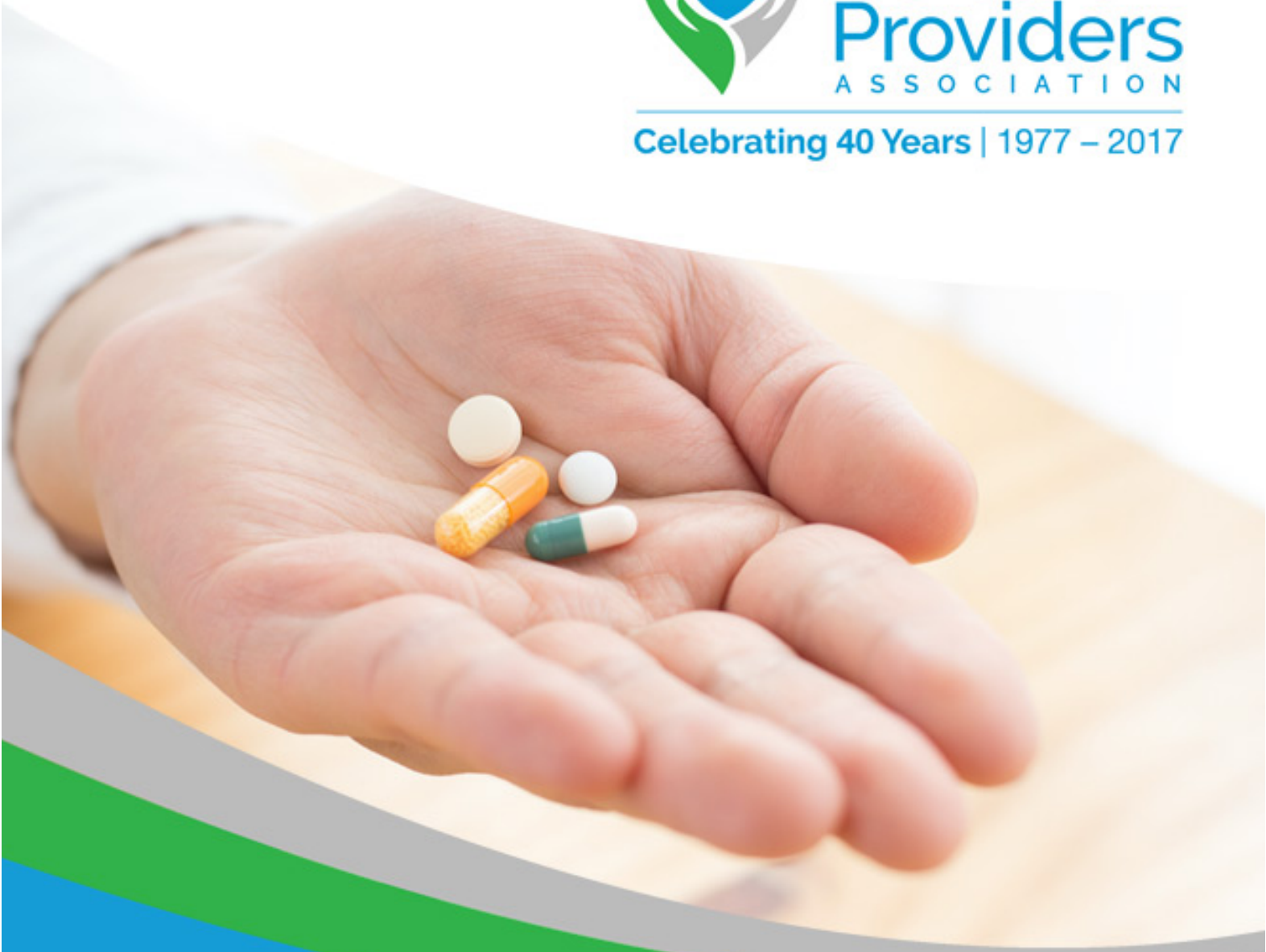




Celebrating 40 Years | 1977 – 2017



# BCCPA Backgrounder

Reducing Polypharmacy in BC's Continuing Care Sector

December 2016

**TEMPLATE POLICY:** Reducing Polypharmacy in BC's Continuing Care Sector

**SUBJECT AREAS:** Polypharmacy, Antipsychotics, Anti-depressants and off-label drug use

**DATE:** December 2016

## Overview

- While the focus of this Backgrounder is on the larger issue of polypharmacy it also includes specific sections the use of antipsychotics, anti-depressants and off-label drug use.

## BCCPA POLICY POSITIONS

### Polypharmacy

- In general, the BC Care Providers Association (BCCPA) agrees with the Office of the Seniors Advocate (OSA) that seniors taking many drugs at the same time, often referred to as polypharmacy, should be minimized as much as possible. The BCCPA also agrees that the over-use of medication by seniors is a significant challenge for aging adults, not just residential care.
- While there is evidence in British Columbia that some residents receiving care in long term care are overly medicated there is generally no supporting evidence that this is largely attributable to residential care homes themselves. In particular, the literature outlines that the reasons for polypharmacy are a result of the following factors largely attributable to physician prescribing practices, including, but not limited to:
  - Physicians believe there is appropriate evidence for prescribing the medications;
  - Physicians are reluctant to change orders for medications started by specialists and/or feel they lack the education and experience to reduce or stop medications; and
  - Physicians voice concerns that patients will feel the physician is giving up on them or leading them to quicker deaths.<sup>1</sup>
- While physicians are generally responsible for prescribing medications all health care providers have a role in dealing with polypharmacy and ensuring appropriate prescribing. For example, pharmacists also play a critical role in ensuring medications prescribed to seniors are appropriate and safe. The BCCPA supports pharmacists in reducing polypharmacy among older adults including, where appropriate, the provision of enhanced geriatric training.
- Ensuring proper documentation of medications, including outlining reasons for usage is properly documented, is critical. For example, if a diagnosis of depression is what necessitates the prescription of anti-depressants, this should be clearly documented. While providers are attempting to deal with this, more should continue to be done in this regard including development of appropriate information and monitoring systems.

