here for additional interventions (29)
- For additional strategies/supports, connect with the home's Responsive Behaviour Program and/or external resources and supports, if available

5 Change ideas for pharmacological interventions

a) Ensure optimal treatment of other conditions that could be contributing to symptoms (26)

b) Consider what behaviours may respond to antipsychotics and which do not (30)

c) Carefully weigh the potential benefits of pharmacological interventions versus the potential of harm (26)

d) If antipsychotics are required, trial the lowest effective dose for the shortest duration (31)

e) Monitor for effectiveness, tolerability and adverse effects. For example, the Behaviour and Symptom Mapping Tool (BSMT) (32)

f) Consult specialists for residents with complex needs/behaviours (21)

g) Involve residents and their families/Substitute Decision Maker in decisions (33)
- Obtain and document consent
- Family education tools and support (34): Choosing Wisely Canada, Alzheimer Society of Ontario

Additional supports to optimize antipsychotic prescribing

a) **Learn from your peers.** Reach out to colleagues through:
- Health Quality Ontario's LTC Community of Practice
- Ontario Long Term Care Clinicians
- Long Term Care Medical Directors Association of Canada

b) **Connect with your regional specialized services:**
- Regional Geriatric Programs or local hospital or community-based geriatric consultation services

c) **Connect with provincial tools and supports:**
- Behavioural Supports Ontario
- Centre for Effective Practice's (CEP) Discussion Guide tool is designed to help providers understand, assess and manage residents with responsive behaviours; focusing on antipsychotic medications. The tool was developed as part of CEP's Academic Detailing Service for LTC homes.
- Choosing Wisely Canada and A Toolkit for Reducing Inappropriate Use of Antipsychotics in Long Term Care (35)
- The brainXchange network

CIHI Antipsychotic Indicator:

Percentage of residents on antipsychotics without a diagnosis of psychosis

Data reporting period: **April 1, 2015 – March 31, 2016**
Data source: **CCRS**

Please note that data in this section are based on a different time frame and data source than the previous sections.

Data interpretation considerations

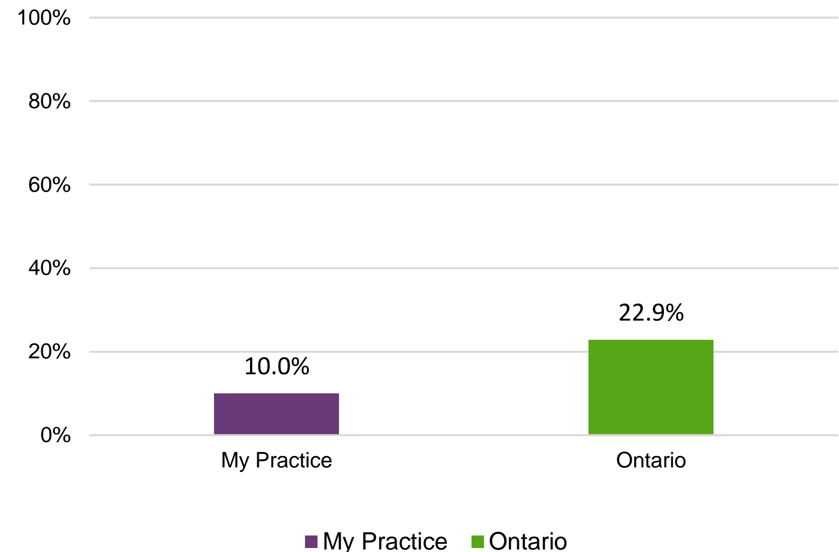
This CIHI antipsychotic indicator captures the **use** of antipsychotic medication in LTC among residents who do not have a diagnosis of psychosis. This indicator excludes residents who have a diagnosis of schizophrenia or Huntington's chorea, are end-stage disease, are receiving hospice care, or are experiencing hallucinations or delusions (36). Unlike the other prescribing indicators in this report that include residents aged 66 and older, this CIHI indicator has no lower age limit.

The CIHI indicator only captures diagnoses on the **current** RAI MDS assessment, unlike the other indicators in this report that capture diagnoses over the previous five years through examining administrative databases. Also, the CIHI indicator excludes residents who have hallucinations or delusions, whereas the OHIP/ODB indicators cannot capture these symptoms.

Overall, you may see some differences between your rates among residents with dementia alone and the CIHI indicator due to the differences in capturing diagnoses and symptoms. The CIHI indicator also captures the use of lithium, and this medication is not included in the drug list for the OHIP/ODB indicators in this report.

The CIHI data provide you with a description of your resident population that may help explain why your rates may differ from others. Information about your residents for some relevant indicators, falls and daily restraints, and relevant RAI MDS scales including the Activities of Daily Living (ADL) Scale and Aggressive Behaviour Scale (ABS) can be found on the following page (37).

CIHI Antipsychotic indicator,
by my LTC practice and Ontario, April 1, 2015 to March 31, 2016



Data Source: CCRS (For this report, CIHI indicators are updated annually.)
N/R: Not Reported due to suppression, N/A: Not Available

What are the inclusions/exclusions for this indicator?

This indicator includes: residents without a diagnosis of psychosis who received an antipsychotic medication on at least one day in the week before the RAI assessment.

This indicator excludes: residents who have a diagnosis of schizophrenia or Huntington's chorea, are end-stage disease, are receiving hospice care, or are experiencing hallucinations or delusions.

More information, including home-level data, is available on the CIHI website (36).

CIHI CCRS (RAI MDS) data: **April 1, 2015 - March 31, 2016**	**My Residents (%)**	**Ontario (%)**
Residents with a Fall in the last 30 days (38)	16.1%	14.2%
Residents with Daily Physical Restraints (39)	9.7%	6.1%
Activities of Daily Living (ADL) Performance Hierarchy Scale *This scale groups activities of daily living according to the state of the disablement process in which they occur.* (37)		
Independent (0)	N/R	3%
Limited Impairment (1-2)	N/R	14%
Extensive Assistance (3-4)	53%	49%
Dependent (5-6)	32%	34%
Aggressive Behaviour Scale (ABS) *A measure of aggressive behavior based on the occurrence of verbal abuse, physical abuse, socially disruptive behavior and resistance of care.* (37)		
No Aggressive Behaviour (0)	38%	54%
Some Aggressive Behaviour (1-2)	38%	24%
Severe Aggressive Behaviour (3-5)	N/R	16%
Very Severe Aggressive Behaviour (6 or more)	N/R	6%
Cognitive Performance Scale (CPS) *This scale combines information on memory impairment, level of consciousness, and executive function.* (37)		
Relatively Intact (0-1)	N/R	20%
Mild/Moderate (2-3)	N/R	50%
Severe (4-6)	57%	30%
Depression Rating Scale (DRS) *This scale is used as a clinical screen for depression.* (37)		
No Depressive Symptoms (0)	0%	38%
Some Depressive Symptoms (1-2)	24%	30%
Possible Depressive Disorder (3 or more)	77%	32%
Pain Scale *This scale was originally developed for use with nursing home residents and later translated for use with other interRAI instruments.* (37)		
No Pain (0)	82%	67%
Less Than Daily Pain (1)	18%	23%
Daily Pain, but Not Severe (2)	0%	8%
Severe Daily Pain (3)	0%	2%

My Resident Profile

Data reporting period: **July 1, 2016 – September 30, 2016**
Data Source: **OHIP, ODB, DAD, OMHRS**

	My Residents	Ontario
Number of Residents *Number of Residents in LTC*		
	75	74,815
Sex (%)		
Male	26%	31%
Female	74%	69%
Age (years)		
Mean age	84	84
Age Cohorts (%)		
19 – 64 years	4%	6%
65 – 74 years	16%	11%
75 – 84 years	30%	27%
85+ years	51%	56%
New Residents (%) *Residents in the LTC home for less than 100 days*		
	15%	10%

N/R: Not Reported due to suppression; N/A: Not Available

Quality Improvement Tools and Resources

Falls Prevention

Centre for Effective Practice. Falls Prevention Discussion Guide (Long-Term Care Edition). [Online].; May 2016. Available from: https://effectivepractice.org/wp-content/uploads/2016/06/CEP_FallsPrevention_2016.pdf.

Centre for Studies in Aging & Health. Bridges to Care Resource Manual: Preventing Falls and Injuries in Long-Term Care (LTC). [Online].; 2010. Available from: http://sagelink.ca/sites/default/files/clinical-resources/preventing_falls_injuries_ltc_resource_manual.pdf.

Institut universitaire de gériatrie de Montréal. Sedative Hypnotic De-Prescribing Brochure. [Online].; 2014. Available from: http://www.criugm.qc.ca/fichier/pdf/BENZOeng.pdf.

Pottie K, Thompson W, Davies S, Grenier J, Sadowski C, Welch V, Holbrook A, Boyd C, Swenson JR, Ma A, Farrell B. deprescribing.org | Benzodiazepine & Z-Drug (BZRA) deprescribing Algorithm. [Online].; March 2016. Available from: http://www.open-pharmacy-research.ca/wordpress/wp-content/uploads/deprescribing-algorithm-benzodiazepines.pdf.

Soong C, Leis J. Choosing Wisely Canada: Less Sedatives For Your Older Relatives. [Online].; 2016. Available from: http://www.choosingwiselycanada.org/in-action/toolkits/less-sedatives-for-your-older-relatives/.

Behavioural and Psychological Symptoms of Dementia (BPSD)

Alberta Health Services. Appropriate Use of Antipsychotics (AUA) Toolkit for Care Teams - Medication review requirements of antipsychotics: Antipsychotic medication review sheet. [Online].; 2014. Available from: http://www.albertahealthservices.ca/frm-19676.pdf.

Alberta Health Services. Education - Psychiatry - Behaviour and Symptom Mapping Tool (BSMT). [Online].; 2011. Available from: http://www.albertahealthservices.ca/assets/Infofor/hp/if-hp-ltc-pharm-behaviour-mapping-tool.pdf.

Alzheimer Society of Ontario. [Online].; 2015. Available from: http://www.alzheimer.ca/en/on.

BrainXchange Network. [Online].; 2015. Available from: http://brainxchange.ca/.

British Columbia Ministry of Health. Non-pharmacological interventions for BPSD: Best practice guideline for accommodating and managing behavioural and psychological symptoms of dementia in residential care: A person-centred interdisciplinary approach (p 10). [Online].; 2012. Available from: http://www.health.gov.bc.ca/library/publications/year/2012/bpsd-guideline.pdf.

British Columbia Ministry of Health. British Columbia behavioural and psychological symptoms of dementia (BPSD) algorithm (Part 2) - Is this behaviour likely to respond to medication? [Online].; 2014. Available from: http://bcbpsd.ca/part-2/assessment/.

Bueckert V, Cole M, Robertson M. Choosing Wisely Canada. [Online].; 2016. Available from: http://www.choosingwiselycanada.org/wp-content/uploads/2016/07/CWC_Antipsychotics_Toolkit_v1.0_2016-07-11.pdf.

Centre for Effective Practice. Use of Antipsychotics in Behavioural and Psychological Symptoms of Dementia (BPSD) Discussion Guide. [Online].: 2015. Available from: http://effectivepractice.org/resources/academic-detailing-service-discussion-guide/

Choosing Wisely Canada. Patient Materials - Treating disruptive behaviour in people with dementia: Antipsychotic drugs are usually not the best choice. [Online].; 2014. Available from: http://www.choosingwiselycanada.org/materials/treating-disruptive-behaviour-in-people-with-dementia-antipsychotic-drugs-are-usually-not-the-best-choice/.

Hopkins RW, Kilik LA. Kingston Scales: Kingston Standardized Behavioural Assessment - KSBA (LTC) Assessment Form. [Online].; 2015. Available from: http://nebula.wsimg.com/16559a382ab29464be57bc2802f99cd7?AccessKeyId=954A289F7CDF75707C10&disposition=0&alloworigin=1.

Long-Term Care Medical Directors Association of Canada. [Online].; 2015. Available from: http://www.cmda.info/.

Ontario Long-Term Care Clinicians. [Online].; 2015. Available from: http://oltcc.ca/.

P.I.E.C.E.S. ™ Canada. Dementia Observation System (DOS). [Online]. Available from: http://pieceslearning.com/.

P.I.E.C.E.S. ™ Consult Group. P.I.E.C.E.S. ™ Framework tool. [Online]. Available from: http://pieceslearning.com/wp-content/uploads/2016/02/PIECES_Laminate_Nov_09.pdf.

Regional Geriatric Programs of Ontario. [Online].; 2014. Available from: http://rgps.on.ca/people-contact.

Registered Nurses Association of Ontario. Best Practices Toolkit - Delirium, dementia and depression resources: Cohen Mansfield Agitation Inventory (CMAI). [Online].; 2010. Available from: http://ltctoolkit.rnao.ca/node/1752.

Methodology

Overview

This report contains information on your LTC practice, including prescribing indicators, comparator data and contextual information that is intended to complement other sources of information for quality improvement. To provide the data in this report, the cohort of residents living in Ontario LTC homes was identified using administrative databases held at the Institute for Clinical Evaluative Sciences (ICES): the Ontario Health Insurance Plan Claims History Database (OHIP) and the Ontario Drug Benefit (ODB) Program Database. Each resident was then linked to one physician, called the most responsible physician (MRP), who provided the most medical care to the resident. The MRP was identified based on LTC fee codes in the OHIP data. Additional data from the Canadian Institute for Health Information (CIHI) was used to calculate indicator and contextual information. LTC Practice Reports are updated every three months, and the data in each report is about six months old when the reports are released. Details on the new topic, new indicators and methods are provided below and in the Technical Appendix: www.hqontario.ca/LTCReport.

New Indicators: Falls Prevention and Mobility

For the new topic, falls prevention and mobility, two indicators were selected and developed that focus on medications associated with an increased risk of falls. The report includes two measures of benzodiazepine prescribing: the overall rate of benzodiazepine prescribing (at least one benzodiazepine dispensed in the quarter), and the continuous use of benzodiazepines (at least 90 continuous days of prescriptions for benzodiazepines) **(1) (2)**. The report also includes one indicator based on the Beers 2015 criteria: rate of residents who have three or more specified CNS-active medications dispensed at the same time **(3)**. These indicators were not designed to assess whether a medication is appropriate, but to identify residents who are at an increased risk of falls associated with the medications. For this reason, residents who have clinical indications for these medications are included in the indicators. The data is meant to identify residents who should be monitored for an increased risk of falls related to these medications, to help identify those who may be appropriate for a trial of weaning, or a trial of substituting with a safer medication that is not as strongly associated with a risk of falls. Please note that non-benzodiazepine benzodiazepine receptor agonists (e.g. zopiclone) cannot be accurately captured in the ODB data; therefore, this class of medications was excluded from the indicator.

Indicators related to Antipsychotic medications

The antipsychotic indicators in the report now focus on the LTC residents who were diagnosed with dementia, but were not diagnosed with psychosis in the previous five years. The antipsychotic polypharmacy indicator will no longer be included because the rates were very low (< 2% of residents who had an antipsychotic prescribed in Ontario). The denominators are now the same for the indicators that estimate the overall rate, new starts and 90 days of prescriptions for antipsychotics: they include residents aged 66 and older who have a diagnosis of dementia, and exclude residents who are in palliative care, or in the LTC home for less than 100 days, or have a diagnosis of psychosis **(12) (13) (14) (15) (18)**. Finally, the grace period for the indicator capturing the dispensing of antipsychotics for at least 90 days was changed from one day to 1.5 times the number of days supplied, which is a standard methodology and had little impact on the indicator results **(16) (17)**. This was done to align more closely with the new indicators related to fall prevention and mobility. Please see the Technical Appendix for more detailed information: www.hqontario.ca/LTCReport.

Identifying your LTC residents

To identify your LTC residents, who include those living in LTC for whom you have provided care in each reporting period, your College of

Physicians and Surgeons of Ontario (CPSO) number was linked to health care administrative databases stored at ICES. Your report includes LTC residents for whom you were determined to be the attending physician, or most responsible physician (MRP), based on OHIP LTC fee codes billed for each quarter and three previous months. This was a two-step process: physicians who billed the greatest number of W010 fee codes for a resident were assigned as the MRP for the resident. For residents with zero W010 codes billed, the MRP was the physician who billed the greatest number of LTC fee codes for that resident. Since the OHIP and ODB data are updated more frequently than other administrative databases at ICES, these databases were used to identify your residents each quarter. Your resident group includes individuals between 19 and 115 years of age, for whom there was information on date of birth and sex, and a valid LTC institution number. The indicators have additional exclusion criteria. For example, eligibility for ODB coverage typically begins at age 65, thus the lower age limit for indicators was set at age 66 to ensure a one-year look back period on prescription data required to estimate if a medication was considered a new start.

Identifying the LTC homes in which you work

The institution numbers recorded in the OHIP billings for the residents who are assigned to you as the MRP were examined to identify the LTC homes in which you practised. For an LTC home to be assigned to your practice, there had to be at least five residents recorded in the same home; this was intended to minimize random error in the institution codes in OHIP data. In some instances, these data may not accurately reflect the homes in which a physician practised due to coding practices in OHIP billing. For example, if a physician worked in more than one LTC home, but included the institution number for only one of these homes on all OHIP submissions, then the other homes could not be identified for the report. For physicians who practised in more than one LTC home, data were provided for the LTC home in which the physician has the largest number of residents prescribed the relevant medications. This is intended to help aid in quality improvement. If you have additional questions, please contact Health Quality Ontario at practicereport@hqontario.ca.

Indicator Calculation

After identifying your residents and the LTC homes in which you practised, additional administrative data sets were used to calculate both the indicators and the supporting contextual information. For instance, data from OHIP and ODB were used to calculate the indicators of antipsychotic prescribing, and additional databases were used to identify diagnoses of psychosis and dementia (please see section below). It is important to note that the ODB contains information on dispensed medications, but not on the actual use of those medications. In LTC, the majority of prescriptions are dispensed and delivered to the home; thus, this report refers to the prescribing rather than the dispensing of medications to focus on the clinician's perspective. Although a prescription in LTC is usually filled by a pharmacy, the medication may not be administered to the resident, and these PRN prescriptions cannot be identified in the data. For these reasons, it is not possible to know whether a resident took a medication. This distinction is made in the presentation of the CIHI Antipsychotic indicator which captures the use of antipsychotic medication.

Diagnosis Identification

Diagnoses were identified by examining the preceding five years of OHIP, Discharge Abstract Database (DAD), and Ontario Mental Health Reporting System (OMHRS) data according to previously published methods and clinical review (12) (40) (41). In addition, ODB records in the year preceding each reporting quarter were examined for the dispensing of medications related to dementia (cognitive enhancers/cholinesterase inhibitors) as a surrogate for the diagnosis of dementia. Psychosis includes schizophrenia, bipolar disorder, tics or Huntington's disease and other forms of psychoses (including dementia-related psychosis). The CIHI indicator results for antipsychotics, falls, restraints and RAI-MDS outcome scales were calculated using CIHI methodology applied to the most recent fiscal year for which data were available (36) (42). The Technical Appendix provides further detail on methods used to calculate the indicators, including a complete list of the medications in each indicator, diagnostic codes to identify psychosis and dementia in the different databases and the method for identifying your residents.

Data sources

Administrative databases used to generate this report include: the OHIP database for physician claims data and cohort definition; the ODB database for prescription information and cohort definition; the Registered Persons Database (RPDB) for patient demographic information; the DAD for acute care data; the OMHRS for inpatient mental health data; and the Continuing Care Reporting System (CCRS) for interRAI data (also referred to as RAI-MDS). The latter was only used for the yearly CIHI data section beginning on page 12. The ODB has been validated for the accuracy of prescription claims (43). These data sets were linked using unique encoded identifiers and analyzed at ICES.

Data interpretation considerations

Administrative databases were used to generate this report without asking you to provide additional data. However, these databases do have limitations, including:

- **Data timeliness:** The data lag for these reports is about six months for the OHIP/ODB indicators. Data from the CCRS in this report will not match the time period of the OHIP/ODB cohort, and will be updated annually. While HQO and our partners are always looking for ways to provide more timely data, we encourage you to also use local data sources to track and measure your progress.
- **Data comprehensiveness/limitations:** Administrative databases cannot capture all the information relevant to these indicators and thus there are missing elements in the report. These include:
    - The prescribing indicators calculated from ODB data in this report measure the **presence of a dispensed medication**, but not the administration of the medication.
    - In LTC, the majority of prescriptions are filled and delivered to the home; thus, this report refers to the prescribing rather than the dispensing of medications to focus on the clinician's perspective.
    - Medications begun in the hospital cannot be identified which would impact the measurement of newly starting a medication.
    - PRN prescriptions cannot be identified in the ODB database. Thus, indicators cannot exclude medications dispensed on an as-needed basis.
    - ODB coverage usually begins at age 65; however, those living in LTC who are younger than age 65 will have ODB coverage.
- **Data suppression**: To maintain confidentiality, data are suppressed as per ICES' privacy policies, in the following manner:
    - N/R (Not Reported): When a value is between one and five, the value and its accompanying rate are suppressed. Additional suppression may be applied to maintain confidentiality even if the value is greater than five. Suppression is denoted by N/R. Suppressed values are included in the totals, and every effort is made to suppress the next smallest value.

Participation and confidentiality

You received this report because you have provided consent to HQO and ICES to participate in this project. This study was approved by the institutional review board at the University of Toronto, Toronto, Canada. Neither HQO nor ICES will release identified/identifiable data without your additional written consent.

ICES is named as a prescribed entity under Section 45 of Ontario's health privacy legislation, *Personal Health Information Protection Act* (PHIPA), 2004, which provides the legal authority for ICES to conduct research about the practice patterns of health care providers like you. ICES has very strict privacy policies, practices and procedures, as well as data security arrangements that have been reviewed and approved by the Privacy Commissioner of Ontario. A detailed report can be found on the ICES website: www.ices.on.ca.

References

1. Rojas-Fernandez C, Dadfar F, Wong A, Brown SG. Use of fall risk increasing drugs in residents of retirement villages: a pilot study of long term care and retirement home residents in Ontario, Canada. BMC Research Notes. 2015 October; 8(568).
2. Woolcott JC, Richardson KJ, Wiens MO, Patel B, Marin J, Khan KM et a. Meta-analysis of the impact of 9 medication classes on falls in elderly persons. Archives of Internal Medicine. 2009 November; 169(21).
3. The American Geriatrics Society 2015 Beers Criteria Update Expert Panel. American Geriatrics Society 2015 Updated Beers Criteria for Potentially Inappropriate Medication Use in Older Adults. Journal of the American Geriatrics Society. 2015 Oct; 63(11): p. 2227–2246.
4. Centre for Effective Practice. Centre for Effective Practice: Falls Prevention Discussion Guide (Long-Term Care (LTC) Edition). [Online].; 2016. Available from: https://effectivepractice.org/wp-content/uploads/2016/06/CEP_FallsPrevention_2016.pdf.
5. Soong C, Leis J. Choosing Wisely Canada: Less Sedatives For Your Older Relatives. [Online].; 2016. Available from: http://www.choosingwiselycanada.org/in-action/toolkits/less-sedatives-for-your-older-relatives/.
6. Pottie K, Thompson W, Davies S, Grenier J, Sadowski C, Welch V, Holbrook A, Boyd C, Swenson JR, Ma A, Farrell B. deprescribing.org | Benzodiazepine & Z-Drug (BZRA) deprescribing Algorithm. [Online].; 2016. Available from: http://www.open-pharmacy-research.ca/wordpress/wp-content/uploads/deprescribing-algorithm-benzodiazepines.pdf.
7. Cara Tannenbaum and Institut universitaire de gériatrie de Montréal. Institut universitaire de gériatrie de Montréal - Centre de recherche. [Online].; 2014. Available from: http://www.criugm.qc.ca/fichier/pdf/BENZOeng.pdf.
8. interRAI. Scales: Status and Outcome Measures. [Online].; 1994. Available from: http://www.interrai.org/assets/files/Scales/cognitive-performance-scale-2014.pdf.
9. Health Quality Ontario. Behavioural Symptoms of Dementia: Care for Patients in Hospitals and Residents in Long-Term Care Homes. [Online].; 2016. Available from: http://www.hqontario.ca/Evidence-to-Improve-Care/Quality-Standards/Behavioural-Symptoms-of-Dementia.
10. Medicines Management Team NHS Cumbria. NHS Cumbria Medicines Management Guidelines. [Online].; 2013. Available from: http://www.cumbria.nhs.uk/ProfessionalZone/MedicinesManagement/Guidelines/StopstartToolkit2011.pdf.
11. Institute for Safe Medication Practices Canada. Safer Medication Use in Older Persons Information Page. [Online].; 2016. Available from: https://www.ismp-canada.org/beers_list/#l=q2.
12. Rochon PA, Stukel TA, Bronskill SE, Gomes T, Sykora K, Wodchis WP et al. Variation in nursing home antipsychotic prescribing rates. Archives of Internal Medicine. 2007; 167(7): p. 676-683.
13. Health Quality Ontario. Looking for Balance: Antipsychotic medication use in Ontario long-term care homes. Toronto: Queen's Printer for Ontario; 2015a.
14. Azermai M, Elseviers M, Petrovic M, van Bortel L, Stichele RV. Assessment of antipsychotic prescribing in Belgian nursing homes. International Psychogeriatrics. 2011; 23(8): p. 1240-1248.
15. Lunsky Y, Klein-Geltink JE, Yates EA, eds. Atlas on the Primary Care of Adults with Developmental Disabilities in Ontario. Toronto: Institute for Clinical Evaluative Sciences and Centre for Addiction and Mental Health; 2013.

16. Hudson M, Rahme E, Richard H, Pilote L. Comparison of measures of medication persistency using a prescription drug database. Am Heart J. 2007; 153(1): p. 59-65.
17. Sikka R, Xia F, Aubert RE. Estimating medication persistency using administrative claims data. Am J Manag Care. 2005; 11(7): p. 449-457.
18. Bronskill SE, Anderson GM, Sykora K, Wodchis WP, Gill S, Shulman KI, et al. Neuroleptic drug therapy in older adults newly admitted to nursing homes: incidence, dose, and specialist contact. Journal of the American Geriatrics Society. 2004; 52(5): p. 749-755.
19. Alldred DP, Raynor DK, Hughes C, Barber N, Chen TF, Spoor P. Interventions to optimise prescribing for older people in care home. Cochrane Database Syst Rev. 2013; 2(CD009095).
20. Alberta Health Services. Appropriate Use of Antipsychotics (AUA) Toolkit for Care Teams - Medication review requirements of antipsychotics: Antipsychotic medication review sheet. [Online].; 2014. Available from: http://www.albertahealthservices.ca/frm-19676.pdf.
21. Rabheru K. Practical tips for recognition and management of behavioural and psychological symptoms of dementia. Canadian Geriatrics Society Journal of CME. 2011; 1(1): p. 17-22.
22. Kales CH, Gitlin LN, Lyketsos C. Assessment and management of behavioural and psychological symptoms of dementia. British Medical Journal. 2015; 350: p. h369.
23. P.I.E.C.E.S. (TM) Canada. Dementia Observation System (DOS). [Online]. Available from: http://pieceslearning.com/.
24. Registered Nurses Association of Ontario. Best Practices Toolkit - Delirium, dementia and depression resources: Cohen Mansfield Agitation Inventory (CMAI). [Online].; 2010. Available from: http://ltctoolkit.rnao.ca/node/1752.
25. Hopkins RW, Kilik LA. Kingston Scales: Kingston Standardized Behavioural Assessment - KSBA (LTC) Assessment Form. [Online].; 2015. Available from: http://nebula.wsimg.com/16559a382ab29464be57bc2802f99cd7?AccessKeyId=954A289F7CDF75707C10&disposition=0&alloworigin=1.
26. Conn D, Gibson M, McCabe D. CCSMH guideline update - assessment and treatment of mental health issues in long term care homes: (Focus on mood and behaviour symptoms). Toronto: Canadian Coalition for Seniors' Mental Health; 2014.
27. P.I.E.C.E.S. (TM) Consult Group. P.I.E.C.E.S. (TM) Framework tool. [Online]. Available from: http://pieceslearning.com/wp-content/uploads/2016/02/PIECES_Laminate_Nov_09.pdf.
28. Richter T, Meyer G, Möhler R, Köpke S. Psychosocial interventions for reducing antipsychotic medication in care home residents. Cochrane Database Syst Rev. 2012; 12(CD008634): p. CD008634.
29. British Columbia Ministry of Health. Non-pharmacological interventions for BPSD: Best practice guideline for accommodating and managing behavioural and psychological symptoms of dementia in residential care: A person-centred interdisciplinary approach (p 10). [Online].; 2012. Available from: http://www.health.gov.bc.ca/library/publications/year/2012/bpsd-guideline.pdf.
30. British Columbia Ministry of Health. British Columbia behavioural and psychological symptoms of dementia (BPSD) algorithm (Part 2) - Is this behaviour likely to respond to medication? [Online].; 2014. Available from: http://bcbpsd.ca/part-2/assessment/.
31. British Columbia Ministry of Health. Best practice guideline for accommodating and managing behavioural and psychological symptoms of dementia in residential care: A person-centred interdisciplinary approach (p 13-14). [Online].; 2012. Available from: http://www.health.gov.bc.ca/library/publications/year/2012/bpsd-guideline.pdf.
32. Alberta Health Services. Education - Psychiatry - Behaviour and Symptom Mapping Tool (BSMT). [Online].; 2011. Available from: http://www.albertahealthservices.ca/assets/Infofor/hp/if-hp-ltc-pharm-behaviour-mapping-tool.pdf.

33. Harris M, Clark S, Lusk E, editors. National behavioural support systems project: guiding principles and recommended components. Version 3. Canada; 2011.
34. Choosing Wisely Canada. Patient Materials - Treating disruptive behaviour in people with dementia: Antipsychotic drugs are usually not the best choice. [Online].; 2014. Available from: http://www.choosingwiselycanada.org/materials/treating-disruptive-behaviour-in-people-with-dementia-antipsychotic-drugs-are-usually-not-the-best-choice/.
35. Bueckert V, Cole M, Robertson M. Choosing Wisely Canada. [Online].; 2016. Available from: http://www.choosingwiselycanada.org/wp-content/uploads/2016/07/CWC_Antipsychotics_Toolkit_v1.0_2016-07-11.pdf.
36. Canadian Institute for Health Information. Indicator Library. [Online].; 2015. Available from: http://indicatorlibrary.cihi.ca/display/HSPIL/Potentially+Inappropriate+Use+of+Antipsychotics+in+Long-Term+Care.
37. interRAI. Scales: Status and Outcome Measures. [Online].; 2015. Available from: http://www.interrai.org/scales.html.
38. Canadian Institute for Health Information. Indicator Library. [Online].; 2016. Available from: http://indicatorlibrary.cihi.ca/display/HSPIL/Falls+in+the+Last+30+Days+in+Long-Term+Care.
39. Canadian Institute for Health Information. Indicator Library. [Online].; 2016. Available from: http://indicatorlibrary.cihi.ca/display/HSPIL/Restraint+Use+in+Long-Term+Care.
40. Hwang YJ, Dixon SN, Reiss JP, Wald R, Parikh CR, Gandhi S. Atypical antipsychotic drugs and the risk for acute kidney injury and other adverse outcomes in older adults: a population based cohort study. Annals of Internal Medicine. 2014; 161(4): p. 242-248.
41. Health Quality Ontario. Looking for Balance: Antipsychotic medication use in Ontario long-term care homes. Technical Appendix. Toronto: Queen's Printer for Ontario; 2015b.
42. Canadian Institute for Health Information. RAI-MDS 2.0 Outcome Scales Reference Guide. Canadian Institute for Health Information; 2013.
43. Paterson JM, Suleiman A, Hux JE, Bell C. How complete are drug history profiles that are based on public drug benefit claims? Can J Clin Pharmacol. 2008; 15(1): p. 108-116.

About Health Quality Ontario and the Institute for Clinical Evaluative Sciences

Health Quality Ontario (HQO) is the provincial advisor on quality in health care. HQO reports to the public on the quality of the health care system, evaluates the effectiveness of new health care technologies and services, provides evidence-based recommendations, and supports the spread of quality improvement throughout the system.

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Parts of this material are based on data and information compiled and provided by CIHI. However, the analyses, conclusions, opinions and statements expressed herein are those of the author, and not necessarily those of CIHI.

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Health Quality Ontario

Let's make our health system healthier

Long-Term Care Practice Report

Dr. Sample Data 2

Period Ending: September 30, 2016

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Report Overview

The *Long-Term Care Practice Report* provides easy access to your long-term care (LTC) practice data and provincial data, and supports quality improvement.

This confidential report focuses on indicators related to the prescribing of antipsychotics and of some medications associated with an increased risk of falls. This information may help you to better understand your prescribing patterns and set quality improvement targets.

This report is intended to complement other sources of information you may receive (e.g., your pharmacy reports). A new report will be provided to you each quarter, and Health Quality Ontario will notify you by email of each release.

For more information about the methodology, including data sources and limitations (e.g., rates include as-needed (PRN) prescriptions), see page 17.

We want this report to be useful for you. If you have any questions, concerns, or suggestions, please contact Health Quality Ontario at: **Toll-Free**: 1-866-623-6868 or by **Email**: practicereport@hqontario.ca.

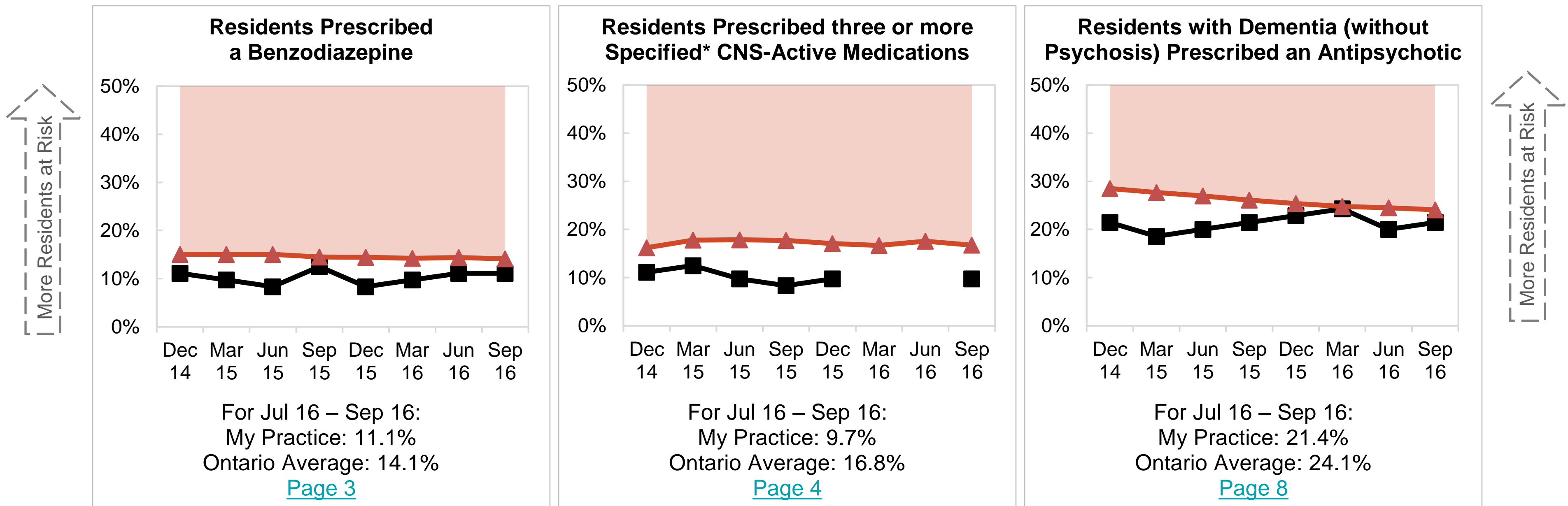
Summary

This practice report provides feedback on certain prescribing practices that may be associated with a risk of harm for your LTC residents when not appropriate.

How do my prescribing practices compare?

Data reporting period: July 1, 2016 – September 30, 2016

Note: 'Sep-16' represents data from July 1 to September 30, 2016.



2 fewer resident(s) in my practice are at increased risk associated with benzodiazepines (compared to the average prescribing rate among Ontario LTC physicians).

Who are all my residents? Between July 1, 2016 and September 30, 2016, my LTC practice had 75 residents (26% male, 74% female), with a mean age of 84, and 15% were new residents (in LTC home for less than 100 days.)

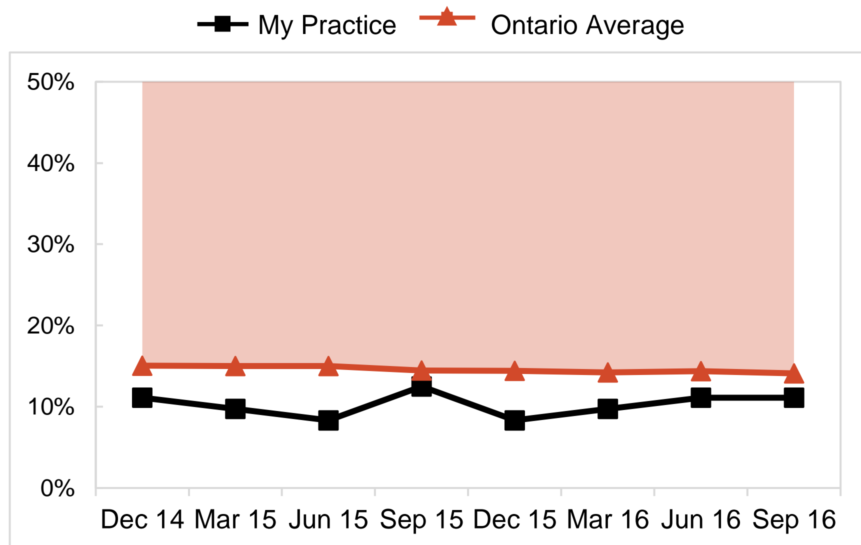
Suppression denoted by N/R (Not Reported) or a gap in graph; N/A: Not Available.

*Specified medications include: antipsychotics, opioids, benzodiazepines (oral), and antidepressants (including TCAs and trazodone). Refer to page 17 for more details.

Residents Prescribed a Benzodiazepine:

Percentage of residents aged 66 and older who were prescribed a benzodiazepine. Excludes residents who were in palliative care or were new to LTC (in the LTC home for less than 100 days). (1) (2)

How many of my residents are exposed to risks (e.g., falls) related to benzodiazepines?



Suppression denoted by N/R (Not Reported) or a gap in graph; N/A: Not Available.
Data includes PRN prescriptions.

Between July 1, 2016 to September 30, 2016, 11.1% of my residents had a prescription for a benzodiazepine, and the Ontario Average was 14.1%.

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of my residents were prescribed a benzodiazepine.

Change Ideas to manage falls

(page 5)

Among my residents aged 66 and older and not new to LTC, 9.7% were prescribed a benzodiazepine for at least 90 continuous days in the most recent quarter.

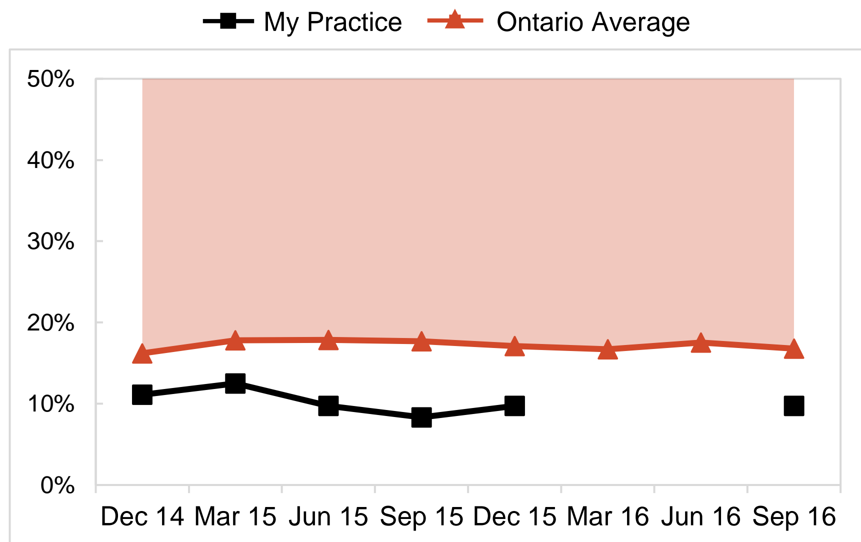
For more information about this indicator, please refer to the Methodology (page 17).

Sometimes benzodiazepines are appropriate. The data cannot weigh the benefits against harm for each resident but it can point to practice patterns worthy of reflection. The *Change Ideas* (page 5) suggest ways that you can work with others in the home right now to limit the risk of harm for your residents (e.g., find resources to start a trial of weaning to discontinue benzodiazepines where appropriate).

Residents Prescribed three or more Specified* CNS-Active Medications:

Percentage of residents aged 66 and older who on a given day had prescriptions for three or more specified* CNS-active medications. Excludes residents who were in palliative care or were new to LTC (in the LTC home for less than 100 days). (3)

How many of my residents are exposed to risks (e.g., falls) related to three or more specified* CNS-Active medications?



Suppression denoted by N/R (Not Reported) or a gap in graph; N/A: Not Available.
Data includes PRN prescriptions.

Between July 1, 2016 to September 30, 2016, 9.7% of my residents had a prescription for three or more CNS-active medications, and the Ontario Average was 16.8%.

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of my residents were prescribed three or more specified* CNS-active medications.

Change Ideas to manage falls

(page 5)

For more information about this indicator, please refer to the Methodology (page 17).

Sometimes three or more CNS-active medications are appropriate (e.g., for residents with complex psychiatric conditions). These data cannot weigh the benefits against harm for each resident but it can point to practice patterns worthy of reflection. The *Change Ideas* (page 5) suggest ways that you can work with others in the home right now to limit the risk of harm for your residents (e.g., find resources to start a trial of weaning or substitution with a safer medication where appropriate).

*Specified medications include: antipsychotics, opioids, benzodiazepines (oral), and antidepressants (including TCAs and trazodone).

Change Ideas: Managing Residents at Increased Risk of Falls from Prescribed Medications

Some prescribed medications (or combination of medications) for long-term care (LTC) home residents in Ontario can increase their risk of adverse events, such as falls. To optimize (and potentially decrease) medication use to reduce the risk of falls, the following table provides change ideas that will help you identify areas for improvement based on key prescribing indicators. These indicators provide a snapshot of data that you can use to understand your current prescribing patterns, identify an improvement target, and test one or more of the following change ideas to help you move toward that target.

To learn more about *how* to make changes in your practice, visit the Quality Improvement Tools and Resources section of Health Quality Ontario's website.

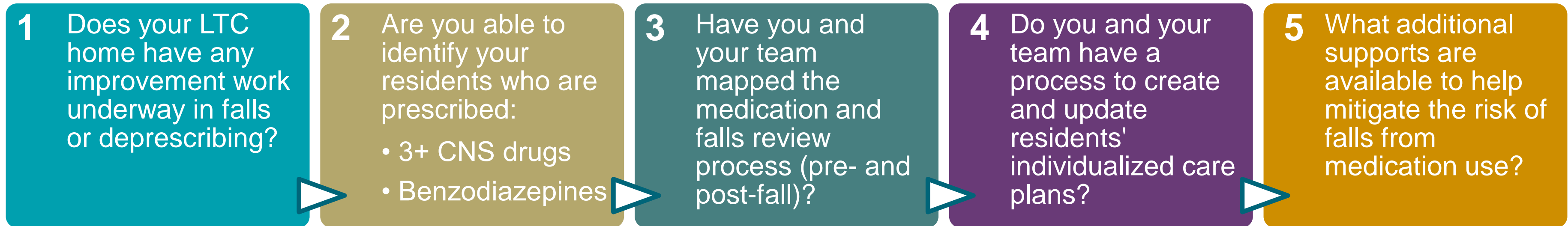
Opportunities for Improvement	Indicator	Current Performance	Set Your Target
Optimize medication use to reduce risk of falls	Residents Prescribed a Benzodiazepine: Percentage of residents aged 66 and older who were prescribed a benzodiazepine	11.1%	Decrease/maintain By how much? ________% By when? ____________ (date)
	Residents Prescribed three or more Specified* CNS-Active Medications: Percentage of residents aged 66 and older who on a given day had prescriptions for three or more specified* CNS-active medications	9.7%	Decrease/maintain By how much? ________% By when? ____________ (date)

N/R: Not Reported due to suppression; N/A: Not Available

*Specified medications include: antipsychotics, opioids, benzodiazepines (oral), and antidepressants (including TCAs and trazodone).

Change Ideas to Identify Areas for Improvement and Test Changes

Identify areas of focus to improve your benzodiazepine and CNS-active medication prescribing indicators by asking yourself:



Once you identify the areas you would like to improve, review the change ideas that accompany each question:

1. Change Ideas to Assess Current or Planned Improvement Efforts	2. Change Ideas to Identify Your Residents at Risk for Falls	3. Change Ideas to Improve the Medication Review Process	4. Change Ideas to Update and Implement Individualized Care Plans	5. Additional Supports
Determine if there are any planned or current falls prevention resources at your LTC home. For example: • Deprescribing Projects • Falls Prevention Team • Quality Committees • Quality Improvement Plans (QIP) and QIP Query (An online searchable database containing QIPs submitted to Health Quality Ontario. To find new and emerging change ideas you can use queries to compare findings by indicator, compare by LHIN, selected organizations,	Review data received from your LTC home/ pharmacy provider to verify: a) Number of residents prescribed benzodiazepines and three or more CNS-active medications, duration, and administration rate b) Number of residents identified for risk of falls (page 3 of Centre for Effective Practice Discussion Guide for falls risk assessment) (4)	The following strategies can assist with regular medication reviews at ***all*** transitions: a) Team approach involving the physician, pharmacist, and nurse to prepare and review the medication summary (see Sample Fall Assessment and Medication Review Flow Sheet below) b) Review history of falls and changes to falls risk assessment status (page 4 of Centre for Effective Practice Discussion Guide) (4)	Consider implementing an individualized, multi-factorial approach, which includes: a) A process to inform attending physician post-fall (page 6 of Centre for Effective Practice Discussion Guide for BEEEACH Checklist (4) b) Communication of results to team through regular team huddles c) Performing an assessment at each transition (new admission, change in	a) Tools and Resources: • Quality Standard: Behavioural Symptoms of Dementia Care for Patients in Hospitals and Residents in Long-Term Care Homes (9) • START/STOPP Toolkit Supporting Medication Review (10) • Institute for Safe Medication Practices in Canada: BEERs List (11) b) Learn from your peers through: • Health Quality Ontario's LTC Community of Practice • Choosing Wisely Canada Talks

or size of long-term care home.)		c) Consider medication reduction using the Choosing Wisely Canada Toolkit (5), deprescribing algorithms (6) or deprescribing checklists (7) d) Calculate anticholinergic burden and risk scales (page 9 of Centre for Effective Practice Discussion Guide) (4) e) Consider your residents' functional and cognitive status (Cognitive Performance Scale) (8)	status) to inform your falls management plan	• Ontario Long Term Care Clinicians • brainXChange and Behavioural Supports Ontario • Long Term Care Medical Directors Association of Canada • Regional Specialized Programs of Ontario c) Involve residents, families, substitute decision makers: • Choosing Wisely Canada: Patient Education Tools • Family Councils Ontario • Ontario Association of Residents' Councils

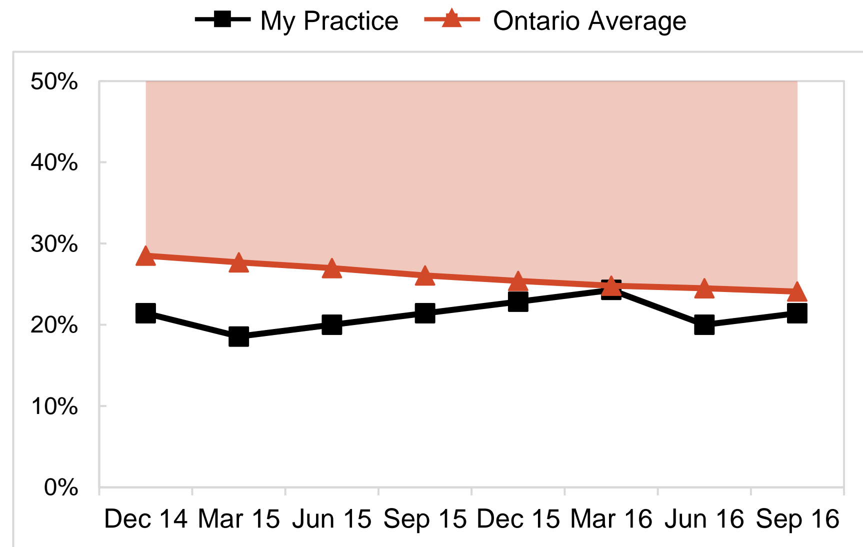
Sample Fall Assessment and Medication Review Flow Sheet

Age	Number of Falls/ Quarter	Fractures (Y/N)	Morse Fall Score	Blood Pressure	Central Nervous System Drugs	Blood Pressure medications	Osteoporosis Prevention	Resident Goal (Start, Stop, Maintain)

Residents with Dementia (without Psychosis) Prescribed an Antipsychotic:

Percentage of residents aged 66 and older diagnosed with dementia, without psychosis, who were prescribed an antipsychotic. Excludes residents who were in palliative care, were new to LTC (in the LTC home for less than 100 days), and those who have a recorded diagnosis of psychosis (schizophrenia, bipolar disorder, other psychoses, tics or Huntington's disease). (12) (13) (14)

How many of my residents are exposed to risks related to antipsychotics?