### Off-label drug use

- As outlined in some literature, one of the challenges related to polypharmacy, including for anti-psychotic and anti-depressants, is off-label drug use. For the purposes of this backgrounder, off label drug use is defined as the use of pharmaceutical drugs for an unapproved indication or in an

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<sup>1</sup> Deprescribing medication for frail elderly patients in nursing homes: A survey of Vancouver family physicians. BCMJ, Vol. 56, No. 9, November 2014, page(s) 436-44. Accessed at: <http://www.bcmj.org/articles/deprescribing-medication-frail-elderly-patients-nursing-homes-survey-vancouver-family-physi>

unapproved age group, dosage or route of administration. In particular, the off label use of some medications without a diagnoses may not be inappropriate, as it can in fact have benefits (i.e. the use of anti-depressants to treat back pain).

- To better address the issue of the off label use of drugs, it will require the better documentation in resident health records. Likewise, there needs to be a better understanding of what off-label prescribing is safe, including establishing an efficient and effective way to monitor the adverse reactions of drugs that are prescribed off-label.

### Anti-psychotic use

- While residential care homes cannot largely control the prescribing practices of physicians it is important to note that care operators have been particularly active in attempting to reduce anti-psychotic drug use among seniors, including working with physicians. Some of these initiatives, focusing on antipsychotic drug use, include:
  - Development of a BCCPA Best Practices Guide for Safely Reducing Anti-Psychotic Drug Use in Residential Care;<sup>2</sup>
  - Participation of BCCPA and BCCPA care home members in the provincial government's Call for Less Antipsychotics in Residential Care (CLeAR) initiative;<sup>3</sup> and
  - Working with the B.C. Health Ministry to develop a province-wide guideline for antipsychotic drug use in residential care homes.
- While these initiatives have helped reduce anti-psychotic use, they are largely not being highlighted by reports such as the BC OSA, including its most recent Quick Facts Directory on residential care it released in March 2016.<sup>4</sup> While the OSA's Directory provides some useful information on residential care homes such as contact information and number of beds, along with providing information that could appear to be out of context, some of what is outlined is out of date, including in some instances using 2014 data.
- While providing important data and background information on issues relating to seniors, the OSA reports, thus far, have largely tended to highlight less positive areas or results within the residential care sector and as such may be portraying the residential care sector in an unfair or less positive light. In this regard, the BCCPA recommends the OSA focus much of its future work on developing reports highlighting best practices for seniors' care (including home and residential care) that are being undertaken in BC and other jurisdictions. One such example could be a report on initiatives or practices under way in continuing care to reduce polypharmacy particularly antipsychotic drug use.
- Along with being consistent with the mandate of the Seniors Advocate, the BCCPA believes such best practice reports or recommended pilot projects, including on polypharmacy, would provide a valuable resource for those in the continuing care sector to better educate and train health

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<sup>2</sup> BCCPA. Best Practices Guide for Safely Reducing Anti-Psychotic Drug Use in Residential Care (2013) <http://www.bccare.ca/wp-content/uploads/Anti-Psychotics-Guide-hr-06-05-13.pdf>

<sup>3</sup> BC Patient and Safety Quality Council. CLeAR Initiative. See <https://bcpsqc.ca/clinical-improvement/clear/>

<sup>4</sup> BC Office of the Seniors Advocate. Residential Care Facilities: Quick Facts Directory. January 2016. <http://www.seniorsadvocatebc.ca/wp-content/uploads/sites/4/2016/05/BC-Residential-Care-Quick-Facts-Directory-May-2016.pdf>.

professionals as well as improve seniors' care. The BCCPA has announced it will be updating its anti-psychotics best practice guide that was released initially in 2013.

- Among the other best practices to reduce level of antipsychotic use that should also be explored in BC is Behavioral Supports Ontario (BSO), which involves coordinated care teams and training to better deal with seniors with challenging or responsive behaviors. In particular, the BCCPA would support funding for a similar type program which could provide training, education and resources to improve dementia care province-wide.
- Another example of a best practice is seen by recent initiatives from the Canadian Foundation for Health Care Improvement (CFHI) including its collaborative partnership with the New Brunswick Association of Nursing Homes (NBANH). A national program to reduce antipsychotics, as advocated recently by the CFHI, is also something that merits further consideration.

### Antidepressants

- While there have been concerns raised about the overuse of anti-depressants among seniors in residential care further research on this is required. Attempts should be undertaken, where possible, to ensure the appropriate use of antidepressants in conjunction with other therapies, including activities such as regular exercise.
- Other areas the BCCPA would support further to ensure the appropriate use of anti-depressants include: 1) Increasing funding or resources for activities to improve one's physical or mental well-being in residential care; 2) Increased training for psychologists and other mental health care professionals to work with older adults; and 3) Destigmatizing psychological care.
- Ensuring proper prescribing and documentation of medications, including outlining reasons for usage is properly documented, is critical. For example, if a diagnosis of depression is what necessitates the prescription of anti-depressants, this should be clearly documented.

## BACKGROUND

### *Polypharmacy*

- Polypharmacy is the administration of more medications than clinically required or appropriate. The theoretical benefits of multiple medications are outweighed by the adverse effects of the medications. Multiple medications are a risk factor for experiencing illness and unintended harm.<sup>5</sup>
- Although it may be appropriate for some seniors to take several drugs, the use of multiple medications, known as polypharmacy, increases the risks of drug interactions and side effects. In particular, polypharmacy increases risk for adverse drug reactions (ADRs), adverse drug events (ADEs), falls, hospitalization, mortality, and other adverse health outcomes among seniors. According to one study, 13% of seniors taking 5 or more prescription medications experience ADEs that required medical attention, compared with 6% of those taking 1 or 2 drugs.<sup>6</sup>

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<sup>5</sup> Fraser Health Authority. Clinical protocol: polypharmacy risk reduction in residential care. September 2014.