Suppression denoted by N/R (Not Reported) or a gap in graph; N/A: Not Available.
Data includes PRN prescriptions.

Between July 1, 2016 to September 30, 2016, 21.4% of my residents diagnosed with dementia without psychosis had a prescription for an antipsychotic, and the Ontario Average was 24.1%.

15/70
of my residents with dementia (without psychosis) were prescribed an antipsychotic medication.

*Change Ideas to manage BPSD**

(page 9)

*Behavioural & Psychological Symptoms of Dementia

Among my LTC homes, I have the opportunity to help the most residents by focusing my efforts on Fox Ridge Care Community, where my rate is 23.3%.

Among my residents aged 66 and older and diagnosed with dementia without psychosis, 8.6% were newly prescribed an antipsychotic in the most recent quarter (no prescription in last 12 months) (18).

For more information about this indicator, please refer to the Methodology (page 17).

Sometimes antipsychotic medications are appropriate. These data cannot weigh the benefits against harm for each resident but it can point to practice patterns worthy of reflection. The *Change Ideas* (page 9) suggest ways that you can work with others in the home right now to limit the risk of harm for your residents.

Change Ideas: Managing Residents with Behavioural and Psychological Symptoms of Dementia

For some residents of Ontario's long-term care homes, antipsychotic medications improve quality of life and reduce suffering. But for other residents, these drugs may bring more risks than benefits. To optimize antipsychotic use, the following table will help you identify areas for improvement based on key antipsychotic prescribing indicators. These indicators provide a snapshot of data that you can use to understand your current prescribing patterns and identify an improvement target, as well as to test one or more of the following change ideas to help you move toward that target.

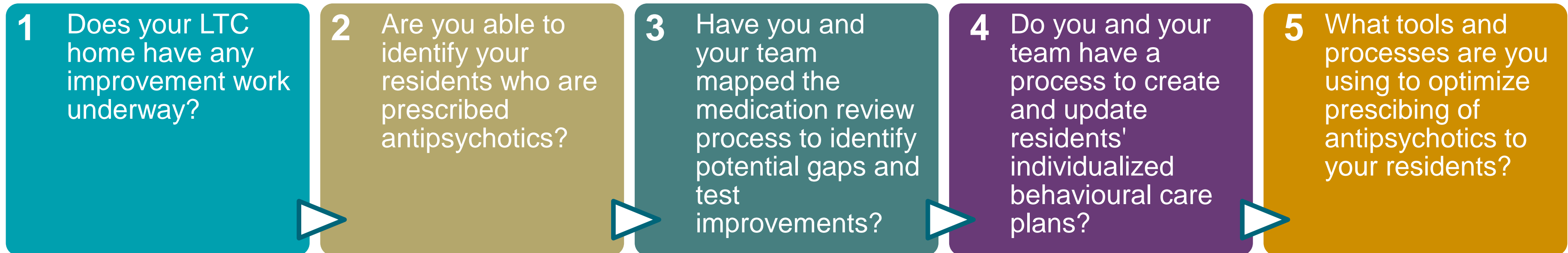
To learn more about *how* to make changes in your practice, visit the Quality Improvement Tools and Resources section of Health Quality Ontario's website.

Opportunities for Improvement	Indicator	Current Performance	Set Your Target
Optimize antipsychotic prescribing	Residents with Dementia (without Psychosis) Prescribed an Antipsychotic: Percentage of residents aged 66 and older diagnosed with dementia, without psychosis, who were prescribed an antipsychotic medication	21.4%	Decrease/maintain By how much? ________% By when? ____________ (date)

N/R: Not Reported due to suppression; N/A: Not Available

Identify areas for improvement and test changes

First, identify areas of focus to improve your antipsychotic prescribing indicators by asking yourself these questions:



Once you identify the areas you would like to improve, review the change ideas that accompany each question:

1 Find out if there are any improvement efforts planned and/or underway

For example, consider asking your nursing administrator:

a) What opportunities exist to work with current behavioural support resources/processes at the home? For example:
- Behavioural Response Team
- Champions
- Quality Improvement (QI) Plans
- QI Team

b) What external resources and supports are available?
For example:
- Psychogeriatric Resource Consultant, Behavioural Supports Ontario (BSO), specialized outreach teams

2 Change ideas to identify your residents

a) Consider what data you currently receive from your LTC home and pharmacy provider. Are there additional data you need (e.g., indications, new starts, summary of responsive behaviours and interventions used)?

b) Verify the data. For example:
- Look at your number of residents, total number of residents prescribed antipsychotics and associated indications, number of new starts, and number of PRNs ordered and administration rate

c) Ask your pharmacy provider for a medication tracking tool

3 Change ideas to improve the medication review process

Consider the following strategies to enhance regular quarterly medication reviews:

a) Team approach involving the physician, pharmacist and nurse (19)

b) Standardized and simplified medication review process and documentation. View a sample worksheet from Alberta Health Services (20)

c) Staff identify residents on antipsychotics who may be appropriate to trial reducing/adjusting the antipsychotic dose

d) Staff prepare a summary of residents' recent behaviour prior to medication reviews

4 Change ideas to update and implement individualized behavioural care plans

a) Assess for Behavioural and Psychological Symptoms of Dementia and use findings to inform care plans and medication reviews (21) (22). Some standardized tools include:
- Dementia Observation System (DOS) detects behavioural patterns (23)
- Cohen Mansfield Agitation Inventory (CMAI) tracks the severity and disruptiveness of the behaviours (24)
- Kingston Standardized Behavioural Assessment (KSBA) assesses function, cognition and behaviour (25)

b) All behaviour has meaning: Screen and rule out possible medical problems or environmental triggers (e.g., pain, delirium, constipation) (26):
- Use the P.I.E.C.E.S.™ tool to assess for potential physical, intellectual, emotional, capabilities, environment and social causes of behaviours (27)
- Involve families/caregivers

c) Trial and review non-pharmacological strategies before considering antipsychotic medications, where appropriate (26) (28):
- Consider P.I.E.C.E.S.™, Montessori Methods, Gentle Persuasive Approaches. Click here for additional interventions (29)
- For additional strategies/supports, connect with the home's Responsive Behaviour Program and/or external resources and supports, if available

5 Change ideas for pharmacological interventions

a) Ensure optimal treatment of other conditions that could be contributing to symptoms (26)

b) Consider what behaviours may respond to antipsychotics and which do not (30)

c) Carefully weigh the potential benefits of pharmacological interventions versus the potential of harm (26)

d) If antipsychotics are required, trial the lowest effective dose for the shortest duration (31)

e) Monitor for effectiveness, tolerability and adverse effects. For example, the Behaviour and Symptom Mapping Tool (BSMT) (32)

f) Consult specialists for residents with complex needs/behaviours (21)

g) Involve residents and their families/Substitute Decision Maker in decisions (33)
- Obtain and document consent
- Family education tools and support (34): Choosing Wisely Canada, Alzheimer Society of Ontario

Additional supports to optimize antipsychotic prescribing

a) **Learn from your peers.** Reach out to colleagues through:
- Health Quality Ontario's LTC Community of Practice
- Ontario Long Term Care Clinicians
- Long Term Care Medical Directors Association of Canada

b) **Connect with your regional specialized services:**
- Regional Geriatric Programs or local hospital or community-based geriatric consultation services

c) **Connect with provincial tools and supports:**
- Behavioural Supports Ontario
- Centre for Effective Practice's (CEP) Discussion Guide tool is designed to help providers understand, assess and manage residents with responsive behaviours; focusing on antipsychotic medications. The tool was developed as part of CEP's Academic Detailing Service for LTC homes.
- Choosing Wisely Canada and A Toolkit for Reducing Inappropriate Use of Antipsychotics in Long Term Care (35)
- The brainXchange network

CIHI Antipsychotic Indicator:

Percentage of residents on antipsychotics without a diagnosis of psychosis

Data reporting period: **April 1, 2015 – March 31, 2016**
Data source: **CCRS**

Please note that data in this section are based on a different time frame and data source than the previous sections.

Data interpretation considerations

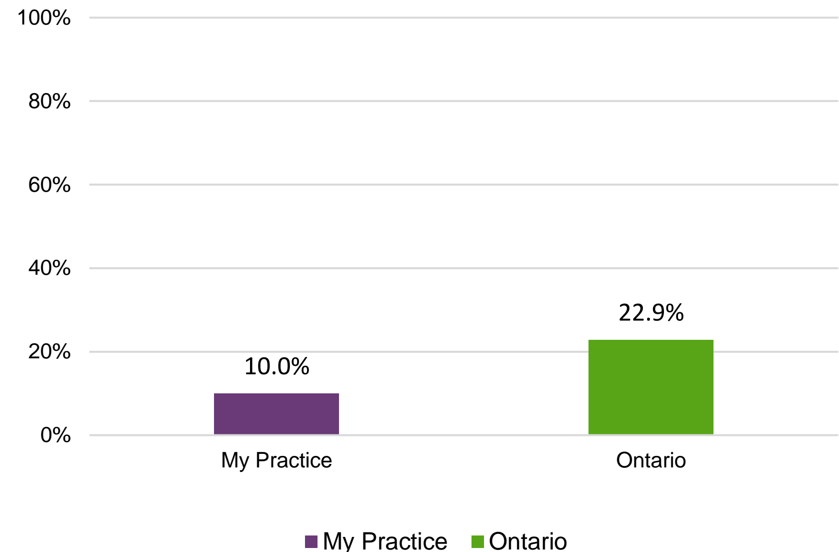
This CIHI antipsychotic indicator captures the **use** of antipsychotic medication in LTC among residents who do not have a diagnosis of psychosis. This indicator excludes residents who have a diagnosis of schizophrenia or Huntington's chorea, are end-stage disease, are receiving hospice care, or are experiencing hallucinations or delusions (36). Unlike the other prescribing indicators in this report that include residents aged 66 and older, this CIHI indicator has no lower age limit.

The CIHI indicator only captures diagnoses on the **current** RAI MDS assessment, unlike the other indicators in this report that capture diagnoses over the previous five years through examining administrative databases. Also, the CIHI indicator excludes residents who have hallucinations or delusions, whereas the OHIP/ODB indicators cannot capture these symptoms.

Overall, you may see some differences between your rates among residents with dementia alone and the CIHI indicator due to the differences in capturing diagnoses and symptoms. The CIHI indicator also captures the use of lithium, and this medication is not included in the drug list for the OHIP/ODB indicators in this report.

The CIHI data provide you with a description of your resident population that may help explain why your rates may differ from others. Information about your residents for some relevant indicators, falls and daily restraints, and relevant RAI MDS scales including the Activities of Daily Living (ADL) Scale and Aggressive Behaviour Scale (ABS) can be found on the following page (37).

CIHI Antipsychotic indicator,
by my LTC practice and Ontario, April 1, 2015 to March 31, 2016



Data Source: CCRS (For this report, CIHI indicators are updated annually.)
N/R: Not Reported due to suppression, N/A: Not Available

What are the inclusions/exclusions for this indicator?

This indicator includes: residents without a diagnosis of psychosis who received an antipsychotic medication on at least one day in the week before the RAI assessment.

This indicator excludes: residents who have a diagnosis of schizophrenia or Huntington's chorea, are end-stage disease, are receiving hospice care, or are experiencing hallucinations or delusions.

More information, including home-level data, is available on the CIHI website (36).

CIHI CCRS (RAI MDS) data: **April 1, 2015 - March 31, 2016**	**My Residents (%)**	**Ontario (%)**
Residents with a Fall in the last 30 days (38)	16.1%	14.2%
Residents with Daily Physical Restraints (39)	9.7%	6.1%
Activities of Daily Living (ADL) Performance Hierarchy Scale *This scale groups activities of daily living according to the state of the disablement process in which they occur.* (37)		
Independent (0)	N/R	3%
Limited Impairment (1-2)	N/R	14%
Extensive Assistance (3-4)	53%	49%
Dependent (5-6)	32%	34%
Aggressive Behaviour Scale (ABS) *A measure of aggressive behavior based on the occurrence of verbal abuse, physical abuse, socially disruptive behavior and resistance of care.* (37)		
No Aggressive Behaviour (0)	38%	54%
Some Aggressive Behaviour (1-2)	38%	24%
Severe Aggressive Behaviour (3-5)	N/R	16%
Very Severe Aggressive Behaviour (6 or more)	N/R	6%
Cognitive Performance Scale (CPS) *This scale combines information on memory impairment, level of consciousness, and executive function.* (37)		
Relatively Intact (0-1)	N/R	20%
Mild/Moderate (2-3)	N/R	50%
Severe (4-6)	57%	30%
Depression Rating Scale (DRS) *This scale is used as a clinical screen for depression.* (37)		
No Depressive Symptoms (0)	0%	38%
Some Depressive Symptoms (1-2)	24%	30%
Possible Depressive Disorder (3 or more)	77%	32%
Pain Scale *This scale was originally developed for use with nursing home residents and later translated for use with other interRAI instruments.* (37)		
No Pain (0)	82%	67%
Less Than Daily Pain (1)	18%	23%
Daily Pain, but Not Severe (2)	0%	8%
Severe Daily Pain (3)	0%	2%

My Resident Profile

Data reporting period: **July 1, 2016 – September 30, 2016**
Data Source: **OHIP, ODB, DAD, OMHRS**

	My Residents	Ontario
Number of Residents *Number of Residents in LTC*		
	75	74,815
Sex (%)		
Male Female	26% 74%	31% 69%
Age (years)		
Mean age	84	84
Age Cohorts (%)		
19 – 64 years 65 – 74 years 75 – 84 years 85+ years	4% 16% 30% 51%	6% 11% 27% 56%
New Residents (%) *Residents in the LTC home for less than 100 days*		
	15%	10%

N/R: Not Reported due to suppression; N/A: Not Available

Quality Improvement Tools and Resources

Falls Prevention

Centre for Effective Practice. Falls Prevention Discussion Guide (Long-Term Care Edition). [Online].; May 2016. Available from: https://effectivepractice.org/wp-content/uploads/2016/06/CEP_FallsPrevention_2016.pdf.

Centre for Studies in Aging & Health. Bridges to Care Resource Manual: Preventing Falls and Injuries in Long-Term Care (LTC). [Online].; 2010. Available from: http://sagelink.ca/sites/default/files/clinical-resources/preventing_falls_injuries_ltc_resource_manual.pdf.

Institut universitaire de gériatrie de Montréal. Sedative Hypnotic De-Prescribing Brochure. [Online].; 2014. Available from: http://www.criugm.qc.ca/fichier/pdf/BENZOeng.pdf.

Pottie K, Thompson W, Davies S, Grenier J, Sadowski C, Welch V, Holbrook A, Boyd C, Swenson JR, Ma A, Farrell B. deprescribing.org | Benzodiazepine & Z-Drug (BZRA) deprescribing Algorithm. [Online].; March 2016. Available from: http://www.open-pharmacy-research.ca/wordpress/wp-content/uploads/deprescribing-algorithm-benzodiazepines.pdf.

Soong C, Leis J. Choosing Wisely Canada: Less Sedatives For Your Older Relatives. [Online].; 2016. Available from: http://www.choosingwiselycanada.org/in-action/toolkits/less-sedatives-for-your-older-relatives/.

Behavioural and Psychological Symptoms of Dementia (BPSD)

Alberta Health Services. Appropriate Use of Antipsychotics (AUA) Toolkit for Care Teams - Medication review requirements of antipsychotics: Antipsychotic medication review sheet. [Online].; 2014. Available from: http://www.albertahealthservices.ca/frm-19676.pdf.

Alberta Health Services. Education - Psychiatry - Behaviour and Symptom Mapping Tool (BSMT). [Online].; 2011. Available from: http://www.albertahealthservices.ca/assets/Infofor/hp/if-hp-ltc-pharm-behaviour-mapping-tool.pdf.

Alzheimer Society of Ontario. [Online].; 2015. Available from: http://www.alzheimer.ca/en/on.

BrainXchange Network. [Online].; 2015. Available from: http://brainxchange.ca/.

British Columbia Ministry of Health. Non-pharmacological interventions for BPSD: Best practice guideline for accommodating and managing behavioural and psychological symptoms of dementia in residential care: A person-centred interdisciplinary approach (p 10). [Online].; 2012. Available from: http://www.health.gov.bc.ca/library/publications/year/2012/bpsd-guideline.pdf.

British Columbia Ministry of Health. British Columbia behavioural and psychological symptoms of dementia (BPSD) algorithm (Part 2) - Is this behaviour likely to respond to medication? [Online].; 2014. Available from: http://bcbpsd.ca/part-2/assessment/.

Bueckert V, Cole M, Robertson M. Choosing Wisely Canada. [Online].; 2016. Available from: http://www.choosingwiselycanada.org/wp-content/uploads/2016/07/CWC_Antipsychotics_Toolkit_v1.0_2016-07-11.pdf.

Centre for Effective Practice. Use of Antipsychotics in Behavioural and Psychological Symptoms of Dementia (BPSD) Discussion Guide. [Online].: 2015. Available from: http://effectivepractice.org/resources/academic-detailing-service-discussion-guide/

Choosing Wisely Canada. Patient Materials - Treating disruptive behaviour in people with dementia: Antipsychotic drugs are usually not the best choice. [Online].; 2014. Available from: http://www.choosingwiselycanada.org/materials/treating-disruptive-behaviour-in-people-with-dementia-antipsychotic-drugs-are-usually-not-the-best-choice/.

Hopkins RW, Kilik LA. Kingston Scales: Kingston Standardized Behavioural Assessment - KSBA (LTC) Assessment Form. [Online].; 2015. Available from: http://nebula.wsimg.com/16559a382ab29464be57bc2802f99cd7?AccessKeyId=954A289F7CDF75707C10&disposition=0&alloworigin=1.

Long-Term Care Medical Directors Association of Canada. [Online].; 2015. Available from: http://www.cmda.info/.

Ontario Long-Term Care Clinicians. [Online].; 2015. Available from: http://oltcc.ca/.

P.I.E.C.E.S. ™ Canada. Dementia Observation System (DOS). [Online]. Available from: http://pieceslearning.com/.

P.I.E.C.E.S. ™ Consult Group. P.I.E.C.E.S. ™ Framework tool. [Online]. Available from: http://pieceslearning.com/wp-content/uploads/2016/02/PIECES_Laminate_Nov_09.pdf.

Regional Geriatric Programs of Ontario. [Online].; 2014. Available from: http://rgps.on.ca/people-contact.

Registered Nurses Association of Ontario. Best Practices Toolkit - Delirium, dementia and depression resources: Cohen Mansfield Agitation Inventory (CMAI). [Online].; 2010. Available from: http://ltctoolkit.rnao.ca/node/1752.

Methodology

Overview

This report contains information on your LTC practice, including prescribing indicators, comparator data and contextual information that is intended to complement other sources of information for quality improvement. To provide the data in this report, the cohort of residents living in Ontario LTC homes was identified using administrative databases held at the Institute for Clinical Evaluative Sciences (ICES): the Ontario Health Insurance Plan Claims History Database (OHIP) and the Ontario Drug Benefit (ODB) Program Database. Each resident was then linked to one physician, called the most responsible physician (MRP), who provided the most medical care to the resident. The MRP was identified based on LTC fee codes in the OHIP data. Additional data from the Canadian Institute for Health Information (CIHI) was used to calculate indicator and contextual information. LTC Practice Reports are updated every three months, and the data in each report is about six months old when the reports are released. Details on the new topic, new indicators and methods are provided below and in the Technical Appendix: www.hqontario.ca/LTCReport.

New Indicators: Falls Prevention and Mobility

For the new topic, falls prevention and mobility, two indicators were selected and developed that focus on medications associated with an increased risk of falls. The report includes two measures of benzodiazepine prescribing: the overall rate of benzodiazepine prescribing (at least one benzodiazepine dispensed in the quarter), and the continuous use of benzodiazepines (at least 90 continuous days of prescriptions for benzodiazepines) **(1) (2)**. The report also includes one indicator based on the Beers 2015 criteria: rate of residents who have three or more specified CNS-active medications dispensed at the same time **(3)**. These indicators were not designed to assess whether a medication is appropriate, but to identify residents who are at an increased risk of falls associated with the medications. For this reason, residents who have clinical indications for these medications are included in the indicators. The data is meant to identify residents who should be monitored for an increased risk of falls related to these medications, to help identify those who may be appropriate for a trial of weaning, or a trial of substituting with a safer medication that is not as strongly associated with a risk of falls. Please note that non-benzodiazepine benzodiazepine receptor agonists (e.g. zopiclone) cannot be accurately captured in the ODB data; therefore, this class of medications was excluded from the indicator.

Indicators related to Antipsychotic medications

The antipsychotic indicators in the report now focus on the LTC residents who were diagnosed with dementia, but were not diagnosed with psychosis in the previous five years. The antipsychotic polypharmacy indicator will no longer be included because the rates were very low (< 2% of residents who had an antipsychotic prescribed in Ontario). The denominators are now the same for the indicators that estimate the overall rate, new starts and 90 days of prescriptions for antipsychotics: they include residents aged 66 and older who have a diagnosis of dementia, and exclude residents who are in palliative care, or in the LTC home for less than 100 days, or have a diagnosis of psychosis **(12) (13) (14) (15) (18)**. Finally, the grace period for the indicator capturing the dispensing of antipsychotics for at least 90 days was changed from one day to 1.5 times the number of days supplied, which is a standard methodology and had little impact on the indicator results **(16) (17)**. This was done to align more closely with the new indicators related to fall prevention and mobility. Please see the Technical Appendix for more detailed information: www.hqontario.ca/LTCReport.

Identifying your LTC residents

To identify your LTC residents, who include those living in LTC for whom you have provided care in each reporting period, your College of

Physicians and Surgeons of Ontario (CPSO) number was linked to health care administrative databases stored at ICES. Your report includes LTC residents for whom you were determined to be the attending physician, or most responsible physician (MRP), based on OHIP LTC fee codes billed for each quarter and three previous months. This was a two-step process: physicians who billed the greatest number of W010 fee codes for a resident were assigned as the MRP for the resident. For residents with zero W010 codes billed, the MRP was the physician who billed the greatest number of LTC fee codes for that resident. Since the OHIP and ODB data are updated more frequently than other administrative databases at ICES, these databases were used to identify your residents each quarter. Your resident group includes individuals between 19 and 115 years of age, for whom there was information on date of birth and sex, and a valid LTC institution number. The indicators have additional exclusion criteria. For example, eligibility for ODB coverage typically begins at age 65, thus the lower age limit for indicators was set at age 66 to ensure a one-year look back period on prescription data required to estimate if a medication was considered a new start.

Identifying the LTC homes in which you work

The institution numbers recorded in the OHIP billings for the residents who are assigned to you as the MRP were examined to identify the LTC homes in which you practised. For an LTC home to be assigned to your practice, there had to be at least five residents recorded in the same home; this was intended to minimize random error in the institution codes in OHIP data. In some instances, these data may not accurately reflect the homes in which a physician practised due to coding practices in OHIP billing. For example, if a physician worked in more than one LTC home, but included the institution number for only one of these homes on all OHIP submissions, then the other homes could not be identified for the report. For physicians who practised in more than one LTC home, data were provided for the LTC home in which the physician has the largest number of residents prescribed the relevant medications. This is intended to help aid in quality improvement. If you have additional questions, please contact Health Quality Ontario at practicereport@hqontario.ca.

Indicator Calculation

After identifying your residents and the LTC homes in which you practised, additional administrative data sets were used to calculate both the indicators and the supporting contextual information. For instance, data from OHIP and ODB were used to calculate the indicators of antipsychotic prescribing, and additional databases were used to identify diagnoses of psychosis and dementia (please see section below). It is important to note that the ODB contains information on dispensed medications, but not on the actual use of those medications. In LTC, the majority of prescriptions are dispensed and delivered to the home; thus, this report refers to the prescribing rather than the dispensing of medications to focus on the clinician's perspective. Although a prescription in LTC is usually filled by a pharmacy, the medication may not be administered to the resident, and these PRN prescriptions cannot be identified in the data. For these reasons, it is not possible to know whether a resident took a medication. This distinction is made in the presentation of the CIHI Antipsychotic indicator which captures the use of antipsychotic medication.

Diagnosis Identification

Diagnoses were identified by examining the preceding five years of OHIP, Discharge Abstract Database (DAD), and Ontario Mental Health Reporting System (OMHRS) data according to previously published methods and clinical review (12) (40) (41). In addition, ODB records in the year preceding each reporting quarter were examined for the dispensing of medications related to dementia (cognitive enhancers/cholinesterase inhibitors) as a surrogate for the diagnosis of dementia. Psychosis includes schizophrenia, bipolar disorder, tics or Huntington's disease and other forms of psychoses (including dementia-related psychosis). The CIHI indicator results for antipsychotics, falls, restraints and RAI-MDS outcome scales were calculated using CIHI methodology applied to the most recent fiscal year for which data were available (36) (42). The Technical Appendix provides further detail on methods used to calculate the indicators, including a complete list of the medications in each indicator, diagnostic codes to identify psychosis and dementia in the different databases and the method for identifying your residents.

Data sources

Administrative databases used to generate this report include: the OHIP database for physician claims data and cohort definition; the ODB database for prescription information and cohort definition; the Registered Persons Database (RPDB) for patient demographic information; the DAD for acute care data; the OMHRS for inpatient mental health data; and the Continuing Care Reporting System (CCRS) for interRAI data (also referred to as RAI-MDS). The latter was only used for the yearly CIHI data section beginning on page 12. The ODB has been validated for the accuracy of prescription claims (43). These data sets were linked using unique encoded identifiers and analyzed at ICES.

Data interpretation considerations

Administrative databases were used to generate this report without asking you to provide additional data. However, these databases do have limitations, including:

- **Data timeliness:** The data lag for these reports is about six months for the OHIP/ODB indicators. Data from the CCRS in this report will not match the time period of the OHIP/ODB cohort, and will be updated annually. While HQO and our partners are always looking for ways to provide more timely data, we encourage you to also use local data sources to track and measure your progress.
- **Data comprehensiveness/limitations:** Administrative databases cannot capture all the information relevant to these indicators and thus there are missing elements in the report. These include:
    - The prescribing indicators calculated from ODB data in this report measure the **presence of a dispensed medication**, but not the administration of the medication.
    - In LTC, the majority of prescriptions are filled and delivered to the home; thus, this report refers to the prescribing rather than the dispensing of medications to focus on the clinician's perspective.
    - Medications begun in the hospital cannot be identified which would impact the measurement of newly starting a medication.
    - PRN prescriptions cannot be identified in the ODB database. Thus, indicators cannot exclude medications dispensed on an as-needed basis.
    - ODB coverage usually begins at age 65; however, those living in LTC who are younger than age 65 will have ODB coverage.
- **Data suppression**: To maintain confidentiality, data are suppressed as per ICES' privacy policies, in the following manner:
    - N/R (Not Reported): When a value is between one and five, the value and its accompanying rate are suppressed. Additional suppression may be applied to maintain confidentiality even if the value is greater than five. Suppression is denoted by N/R. Suppressed values are included in the totals, and every effort is made to suppress the next smallest value.

Participation and confidentiality

You received this report because you have provided consent to HQO and ICES to participate in this project. This study was approved by the institutional review board at the University of Toronto, Toronto, Canada. Neither HQO nor ICES will release identified/identifiable data without your additional written consent.

ICES is named as a prescribed entity under Section 45 of Ontario's health privacy legislation, *Personal Health Information Protection Act* (PHIPA), 2004, which provides the legal authority for ICES to conduct research about the practice patterns of health care providers like you. ICES has very strict privacy policies, practices and procedures, as well as data security arrangements that have been reviewed and approved by the Privacy Commissioner of Ontario. A detailed report can be found on the ICES website: www.ices.on.ca.

References

1. Rojas-Fernandez C, Dadfar F, Wong A, Brown SG. Use of fall risk increasing drugs in residents of retirement villages: a pilot study of long term care and retirement home residents in Ontario, Canada. BMC Research Notes. 2015 October; 8(568).
2. Woolcott JC, Richardson KJ, Wiens MO, Patel B, Marin J, Khan KM et a. Meta-analysis of the impact of 9 medication classes on falls in elderly persons. Archives of Internal Medicine. 2009 November; 169(21).
3. The American Geriatrics Society 2015 Beers Criteria Update Expert Panel. American Geriatrics Society 2015 Updated Beers Criteria for Potentially Inappropriate Medication Use in Older Adults. Journal of the American Geriatrics Society. 2015 Oct; 63(11): p. 2227–2246.
4. Centre for Effective Practice. Centre for Effective Practice: Falls Prevention Discussion Guide (Long-Term Care (LTC) Edition). [Online].; 2016. Available from: https://effectivepractice.org/wp-content/uploads/2016/06/CEP_FallsPrevention_2016.pdf.
5. Soong C, Leis J. Choosing Wisely Canada: Less Sedatives For Your Older Relatives. [Online].; 2016. Available from: http://www.choosingwiselycanada.org/in-action/toolkits/less-sedatives-for-your-older-relatives/.
6. Pottie K, Thompson W, Davies S, Grenier J, Sadowski C, Welch V, Holbrook A, Boyd C, Swenson JR, Ma A, Farrell B. deprescribing.org | Benzodiazepine & Z-Drug (BZRA) deprescribing Algorithm. [Online].; 2016. Available from: http://www.open-pharmacy-research.ca/wordpress/wp-content/uploads/deprescribing-algorithm-benzodiazepines.pdf.
7. Cara Tannenbaum and Institut universitaire de gériatrie de Montréal. Institut universitaire de gériatrie de Montréal - Centre de recherche. [Online].; 2014. Available from: http://www.criugm.qc.ca/fichier/pdf/BENZOeng.pdf.
8. interRAI. Scales: Status and Outcome Measures. [Online].; 1994. Available from: http://www.interrai.org/assets/files/Scales/cognitive-performance-scale-2014.pdf.
9. Health Quality Ontario. Behavioural Symptoms of Dementia: Care for Patients in Hospitals and Residents in Long-Term Care Homes. [Online].; 2016. Available from: http://www.hqontario.ca/Evidence-to-Improve-Care/Quality-Standards/Behavioural-Symptoms-of-Dementia.
10. Medicines Management Team NHS Cumbria. NHS Cumbria Medicines Management Guidelines. [Online].; 2013. Available from: http://www.cumbria.nhs.uk/ProfessionalZone/MedicinesManagement/Guidelines/StopstartToolkit2011.pdf.
11. Institute for Safe Medication Practices Canada. Safer Medication Use in Older Persons Information Page. [Online].; 2016. Available from: https://www.ismp-canada.org/beers_list/#l=q2.
12. Rochon PA, Stukel TA, Bronskill SE, Gomes T, Sykora K, Wodchis WP et al. Variation in nursing home antipsychotic prescribing rates. Archives of Internal Medicine. 2007; 167(7): p. 676-683.
13. Health Quality Ontario. Looking for Balance: Antipsychotic medication use in Ontario long-term care homes. Toronto: Queen's Printer for Ontario; 2015a.
14. Azermai M, Elseviers M, Petrovic M, van Bortel L, Stichele RV. Assessment of antipsychotic prescribing in Belgian nursing homes. International Psychogeriatrics. 2011; 23(8): p. 1240-1248.
15. Lunsky Y, Klein-Geltink JE, Yates EA, eds. Atlas on the Primary Care of Adults with Developmental Disabilities in Ontario. Toronto: Institute for Clinical Evaluative Sciences and Centre for Addiction and Mental Health; 2013.

16. Hudson M, Rahme E, Richard H, Pilote L. Comparison of measures of medication persistency using a prescription drug database. Am Heart J. 2007; 153(1): p. 59-65.
17. Sikka R, Xia F, Aubert RE. Estimating medication persistency using administrative claims data. Am J Manag Care. 2005; 11(7): p. 449-457.
18. Bronskill SE, Anderson GM, Sykora K, Wodchis WP, Gill S, Shulman KI, et al. Neuroleptic drug therapy in older adults newly admitted to nursing homes: incidence, dose, and specialist contact. Journal of the American Geriatrics Society. 2004; 52(5): p. 749-755.
19. Alldred DP, Raynor DK, Hughes C, Barber N, Chen TF, Spoor P. Interventions to optimise prescribing for older people in care home. Cochrane Database Syst Rev. 2013; 2(CD009095).
20. Alberta Health Services. Appropriate Use of Antipsychotics (AUA) Toolkit for Care Teams - Medication review requirements of antipsychotics: Antipsychotic medication review sheet. [Online].; 2014. Available from: http://www.albertahealthservices.ca/frm-19676.pdf.
21. Rabheru K. Practical tips for recognition and management of behavioural and psychological symptoms of dementia. Canadian Geriatrics Society Journal of CME. 2011; 1(1): p. 17-22.
22. Kales CH, Gitlin LN, Lyketsos C. Assessment and management of behavioural and psychological symptoms of dementia. British Medical Journal. 2015; 350: p. h369.
23. P.I.E.C.E.S. (TM) Canada. Dementia Observation System (DOS). [Online]. Available from: http://pieceslearning.com/.
24. Registered Nurses Association of Ontario. Best Practices Toolkit - Delirium, dementia and depression resources: Cohen Mansfield Agitation Inventory (CMAI). [Online].; 2010. Available from: http://ltctoolkit.rnao.ca/node/1752.
25. Hopkins RW, Kilik LA. Kingston Scales: Kingston Standardized Behavioural Assessment - KSBA (LTC) Assessment Form. [Online].; 2015. Available from: http://nebula.wsimg.com/16559a382ab29464be57bc2802f99cd7?AccessKeyId=954A289F7CDF75707C10&disposition=0&alloworigin=1.
26. Conn D, Gibson M, McCabe D. CCSMH guideline update - assessment and treatment of mental health issues in long term care homes: (Focus on mood and behaviour symptoms). Toronto: Canadian Coalition for Seniors' Mental Health; 2014.
27. P.I.E.C.E.S. (TM) Consult Group. P.I.E.C.E.S. (TM) Framework tool. [Online]. Available from: http://pieceslearning.com/wp-content/uploads/2016/02/PIECES_Laminate_Nov_09.pdf.
28. Richter T, Meyer G, Möhler R, Köpke S. Psychosocial interventions for reducing antipsychotic medication in care home residents. Cochrane Database Syst Rev. 2012; 12(CD008634): p. CD008634.
29. British Columbia Ministry of Health. Non-pharmacological interventions for BPSD: Best practice guideline for accommodating and managing behavioural and psychological symptoms of dementia in residential care: A person-centred interdisciplinary approach (p 10). [Online].; 2012. Available from: http://www.health.gov.bc.ca/library/publications/year/2012/bpsd-guideline.pdf.
30. British Columbia Ministry of Health. British Columbia behavioural and psychological symptoms of dementia (BPSD) algorithm (Part 2) - Is this behaviour likely to respond to medication? [Online].; 2014. Available from: http://bcbpsd.ca/part-2/assessment/.
31. British Columbia Ministry of Health. Best practice guideline for accommodating and managing behavioural and psychological symptoms of dementia in residential care: A person-centred interdisciplinary approach (p 13-14). [Online].; 2012. Available from: http://www.health.gov.bc.ca/library/publications/year/2012/bpsd-guideline.pdf.
32. Alberta Health Services. Education - Psychiatry - Behaviour and Symptom Mapping Tool (BSMT). [Online].; 2011. Available from: http://www.albertahealthservices.ca/assets/Infofor/hp/if-hp-ltc-pharm-behaviour-mapping-tool.pdf.

33. Harris M, Clark S, Lusk E, editors. National behavioural support systems project: guiding principles and recommended components. Version 3. Canada; 2011.
34. Choosing Wisely Canada. Patient Materials - Treating disruptive behaviour in people with dementia: Antipsychotic drugs are usually not the best choice. [Online].; 2014. Available from: http://www.choosingwiselycanada.org/materials/treating-disruptive-behaviour-in-people-with-dementia-antipsychotic-drugs-are-usually-not-the-best-choice/.
35. Bueckert V, Cole M, Robertson M. Choosing Wisely Canada. [Online].; 2016. Available from: http://www.choosingwiselycanada.org/wp-content/uploads/2016/07/CWC_Antipsychotics_Toolkit_v1.0_2016-07-11.pdf.
36. Canadian Institute for Health Information. Indicator Library. [Online].; 2015. Available from: http://indicatorlibrary.cihi.ca/display/HSPIL/Potentially+Inappropriate+Use+of+Antipsychotics+in+Long-Term+Care.
37. interRAI. Scales: Status and Outcome Measures. [Online].; 2015. Available from: http://www.interrai.org/scales.html.
38. Canadian Institute for Health Information. Indicator Library. [Online].; 2016. Available from: http://indicatorlibrary.cihi.ca/display/HSPIL/Falls+in+the+Last+30+Days+in+Long-Term+Care.
39. Canadian Institute for Health Information. Indicator Library. [Online].; 2016. Available from: http://indicatorlibrary.cihi.ca/display/HSPIL/Restraint+Use+in+Long-Term+Care.
40. Hwang YJ, Dixon SN, Reiss JP, Wald R, Parikh CR, Gandhi S. Atypical antipsychotic drugs and the risk for acute kidney injury and other adverse outcomes in older adults: a population based cohort study. Annals of Internal Medicine. 2014; 161(4): p. 242-248.
41. Health Quality Ontario. Looking for Balance: Antipsychotic medication use in Ontario long-term care homes. Technical Appendix. Toronto: Queen's Printer for Ontario; 2015b.
42. Canadian Institute for Health Information. RAI-MDS 2.0 Outcome Scales Reference Guide. Canadian Institute for Health Information; 2013.
43. Paterson JM, Suleiman A, Hux JE, Bell C. How complete are drug history profiles that are based on public drug benefit claims? Can J Clin Pharmacol. 2008; 15(1): p. 108-116.

About Health Quality Ontario and the Institute for Clinical Evaluative Sciences

Health Quality Ontario (HQO) is the provincial advisor on quality in health care. HQO reports to the public on the quality of the health care system, evaluates the effectiveness of new health care technologies and services, provides evidence-based recommendations, and supports the spread of quality improvement throughout the system.

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Health Quality Ontario

Let's make our health system healthier

Long-Term Care Practice Report

Dr. Sample Data

Period Ending: September 30, 2016

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Report Overview

The *Long-Term Care Practice Report* provides easy access to your long-term care (LTC) practice data and provincial data, and supports quality improvement.

This confidential report focuses on indicators related to the prescribing of antipsychotics and of some medications associated with an increased risk of falls. This information may help you to better understand your prescribing patterns and set quality improvement targets.

This report is intended to complement other sources of information you may receive (e.g., your pharmacy reports). A new report will be provided to you each quarter, and Health Quality Ontario will notify you by email of each release.

For more information about the methodology, including data sources and limitations (e.g., rates include as-needed (PRN) prescriptions), see page 17.

We want this report to be useful for you. If you have any questions, concerns, or suggestions, please contact Health Quality Ontario at: **Toll-Free**: 1-866-623-6868 or by **Email**: practicereport@hqontario.ca.

Summary

This practice report provides feedback on certain prescribing practices where you are ensuring safety for your LTC residents.

How do my prescribing practices compare?

Data reporting period: July 1, 2016 – September 30, 2016

Note: ‘Sep-16’ represents data from July 1 to September 30, 2016.

More Residents Safe from Risk

Residents Not Prescribed a Benzodiazepine

100%
80%
60%
40%
20%
0%

Dec 14 | Mar 15 | Jun 15 | Sep 15 | Dec 15 | Mar 16 | Jun 16 | Sep 16

For Jul 16 – Sep 16:
My Practice: 69.5%
75th Percentile: 92.6%
Page 3

Residents Not Prescribed three or more Specified* CNS-Active Medications

100%
80%
60%
40%
20%
0%

Dec 14 | Mar 15 | Jun 15 | Sep 15 | Dec 15 | Mar 16 | Jun 16 | Sep 16

For Jul 16 – Sep 16:
My Practice: 76.8%
75th Percentile: 90.0%
Page 4

Residents with Dementia (without Psychosis) Not Prescribed an Antipsychotic

100%
80%
60%
40%
20%
0%

Dec 14 | Mar 15 | Jun 15 | Sep 15 | Dec 15 | Mar 16 | Jun 16 | Sep 16

For Jul 16 – Sep 16:
My Practice: 57.8%
75th Percentile: 85.0%
Page 8

More Residents Safe from Risk

22 fewer resident(s) in my practice may be safe from risks associated with benzodiazepines (compared to Ontario LTC physicians with lower prescribing rates†).

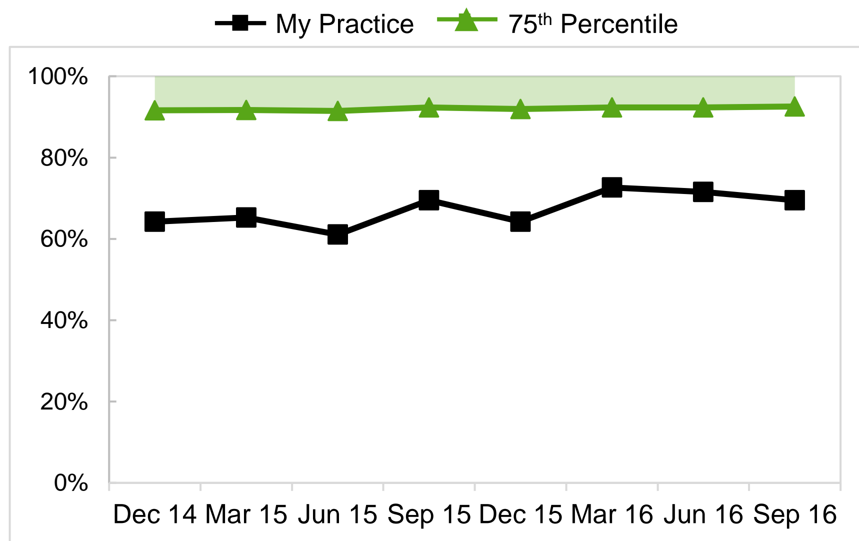
Who are all my residents? Between July 1, 2016 and September 30, 2016, my LTC practice had 100 residents (30% male, 70% female), with a mean age of 85, and 12% were new residents (in LTC home for less than 100 days.)

†Lower prescribing rates reflect the 75th percentile. | Suppression denoted by N/R (Not Reported) or a gap in graph; N/A: Not Available.
*Specified medications include: antipsychotics, opioids, benzodiazepines (oral), and antidepressants (including TCAs and trazodone). Refer to page 17 for more details.

Residents Not Prescribed a Benzodiazepine:

Percentage of residents aged 66 and older who were not prescribed a benzodiazepine. Excludes residents who were in palliative care or were new to LTC (in the LTC home for less than 100 days). (1) (2)

How many of my residents are safe from the risks (e.g., falls) related to benzodiazepines?



Suppression denoted by N/R (Not Reported) or a gap in graph; N/A: Not Available.
Data includes PRN prescriptions.

Between July 1, 2016 to September 30, 2016, 69.5% of my residents did not have a prescription for a benzodiazepine, and the 75th Percentile was 92.6%.

66/95

of my residents were not prescribed a benzodiazepine.

Change Ideas to manage falls

(page 5)

Among my residents aged 66 and older and not new to LTC, 88.4% were not prescribed a benzodiazepine for at least 90 continuous days in the most recent quarter.

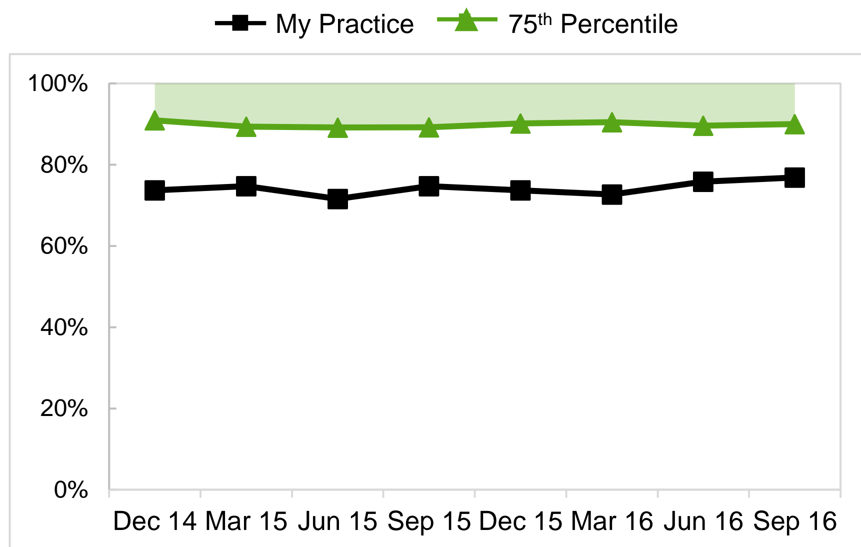
For more information about this indicator, please refer to the Methodology (page 17).

Sometimes benzodiazepines are appropriate. The data cannot weigh the benefits against harm for each resident but it can point to practice patterns worthy of reflection. The *Change Ideas* (page 5) suggest ways that you can work with others in the home right now to limit the risk of harm for your residents (e.g., find resources to start a trial of weaning to discontinue benzodiazepines where appropriate).

Residents Not Prescribed three or more Specified* CNS-Active Medications:

Percentage of residents aged 66 and older who on a given day did not have prescriptions for three or more specified* CNS-active medications. Excludes residents who are in palliative care or new to LTC (in the LTC home for less than 100 days). (3)

How many of my residents are safe from risks (e.g., falls) related to three or more specified* CNS-active medications?



Suppression denoted by N/R (Not Reported) or a gap in graph; N/A: Not Available.
Data includes PRN prescriptions.

Between July 1, 2016 to September 30, 2016, 76.8% of my residents did not have a prescription for three or more CNS-active medications, and the 75th Percentile was 90.0%.

73/95

of my residents were not prescribed three or more specified* CNS-active medications.

Change Ideas to manage falls

(page 5)

For more information about this indicator, please refer to the Methodology (page 17).

Sometimes three or more CNS-active medications are appropriate (e.g., for residents with complex psychiatric conditions). These data cannot weigh the benefits against harm for each resident but it can point to practice patterns worthy of reflection. The *Change Ideas* (page 5) suggest ways that you can work with others in the home right now to limit the risk of harm for your residents (e.g., find resources to start a trial of weaning or substitution with a safer medication where appropriate).

*Specified medications include: antipsychotics, opioids, benzodiazepines (oral), and antidepressants (including TCAs and trazodone).

Change Ideas: Managing Residents at Increased Risk of Falls from Prescribed Medications

Some prescribed medications (or combination of medications) for long-term care (LTC) home residents in Ontario can increase their risk of adverse events, such as falls. To optimize (and potentially decrease) medication use to reduce the risk of falls, the following table provides change ideas that will help you identify areas for improvement based on key prescribing indicators. These indicators provide a snapshot of data that you can use to understand your current prescribing patterns, identify an improvement target, and test one or more of the following change ideas to help you move toward that target.

To learn more about *how* to make changes in your practice, visit the Quality Improvement Tools and Resources section of Health Quality Ontario's website.

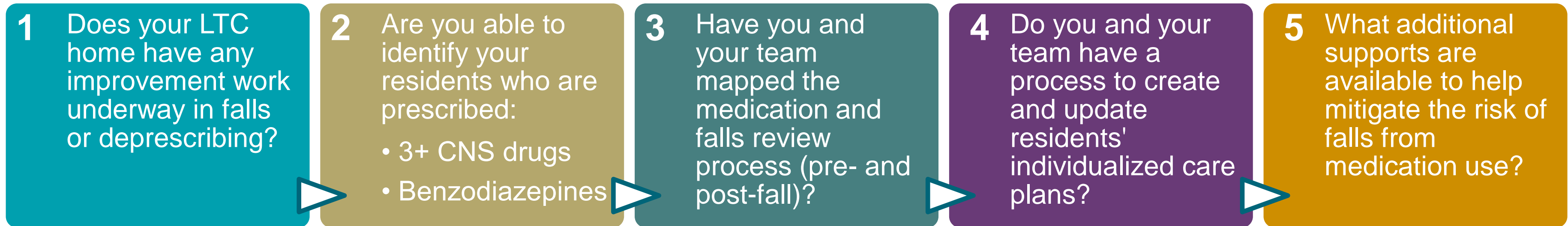
Opportunities for Improvement	Indicator	Current Performance	Set Your Target
Optimize medication use to reduce risk of falls	Residents Not Prescribed a Benzodiazepine: Percentage of residents aged 66 and older who were not prescribed a benzodiazepine	69.5%	Increase/maintain By how much? ________% By when? ____________ (date)
	Residents Not Prescribed three or more Specified* CNS-Active Medications: Percentage of residents aged 66 and older who on a given day did not have prescriptions for three or more specified* CNS-active medications	76.8%	Increase/maintain By how much? ________% By when? ____________ (date)

N/R: Not Reported due to suppression; N/A: Not Available

*Specified medications include: antipsychotics, opioids, benzodiazepines (oral), and antidepressants (including TCAs and trazodone).