<sup>6</sup> Deprescribing in Clinical Practice: Reducing Polypharmacy in Older Patients Linda Brookes. November 26, 2013. Accessed at: [http://www.medscape.com/viewarticle/814861\\_2](http://www.medscape.com/viewarticle/814861_2). Another Australian study shows that if a patient is taking two drugs, the likelihood of an adverse event is 13 per cent; at four drugs, that increases to 38 per cent; and once you take seven or more drugs, it jumps to

- Evidence from numerous studies shows that many medications prescribed to elderly patients are inappropriate, including that they introduce a significant risk for an ADE when there is evidence that alternative medication may be equally or more effective. In primary care, for example, approximately 1 in 5 prescriptions issued for older adults is inappropriate.<sup>7</sup>
- Polypharmacy is also a well-known risk factor for increased morbidity and mortality, especially among elderly people, who are more likely to have comorbid conditions and be prescribed multiple medications. Older age is also a risk factor for ADEs, due in part to the exponential increase in potential drug interactions with a greater number of medications, but also because of age-related physiological changes that vary between individuals and can affect drug-handling by the body. These factors contribute to the large variability of medication effects in older patients.<sup>8</sup>
- A 2012 report on drug use by the elderly revealed that 38.9% of seniors used an inappropriate prescription with 12.4% presenting claims for multiple inappropriate prescriptions.<sup>9</sup>
- Elderly people living in residential care homes are at high risk for polypharmacy, since they are often frail and suffer from multiple illnesses. In particular, they are frequently prescribed preventive medications in accordance with best practice guidelines for individual chronic diseases. According to the Ministry of Health, residents in long term care in BC are prescribed an average of 9 medications, ranging between 1 to 42 (Ministry of Health, March 2013).<sup>10</sup>
- In Canada, the number of seniors taking five or more drugs was more than double those taking less than five drugs. Roughly 69%, or 1.8 million of all seniors, were taking five or more drugs from different drug classes, with nearly 10% (293,441 seniors) taking 15 or more. This increased with age, with those who were 85+ being twice as likely to take at least 15 drug classes compared with those in the 65–74 age group.<sup>11</sup> In 2012, nearly 40 percent of seniors were taking 10 or more drugs.
- Despite concerns about the risk of ADEs among elderly patients in residential care, polypharmacy is still common in many care homes. Although de-prescribing is receiving increasing attention in the medical and the popular press, little research, however, has been done to determine the best practices for discontinuing medications in order to improve quality of life.<sup>12</sup>

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82 per cent (Source: Seniors are given so many drugs, it's madness. Andre Picard. Globe and Mail. March 8, 2016.

<http://www.theglobeandmail.com/opinion/seniors-are-given-so-many-drugs-its-madness/article29061583/>).

<sup>7</sup> Deprescribing in Clinical Practice: Reducing Polypharmacy in Older Patients Linda Brookes. November 26, 2013. Accessed at: [http://www.medscape.com/viewarticle/814861\\_2](http://www.medscape.com/viewarticle/814861_2). Another Australian study shows that if a patient is taking two drugs, the likelihood of an adverse event is 13 per cent; at four drugs, that increases to 38 per cent; and once you take seven or more drugs, it jumps to 82 per cent (Source: Seniors are given so many drugs, it's madness. Andre Picard. Globe and Mail. March 8, 2016.

<http://www.theglobeandmail.com/opinion/seniors-are-given-so-many-drugs-its-madness/article29061583/>).

<sup>8</sup> Deprescribing medication for frail elderly patients in nursing homes: A survey of Vancouver family physicians. BCMJ, Vol. 56, No. 9, November 2014, page(s) 436-44. Accessed at: <http://www.bcmj.org/articles/deprescribing-medication-frail-elderly-patients-nursing-homes-survey-vancouver-family-physi>

<sup>9</sup> Choosing Wisely Canada. Choosing Wisely Canada: National Meeting – Abstract Book. 2016. Accessed at: [http://www.choosingwiselycanada.org/wp-content/uploads/2016/03/abstractbook\\_final1.pdf](http://www.choosingwiselycanada.org/wp-content/uploads/2016/03/abstractbook_final1.pdf)

<sup>10</sup> Deprescribing medication for frail elderly patients in nursing homes: A survey of Vancouver family physicians. BCMJ, Vol. 56, No. 9, November 2014, page(s) 436-44. Accessed at: <http://www.bcmj.org/articles/deprescribing-medication-frail-elderly-patients-nursing-homes-survey-vancouver-family-physi>

<sup>11</sup> Healthcare Quarterly, 15(4) October 2012: 15-18. Medication Use among Canadian Seniors. Mark McPherson, Hong Ji, Jordan Hunt, Rob Ranger and Cheryl Gula Accessed at: <http://www.longwoods.com/content/23192>

<sup>12</sup> Deprescribing medication for frail elderly patients in nursing homes: A survey of Vancouver family physicians. BCMJ, Vol. 56, No. 9, November 2014, page(s) 436-44. Accessed at: <http://www.bcmj.org/articles/deprescribing-medication-frail-elderly-patients-nursing-homes-survey-vancouver-family-physi>

- The prevalence of polypharmacy is not only a concern in residential care but also for seniors living at home. According to a 2015 report by the BC Seniors Advocate, fifty-one percent of residents in BC care homes are taking nine or more different medications, and this drops by only seven per cent for seniors receiving home care, with 44 per cent taking nine or more medications.<sup>13</sup>
- BC has among the lowest per capita drug costs in Canada, 27% below the national average, due in part to lower polypharmacy rates compared to other provinces. However, current data suggests that there is still ample room to improve.<sup>14</sup>
- The literature points that the reasons for polypharmacy are a result of the following factors largely attributable to physician prescribing practices, including but not limited to:
  - Physicians believe there is appropriate evidence for prescribing the medications;
  - Physicians are reluctant to change orders for medications started by specialists or feel they lack the education and experience to reduce or stop medications; and
  - Physicians voice concerns that patients will feel the physician is giving up on them or leading them to quicker deaths.<sup>15</sup>
- Other major reasons for polypharmacy as identified in the literature include: underappreciation of the scale of polypharmacy-related harm; increasing intensity of medical care; narrow focus on lists of potentially inappropriate medications; and reluctance of prescribers and ambivalence of patients.<sup>16</sup>
- While physicians are generally responsible for prescribing medications, other health care providers also play a role in ensuring medications prescribed to seniors are appropriate and safe. In particular, pharmacists play critical role in ensuring medications prescribed to seniors are appropriate and safe. Pharmacists play an integral role within inter-professional health care teams in the provision of patient care. In conducting medication reviews, pharmacists consider specific characteristics, such as age, to assess the appropriateness, effectiveness, safety and compliance of medications for a given patient or resident.<sup>17</sup>
- Pharmacists can also play a key role in helping Canadians reduce the number of medications they are taking.<sup>18</sup> As such efforts to support the pharmacist's role in polypharmacy is critical as is ensuring the appropriate geriatric training is provided.

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<sup>13</sup> BC Office of the Seniors Advocate. Placement, Drugs and Therapy... We Can Do Better. April 2015. Accessed at: <http://www.seniorsadvocatebc.ca/wp-content/uploads/sites/4/2015/09/PlacementReport.pdf>

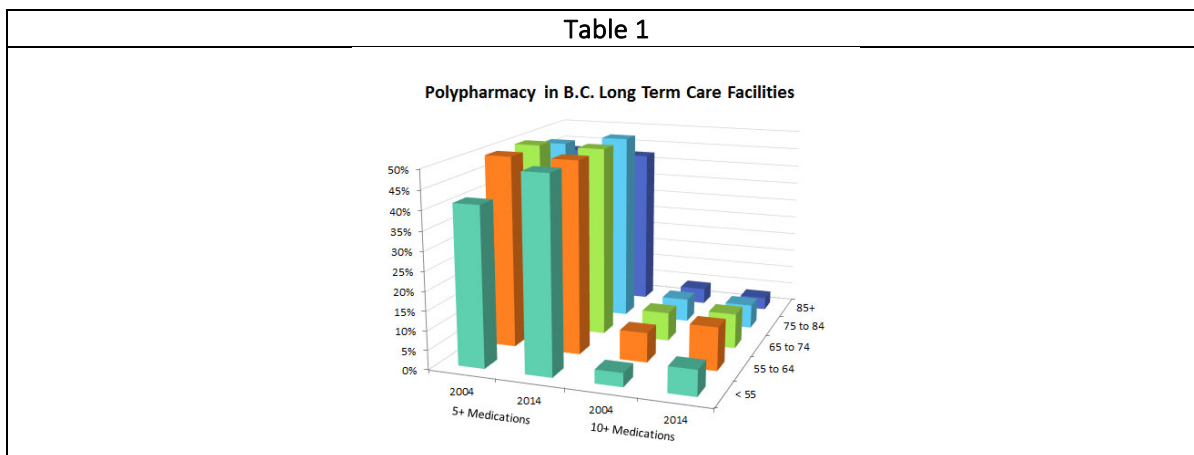
<sup>14</sup> Reducing polypharmacy: A logical approach. September 2, 2014. Accessed at: <http://www.ti.ubc.ca/2014/09/02/reducing-polypharmacy-a-logical-approach/>

<sup>15</sup> Deprescribing medication for frail elderly patients in nursing homes: A survey of Vancouver family physicians. BCMJ, Vol. 56, No. 9, November 2014, page(s) 436-44. Accessed at: <http://www.bcmj.org/articles/deprescribing-medication-frail-elderly-patients-nursing-homes-survey-vancouver-family-physi>

<sup>16</sup> Medical Journal of Australia. First do no harm: a real need to deprescribe in older patients. Ian A Scott, Kristen Anderson, Christopher R Freeman and Danielle A Stowasser. Med J Aust 2014; 201 (7): 390-392. Accessed at: <https://www.mja.com.au/journal/2014/201/7/first-do-no-harm-real-need-deprescribe-older-patients#4>

<sup>17</sup> Canadian Pharmacists Association. The Translator. Fall 2013, Volume 7, Issue 3. Accessed at: <https://www.pharmacists.ca/cpha-ca/assets/File/education-practice-resources/Translator2013V7-3EN.pdf>

<sup>18</sup> Kwan D, Farrell B. Polypharmacy. Canadian Healthcare Network – Pharmacy Practice. April 1, 2013. <http://www.canadianhealthcarenetwork.ca/pharmacists/discussions/polypharmacy-20802/5>. Accessed Oct 15, 2013.



- As outlined in a study released in June 2016, the highest rates for prescribing of potentially inappropriate medications were among women aged 85 or more (47%). Benzodiazepines (psychoactive drugs used to treat anxiety, insomnia and a range of conditions) and other hypnotics were the leading contributors to the overall frequency in prescribing of potentially inappropriate drugs among older adults. The study also estimated that \$75 per older Canadian, or \$419 million in total, was spent on potentially inappropriate medications outside of hospital settings in 2013.<sup>19</sup>
- To better address issue of polypharmacy, it will require the better documentation in resident health records. In particular, ensuring proper prescribing and documentation of medications, including information systems to assist this process is critical. While providers are attempting to deal with this, more should continue to be done in this regard.

### *Off-label drug use*

- As outlined in 2014 study from the Canada Senate, along with anticonvulsants, antipsychotics and antidepressants were among the drugs most often prescribed for non-approved uses. In particular, antipsychotics, which are approved for treatment of conditions such as schizophrenia and bipolar disorder in adults, were of particular concern to those appearing before the committee.<sup>20</sup>
- Overall there is limited data on the off-label use of prescription drugs as Health Canada does not monitor off-label prescription drug use and data on how often Canadian physicians prescribe drugs to treat conditions other than the ones they are approved for are not available. A 2012 Quebec study, however, found that one in nine drugs were prescribed for off-label use.<sup>21</sup>
- It is important to note that off-label drug use may not be inherently bad as many people, including seniors, might benefit from the innovative off-use prescriptions of drugs, particularly if they have cancer or a rare disease or in the case of anti-depressants to treat back pain. Despite this, there is no