Change Ideas to Identify Areas for Improvement and Test Changes

Identify areas of focus to improve your benzodiazepine and CNS-active medication prescribing indicators by asking yourself:



Once you identify the areas you would like to improve, review the change ideas that accompany each question:

1. Change Ideas to Assess Current or Planned Improvement Efforts	2. Change Ideas to Identify Your Residents at Risk for Falls	3. Change Ideas to Improve the Medication Review Process	4. Change Ideas to Update and Implement Individualized Care Plans	5. Additional Supports
Determine if there are any planned or current falls prevention resources at your LTC home. For example: • Deprescribing Projects • Falls Prevention Team • Quality Committees • Quality Improvement Plans (QIP) and QIP Query (An online searchable database containing QIPs submitted to Health Quality Ontario. To find new and emerging change ideas you can use queries to compare findings by indicator, compare by LHIN, selected organizations,	Review data received from your LTC home/ pharmacy provider to verify: • Number of residents prescribed benzodiazepines and three or more CNS-active medications, duration, and administration rate • Number of residents identified for risk of falls (page 3 of Centre for Effective Practice Discussion Guide for falls risk assessment) (4)	The following strategies can assist with regular medication reviews at ***all*** transitions: • Team approach involving the physician, pharmacist, and nurse to prepare and review the medication summary (see Sample Fall Assessment and Medication Review Flow Sheet below) • Review history of falls and changes to falls risk assessment status (page 4 of Centre for Effective Practice Discussion Guide) (4)	Consider implementing an individualized, multi-factorial approach, which includes: • A process to inform attending physician post-fall (page 6 of Centre for Effective Practice Discussion Guide for BEEEACH Checklist (4) • Communication of results to team through regular team huddles • Performing an assessment at each transition (new admission, change in	a) Tools and Resources: • Quality Standard: Behavioural Symptoms of Dementia Care for Patients in Hospitals and Residents in Long-Term Care (9) • START/STOPP Toolkit Supporting Medication Review (10) • Institute for Safe Medication Practices in Canada: BEERs List (11) b) Learn from your peers through: • Health Quality Ontario's LTC Community of Practice • Choosing Wisely Canada Talks

or size of long-term care home.)		• Consider medication reduction using the Choosing Wisely Canada Toolkit (5), deprescribing algorithms (6) or deprescribing checklists (7) • Calculate anticholinergic burden and risk scales (page 9 of Centre for Effective Practice Discussion Guide) (4) • Consider your residents' functional and cognitive status (Cognitive Performance Scale) (8)	status) to inform your falls management plan	• Ontario Long Term Care Clinicians • brainXChange and Behavioural Supports Ontario • Long Term Care Medical Directors Association of Canada • Regional Specialized Programs of Ontario c) Involve residents, families, substitute decision makers: • Choosing Wisely Canada: Patient Education Tools • Family Councils Ontario • Ontario Association of Residents' Councils

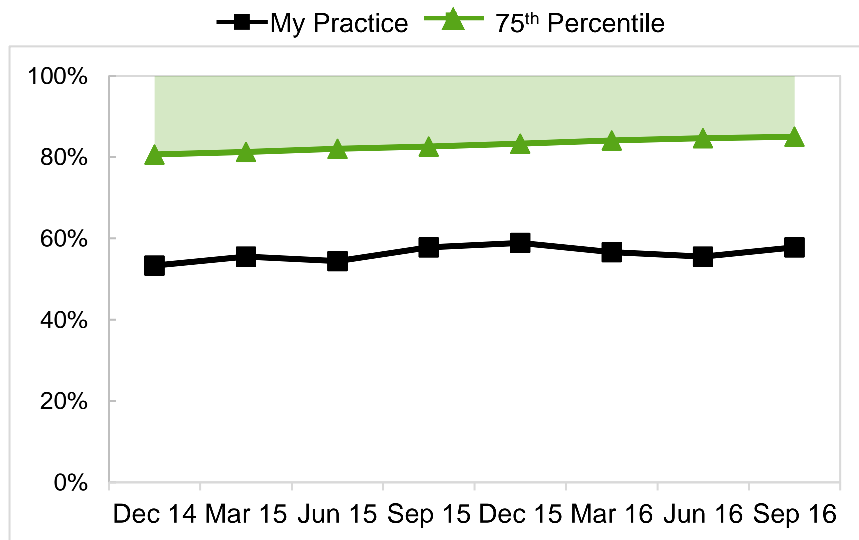
Sample Fall Assessment and Medication Review Flow Sheet

Age	Number of Falls/ Quarter	Fractures (Y/N)	Morse Fall Score	Blood Pressure	Central Nervous System Drugs	Blood Pressure medications	Osteoporosis Prevention	Resident Goal (Start, Stop, Maintain)

Residents with Dementia (without Psychosis) Not Prescribed an Antipsychotic:

Percentage of residents aged 66 and older diagnosed with dementia, without psychosis, who were not prescribed an antipsychotic. Excludes residents who were in palliative care, were new to LTC (in the LTC home for less than 100 days), and those who have a recorded diagnosis of psychosis (schizophrenia, bipolar disorder, other psychoses, tics or Huntington's disease). (12) (13) (14)

How many of my residents are safe from risks related to antipsychotics?



Suppression denoted by N/R (Not Reported) or a gap in graph; N/A: Not Available. Data includes PRN prescriptions.

Between July 1, 2016 to September 30, 2016, 57.8% of my residents diagnosed with dementia without psychosis did not have a prescription for an antipsychotic, and the 75th Percentile was 85.0%.

52/90

of my residents with dementia (without psychosis) were not prescribed an antipsychotic medication.

*Change Ideas to manage BPSD**

(page 9)

*Behavioural & Psychological Symptoms of Dementia

Among my residents aged 66 and older and diagnosed with dementia without psychosis, 60.0% were not prescribed an antipsychotic for 90 continuous days (15) (16) (17) in the most recent quarter.

For more information about this indicator, please refer to the Methodology (page 17).

Sometimes antipsychotic medications are appropriate. These data cannot weigh the benefits against harm for each resident but it can point to practice patterns worthy of reflection. The *Change Ideas* (page 9) suggest ways that you can work with others in the home right now to limit the risk of harm for your residents.

Change Ideas: Managing Residents with Behavioural and Psychological Symptoms of Dementia

For some residents of Ontario's long-term care homes, antipsychotic medications improve quality of life and reduce suffering. But for other residents, these drugs may bring more risks than benefits. To optimize antipsychotic use, the following table will help you identify areas for improvement based on key antipsychotic prescribing indicators. These indicators provide a snapshot of data that you can use to understand your current prescribing patterns and identify an improvement target, as well as to test one or more of the following change ideas to help you move toward that target.

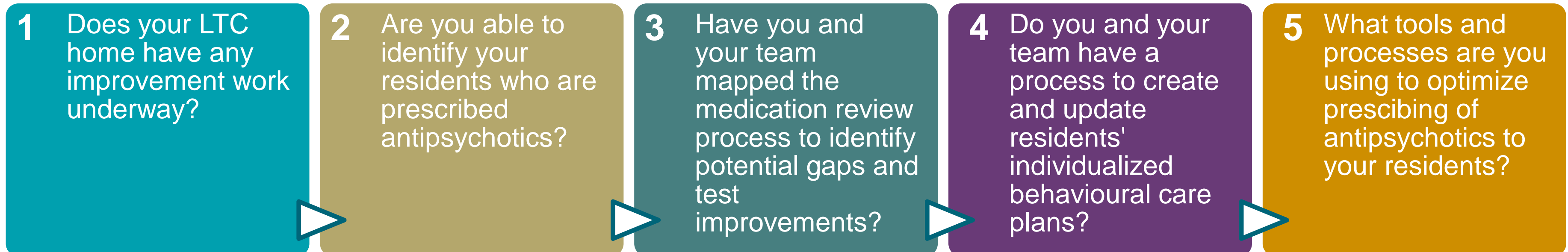
To learn more about *how* to make changes in your practice, visit the Quality Improvement Tools and Resources section of Health Quality Ontario's website.

Opportunities for Improvement	Indicator	Current Performance	Set Your Target
Optimize antipsychotic prescribing	Residents with Dementia (without Psychosis) not Prescribed an Antipsychotic: Percentage of residents aged 66 and older diagnosed with dementia, without psychosis, who were not prescribed an antipsychotic medication	57.8%	Increase/maintain By how much? ________% By when? ____________ (date)

N/R: Not Reported due to suppression; N/A: Not Available

Identify areas for improvement and test changes

First, identify areas of focus to improve your antipsychotic prescribing indicators by asking yourself these questions:



Once you identify the areas you would like to improve, review the change ideas that accompany each question:

1 Find out if there are any improvement efforts planned and/or underway

For example, consider asking your nursing administrator:

a) What opportunities exist to work with current behavioural support resources/processes at the home? For example:
- Behavioural Response Team
- Champions
- Quality Improvement (QI) Plans
- QI Team

b) What external resources and supports are available?
For example:
- Psychogeriatric Resource Consultant, Behavioural Supports Ontario (BSO), specialized outreach teams

2 Change ideas to identify your residents

a) Consider what data you currently receive from your LTC home and pharmacy provider. Are there additional data you need (e.g., indications, new starts, summary of responsive behaviours and interventions used)?

b) Verify the data. For example:
- Look at your number of residents, total number of residents prescribed antipsychotics and associated indications, number of new starts, and number of PRNs ordered and administration rate

c) Ask your pharmacy provider for a medication tracking tool

3 Change ideas to improve the medication review process

Consider the following strategies to enhance regular quarterly medication reviews:

a) Team approach involving the physician, pharmacist and nurse (19)

b) Standardized and simplified medication review process and documentation. View a sample worksheet from Alberta Health Services (20)

c) Staff identify residents on antipsychotics who may be appropriate to trial reducing/adjusting the antipsychotic dose

d) Staff prepare a summary of residents’ recent behaviour prior to medication reviews

4 Change ideas to update and implement individualized behavioural care plans

a) Assess for Behavioural and Psychological Symptoms of Dementia and use findings to inform care plans and medication reviews (21) (22). Some standardized tools include:
- Dementia Observation System (DOS) detects behavioural patterns (23)
- Cohen Mansfield Agitation Inventory (CMAI) tracks the severity and disruptiveness of the behaviours (24)
- Kingston Standardized Behavioural Assessment (KSBA) assesses function, cognition and behaviour (25)

b) All behaviour has meaning: Screen and rule out possible medical problems or environmental triggers (e.g., pain, delirium, constipation) (26):
- Use the P.I.E.C.E.S.™ tool to assess for potential physical, intellectual, emotional, capabilities, environment and social causes of behaviours (27)
- Involve families/caregivers

c) Trial and review non-pharmacological strategies before considering antipsychotic medications, where appropriate (26) (28):
- Consider P.I.E.C.E.S.™, Montessori Methods, Gentle Persuasive Approaches. Click here for additional interventions (29)
- For additional strategies/supports, connect with the home's Responsive Behaviour Program and/or external resources and supports, if available

5 Change ideas for pharmacological interventions

a) Ensure optimal treatment of other conditions that could be contributing to symptoms (26)

b) Consider what behaviours may respond to antipsychotics and which do not (30)

c) Carefully weigh the potential benefits of pharmacological interventions versus the potential of harm (26)

d) If antipsychotics are required, trial the lowest effective dose for the shortest duration (31)

e) Monitor for effectiveness, tolerability and adverse effects. For example, the Behaviour and Symptom Mapping Tool (BSMT) (32)

f) Consult specialists for residents with complex needs/behaviours (21)

g) Involve residents and their families/Substitute Decision Maker in decisions (33)
- Obtain and document consent
- Family education tools and support (34): Choosing Wisely Canada, Alzheimer Society of Ontario

Additional supports to optimize antipsychotic prescribing

a) **Learn from your peers.** Reach out to colleagues through:
- Health Quality Ontario's LTC Community of Practice
- Ontario Long Term Care Clinicians
- Long Term Care Medical Directors Association of Canada

b) **Connect with your regional specialized services:**
- Regional Geriatric Programs or local hospital or community-based geriatric consultation services

c) **Connect with provincial tools and supports:**
- Behavioural Supports Ontario
- Centre for Effective Practice's (CEP) Discussion Guide tool is designed to help providers understand, assess and manage residents with responsive behaviours; focusing on antipsychotic medications. The tool was developed as part of CEP's Academic Detailing Service for LTC homes.
- Choosing Wisely Canada and A Toolkit for Reducing Inappropriate Use of Antipsychotics in Long Term Care (35)
- The brainXchange network

CIHI Antipsychotic Indicator:

Percentage of residents on antipsychotics without a diagnosis of psychosis

Data reporting period: **April 1, 2015 – March 31, 2016**
Data source: **CCRS**

Please note that data in this section are based on a different time frame and data source than the previous sections.

Data interpretation considerations

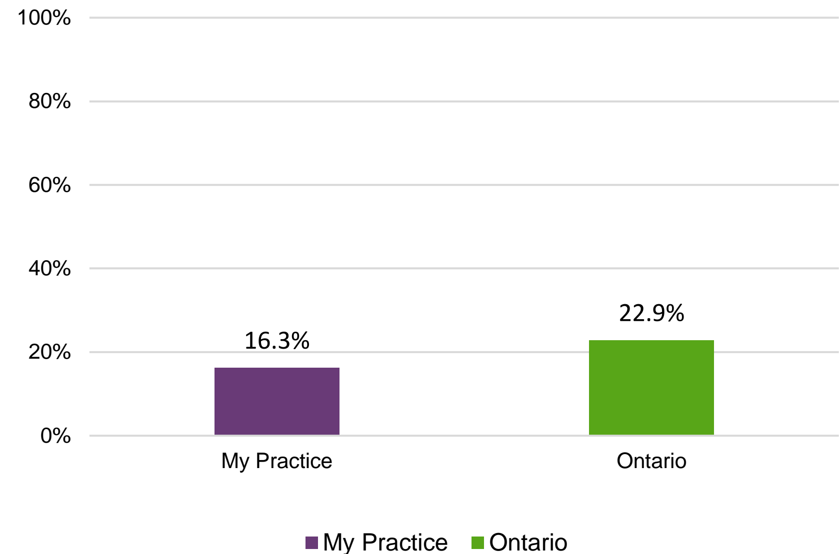
This CIHI antipsychotic indicator captures the **use** of antipsychotic medication in LTC among residents who do not have a diagnosis of psychosis. This indicator excludes residents who have a diagnosis of schizophrenia or Huntington's chorea, are end-stage disease, are receiving hospice care, or are experiencing hallucinations or delusions (36). Unlike the other prescribing indicators in this report that include residents aged 66 and older, this CIHI indicator has no lower age limit.

The CIHI indicator only captures diagnoses on the **current** RAI MDS assessment, unlike the other indicators in this report that capture diagnoses over the previous five years through examining administrative databases. Also, the CIHI indicator excludes residents who have hallucinations or delusions, whereas the OHIP/ODB indicators cannot capture these symptoms.

Overall, you may see some differences between your rates among residents with dementia alone and the CIHI indicator due to the differences in capturing diagnoses and symptoms. The CIHI indicator also captures the use of lithium, and this medication is not included in the drug list for the OHIP/ODB indicators in this report.

The CIHI data provide you with a description of your resident population that may help explain why your rates may differ from others. Information about your residents for some relevant indicators, falls and daily restraints, and relevant RAI MDS scales including the Activities of Daily Living (ADL) Scale and Aggressive Behaviour Scale (ABS) can be found on the following page (37).

CIHI Antipsychotic indicator,
by my LTC practice and Ontario, April 1, 2015 to March 31, 2016



Data Source: CCRS (For this report, CIHI indicators are updated annually.)
N/R: Not Reported due to suppression, N/A: Not Available

What are the inclusions/exclusions for this indicator?

This indicator includes: residents without a diagnosis of psychosis who received an antipsychotic medication on at least one day in the week before the RAI assessment.

This indicator excludes: residents who have a diagnosis of schizophrenia or Huntington's chorea, are end-stage disease, are receiving hospice care, or are experiencing hallucinations or delusions.

More information, including home-level data, is available on the CIHI website (36).

CIHI CCRS (RAI MDS) data: **April 1, 2015 - March 31, 2016**	**My Residents (%)**	**Ontario (%)**
Residents with a Fall in the last 30 days (38)	20.0%	14.2%
Residents with Daily Physical Restraints (39)	14.7%	6.1%
Activities of Daily Living (ADL) Performance Hierarchy Scale *This scale groups activities of daily living according to the state of the disablement process in which they occur.* (37)		
Independent (0)	N/R	3%
Limited Impairment (1-2)	N/R	14%
Extensive Assistance (3-4)	53%	49%
Dependent (5-6)	32%	34%
Aggressive Behaviour Scale (ABS) *A measure of aggressive behavior based on the occurrence of verbal abuse, physical abuse, socially disruptive behavior and resistance of care.* (37)		
No Aggressive Behaviour (0)	38%	54%
Some Aggressive Behaviour (1-2)	38%	24%
Severe Aggressive Behaviour (3-5)	N/R	16%
Very Severe Aggressive Behaviour (6 or more)	N/R	6%
Cognitive Performance Scale (CPS) *This scale combines information on memory impairment, level of consciousness, and executive function.* (37)		
Relatively Intact (0-1)	N/R	20%
Mild/Moderate (2-3)	N/R	50%
Severe (4-6)	57%	30%
Depression Rating Scale (DRS) *This scale is used as a clinical screen for depression.* (37)		
No Depressive Symptoms (0)	0%	38%
Some Depressive Symptoms (1-2)	24%	30%
Possible Depressive Disorder (3 or more)	77%	32%
Pain Scale *This scale was originally developed for use with nursing home residents and later translated for use with other interRAI instruments.* (37)		
No Pain (0)	82%	67%
Less Than Daily Pain (1)	18%	23%
Daily Pain, but Not Severe (2)	0%	8%
Severe Daily Pain (3)	0%	2%

My Resident Profile

Data reporting period: **July 1, 2016 – September 30, 2016**
Data Source: **OHIP, ODB, DAD, OMHRS**

	My Residents	Ontario
Number of Residents *Number of Residents in LTC*		
	100	74,815
Sex (%)		
Male Female	30% 70%	31% 69%
Age (years)		
Mean age	85	84
Age Cohorts (%)		
19 – 64 years 65 – 74 years 75 – 84 years 85+ years	5% 12% 26% 58%	6% 11% 27% 56%
New Residents (%) *Residents in the LTC home for less than 100 days*		
	12%	10%

N/R: Not Reported due to suppression; N/A: Not Available

Quality Improvement Tools and Resources

Falls Prevention

Centre for Effective Practice. Falls Prevention Discussion Guide (Long-Term Care Edition). [Online].; May 2016. Available from: https://effectivepractice.org/wp-content/uploads/2016/06/CEP_FallsPrevention_2016.pdf.

Centre for Studies in Aging & Health. Bridges to Care Resource Manual: Preventing Falls and Injuries in Long-Term Care (LTC). [Online].; 2010. Available from: http://sagelink.ca/sites/default/files/clinical-resources/preventing_falls_injuries_ltc_resource_manual.pdf.

Institut universitaire de gériatrie de Montréal. Sedative Hypnotic De-Prescribing Brochure. [Online].; 2014. Available from: http://www.criugm.qc.ca/fichier/pdf/BENZOeng.pdf.

Pottie K, Thompson W, Davies S, Grenier J, Sadowski C, Welch V, Holbrook A, Boyd C, Swenson JR, Ma A, Farrell B. deprescribing.org | Benzodiazepine & Z-Drug (BZRA) deprescribing Algorithm. [Online].; March 2016. Available from: http://www.open-pharmacy-research.ca/wordpress/wp-content/uploads/deprescribing-algorithm-benzodiazepines.pdf.

Soong C, Leis J. Choosing Wisely Canada: Less Sedatives For Your Older Relatives. [Online].; 2016. Available from: http://www.choosingwiselycanada.org/in-action/toolkits/less-sedatives-for-your-older-relatives/.

Behavioural and Psychological Symptoms of Dementia (BPSD)

Alberta Health Services. Appropriate Use of Antipsychotics (AUA) Toolkit for Care Teams - Medication review requirements of antipsychotics: Antipsychotic medication review sheet. [Online].; 2014. Available from: http://www.albertahealthservices.ca/frm-19676.pdf.

Alberta Health Services. Education - Psychiatry - Behaviour and Symptom Mapping Tool (BSMT). [Online].; 2011. Available from: http://www.albertahealthservices.ca/assets/Infofor/hp/if-hp-ltc-pharm-behaviour-mapping-tool.pdf.

Alzheimer Society of Ontario. [Online].; 2015. Available from: http://www.alzheimer.ca/en/on.

BrainXchange Network. [Online].; 2015. Available from: http://brainxchange.ca/.

British Columbia Ministry of Health. Non-pharmacological interventions for BPSD: Best practice guideline for accommodating and managing behavioural and psychological symptoms of dementia in residential care: A person-centred interdisciplinary approach (p 10). [Online].; 2012. Available from: http://www.health.gov.bc.ca/library/publications/year/2012/bpsd-guideline.pdf.

British Columbia Ministry of Health. British Columbia behavioural and psychological symptoms of dementia (BPSD) algorithm (Part 2) - Is this behaviour likely to respond to medication? [Online].; 2014. Available from: http://bcbpsd.ca/part-2/assessment/.

Bueckert V, Cole M, Robertson M. Choosing Wisely Canada. [Online].; 2016. Available from: http://www.choosingwiselycanada.org/wp-content/uploads/2016/07/CWC_Antipsychotics_Toolkit_v1.0_2016-07-11.pdf.

Centre for Effective Practice. Use of Antipsychotics in Behavioural and Psychological Symptoms of Dementia (BPSD) Discussion Guide. [Online].: 2015. Available from: http://effectivepractice.org/resources/academic-detailing-service-discussion-guide/

Choosing Wisely Canada. Patient Materials - Treating disruptive behaviour in people with dementia: Antipsychotic drugs are usually not the best choice. [Online].; 2014. Available from: http://www.choosingwiselycanada.org/materials/treating-disruptive-behaviour-in-people-with-dementia-antipsychotic-drugs-are-usually-not-the-best-choice/.

Hopkins RW, Kilik LA. Kingston Scales: Kingston Standardized Behavioural Assessment - KSBA (LTC) Assessment Form. [Online].; 2015. Available from: http://nebula.wsimg.com/16559a382ab29464be57bc2802f99cd7?AccessKeyId=954A289F7CDF75707C10&disposition=0&alloworigin=1.

Long-Term Care Medical Directors Association of Canada. [Online].; 2015. Available from: http://www.cmda.info/.

Ontario Long-Term Care Clinicians. [Online].; 2015. Available from: http://oltcc.ca/.

P.I.E.C.E.S. ™ Canada. Dementia Observation System (DOS). [Online]. Available from: http://pieceslearning.com/.

P.I.E.C.E.S. ™ Consult Group. P.I.E.C.E.S. ™ Framework tool. [Online]. Available from: http://pieceslearning.com/wp-content/uploads/2016/02/PIECES_Laminate_Nov_09.pdf.

Regional Geriatric Programs of Ontario. [Online].; 2014. Available from: http://rgps.on.ca/people-contact.

Registered Nurses Association of Ontario. Best Practices Toolkit - Delirium, dementia and depression resources: Cohen Mansfield Agitation Inventory (CMAI). [Online].; 2010. Available from: http://ltctoolkit.rnao.ca/node/1752.

Methodology

Overview

This report contains information on your LTC practice, including prescribing indicators, comparator data and contextual information that is intended to complement other sources of information for quality improvement. To provide the data in this report, the cohort of residents living in Ontario LTC homes was identified using administrative databases held at the Institute for Clinical Evaluative Sciences (ICES): the Ontario Health Insurance Plan Claims History Database (OHIP) and the Ontario Drug Benefit (ODB) Program Database. Each resident was then linked to one physician, called the most responsible physician (MRP), who provided the most medical care to the resident. The MRP was identified based on LTC fee codes in the OHIP data. Additional data from the Canadian Institute for Health Information (CIHI) was used to calculate indicator and contextual information. LTC Practice Reports are updated every three months, and the data in each report is about six months old when the reports are released. Details on the new topic, new indicators and methods are provided below and in the Technical Appendix: www.hqontario.ca/LTCReport.