<sup>19</sup> Frequency and cost of potentially inappropriate prescribing for older adults: a cross-sectional study. CMAJ Open. Steve Morgan et al. Accessed June 22, 2016. Source: <http://cmajopen.ca/content/4/2/E346.full>

<sup>20</sup> Prescription Pharmaceuticals in Canada: Off-Label Use. Standing Senate Committee on Social Affairs, Science and Technology. January 2014. Accessed at: <http://www.parl.gc.ca/Content/SEN/Committee/412/soci/rep/rep05jan14-e.pdf>

<sup>21</sup> Postmedia News. Senate calls on Health Canada to improve monitoring of off-label drug use. Andrea Hill. January 31, 2014. Accessed at: <http://www.canada.com/health/Senate+calls+Health+Canada+improve+monitoring+label+drug/9455392/story.html>



understanding of what off-label prescribing is safe because Health Canada has not set up an efficient and effective way to monitor the adverse reactions of drugs that are prescribed off-label.<sup>22</sup>

### *Antipsychotic Use*

- Psychotropic medications are drugs that alter chemical levels in the brain and are used to treat a wide range of conditions, including psychosis, depression and anxiety. They are commonly prescribed to seniors in both community care and residential care settings.<sup>23</sup> Anti-psychotic drugs were first developed to treat psychotic disorders, such as schizophrenia and bipolar disorder. They are increasingly being used to manage the behavioral and psychological symptoms of dementia (i.e. responsive behaviors and aggression).
- People with dementia often exhibit aggression, resistance to care and other challenging or disruptive behaviors. In such instances, antipsychotic medicines are often prescribed, but they may provide limited benefit and can cause serious harm, including premature death. As outlined by the Canadian Geriatric Society the use of these drugs should be limited to cases where non-pharmacologic measures have failed and patients pose an imminent threat to themselves or others. In particular, identifying and addressing causes of behavior change can make drug treatment unnecessary.<sup>24</sup>
- The use of antipsychotics with other psychotropic drugs increases the risk of side effects, including falls. Among 22% of residents in long term care regularly taking antipsychotics, nearly two-thirds (64%) were taking a regular antidepressant and approximately 1 in 6 residents were also regularly taking benzodiazepine, which can increase the risk of side effects.<sup>25</sup>
- Despite known health risks of antipsychotics, 39 per cent of residents in long-term care in Canada were prescribed an antipsychotic at least once in 2014, according to a report by the Canadian Institute for Health Information (CIHI). The same report shows that from 2006 to 2014, the rate of antipsychotic use by seniors in residential care in BC, however, has remained steady at about 48 per cent with a slight reduction in recent years.<sup>26</sup>
- CIHI also found that antipsychotic use was highest among residents with severe cognitive impairment and those exhibiting highly aggressive behavior. However, the rate of use among seniors exhibiting highly aggressive behaviors (51.3%) suggests that even in the most severe cases, where residents or caregivers may be at risk of harm, non-drug treatment options are being considered.<sup>27</sup>
- In 2013-14, 30.2% of residents in Canadian residential care homes were prescribed antipsychotic medications without a diagnosis of psychosis. In British Columbia the rate for 2013-14 was 32.5%.<sup>28</sup>

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<sup>22</sup> Postmedia News. Senate calls on Health Canada to improve monitoring of off-label drug use. Andrea Hill. January 31, 2014. Accessed at: <http://www.canada.com/health/Senate+calls+Health+Canada+improve+monitoring+label+drug/9455392/story.html>

<sup>23</sup> BC Office of the Seniors Advocate. Placement, Drugs and Therapy... We Can Do Better. April 2015. Accessed at: <http://www.seniorsadvocatebc.ca/wp-content/uploads/sites/4/2015/09/PlacementReport.pdf>

<sup>24</sup> Choosing Wisely Canada. Canadian Geriatric Society. Five Things Physicians and Patients Should Question. April 2, 2014. Accessed at: <http://www.choosingwiselycanada.org/recommendations/geriatrics/>

<sup>25</sup> BC Office of the Seniors Advocate. Placement, Drugs and Therapy... We Can Do Better. April 2015. Accessed at: <http://www.seniorsadvocatebc.ca/wp-content/uploads/sites/4/2015/09/PlacementReport.pdf>

<sup>26</sup> Use of Antipsychotics Among Seniors Living in Long-Term Care Facilities, 2014. Accessed at: <https://www.cihi.ca/en/types-of-care/pharmaceutical-care-and-utilization/use-of-antipsychotics-among-seniors-in-ltc>

<sup>27</sup> Use of Antipsychotics Among Seniors Living in Long-Term Care Facilities, 2014. Accessed at: <https://www.cihi.ca/en/types-of-care/pharmaceutical-care-and-utilization/use-of-antipsychotics-among-seniors-in-ltc>

<sup>28</sup> Canadian Institute for Health Information. (2014). Your Health System. Retrieved 2015, from <http://yourhealthsystem.cihi.ca/hsp/indepth?lang=en#/indicator/008/2/C9001/>

The most recent figures for 2014-15 show that more than one-in-four (27.5%) seniors in Canadian long term care facilities is on antipsychotic medication without a diagnosis of psychosis.

- According to most recent figures from Canadian Foundation for Healthcare Improvement (CFHI), 31.2 percent of long-term care residents in BC are inappropriately prescribed antipsychotics medication, which is slightly higher than Canadian average (see table below).<sup>29</sup>

<b>Potential Inappropriate Use of Antipsychotics in LTC – 2014-15</b>	
Canada – National Average	27.5%
Alberta	21.1%*
British Columbia	31.2%*
Manitoba	Data Not Available**
New Brunswick	Data Not Available**
Newfoundland/Labrador	38.2%*
Northwest Territories	Data Not Available**
Nova Scotia	Data Not Available**
Nunavut	Data Not Available**
Ontario	27.3%*
PEI	Data Not Available**
Quebec	Data Not Available**
Saskatchewan	31.3%*
Yukon	27.5%*
Source: CFHI. New National Results: Taking seniors off antipsychotics shows dramatic improvement in care. May 2016. Accessed at: <a href="http://www.cfhi-fcass.ca/NewsAndEvents/NewsReleases/NewsItem/2016/05/16/new-national-results-taking-seniors-off-antipsychotics-shows-dramatic-improvement-in-care">http://www.cfhi-fcass.ca/NewsAndEvents/NewsReleases/NewsItem/2016/05/16/new-national-results-taking-seniors-off-antipsychotics-shows-dramatic-improvement-in-care</a>	