New Indicators: Falls Prevention and Mobility

For the new topic, falls prevention and mobility, two indicators were selected and developed that focus on medications associated with an increased risk of falls. The report includes two measures of benzodiazepine prescribing: the overall rate of benzodiazepine prescribing (at least one benzodiazepine dispensed in the quarter), and the continuous use of benzodiazepines (at least 90 continuous days of prescriptions for benzodiazepines) **(1) (2)**. The report also includes one indicator based on the Beers 2015 criteria: rate of residents who have three or more specified CNS-active medications dispensed at the same time **(3)**. These indicators were not designed to assess whether a medication is appropriate, but to identify residents who are at an increased risk of falls associated with the medications. For this reason, residents who have clinical indications for these medications are included in the indicators. The data is meant to identify residents who should be monitored for an increased risk of falls related to these medications, to help identify those who may be appropriate for a trial of weaning, or a trial of substituting with a safer medication that is not as strongly associated with a risk of falls. Please note that non-benzodiazepine benzodiazepine receptor agonists (e.g. zopiclone) cannot be accurately captured in the ODB data; therefore, this class of medications was excluded from the indicator.

Indicators related to Antipsychotic medications

The antipsychotic indicators in the report now focus on the LTC residents who were diagnosed with dementia, but were not diagnosed with psychosis in the previous five years. The antipsychotic polypharmacy indicator will no longer be included because the rates were very low (< 2% of residents who had an antipsychotic prescribed in Ontario). The denominators are now the same for the indicators that estimate the overall rate, new starts and 90 days of prescriptions for antipsychotics: they include residents aged 66 and older who have a diagnosis of dementia, and exclude residents who are in palliative care, or in the LTC home for less than 100 days, or have a diagnosis of psychosis **(12) (13) (14) (15) (18)**. Finally, the grace period for the indicator capturing the dispensing of antipsychotics for at least 90 days was changed from one day to 1.5 times the number of days supplied, which is a standard methodology and had little impact on the indicator results **(16) (17)**. This was done to align more closely with the new indicators related to fall prevention and mobility. Please see the Technical Appendix for more detailed information: www.hqontario.ca/LTCReport.

Identifying your LTC residents

To identify your LTC residents, who include those living in LTC for whom you have provided care in each reporting period, your College of

Physicians and Surgeons of Ontario (CPSO) number was linked to health care administrative databases stored at ICES. Your report includes LTC residents for whom you were determined to be the attending physician, or most responsible physician (MRP), based on OHIP LTC fee codes billed for each quarter and three previous months. This was a two-step process: physicians who billed the greatest number of W010 fee codes for a resident were assigned as the MRP for the resident. For residents with zero W010 codes billed, the MRP was the physician who billed the greatest number of LTC fee codes for that resident. Since the OHIP and ODB data are updated more frequently than other administrative databases at ICES, these databases were used to identify your residents each quarter. Your resident group includes individuals between 19 and 115 years of age, for whom there was information on date of birth and sex, and a valid LTC institution number. The indicators have additional exclusion criteria. For example, eligibility for ODB coverage typically begins at age 65, thus the lower age limit for indicators was set at age 66 to ensure a one-year look back period on prescription data required to estimate if a medication was considered a new start.

Identifying the LTC homes in which you work

The institution numbers recorded in the OHIP billings for the residents who are assigned to you as the MRP were examined to identify the LTC homes in which you practised. For an LTC home to be assigned to your practice, there had to be at least five residents recorded in the same home; this was intended to minimize random error in the institution codes in OHIP data. In some instances, these data may not accurately reflect the homes in which a physician practised due to coding practices in OHIP billing. For example, if a physician worked in more than one LTC home, but included the institution number for only one of these homes on all OHIP submissions, then the other homes could not be identified for the report. For physicians who practised in more than one LTC home, data were provided for the LTC home in which the physician has the largest number of residents prescribed the relevant medications. This is intended to help aid in quality improvement. If you have additional questions, please contact Health Quality Ontario at practicereport@hqontario.ca.

Indicator Calculation

After identifying your residents and the LTC homes in which you practised, additional administrative data sets were used to calculate both the indicators and the supporting contextual information. For instance, data from OHIP and ODB were used to calculate the indicators of antipsychotic prescribing, and additional databases were used to identify diagnoses of psychosis and dementia (please see section below). It is important to note that the ODB contains information on dispensed medications, but not on the actual use of those medications. In LTC, the majority of prescriptions are dispensed and delivered to the home; thus, this report refers to the prescribing rather than the dispensing of medications to focus on the clinician’s perspective. Although a prescription in LTC is usually filled by a pharmacy, the medication may not be administered to the resident, and these PRN prescriptions cannot be identified in the data. For these reasons, it is not possible to know whether a resident took a medication. This distinction is made in the presentation of the CIHI Antipsychotic indicator which captures the use of antipsychotic medication. Non-prescribing rates are calculated by subtracting the prescribing rate from 100%.

Diagnosis Identification

Diagnoses were identified by examining the preceding five years of OHIP, Discharge Abstract Database (DAD), and Ontario Mental Health Reporting System (OMHRS) data according to previously published methods and clinical review (12) (40) (41). In addition, ODB records in the year preceding each reporting quarter were examined for the dispensing of medications related to dementia (cognitive enhancers/cholinesterase inhibitors) as a surrogate for the diagnosis of dementia. Psychosis includes schizophrenia, bipolar disorder, tics or Huntington’s disease and other forms of psychoses (including dementia-related psychosis). The CIHI indicator results for antipsychotics, falls, restraints and RAI-MDS outcome scales were calculated using CIHI methodology applied to the most recent fiscal year for which data were available (36) (42). The Technical Appendix provides further detail on methods used to calculate the indicators, including a complete list of the medications in each indicator, diagnostic codes to identify psychosis and dementia in the different databases and the method for identifying your residents.

Data sources

Administrative databases used to generate this report include: the OHIP database for physician claims data and cohort definition; the ODB database for prescription information and cohort definition; the Registered Persons Database (RPDB) for patient demographic information; the DAD for acute care data; the OMHRS for inpatient mental health data; and the Continuing Care Reporting System (CCRS) for interRAI data (also referred to as RAI-MDS). The latter was only used for the yearly CIHI data section beginning on page 12. The ODB has been validated for the accuracy of prescription claims (43). These data sets were linked using unique encoded identifiers and analyzed at ICES.

Data interpretation considerations

Administrative databases were used to generate this report without asking you to provide additional data. However, these databases do have limitations, including:

- **Data timeliness:** The data lag for these reports is about six months for the OHIP/ODB indicators. Data from the CCRS in this report will not match the time period of the OHIP/ODB cohort, and will be updated annually. While HQO and our partners are always looking for ways to provide more timely data, we encourage you to also use local data sources to track and measure your progress.
- **Data comprehensiveness/limitations:** Administrative databases cannot capture all the information relevant to these indicators and thus there are missing elements in the report. These include:
  - The prescribing indicators calculated from ODB data in this report measure the **presence of a dispensed medication**, but not the administration of the medication.
  - In LTC, the majority of prescriptions are filled and delivered to the home; thus, this report refers to the prescribing rather than the dispensing of medications to focus on the clinician's perspective.
  - Medications begun in the hospital cannot be identified which would impact the measurement of newly starting a medication.
  - PRN prescriptions cannot be identified in the ODB database. Thus, indicators cannot exclude medications dispensed on an as-needed basis.
  - ODB coverage usually begins at age 65; however, those living in LTC who are younger than age 65 will have ODB coverage.
- **Data suppression**: To maintain confidentiality, data are suppressed as per ICES' privacy policies, in the following manner:
  - N/R (Not Reported): When a value is between one and five, the value and its accompanying rate are suppressed. Additional suppression may be applied to maintain confidentiality even if the value is greater than five. Suppression is denoted by N/R. Suppressed values are included in the totals, and every effort is made to suppress the next smallest value.

Participation and confidentiality

You received this report because you have provided consent to HQO and ICES to participate in this project. This study was approved by the institutional review board at the University of Toronto, Toronto, Canada. Neither HQO nor ICES will release identified/identifiable data without your additional written consent.

ICES is named as a prescribed entity under Section 45 of Ontario's health privacy legislation, *Personal Health Information Protection Act* (PHIPA), 2004, which provides the legal authority for ICES to conduct research about the practice patterns of health care providers like you. ICES has very strict privacy policies, practices and procedures, as well as data security arrangements that have been reviewed and approved by the Privacy Commissioner of Ontario. A detailed report can be found on the ICES website: www.ices.on.ca.

References

1. Rojas-Fernandez C, Dadfar F, Wong A, Brown SG. Use of fall risk increasing drugs in residents of retirement villages: a pilot study of long term care and retirement home residents in Ontario, Canada. BMC Research Notes. 2015 October; 8(568).
2. Woolcott JC, Richardson KJ, Wiens MO, Patel B, Marin J, Khan KM et a. Meta-analysis of the impact of 9 medication classes on falls in elderly persons. Archives of Internal Medicine. 2009 November; 169(21).
3. The American Geriatrics Society 2015 Beers Criteria Update Expert Panel. American Geriatrics Society 2015 Updated Beers Criteria for Potentially Inappropriate Medication Use in Older Adults. Journal of the American Geriatrics Society. 2015 Oct; 63(11): p. 2227–2246.
4. Centre for Effective Practice. Centre for Effective Practice: Falls Prevention Discussion Guide (Long-Term Care (LTC) Edition). [Online].; 2016. Available from: https://effectivepractice.org/wp-content/uploads/2016/06/CEP_FallsPrevention_2016.pdf.
5. Soong C, Leis J. Choosing Wisely Canada: Less Sedatives For Your Older Relatives. [Online].; 2016. Available from: http://www.choosingwiselycanada.org/in-action/toolkits/less-sedatives-for-your-older-relatives/.
6. Pottie K, Thompson W, Davies S, Grenier J, Sadowski C, Welch V, Holbrook A, Boyd C, Swenson JR, Ma A, Farrell B. deprescribing.org | Benzodiazepine & Z-Drug (BZRA) deprescribing Algorithm. [Online].; 2016. Available from: http://www.open-pharmacy-research.ca/wordpress/wp-content/uploads/deprescribing-algorithm-benzodiazepines.pdf.
7. Cara Tannenbaum and Institut universitaire de gériatrie de Montréal. Institut universitaire de gériatrie de Montréal - Centre de recherche. [Online].; 2014. Available from: http://www.criugm.qc.ca/fichier/pdf/BENZOeng.pdf.
8. interRAI. Scales: Status and Outcome Measures. [Online].; 1994. Available from: http://www.interrai.org/assets/files/Scales/cognitive-performance-scale-2014.pdf.
9. Health Quality Ontario. Behavioural Symptoms of Dementia: Care for Patients in Hospitals and Residents in Long-Term Care Homes. [Online].; 2016. Available from: http://www.hqontario.ca/Evidence-to-Improve-Care/Quality-Standards/Behavioural-Symptoms-of-Dementia.
10. Medicines Management Team NHS Cumbria. NHS Cumbria Medicines Management Guidelines. [Online].; 2013. Available from: http://www.cumbria.nhs.uk/ProfessionalZone/MedicinesManagement/Guidelines/StopstartToolkit2011.pdf.
11. Institute for Safe Medication Practices Canada. Safer Medication Use in Older Persons Information Page. [Online].; 2016. Available from: https://www.ismp-canada.org/beers_list/#l=q2.
12. Rochon PA, Stukel TA, Bronskill SE, Gomes T, Sykora K, Wodchis WP et al. Variation in nursing home antipsychotic prescribing rates. Archives of Internal Medicine. 2007; 167(7): p. 676-683.
13. Health Quality Ontario. Looking for Balance: Antipsychotic medication use in Ontario long-term care homes. Toronto: Queen's Printer for Ontario; 2015a.
14. Azermai M, Elseviers M, Petrovic M, van Bortel L, Stichele RV. Assessment of antipsychotic prescribing in Belgian nursing homes. International Psychogeriatrics. 2011; 23(8): p. 1240-1248.
15. Lunsky Y, Klein-Geltink JE, Yates EA, eds. Atlas on the Primary Care of Adults with Developmental Disabilities in Ontario. Toronto: Institute for Clinical Evaluative Sciences and Centre for Addiction and Mental Health; 2013.

16. Hudson M, Rahme E, Richard H, Pilote L. Comparison of measures of medication persistency using a prescription drug database. Am Heart J. 2007; 153(1): p. 59-65.
17. Sikka R, Xia F, Aubert RE. Estimating medication persistency using administrative claims data. Am J Manag Care. 2005; 11(7): p. 449-457.
18. Bronskill SE, Anderson GM, Sykora K, Wodchis WP, Gill S, Shulman KI, et al. Neuroleptic drug therapy in older adults newly admitted to nursing homes: incidence, dose, and specialist contact. Journal of the American Geriatrics Society. 2004; 52(5): p. 749-755.
19. Alldred DP, Raynor DK, Hughes C, Barber N, Chen TF, Spoor P. Interventions to optimise prescribing for older people in care home. Cochrane Database Syst Rev. 2013; 2(CD009095).
20. Alberta Health Services. Appropriate Use of Antipsychotics (AUA) Toolkit for Care Teams - Medication review requirements of antipsychotics: Antipsychotic medication review sheet. [Online].; 2014. Available from: http://www.albertahealthservices.ca/frm-19676.pdf.
21. Rabheru K. Practical tips for recognition and management of behavioural and psychological symptoms of dementia. Canadian Geriatrics Society Journal of CME. 2011; 1(1): p. 17-22.
22. Kales CH, Gitlin LN, Lyketsos C. Assessment and management of behavioural and psychological symptoms of dementia. British Medical Journal. 2015; 350: p. h369.
23. P.I.E.C.E.S. (TM) Canada. Dementia Observation System (DOS). [Online]. Available from: http://pieceslearning.com/.
24. Registered Nurses Association of Ontario. Best Practices Toolkit - Delirium, dementia and depression resources: Cohen Mansfield Agitation Inventory (CMAI). [Online].; 2010. Available from: http://ltctoolkit.rnao.ca/node/1752.
25. Hopkins RW, Kilik LA. Kingston Scales: Kingston Standardized Behavioural Assessment - KSBA (LTC) Assessment Form. [Online].; 2015. Available from: http://nebula.wsimg.com/16559a382ab29464be57bc2802f99cd7?AccessKeyId=954A289F7CDF75707C10&disposition=0&alloworigin=1.
26. Conn D, Gibson M, McCabe D. CCSMH guideline update - assessment and treatment of mental health issues in long term care homes: (Focus on mood and behaviour symptoms). Toronto: Canadian Coalition for Seniors' Mental Health; 2014.
27. P.I.E.C.E.S. (TM) Consult Group. P.I.E.C.E.S. (TM) Framework tool. [Online]. Available from: http://pieceslearning.com/wp-content/uploads/2016/02/PIECES_Laminate_Nov_09.pdf.
28. Richter T, Meyer G, Möhler R, Köpke S. Psychosocial interventions for reducing antipsychotic medication in care home residents. Cochrane Database Syst Rev. 2012; 12(CD008634): p. CD008634.
29. British Columbia Ministry of Health. Non-pharmacological interventions for BPSD: Best practice guideline for accommodating and managing behavioural and psychological symptoms of dementia in residential care: A person-centred interdisciplinary approach (p 10). [Online].; 2012. Available from: http://www.health.gov.bc.ca/library/publications/year/2012/bpsd-guideline.pdf.
30. British Columbia Ministry of Health. British Columbia behavioural and psychological symptoms of dementia (BPSD) algorithm (Part 2) - Is this behaviour likely to respond to medication? [Online].; 2014. Available from: http://bcbpsd.ca/part-2/assessment/.
31. British Columbia Ministry of Health. Best practice guideline for accommodating and managing behavioural and psychological symptoms of dementia in residential care: A person-centred interdisciplinary approach (p 13-14). [Online].; 2012. Available from: http://www.health.gov.bc.ca/library/publications/year/2012/bpsd-guideline.pdf.

32. Alberta Health Services. Education - Psychiatry - Behaviour and Symptom Mapping Tool (BSMT). [Online].; 2011. Available from: http://www.albertahealthservices.ca/assets/Infofor/hp/if-hp-ltc-pharm-behaviour-mapping-tool.pdf.
33. Harris M, Clark S, Lusk E, editors. National behavioural support systems project: guiding principles and recommended components. Version 3. Canada; 2011.
34. Choosing Wisely Canada. Patient Materials - Treating disruptive behaviour in people with dementia: Antipsychotic drugs are usually not the best choice. [Online].; 2014. Available from: http://www.choosingwiselycanada.org/materials/treating-disruptive-behaviour-in-people-with-dementia-antipsychotic-drugs-are-usually-not-the-best-choice/.
35. Bueckert V, Cole M, Robertson M. Choosing Wisely Canada. [Online].; 2016. Available from: http://www.choosingwiselycanada.org/wp-content/uploads/2016/07/CWC_Antipsychotics_Toolkit_v1.0_2016-07-11.pdf.
36. Canadian Institute for Health Information. Indicator Library. [Online].; 2015. Available from: http://indicatorlibrary.cihi.ca/display/HSPIL/Potentially+Inappropriate+Use+of+Antipsychotics+in+Long-Term+Care.
37. interRAI. Scales: Status and Outcome Measures. [Online].; 2015. Available from: http://www.interrai.org/scales.html.
38. Canadian Institute for Health Information. Indicator Library. [Online].; 2016. Available from: http://indicatorlibrary.cihi.ca/display/HSPIL/Falls+in+the+Last+30+Days+in+Long-Term+Care.
39. Canadian Institute for Health Information. Indicator Library. [Online].; 2016. Available from: http://indicatorlibrary.cihi.ca/display/HSPIL/Restraint+Use+in+Long-Term+Care.
40. Hwang YJ, Dixon SN, Reiss JP, Wald R, Parikh CR, Gandhi S. Atypical antipsychotic drugs and the risk for acute kidney injury and other adverse outcomes in older adults: a population based cohort study. Annals of Internal Medicine. 2014; 161(4): p. 242-248.
41. Health Quality Ontario. Looking for Balance: Antipsychotic medication use in Ontario long-term care homes. Technical Appendix. Toronto: Queen's Printer for Ontario; 2015b.
42. Canadian Institute for Health Information. RAI-MDS 2.0 Outcome Scales Reference Guide. Canadian Institute for Health Information; 2013.
43. Paterson JM, Suleiman A, Hux JE, Bell C. How complete are drug history profiles that are based on public drug benefit claims? Can J Clin Pharmacol. 2008; 15(1): p. 108-116.

About Health Quality Ontario and the Institute for Clinical Evaluative Sciences
Health Quality Ontario (HQO) is the provincial advisor on quality in health care. HQO reports to the public on the quality of the health care system, evaluates the effectiveness of new health care technologies and services, provides evidence-based recommendations, and supports the spread of quality improvement throughout the system.

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Parts of this material are based on data and information compiled and provided by CIHI. However, the analyses, conclusions, opinions and statements expressed herein are those of the author, and not necessarily those of CIHI.

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Health Quality Ontario

Let's make our health system healthier

Long-Term Care Practice Report

Dr. Sample Data

Period Ending: September 30, 2016

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Report Overview

The *Long-Term Care Practice Report* provides easy access to your long-term care (LTC) practice data and provincial data, and supports quality improvement.

This confidential report focuses on indicators related to the prescribing of antipsychotics and of some medications associated with an increased risk of falls. This information may help you to better understand your prescribing patterns and set quality improvement targets.

This report is intended to complement other sources of information you may receive (e.g., your pharmacy reports). A new report will be provided to you each quarter, and Health Quality Ontario will notify you by email of each release.

For more information about the methodology, including data sources and limitations (e.g., rates include as-needed (PRN) prescriptions), see page 17.

We want this report to be useful for you. If you have any questions, concerns, or suggestions, please contact Health Quality Ontario at: **Toll-Free**: 1-866-623-6868 or by **Email**: practicereport@hqontario.ca.

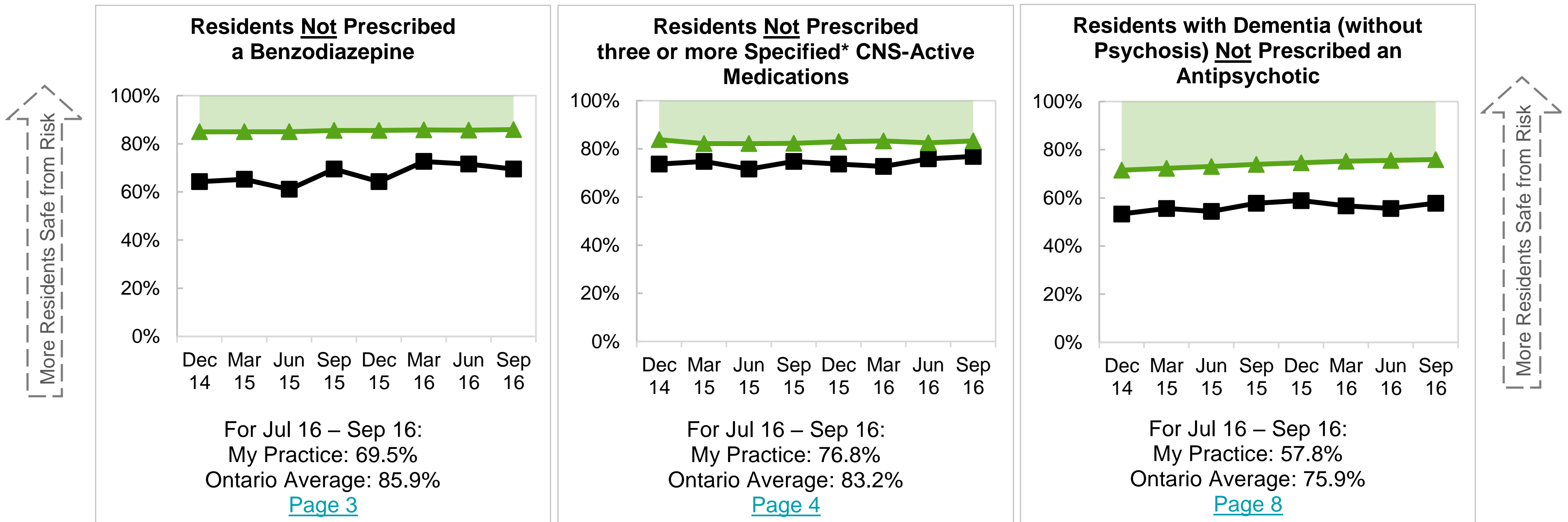
Summary

This practice report provides feedback on certain prescribing practices where you are ensuring safety for your LTC residents.

How do my prescribing practices compare?

Data reporting period: July 1, 2016 – September 30, 2016

Note: 'Sep-16' represents data from July 1 to September 30, 2016.



16 fewer resident(s) in my practice may be safe from risks associated with benzodiazepines (compared to the average prescribing rate among Ontario LTC physicians).

Who are all my residents? Between July 1, 2016 and September 30, 2016, my LTC practice had 100 residents (30% male, 70% female), with a mean age of 85, and 12% were new residents (in LTC home for less than 100 days.)

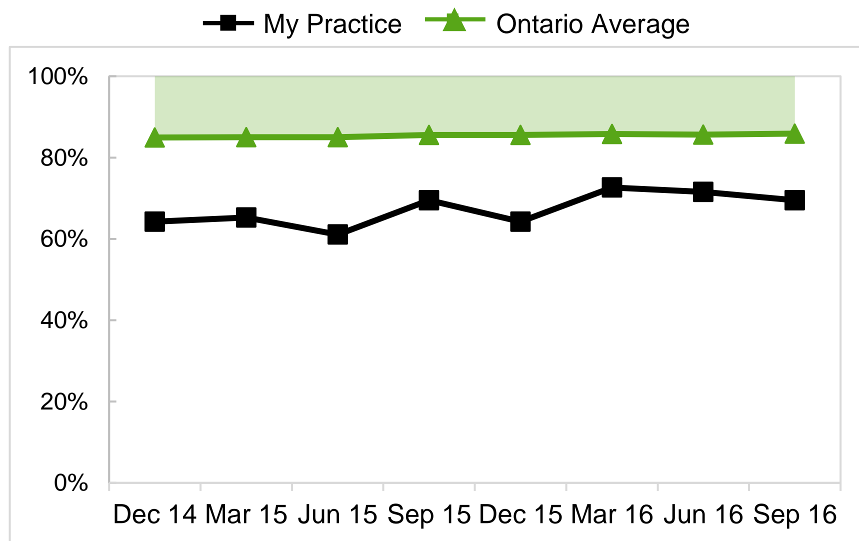
Suppression denoted by N/R (Not Reported) or a gap in graph; N/A: Not Available.

*Specified medications include: antipsychotics, opioids, benzodiazepines (oral), and antidepressants (including TCAs and trazodone). Refer to page 17 for more details.

Residents Not Prescribed a Benzodiazepine:

Percentage of residents aged 66 and older who were not prescribed a benzodiazepine. Excludes residents who were in palliative care or were new to LTC (in the LTC home for less than 100 days). (1) (2)

How many of my residents are safe from the risks (e.g., falls) related to benzodiazepines?



Suppression denoted by N/R (Not Reported) or a gap in graph; N/A: Not Available.
Data includes PRN prescriptions.

Between July 1, 2016 to September 30, 2016, 69.5% of my residents did not have a prescription for a benzodiazepine, and the Ontario Average was 85.9%.

66/95

of my residents were not prescribed a benzodiazepine.

Change Ideas to manage falls

(page 5)

Among my residents aged 66 and older and not new to LTC, 88.4% were not prescribed a benzodiazepine for at least 90 continuous days in the most recent quarter.

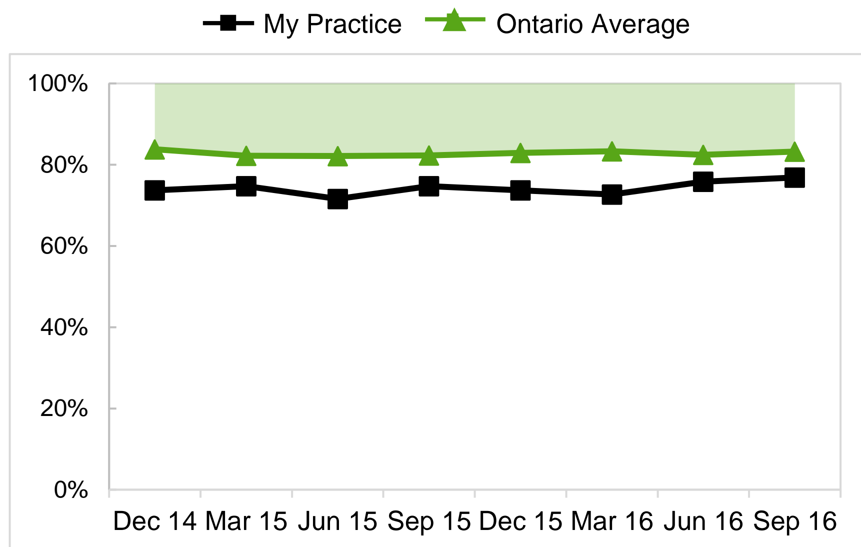
For more information about this indicator, please refer to the Methodology (page 17).

Sometimes benzodiazepines are appropriate. The data cannot weigh the benefits against harm for each resident but it can point to practice patterns worthy of reflection. The *Change Ideas* (page 5) suggest ways that you can work with others in the home right now to limit the risk of harm for your residents (e.g., find resources to start a trial of weaning to discontinue benzodiazepines where appropriate).

Residents Not Prescribed three or more Specified* CNS-Active Medications:

Percentage of residents aged 66 and older who on a given day did not have prescriptions for three or more specified* CNS-active medications. Excludes residents who are in palliative care or new to LTC (in the LTC home for less than 100 days). (3)

How many of my residents are safe from risks (e.g., falls) related to three or more specified* CNS-active medications?



Suppression denoted by N/R (Not Reported) or a gap in graph; N/A: Not Available.
Data includes PRN prescriptions.

Between July 1, 2016 to September 30, 2016, 76.8% of my residents did not have a prescription for three or more CNS-active medications, and the Ontario Average was 83.2%.

73/95

of my residents were not prescribed three or more specified* CNS-active medications.

Change Ideas to manage falls

(page 5)

For more information about this indicator, please refer to the Methodology (page 17).

Sometimes three or more CNS-active medications are appropriate (e.g., for residents with complex psychiatric conditions). These data cannot weigh the benefits against harm for each resident but it can point to practice patterns worthy of reflection. The *Change Ideas* (page 5) suggest ways that you can work with others in the home right now to limit the risk of harm for your residents (e.g., find resources to start a trial of weaning or substitution with a safer medication where appropriate).

*Specified medications include: antipsychotics, opioids, benzodiazepines (oral), and antidepressants (including TCAs and trazodone).

Change Ideas: Managing Residents at Increased Risk of Falls from Prescribed Medications

Some prescribed medications (or combination of medications) for long-term care (LTC) home residents in Ontario can increase their risk of adverse events, such as falls. To optimize (and potentially decrease) medication use to reduce the risk of falls, the following table provides change ideas that will help you identify areas for improvement based on key prescribing indicators. These indicators provide a snapshot of data that you can use to understand your current prescribing patterns, identify an improvement target, and test one or more of the following change ideas to help you move toward that target.

To learn more about *how* to make changes in your practice, visit the Quality Improvement Tools and Resources section of Health Quality Ontario's website.

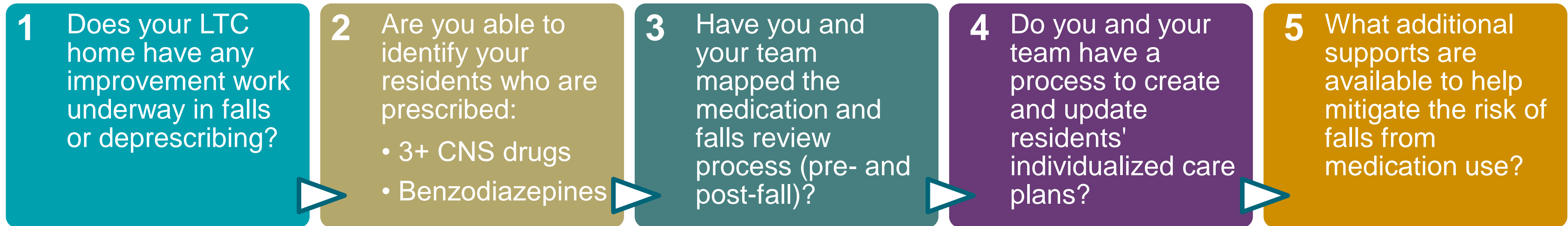
Opportunities for Improvement	Indicator	Current Performance	Set Your Target
Optimize medication use to reduce risk of falls	Residents Not Prescribed a Benzodiazepine: Percentage of residents aged 66 and older who were not prescribed a benzodiazepine	69.5%	Increase/maintain By how much? ________% By when? _____________ (date)
	Residents Not Prescribed three or more Specified* CNS-Active Medications: Percentage of residents aged 66 and older who on a given day did not have prescriptions for three or more specified* CNS-active medications	76.8%	Increase/maintain By how much? ________% By when? _____________ (date)

N/R: Not Reported due to suppression; N/A: Not Available

*Specified medications include: antipsychotics, opioids, benzodiazepines (oral), and antidepressants (including TCAs and trazodone).

Change Ideas to Identify Areas for Improvement and Test Changes

Identify areas of focus to improve your benzodiazepine and CNS-active medication prescribing indicators by asking yourself:



Once you identify the areas you would like to improve, review the change ideas that accompany each question:

1. Change Ideas to Assess Current or Planned Improvement Efforts	2. Change Ideas to Identify Your Residents at Risk for Falls	3. Change Ideas to Improve the Medication Review Process	4. Change Ideas to Update and Implement Individualized Care Plans	5. Additional Supports
Determine if there are any planned or current falls prevention resources at your LTC home. For example: • Deprescribing Projects • Falls Prevention Team • Quality Committees • Quality Improvement Plans (QIP) and QIP Query (An online searchable database containing QIPs submitted to Health Quality Ontario. To find new and emerging change ideas you can use queries to compare findings by indicator, compare by LHIN, selected organizations,	Review data received from your LTC home/ pharmacy provider to verify: • Number of residents prescribed benzodiazepines and three or more CNS-active medications, duration, and administration rate • Number of residents identified for risk of falls (page 3 of Centre for Effective Practice Discussion Guide for falls risk assessment) (4)	The following strategies can assist with regular medication reviews at ***all*** transitions: • Team approach involving the physician, pharmacist, and nurse to prepare and review the medication summary (see Sample Fall Assessment and Medication Review Flow Sheet below) • Review history of falls and changes to falls risk assessment status (page 4 of Centre for Effective Practice Discussion Guide) (4)	Consider implementing an individualized, multi-factorial approach, which includes: • A process to inform attending physician post-fall (page 6 of Centre for Effective Practice Discussion Guide for BEEEACH Checklist (4) • Communication of results to team through regular team huddles • Performing an assessment at each transition (new admission, change in	a) Tools and Resources: • Quality Standard: Behavioural Symptoms of Dementia Care for Patients in Hospitals and Residents in Long-Term Care (9) • START/STOPP Toolkit Supporting Medication Review (10) • Institute for Safe Medication Practices in Canada: BEERs List (11) b) Learn from your peers through: • Health Quality Ontario's LTC Community of Practice • Choosing Wisely Canada Talks

or size of long-term care home.)		• Consider medication reduction using the Choosing Wisely Canada Toolkit (5), deprescribing algorithms (6) or deprescribing checklists (7) • Calculate anticholinergic burden and risk scales (page 9 of Centre for Effective Practice Discussion Guide) (4) • Consider your residents' functional and cognitive status (Cognitive Performance Scale) (8)	status) to inform your falls management plan	• Ontario Long Term Care Clinicians • brainXChange and Behavioural Supports Ontario • Long Term Care Medical Directors Association of Canada • Regional Specialized Programs of Ontario c) Involve residents, families, substitute decision makers: • Choosing Wisely Canada: Patient Education Tools • Family Councils Ontario • Ontario Association of Residents' Councils

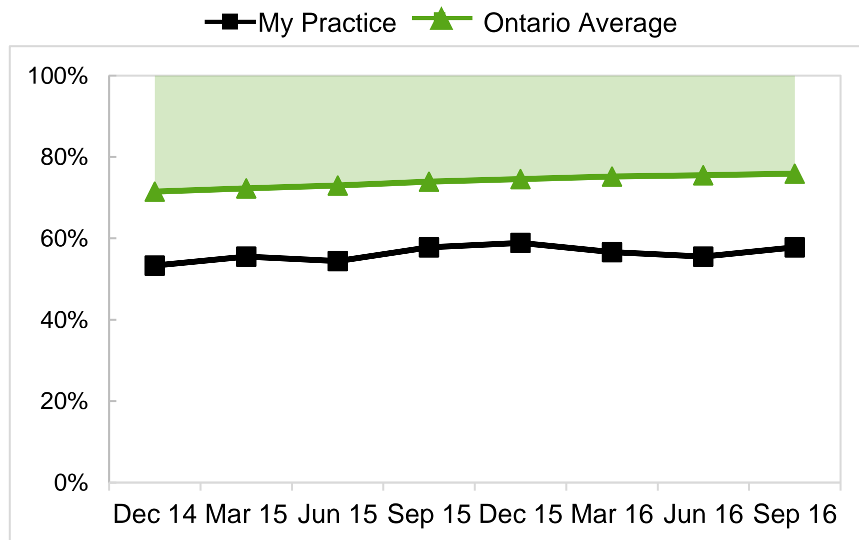
Sample Fall Assessment and Medication Review Flow Sheet

Age	Number of Falls/ Quarter	Fractures (Y/N)	Morse Fall Score	Blood Pressure	Central Nervous System Drugs	Blood Pressure medications	Osteoporosis Prevention	Resident Goal (Start, Stop, Maintain)

Residents with Dementia (without Psychosis) Not Prescribed an Antipsychotic:

Percentage of residents aged 66 and older diagnosed with dementia, without psychosis, who were not prescribed an antipsychotic. Excludes residents who were in palliative care, were new to LTC (in the LTC home for less than 100 days), and those who have a recorded diagnosis of psychosis (schizophrenia, bipolar disorder, other psychoses, tics or Huntington's disease). (12) (13) (14)

How many of my residents are safe from risks related to antipsychotics?



Suppression denoted by N/R (Not Reported) or a gap in graph; N/A: Not Available.
Data includes PRN prescriptions.

Between July 1, 2016 to September 30, 2016, 57.8% of my residents diagnosed with dementia without psychosis did not have a prescription for an antipsychotic, and the Ontario Average was 75.9%.

52/90

of my residents with dementia (without psychosis) were not prescribed an antipsychotic medication.

*Change Ideas to manage BPSD**

(page 9)

*Behavioural & Psychological Symptoms of Dementia

Among my residents aged 66 and older and diagnosed with dementia without psychosis, 60.0% were not prescribed an antipsychotic for 90 continuous days (15) (16) (17) in the most recent quarter.

For more information about this indicator, please refer to the Methodology (page 17).

Sometimes antipsychotic medications are appropriate. These data cannot weigh the benefits against harm for each resident but it can point to practice patterns worthy of reflection. The *Change Ideas* (page 9) suggest ways that you can work with others in the home right now to limit the risk of harm for your residents.

Change Ideas: Managing Residents with Behavioural and Psychological Symptoms of Dementia

For some residents of Ontario's long-term care homes, antipsychotic medications improve quality of life and reduce suffering. But for other residents, these drugs may bring more risks than benefits. To optimize antipsychotic use, the following table will help you identify areas for improvement based on key antipsychotic prescribing indicators. These indicators provide a snapshot of data that you can use to understand your current prescribing patterns and identify an improvement target, as well as to test one or more of the following change ideas to help you move toward that target.

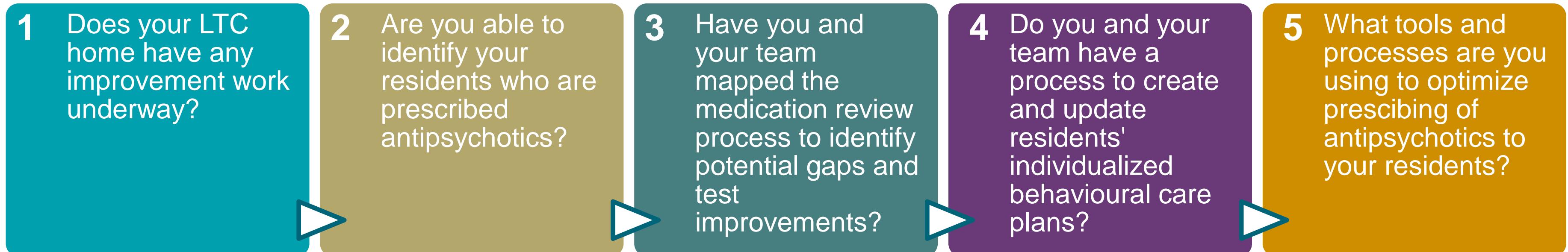
To learn more about *how* to make changes in your practice, visit the Quality Improvement Tools and Resources section of Health Quality Ontario's website.

Opportunities for Improvement	Indicator	Current Performance	Set Your Target
Optimize antipsychotic prescribing	Residents with Dementia (without Psychosis) not Prescribed an Antipsychotic: Percentage of residents aged 66 and older diagnosed with dementia, without psychosis, who were not prescribed an antipsychotic medication	57.8%	Increase/maintain By how much? ________% By when? ____________ (date)

N/R: Not Reported due to suppression; N/A: Not Available

Identify areas for improvement and test changes

First, identify areas of focus to improve your antipsychotic prescribing indicators by asking yourself these questions:



Once you identify the areas you would like to improve, review the change ideas that accompany each question:

1 Find out if there are any improvement efforts planned and/or underway

For example, consider asking your nursing administrator:

a) What opportunities exist to work with current behavioural support resources/processes at the home? For example:
- Behavioural Response Team
- Champions
- Quality Improvement (QI) Plans
- QI Team

b) What external resources and supports are available?
For example:
- Psychogeriatric Resource Consultant, Behavioural Supports Ontario (BSO), specialized outreach teams

2 Change ideas to identify your residents

a) Consider what data you currently receive from your LTC home and pharmacy provider. Are there additional data you need (e.g., indications, new starts, summary of responsive behaviours and interventions used)?

b) Verify the data. For example:
- Look at your number of residents, total number of residents prescribed antipsychotics and associated indications, number of new starts, and number of PRNs ordered and administration rate

c) Ask your pharmacy provider for a medication tracking tool

3 Change ideas to improve the medication review process

Consider the following strategies to enhance regular quarterly medication reviews:

a) Team approach involving the physician, pharmacist and nurse (19)

b) Standardized and simplified medication review process and documentation. View a sample worksheet from Alberta Health Services (20)

c) Staff identify residents on antipsychotics who may be appropriate to trial reducing/adjusting the antipsychotic dose

d) Staff prepare a summary of residents' recent behaviour prior to medication reviews

4 Change ideas to update and implement individualized behavioural care plans

a) Assess for Behavioural and Psychological Symptoms of Dementia and use findings to inform care plans and medication reviews (21) (22). Some standardized tools include:
- Dementia Observation System (DOS) detects behavioural patterns (23)
- Cohen Mansfield Agitation Inventory (CMAI) tracks the severity and disruptiveness of the behaviours (24)
- Kingston Standardized Behavioural Assessment (KSBA) assesses function, cognition and behaviour (25)

b) All behaviour has meaning: Screen and rule out possible medical problems or environmental triggers (e.g., pain, delirium, constipation) (26):
- Use the P.I.E.C.E.S.™ tool to assess for potential physical, intellectual, emotional, capabilities, environment and social causes of behaviours (27)
- Involve families/caregivers

c) Trial and review non-pharmacological strategies before considering antipsychotic medications, where appropriate (26) (28):
- Consider P.I.E.C.E.S.™, Montessori Methods, Gentle Persuasive Approaches. Click here for additional interventions (29)
- For additional strategies/supports, connect with the home's Responsive Behaviour Program and/or external resources and supports, if available

5 Change ideas for pharmacological interventions

a) Ensure optimal treatment of other conditions that could be contributing to symptoms (26)

b) Consider what behaviours may respond to antipsychotics and which do not (30)

c) Carefully weigh the potential benefits of pharmacological interventions versus the potential of harm (26)

d) If antipsychotics are required, trial the lowest effective dose for the shortest duration (31)

e) Monitor for effectiveness, tolerability and adverse effects. For example, the Behaviour and Symptom Mapping Tool (BSMT) (32)

f) Consult specialists for residents with complex needs/behaviours (21)

g) Involve residents and their families/Substitute Decision Maker in decisions (33)
- Obtain and document consent
- Family education tools and support (34): Choosing Wisely Canada, Alzheimer Society of Ontario

Additional supports to optimize antipsychotic prescribing

a) **Learn from your peers.** Reach out to colleagues through:
- Health Quality Ontario's LTC Community of Practice
- Ontario Long Term Care Clinicians
- Long Term Care Medical Directors Association of Canada

b) **Connect with your regional specialized services:**
- Regional Geriatric Programs or local hospital or community-based geriatric consultation services

c) **Connect with provincial tools and supports:**
- Behavioural Supports Ontario
- Centre for Effective Practice's (CEP) Discussion Guide tool is designed to help providers understand, assess and manage residents with responsive behaviours; focusing on antipsychotic medications. The tool was developed as part of CEP's Academic Detailing Service for LTC homes.
- Choosing Wisely Canada and A Toolkit for Reducing Inappropriate Use of Antipsychotics in Long Term Care (35)
- The brainXchange network

CIHI Antipsychotic Indicator:

Percentage of residents on antipsychotics without a diagnosis of psychosis

Data reporting period: **April 1, 2015 – March 31, 2016**
Data source: **CCRS**

Please note that data in this section are based on a different time frame and data source than the previous sections.

Data interpretation considerations

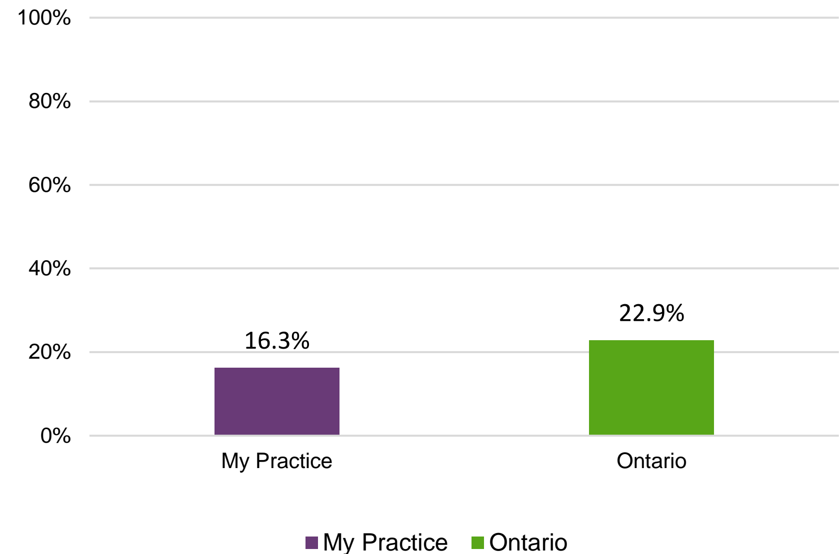
This CIHI antipsychotic indicator captures the **use** of antipsychotic medication in LTC among residents who do not have a diagnosis of psychosis. This indicator excludes residents who have a diagnosis of schizophrenia or Huntington's chorea, are end-stage disease, are receiving hospice care, or are experiencing hallucinations or delusions (36). Unlike the other prescribing indicators in this report that include residents aged 66 and older, this CIHI indicator has no lower age limit.

The CIHI indicator only captures diagnoses on the **current** RAI MDS assessment, unlike the other indicators in this report that capture diagnoses over the previous five years through examining administrative databases. Also, the CIHI indicator excludes residents who have hallucinations or delusions, whereas the OHIP/ODB indicators cannot capture these symptoms.

Overall, you may see some differences between your rates among residents with dementia alone and the CIHI indicator due to the differences in capturing diagnoses and symptoms. The CIHI indicator also captures the use of lithium, and this medication is not included in the drug list for the OHIP/ODB indicators in this report.

The CIHI data provide you with a description of your resident population that may help explain why your rates may differ from others. Information about your residents for some relevant indicators, falls and daily restraints, and relevant RAI MDS scales including the Activities of Daily Living (ADL) Scale and Aggressive Behaviour Scale (ABS) can be found on the following page (37).

CIHI Antipsychotic indicator,
by my LTC practice and Ontario, April 1, 2015 to March 31, 2016



Data Source: CCRS (For this report, CIHI indicators are updated annually.)
N/R: Not Reported due to suppression, N/A: Not Available

What are the inclusions/exclusions for this indicator?

This indicator includes: residents without a diagnosis of psychosis who received an antipsychotic medication on at least one day in the week before the RAI assessment.

This indicator excludes: residents who have a diagnosis of schizophrenia or Huntington's chorea, are end-stage disease, are receiving hospice care, or are experiencing hallucinations or delusions.

More information, including home-level data, is available on the CIHI website (36).

CIHI CCRS (RAI MDS) data: **April 1, 2015 - March 31, 2016**	**My Residents (%)**	**Ontario (%)**
Residents with a Fall in the last 30 days (38)	20.0%	14.2%
Residents with Daily Physical Restraints (39)	14.7%	6.1%
Activities of Daily Living (ADL) Performance Hierarchy Scale *This scale groups activities of daily living according to the state of the disablement process in which they occur.* (37)		
Independent (0)	N/R	3%
Limited Impairment (1-2)	N/R	14%
Extensive Assistance (3-4)	53%	49%
Dependent (5-6)	32%	34%
Aggressive Behaviour Scale (ABS) *A measure of aggressive behavior based on the occurrence of verbal abuse, physical abuse, socially disruptive behavior and resistance of care.* (37)		
No Aggressive Behaviour (0)	38%	54%
Some Aggressive Behaviour (1-2)	38%	24%
Severe Aggressive Behaviour (3-5)	N/R	16%
Very Severe Aggressive Behaviour (6 or more)	N/R	6%
Cognitive Performance Scale (CPS) *This scale combines information on memory impairment, level of consciousness, and executive function.* (37)		
Relatively Intact (0-1)	N/R	20%
Mild/Moderate (2-3)	N/R	50%
Severe (4-6)	57%	30%
Depression Rating Scale (DRS) *This scale is used as a clinical screen for depression.* (37)		
No Depressive Symptoms (0)	0%	38%
Some Depressive Symptoms (1-2)	24%	30%
Possible Depressive Disorder (3 or more)	77%	32%
Pain Scale *This scale was originally developed for use with nursing home residents and later translated for use with other interRAI instruments.* (37)		
No Pain (0)	82%	67%
Less Than Daily Pain (1)	18%	23%
Daily Pain, but Not Severe (2)	0%	8%
Severe Daily Pain (3)	0%	2%

My Resident Profile

Data reporting period: **July 1, 2016 – September 30, 2016**
Data Source: **OHIP, ODB, DAD, OMHRS**

	My Residents	Ontario
Number of Residents *Number of Residents in LTC*		
	100	74,815
Sex (%)		
Male Female	30% 70%	31% 69%
Age (years)		
Mean age	85	84
Age Cohorts (%)		
19 – 64 years 65 – 74 years 75 – 84 years 85+ years	5% 12% 26% 58%	6% 11% 27% 56%
New Residents (%) *Residents in the LTC home for less than 100 days*		
	12%	10%

N/R: Not Reported due to suppression; N/A: Not Available

Quality Improvement Tools and Resources

Falls Prevention

Centre for Effective Practice. Falls Prevention Discussion Guide (Long-Term Care Edition). [Online].; May 2016. Available from: https://effectivepractice.org/wp-content/uploads/2016/06/CEP_FallsPrevention_2016.pdf.