- Previous CIHI research has also found that across Canada one in three long-term care home residents is taking antipsychotic drugs without a clinical diagnosis of psychosis and that the use of antipsychotics is nine times higher in residential care populations than among home care populations.<sup>30</sup>
- Research also shows that 33% of residents in BC residential care homes may have their quality of life affected because they are taking potentially inappropriate antipsychotic medications.<sup>31</sup> In particular, BC RAI data shows that only four per cent of seniors in residential care have a diagnosis of a psychiatric disorder, yet 34 per cent of this client group are prescribed antipsychotic medications.<sup>32</sup>

<sup>29</sup> CFHI. New National Results: Taking seniors off antipsychotics shows dramatic improvement in care. Accessed at: <http://www.cfhi-fcass.ca/NewsAndEvents/NewsReleases/NewsItem/2016/05/16/new-national-results-taking-seniors-off-antipsychotics-shows-dramatic-improvement-in-care>

<sup>30</sup> BC Office of the Seniors Advocate. Placement, Drugs and Therapy... We Can Do Better. April 2015. Accessed at: <http://www.seniorsadvocatebc.ca/wp-content/uploads/sites/4/2015/09/PlacementReport.pdf>

<sup>31</sup> Canadian Institute for Health Information. (2014). Your Health System. Retrieved 2015, from <http://yourhealthsystem.cihi.ca/hsp/indepth?lang=en#/indicator/008/2/C9001/>

<sup>32</sup> BC Office of the Seniors Advocate. Placement, Drugs and Therapy... We Can Do Better. April 2015. Accessed at: <http://www.seniorsadvocatebc.ca/wp-content/uploads/sites/4/2015/09/PlacementReport.pdf>

- Overall, there is evidence to support that the use of antipsychotics in BC is declining. The 2011 Ministry of Health report, *Review of the Use of Antipsychotic Drugs in British Columbia Residential Care Facilities*, for example, showed levels as high as 50 per cent of seniors in residential care were prescribed an antipsychotic in 2010/11. Despite a reduction from 50 per cent to 34 per cent, the RAI comparison shows BC still has a higher use than some other provinces such as Alberta and Ontario.<sup>33</sup>

### ***Anti-depressant use***

- Antidepressants are prescription medications used to treat certain mood disorders such as depression, anxiety and post-traumatic stress disorder (PTSD). When properly prescribed and taken as directed, they can be an effective treatment choice. Overall, there are three main types of antidepressants, including Tricyclic antidepressants (TCAs); Selective serotonin reuptake inhibitors (SSRIs); and Monoamine oxidase inhibitors (MAOIs).<sup>34</sup>
- When using antidepressant medication to treat the elderly, older adults have response rates similar to those of younger adults. Antidepressants also have similar efficacy when used to treat elderly patients with and without multiple medical comorbidities.<sup>35</sup> If older adults are unresponsive to low doses of antidepressants, higher doses may be required to achieve a therapeutic effect. The failure to use effective doses in elderly patients is often the reason for a lack of clinical response and referrals made to specialists for depression incorrectly diagnosed as “treatment resistant.”
- Depression is the most common mental health problem in the elderly and is associated with a significant burden of illness that affects seniors, their families, and communities and also has economic costs as well.<sup>36</sup> Studies suggest that 14% to 20% of the elderly living in the community experience depressive symptoms, with higher rates among the elderly in hospital (12% to 45%) and even higher rates in long-term care (an estimated 40%).<sup>37</sup> With an ageing population it is likely that these rates could continue to increase.
- Another study from Australia shows that more than half (52%) of aged care residents have symptoms of depression, compared with 10-15% of older people living in the community. People entering residential care are, on average, older than those living in the community. In addition to having more complex care needs due to physical and cognitive difficulties, they may also have difficulties adjusting to their loss of independence and routine. These factors can all increase their risk of depression.<sup>38</sup>
- The inappropriate use of antidepressants can also have significant detrimental effect, including ADEs. In particular, one of the most common causes of drug poisoning is antidepressants.

<sup>33</sup> BC Office of the Seniors Advocate. Placement, Drugs and Therapy... We Can Do Better. April 2015. Accessed at: <http://www.seniorsadvocatebc.ca/wp-content/uploads/sites/4/2015/09/PlacementReport.pdf>

<sup>34</sup> Geriatric depression: The use of antidepressants in the elderly. BCMJ, Vol. 53, No. 7, September 2011, page(s) 341-347 Articles. Bonnie Wiese. Accessed at: <http://www.bcmj.org/articles/geriatric-depression-use-antidepressants-elderly>

<sup>35</sup> Geriatric depression: The use of antidepressants in the elderly. BCMJ, Vol. 53, No. 7, September 2011, page(s) 341-347 Articles. Bonnie Wiese. Accessed at: <http://www.bcmj.org/articles/geriatric-depression-use-antidepressants-elderly>

<sup>36</sup> Canadian Coalition for Seniors' Mental Health. National guidelines for seniors' mental health: The assessment and treatment of depression. Toronto, ON: Canadian Coalition for Seniors' Mental Health; 2006. Accessed at [www.ccsmh.ca/en/guidelinesUsers.cfm](http://www.ccsmh.ca/en/guidelinesUsers.cfm).