Centre for Studies in Aging & Health. Bridges to Care Resource Manual: Preventing Falls and Injuries in Long-Term Care (LTC). [Online].; 2010. Available from: http://sagelink.ca/sites/default/files/clinical-resources/preventing_falls_injuries_ltc_resource_manual.pdf.

Institut universitaire de gériatrie de Montréal. Sedative Hypnotic De-Prescribing Brochure. [Online].; 2014. Available from: http://www.criugm.qc.ca/fichier/pdf/BENZOeng.pdf.

Pottie K, Thompson W, Davies S, Grenier J, Sadowski C, Welch V, Holbrook A, Boyd C, Swenson JR, Ma A, Farrell B. deprescribing.org | Benzodiazepine & Z-Drug (BZRA) deprescribing Algorithm. [Online].; March 2016. Available from: http://www.open-pharmacy-research.ca/wordpress/wp-content/uploads/deprescribing-algorithm-benzodiazepines.pdf.

Soong C, Leis J. Choosing Wisely Canada: Less Sedatives For Your Older Relatives. [Online].; 2016. Available from: http://www.choosingwiselycanada.org/in-action/toolkits/less-sedatives-for-your-older-relatives/.

Behavioural and Psychological Symptoms of Dementia (BPSD)

Alberta Health Services. Appropriate Use of Antipsychotics (AUA) Toolkit for Care Teams - Medication review requirements of antipsychotics: Antipsychotic medication review sheet. [Online].; 2014. Available from: http://www.albertahealthservices.ca/frm-19676.pdf.

Alberta Health Services. Education - Psychiatry - Behaviour and Symptom Mapping Tool (BSMT). [Online].; 2011. Available from: http://www.albertahealthservices.ca/assets/Infofor/hp/if-hp-ltc-pharm-behaviour-mapping-tool.pdf.

Alzheimer Society of Ontario. [Online].; 2015. Available from: http://www.alzheimer.ca/en/on.

BrainXchange Network. [Online].; 2015. Available from: http://brainxchange.ca/.

British Columbia Ministry of Health. Non-pharmacological interventions for BPSD: Best practice guideline for accommodating and managing behavioural and psychological symptoms of dementia in residential care: A person-centred interdisciplinary approach (p 10). [Online].; 2012. Available from: http://www.health.gov.bc.ca/library/publications/year/2012/bpsd-guideline.pdf.

British Columbia Ministry of Health. British Columbia behavioural and psychological symptoms of dementia (BPSD) algorithm (Part 2) - Is this behaviour likely to respond to medication? [Online].; 2014. Available from: http://bcbpsd.ca/part-2/assessment/.

Bueckert V, Cole M, Robertson M. Choosing Wisely Canada. [Online].; 2016. Available from: http://www.choosingwiselycanada.org/wp-content/uploads/2016/07/CWC_Antipsychotics_Toolkit_v1.0_2016-07-11.pdf.

Centre for Effective Practice. Use of Antipsychotics in Behavioural and Psychological Symptoms of Dementia (BPSD) Discussion Guide. [Online].: 2015. Available from: http://effectivepractice.org/resources/academic-detailing-service-discussion-guide/

Choosing Wisely Canada. Patient Materials - Treating disruptive behaviour in people with dementia: Antipsychotic drugs are usually not the best choice. [Online].; 2014. Available from: http://www.choosingwiselycanada.org/materials/treating-disruptive-behaviour-in-people-with-dementia-antipsychotic-drugs-are-usually-not-the-best-choice/.

Hopkins RW, Kilik LA. Kingston Scales: Kingston Standardized Behavioural Assessment - KSBA (LTC) Assessment Form. [Online].; 2015. Available from: http://nebula.wsimg.com/16559a382ab29464be57bc2802f99cd7?AccessKeyId=954A289F7CDF75707C10&disposition=0&alloworigin=1.

Long-Term Care Medical Directors Association of Canada. [Online].; 2015. Available from: http://www.cmda.info/.

Ontario Long-Term Care Clinicians. [Online].; 2015. Available from: http://oltcc.ca/.

P.I.E.C.E.S. ™ Canada. Dementia Observation System (DOS). [Online]. Available from: http://pieceslearning.com/.

P.I.E.C.E.S. ™ Consult Group. P.I.E.C.E.S. ™ Framework tool. [Online]. Available from: http://pieceslearning.com/wp-content/uploads/2016/02/PIECES_Laminate_Nov_09.pdf.

Regional Geriatric Programs of Ontario. [Online].; 2014. Available from: http://rgps.on.ca/people-contact.

Registered Nurses Association of Ontario. Best Practices Toolkit - Delirium, dementia and depression resources: Cohen Mansfield Agitation Inventory (CMAI). [Online].; 2010. Available from: http://ltctoolkit.rnao.ca/node/1752.

Methodology

Overview

This report contains information on your LTC practice, including prescribing indicators, comparator data and contextual information that is intended to complement other sources of information for quality improvement. To provide the data in this report, the cohort of residents living in Ontario LTC homes was identified using administrative databases held at the Institute for Clinical Evaluative Sciences (ICES): the Ontario Health Insurance Plan Claims History Database (OHIP) and the Ontario Drug Benefit (ODB) Program Database. Each resident was then linked to one physician, called the most responsible physician (MRP), who provided the most medical care to the resident. The MRP was identified based on LTC fee codes in the OHIP data. Additional data from the Canadian Institute for Health Information (CIHI) was used to calculate indicator and contextual information. LTC Practice Reports are updated every three months, and the data in each report is about six months old when the reports are released. Details on the new topic, new indicators and methods are provided below and in the Technical Appendix: www.hqontario.ca/LTCReport.

New Indicators: Falls Prevention and Mobility

For the new topic, falls prevention and mobility, two indicators were selected and developed that focus on medications associated with an increased risk of falls. The report includes two measures of benzodiazepine prescribing: the overall rate of benzodiazepine prescribing (at least one benzodiazepine dispensed in the quarter), and the continuous use of benzodiazepines (at least 90 continuous days of prescriptions for benzodiazepines) **(1) (2)**. The report also includes one indicator based on the Beers 2015 criteria: rate of residents who have three or more specified CNS-active medications dispensed at the same time **(3)**. These indicators were not designed to assess whether a medication is appropriate, but to identify residents who are at an increased risk of falls associated with the medications. For this reason, residents who have clinical indications for these medications are included in the indicators. The data is meant to identify residents who should be monitored for an increased risk of falls related to these medications, to help identify those who may be appropriate for a trial of weaning, or a trial of substituting with a safer medication that is not as strongly associated with a risk of falls. Please note that non-benzodiazepine benzodiazepine receptor agonists (e.g. zopiclone) cannot be accurately captured in the ODB data; therefore, this class of medications was excluded from the indicator.

Indicators related to Antipsychotic medications

The antipsychotic indicators in the report now focus on the LTC residents who were diagnosed with dementia, but were not diagnosed with psychosis in the previous five years. The antipsychotic polypharmacy indicator will no longer be included because the rates were very low (< 2% of residents who had an antipsychotic prescribed in Ontario). The denominators are now the same for the indicators that estimate the overall rate, new starts and 90 days of prescriptions for antipsychotics: they include residents aged 66 and older who have a diagnosis of dementia, and exclude residents who are in palliative care, or in the LTC home for less than 100 days, or have a diagnosis of psychosis **(12) (13) (14) (15) (18)**. Finally, the grace period for the indicator capturing the dispensing of antipsychotics for at least 90 days was changed from one day to 1.5 times the number of days supplied, which is a standard methodology and had little impact on the indicator results **(16) (17)**. This was done to align more closely with the new indicators related to fall prevention and mobility. Please see the Technical Appendix for more detailed information: www.hqontario.ca/LTCReport.

Identifying your LTC residents

To identify your LTC residents, who include those living in LTC for whom you have provided care in each reporting period, your College of

Physicians and Surgeons of Ontario (CPSO) number was linked to health care administrative databases stored at ICES. Your report includes LTC residents for whom you were determined to be the attending physician, or most responsible physician (MRP), based on OHIP LTC fee codes billed for each quarter and three previous months. This was a two-step process: physicians who billed the greatest number of W010 fee codes for a resident were assigned as the MRP for the resident. For residents with zero W010 codes billed, the MRP was the physician who billed the greatest number of LTC fee codes for that resident. Since the OHIP and ODB data are updated more frequently than other administrative databases at ICES, these databases were used to identify your residents each quarter. Your resident group includes individuals between 19 and 115 years of age, for whom there was information on date of birth and sex, and a valid LTC institution number. The indicators have additional exclusion criteria. For example, eligibility for ODB coverage typically begins at age 65, thus the lower age limit for indicators was set at age 66 to ensure a one-year look back period on prescription data required to estimate if a medication was considered a new start.

Identifying the LTC homes in which you work

The institution numbers recorded in the OHIP billings for the residents who are assigned to you as the MRP were examined to identify the LTC homes in which you practised. For an LTC home to be assigned to your practice, there had to be at least five residents recorded in the same home; this was intended to minimize random error in the institution codes in OHIP data. In some instances, these data may not accurately reflect the homes in which a physician practised due to coding practices in OHIP billing. For example, if a physician worked in more than one LTC home, but included the institution number for only one of these homes on all OHIP submissions, then the other homes could not be identified for the report. For physicians who practised in more than one LTC home, data were provided for the LTC home in which the physician has the largest number of residents prescribed the relevant medications. This is intended to help aid in quality improvement. If you have additional questions, please contact Health Quality Ontario at practicereport@hqontario.ca.

Indicator Calculation

After identifying your residents and the LTC homes in which you practised, additional administrative data sets were used to calculate both the indicators and the supporting contextual information. For instance, data from OHIP and ODB were used to calculate the indicators of antipsychotic prescribing, and additional databases were used to identify diagnoses of psychosis and dementia (please see section below). It is important to note that the ODB contains information on dispensed medications, but not on the actual use of those medications. In LTC, the majority of prescriptions are dispensed and delivered to the home; thus, this report refers to the prescribing rather than the dispensing of medications to focus on the clinician’s perspective. Although a prescription in LTC is usually filled by a pharmacy, the medication may not be administered to the resident, and these PRN prescriptions cannot be identified in the data. For these reasons, it is not possible to know whether a resident took a medication. This distinction is made in the presentation of the CIHI Antipsychotic indicator which captures the use of antipsychotic medication. Non-prescribing rates are calculated by subtracting the prescribing rate from 100%.

Diagnosis Identification

Diagnoses were identified by examining the preceding five years of OHIP, Discharge Abstract Database (DAD), and Ontario Mental Health Reporting System (OMHRS) data according to previously published methods and clinical review (12) (40) (41). In addition, ODB records in the year preceding each reporting quarter were examined for the dispensing of medications related to dementia (cognitive enhancers/cholinesterase inhibitors) as a surrogate for the diagnosis of dementia. Psychosis includes schizophrenia, bipolar disorder, tics or Huntington’s disease and other forms of psychoses (including dementia-related psychosis). The CIHI indicator results for antipsychotics, falls, restraints and RAI-MDS outcome scales were calculated using CIHI methodology applied to the most recent fiscal year for which data were available (36) (42). The Technical Appendix provides further detail on methods used to calculate the indicators, including a complete list of the medications in each indicator, diagnostic codes to identify psychosis and dementia in the different databases and the method for identifying your residents.

Data sources

Administrative databases used to generate this report include: the OHIP database for physician claims data and cohort definition; the ODB database for prescription information and cohort definition; the Registered Persons Database (RPDB) for patient demographic information; the DAD for acute care data; the OMHRS for inpatient mental health data; and the Continuing Care Reporting System (CCRS) for interRAI data (also referred to as RAI-MDS). The latter was only used for the yearly CIHI data section beginning on page 12. The ODB has been validated for the accuracy of prescription claims (43). These data sets were linked using unique encoded identifiers and analyzed at ICES.

Data interpretation considerations

Administrative databases were used to generate this report without asking you to provide additional data. However, these databases do have limitations, including:

- **Data timeliness:** The data lag for these reports is about six months for the OHIP/ODB indicators. Data from the CCRS in this report will not match the time period of the OHIP/ODB cohort, and will be updated annually. While HQO and our partners are always looking for ways to provide more timely data, we encourage you to also use local data sources to track and measure your progress.
- **Data comprehensiveness/limitations:** Administrative databases cannot capture all the information relevant to these indicators and thus there are missing elements in the report. These include:
    - The prescribing indicators calculated from ODB data in this report measure the **presence of a dispensed medication**, but not the administration of the medication.
    - In LTC, the majority of prescriptions are filled and delivered to the home; thus, this report refers to the prescribing rather than the dispensing of medications to focus on the clinician's perspective.
    - Medications begun in the hospital cannot be identified which would impact the measurement of newly starting a medication.
    - PRN prescriptions cannot be identified in the ODB database. Thus, indicators cannot exclude medications dispensed on an as-needed basis.
    - ODB coverage usually begins at age 65; however, those living in LTC who are younger than age 65 will have ODB coverage.
- **Data suppression**: To maintain confidentiality, data are suppressed as per ICES' privacy policies, in the following manner:
    - N/R (Not Reported): When a value is between one and five, the value and its accompanying rate are suppressed. Additional suppression may be applied to maintain confidentiality even if the value is greater than five. Suppression is denoted by N/R. Suppressed values are included in the totals, and every effort is made to suppress the next smallest value.

Participation and confidentiality

You received this report because you have provided consent to HQO and ICES to participate in this project. This study was approved by the institutional review board at the University of Toronto, Toronto, Canada. Neither HQO nor ICES will release identified/identifiable data without your additional written consent.

ICES is named as a prescribed entity under Section 45 of Ontario's health privacy legislation, *Personal Health Information Protection Act* (PHIPA), 2004, which provides the legal authority for ICES to conduct research about the practice patterns of health care providers like you. ICES has very strict privacy policies, practices and procedures, as well as data security arrangements that have been reviewed and approved by the Privacy Commissioner of Ontario. A detailed report can be found on the ICES website: www.ices.on.ca.

References

1. Rojas-Fernandez C, Dadfar F, Wong A, Brown SG. Use of fall risk increasing drugs in residents of retirement villages: a pilot study of long term care and retirement home residents in Ontario, Canada. BMC Research Notes. 2015 October; 8(568).
2. Woolcott JC, Richardson KJ, Wiens MO, Patel B, Marin J, Khan KM et a. Meta-analysis of the impact of 9 medication classes on falls in elderly persons. Archives of Internal Medicine. 2009 November; 169(21).
3. The American Geriatrics Society 2015 Beers Criteria Update Expert Panel. American Geriatrics Society 2015 Updated Beers Criteria for Potentially Inappropriate Medication Use in Older Adults. Journal of the American Geriatrics Society. 2015 Oct; 63(11): p. 2227–2246.
4. Centre for Effective Practice. Centre for Effective Practice: Falls Prevention Discussion Guide (Long-Term Care (LTC) Edition). [Online].; 2016. Available from: https://effectivepractice.org/wp-content/uploads/2016/06/CEP_FallsPrevention_2016.pdf.
5. Soong C, Leis J. Choosing Wisely Canada: Less Sedatives For Your Older Relatives. [Online].; 2016. Available from: http://www.choosingwiselycanada.org/in-action/toolkits/less-sedatives-for-your-older-relatives/.
6. Pottie K, Thompson W, Davies S, Grenier J, Sadowski C, Welch V, Holbrook A, Boyd C, Swenson JR, Ma A, Farrell B. deprescribing.org | Benzodiazepine & Z-Drug (BZRA) deprescribing Algorithm. [Online].; 2016. Available from: http://www.open-pharmacy-research.ca/wordpress/wp-content/uploads/deprescribing-algorithm-benzodiazepines.pdf.
7. Cara Tannenbaum and Institut universitaire de gériatrie de Montréal. Institut universitaire de gériatrie de Montréal - Centre de recherche. [Online].; 2014. Available from: http://www.criugm.qc.ca/fichier/pdf/BENZOeng.pdf.
8. interRAI. Scales: Status and Outcome Measures. [Online].; 1994. Available from: http://www.interrai.org/assets/files/Scales/cognitive-performance-scale-2014.pdf.
9. Health Quality Ontario. Behavioural Symptoms of Dementia: Care for Patients in Hospitals and Residents in Long-Term Care Homes. [Online].; 2016. Available from: http://www.hqontario.ca/Evidence-to-Improve-Care/Quality-Standards/Behavioural-Symptoms-of-Dementia.
10. Medicines Management Team NHS Cumbria. NHS Cumbria Medicines Management Guidelines. [Online].; 2013. Available from: http://www.cumbria.nhs.uk/ProfessionalZone/MedicinesManagement/Guidelines/StopstartToolkit2011.pdf.
11. Institute for Safe Medication Practices Canada. Safer Medication Use in Older Persons Information Page. [Online].; 2016. Available from: https://www.ismp-canada.org/beers_list/#l=q2.
12. Rochon PA, Stukel TA, Bronskill SE, Gomes T, Sykora K, Wodchis WP et al. Variation in nursing home antipsychotic prescribing rates. Archives of Internal Medicine. 2007; 167(7): p. 676-683.
13. Health Quality Ontario. Looking for Balance: Antipsychotic medication use in Ontario long-term care homes. Toronto: Queen's Printer for Ontario; 2015a.
14. Azermai M, Elseviers M, Petrovic M, van Bortel L, Stichele RV. Assessment of antipsychotic prescribing in Belgian nursing homes. International Psychogeriatrics. 2011; 23(8): p. 1240-1248.
15. Lunsky Y, Klein-Geltink JE, Yates EA, eds. Atlas on the Primary Care of Adults with Developmental Disabilities in Ontario. Toronto: Institute for Clinical Evaluative Sciences and Centre for Addiction and Mental Health; 2013.

16. Hudson M, Rahme E, Richard H, Pilote L. Comparison of measures of medication persistency using a prescription drug database. Am Heart J. 2007; 153(1): p. 59-65.
17. Sikka R, Xia F, Aubert RE. Estimating medication persistency using administrative claims data. Am J Manag Care. 2005; 11(7): p. 449-457.
18. Bronskill SE, Anderson GM, Sykora K, Wodchis WP, Gill S, Shulman KI, et al. Neuroleptic drug therapy in older adults newly admitted to nursing homes: incidence, dose, and specialist contact. Journal of the American Geriatrics Society. 2004; 52(5): p. 749-755.
19. Alldred DP, Raynor DK, Hughes C, Barber N, Chen TF, Spoor P. Interventions to optimise prescribing for older people in care home. Cochrane Database Syst Rev. 2013; 2(CD009095).
20. Alberta Health Services. Appropriate Use of Antipsychotics (AUA) Toolkit for Care Teams - Medication review requirements of antipsychotics: Antipsychotic medication review sheet. [Online].; 2014. Available from: http://www.albertahealthservices.ca/frm-19676.pdf.
21. Rabheru K. Practical tips for recognition and management of behavioural and psychological symptoms of dementia. Canadian Geriatrics Society Journal of CME. 2011; 1(1): p. 17-22.
22. Kales CH, Gitlin LN, Lyketsos C. Assessment and management of behavioural and psychological symptoms of dementia. British Medical Journal. 2015; 350: p. h369.
23. P.I.E.C.E.S. (TM) Canada. Dementia Observation System (DOS). [Online]. Available from: http://pieceslearning.com/.
24. Registered Nurses Association of Ontario. Best Practices Toolkit - Delirium, dementia and depression resources: Cohen Mansfield Agitation Inventory (CMAI). [Online].; 2010. Available from: http://ltctoolkit.rnao.ca/node/1752.
25. Hopkins RW, Kilik LA. Kingston Scales: Kingston Standardized Behavioural Assessment - KSBA (LTC) Assessment Form. [Online].; 2015. Available from: http://nebula.wsimg.com/16559a382ab29464be57bc2802f99cd7?AccessKeyId=954A289F7CDF75707C10&disposition=0&alloworigin=1.
26. Conn D, Gibson M, McCabe D. CCSMH guideline update - assessment and treatment of mental health issues in long term care homes: (Focus on mood and behaviour symptoms). Toronto: Canadian Coalition for Seniors' Mental Health; 2014.
27. P.I.E.C.E.S. (TM) Consult Group. P.I.E.C.E.S. (TM) Framework tool. [Online]. Available from: http://pieceslearning.com/wp-content/uploads/2016/02/PIECES_Laminate_Nov_09.pdf.
28. Richter T, Meyer G, Möhler R, Köpke S. Psychosocial interventions for reducing antipsychotic medication in care home residents. Cochrane Database Syst Rev. 2012; 12(CD008634): p. CD008634.
29. British Columbia Ministry of Health. Non-pharmacological interventions for BPSD: Best practice guideline for accommodating and managing behavioural and psychological symptoms of dementia in residential care: A person-centred interdisciplinary approach (p 10). [Online].; 2012. Available from: http://www.health.gov.bc.ca/library/publications/year/2012/bpsd-guideline.pdf.
30. British Columbia Ministry of Health. British Columbia behavioural and psychological symptoms of dementia (BPSD) algorithm (Part 2) - Is this behaviour likely to respond to medication? [Online].; 2014. Available from: http://bcbpsd.ca/part-2/assessment/.
31. British Columbia Ministry of Health. Best practice guideline for accommodating and managing behavioural and psychological symptoms of dementia in residential care: A person-centred interdisciplinary approach (p 13-14). [Online].; 2012. Available from: http://www.health.gov.bc.ca/library/publications/year/2012/bpsd-guideline.pdf.

32. Alberta Health Services. Education - Psychiatry - Behaviour and Symptom Mapping Tool (BSMT). [Online].; 2011. Available from: http://www.albertahealthservices.ca/assets/Infofor/hp/if-hp-ltc-pharm-behaviour-mapping-tool.pdf.
33. Harris M, Clark S, Lusk E, editors. National behavioural support systems project: guiding principles and recommended components. Version 3. Canada; 2011.
34. Choosing Wisely Canada. Patient Materials - Treating disruptive behaviour in people with dementia: Antipsychotic drugs are usually not the best choice. [Online].; 2014. Available from: http://www.choosingwiselycanada.org/materials/treating-disruptive-behaviour-in-people-with-dementia-antipsychotic-drugs-are-usually-not-the-best-choice/.
35. Bueckert V, Cole M, Robertson M. Choosing Wisely Canada. [Online].; 2016. Available from: http://www.choosingwiselycanada.org/wp-content/uploads/2016/07/CWC_Antipsychotics_Toolkit_v1.0_2016-07-11.pdf.
36. Canadian Institute for Health Information. Indicator Library. [Online].; 2015. Available from: http://indicatorlibrary.cihi.ca/display/HSPIL/Potentially+Inappropriate+Use+of+Antipsychotics+in+Long-Term+Care.
37. interRAI. Scales: Status and Outcome Measures. [Online].; 2015. Available from: http://www.interrai.org/scales.html.
38. Canadian Institute for Health Information. Indicator Library. [Online].; 2016. Available from: http://indicatorlibrary.cihi.ca/display/HSPIL/Falls+in+the+Last+30+Days+in+Long-Term+Care.
39. Canadian Institute for Health Information. Indicator Library. [Online].; 2016. Available from: http://indicatorlibrary.cihi.ca/display/HSPIL/Restraint+Use+in+Long-Term+Care.
40. Hwang YJ, Dixon SN, Reiss JP, Wald R, Parikh CR, Gandhi S. Atypical antipsychotic drugs and the risk for acute kidney injury and other adverse outcomes in older adults: a population based cohort study. Annals of Internal Medicine. 2014; 161(4): p. 242-248.
41. Health Quality Ontario. Looking for Balance: Antipsychotic medication use in Ontario long-term care homes. Technical Appendix. Toronto: Queen's Printer for Ontario; 2015b.
42. Canadian Institute for Health Information. RAI-MDS 2.0 Outcome Scales Reference Guide. Canadian Institute for Health Information; 2013.
43. Paterson JM, Suleiman A, Hux JE, Bell C. How complete are drug history profiles that are based on public drug benefit claims? Can J Clin Pharmacol. 2008; 15(1): p. 108-116.

About Health Quality Ontario and the Institute for Clinical Evaluative Sciences
Health Quality Ontario (HQO) is the provincial advisor on quality in health care. HQO reports to the public on the quality of the health care system, evaluates the effectiveness of new health care technologies and services, provides evidence-based recommendations, and supports the spread of quality improvement throughout the system.

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