<sup>37</sup> Geriatric depression: The use of antidepressants in the elderly. BCMJ, Vol. 53, No. 7, September 2011, page(s) 341-347 Articles. Bonnie Wiese. Accessed at: <http://www.bcmj.org/articles/geriatric-depression-use-antidepressants-elderly>

<sup>38</sup> The Conversation. Reducing depression in nursing homes requires more than just antidepressants. July 27, 2015. Accessed at: <http://theconversation.com/reducing-depression-in-nursing-homes-requires-more-than-just-antidepressants-38970>

- As outlined by the OSA, antidepressant prescriptions outpace depression diagnoses. While 24 per cent of residential care clients are assessed with depression, 47 per cent are prescribed antidepressant medications.<sup>39</sup> Although the use of these anti-depressants (including off label purposes) might be for legitimate reasons to deal with various psychological and physiological conditions it is difficult to know because of lack of appropriate health records.
- While there have been concerns raised about the overuse of anti-depressants among seniors in residential care further research on this is required. As with all medications, attempts should be undertaken, where possible, to ensure the appropriate use of antidepressants in conjunction with other therapies, such as regular exercise.
- While exercise has been shown to be useful for those with mild depression research shows that interventions including cognitive behavioral therapy (a talk therapy that addresses how you think and act) are at least equally effective as anti-depressants for improving late-life depression. In addition, other interventions including recreational activities such as music and singing, animals and pet therapy, reminiscence-based activities (i.e. reviewing one's life, talking with others about the past), and behavioral activation (such as doing pleasant activities) can also be effective.
- As outlined in the literature, the under use of such therapies and non-drug interventions is the result of a number of factors, including:
  - Lack of appropriate funding for activities to improve one's physical or mental well-being in residential care;
  - Lack of training for psychologists and other mental health care professionals to work with older adults, including those with cognitive impairments or who are living in residential settings; and
  - Residents and professional care staff may regard psychological care as stigmatizing and impractical, given the presence of physical and cognitive co-morbidities.<sup>40</sup>

### *Initiatives to reduce antipsychotic use*

- In its 2016 report, the Canadian Institute for Health Information (CIHI) outlines some practices already well underway to reduce inappropriate antipsychotic use including the Canadian Foundation for Healthcare Improvement (CFHI) initiative which has helped more than 50 long term care homes across Canada implement patient-centred to care for residents with dementia. BCCPA member care homes are also part of this initiative.<sup>41</sup>
- In May 2016, the CFHI released results from its pan-Canadian initiative to reduce the inappropriate use of antipsychotic medication among seniors in long term care (LTC). Some of the results included

<sup>39</sup> BC Office of the Seniors Advocate. Placement, Drugs and Therapy... We Can Do Better. April 2015. Accessed at: <http://www.seniorsadvocatebc.ca/wp-content/uploads/sites/4/2015/09/PlacementReport.pdf>

<sup>40</sup> The Conversation. Reducing depression in nursing homes requires more than just antidepressants. July 27, 2015. Accessed at: <http://theconversation.com/reducing-depression-in-nursing-homes-requires-more-than-just-antidepressants-38970>

<sup>41</sup> CIHI. Positive trends in antipsychotic use in LTC emerging: Initiatives to address inappropriate use showing success. February 25, 2016. Accessed at: <https://www.cihi.ca/en/types-of-care/pharmaceutical-care-and-utilization/use-of-antipsychotics-among-seniors-in-ltc>

fewer falls, less aggressive behaviors and resistance to care, and an improved quality of life for residents and their families.<sup>42</sup>

- In particular, from a sample of residents (416) from the care homes 54% of residents had antipsychotics discontinued or significantly reduced (18% reduced; 36% complete eliminations). Among these residents: Falls decreased by 20%; Verbally abusive behavior decreased by 33%; Physically abusive behavior decreased by 28%; Socially inappropriate behavior decreased by 26%; and Resistance to care decreased by 22%.<sup>43</sup> According to a CFHI report if these results extrapolated nationally, over the first five years an estimated:
  - 35,000 LTC residents per year would have their antipsychotics reduced or discontinued (annual average of 5,000 LTC residents in BC);
  - 25 million antipsychotic prescriptions would be avoided altogether (3.5 million in BC);
  - 91,000 falls would be prevented (12,700 in BC);
  - 19,000 ER visits would be prevented - an 8% decline - (2,700 in BC);
  - 7000 hospitalizations would be prevented - an 8% decline – (1,000 in BC); and
  - \$194 million saved in direct healthcare costs (\$27 million in BC).<sup>44</sup>
- In May 2016 the CFHI and the New Brunswick Association of Nursing Homes (NBANH) announced the first 15 care homes that have been selected to participate in the New Brunswick Appropriate Use of Antipsychotics Collaborative, a two-year province-wide program that will improve dementia care through the appropriate use of antipsychotic medications. The collaborative which is being supported by \$600,000 in provincial government funding is the first step in rolling out this program to all care homes in New Brunswick by 2017.<sup>45</sup>
- British Columbia's Call for Less Antipsychotics in Residential Care (CLeAR) was established in 2012 with a goal to achieve a province-wide reduction of 50 percent in inappropriate use of antipsychotics by December 31, 2014 through evidence-based management of the behavioral and psychological symptoms of dementia for seniors living in residential care.
- While the CLeAR initiative did not meet the 50% goal it did have some very positive aspects. In particular, forty-eight residential care homes across BC joined the CLeAR initiative. Of these, 15 were

<sup>42</sup> CFHI. New National Results: Taking seniors off antipsychotics shows dramatic improvement in care. May 16, 2016. Accessed at: <http://www.cfhi-fcass.ca/NewsAndEvents/NewsReleases/NewsItem/2016/05/16/new-national-results-taking-seniors-off-antipsychotics-shows-dramatic-improvement-in-care>

<sup>43</sup> CFHI. New National Results: Taking seniors off antipsychotics shows dramatic improvement in care. May 16, 2016. Accessed at: <http://www.cfhi-fcass.ca/NewsAndEvents/NewsReleases/NewsItem/2016/05/16/new-national-results-taking-seniors-off-antipsychotics-shows-dramatic-improvement-in-care>

<sup>44</sup> CFHI. Report prepared by Risk Analytica. Modeling the CFHI Reducing Antipsychotic Medication Use Collaborative. National and Provincial Analysis. Final Report. April 2016. Accessed at: <http://www.cfhi-fcass.ca/sf-docs/default-source/work-with-us/AP-RiskAnalytica-E.pdf>

<sup>45</sup> Canadian Foundation for Healthcare Improvement (CFHI). CFHI and Nursing Homes Join Forces to Improve Dementia Care In New Brunswick. May 17, 2016. Accessed at: <http://www.newswire.ca/news-releases/cfhi-and-nursing-homes-join-forces-to-improve-dementia-care-in-new-brunswick-579780731.html>

health authority owned and operated, 26 were affiliated (non-government owned and operated) sites and 7 were denominational care homes.<sup>46</sup>

- Overall from the CLeAR initiative there was a steady decline in antipsychotic use in participating teams, from 38% in October 2013 to less than 32% in December 2014. From the CLeAR Post-Initiative Survey, 79% of respondents were satisfied with their progress in reducing the use of antipsychotics and 66% felt their teams accomplished the goals they originally set out to achieve.
- BCCPA member care homes were also part of the CLeAR initiative such as Delta View Life Enrichment Centre which reduced its use of all antipsychotics from more than 20% to 6%, while the use of PRN (i.e. when required or as needed) antipsychotics dropped to zero.<sup>47</sup>
- In 2013, the BCCPA released a *Best Practices Guide for Safely Reducing Anti-Psychotic Drug Use in Residential Care*. Some of the results and best practices highlighted included the following:
  - 50% reduction in the use of anti-psychotics (Luther Court Society, Victoria);
  - Only 22% of residents prescribed an atypical anti-psychotic (Lodge at Broadmead, Saanich);
  - Only 21% of residents are on atypical anti-psychotics (Northcrest Care Centre, Delta);
  - 45% reduction in anti-psychotic use within four months (New Vista Society, Burnaby);
  - Reduced the use of anti-psychotics from 25% to 3.5% (Cheam Village, Agassiz);
  - Fewer than 30% of residents are on anti-psychotics (Creekside Landing, Vernon); and
  - 51% reduction in anti-psychotic medication use (The Hamlets at Westsyde, Kamloops).<sup>48</sup>
- In October 2012 the Ministry of Health also released the *British Columbia Best Practice Guideline for Accommodating and Managing Behavioral and Psychological Symptoms of Dementia in Residential Care*. The main objectives of this guideline are to improve the quality of care of dementia patients in residential care, improve family member and caregiver engagement in care, focus on appropriate use of antipsychotics in BPSD patients in care homes and build systemic capacity for better supporting assessment and care of patients with BPSD. Its key recommendations include: adopting a person-centered approach, determining target behaviors in dementia, developing appropriate care plans, and considerations for non-pharmacological and pharmacological interventions.
- Another promising initiative is Behavioral Supports Ontario (BSO), which has seen coordinated efforts to deal with patients and residents with dementia and responsive behaviors. As part of the BSO program, staff take specialized training to gently approach and redirect residents with challenging or responsive behaviors. Staff also work with care teams to reduce aggressive or challenging behaviors. Initial results show BSO has been successful, including one care home which has reduced antipsychotic medication use in half while lowering rates of agitation, restlessness and conflict.<sup>49</sup>

<sup>46</sup> BC Patient and Safety Quality Council. The journey towards dignity & resident-centered care: summary results from the call for less antipsychotics in residential care. March 2015. Accessed at: <https://bcpsqc.ca/documents/2013/06/CLeAR-Final-Report-sm.pdf>

<sup>47</sup> BC Patient and Safety Quality Council. The journey towards dignity & resident-centered care: summary results from the call for less antipsychotics in residential care. March 2015. Accessed at: <https://bcpsqc.ca/documents/2013/06/CLeAR-Final-Report-sm.pdf>

<sup>48</sup> BCCPA. Best Practices Guide for Safely Reducing Anti-Psychotic Drug Use in Residential Care (2013) <http://www.bccare.ca/wp-content/uploads/Anti-Psychotics-Guide-hr-06-05-13.pdf>

<sup>49</sup> BCCPA. Op-ed: Reducing Resident on Resident Aggression in British Columbia. January 5, 2016. Accessed at: <http://www.bccare.ca/op-ed-reducing-resident-on-resident-aggression-in-british-columbia/>

- In 2015, the Ontario Long-Term Care Association was lobbying the Ontario government for \$60 million over three years to support BSO so teams of experts can be placed in more care homes.<sup>50</sup> In its 2016 budget, the Ontario government announced it will invest an additional \$10 million annually in BSO to help long-term care home residents with dementia and other complex behaviors.<sup>51</sup>

### *Initiatives to reduce polypharmacy*

- In BC there are also a number of residential care regulations dealing in part with the broader issue of polypharmacy. For example, as part of the residential care regulations under the *Community Care and Assisted Living Act*, a licensee must appoint a medication safety and advisory committee for their care home. The licensee must also keep for each resident in care a medication administration record showing when all medications were administered and keep a record of all accidents, unexpected events and reportable incidents.
- With respect to residential care, a pharmacist must also review each patient's drug regimen at least every six months. The intent of this regulation is to ensure that a resident's medication is regularly reviewed with the client and those who are a member of the client's care team and look at whether the medication continues to be appropriate for the person residing in the home, including whether the medication and dosage are achieving desired clinical outcomes and that medications that are not required are discontinued.<sup>52</sup>
- Pharmacists are also appointed to each residential care home across the province and must monitor all pharmaceutical treatment and conduct medication reviews for individual residents, in keeping with College of Pharmacists bylaws. Reviews involve collaboration between the client and/or care provider and appropriate members of the health care team, including doctors, nurses, and other health care professionals.<sup>53</sup>
- Health authorities have also started standardizing bi-annual medication reviews that include all members of the client's health care team. In particular, in Vancouver Coastal Health, medication reviews are audited as part of licensing reviews in all owned, operated and affiliated residential care sites. In addition, a Behavioral and Psychological Symptoms of Dementia Clinical Practice Guideline has been developed. Island Health also has regular medication reviews using Resident Assessment Instrument (RAI) data to guide this work. Its Residential Services Medical Advisory Committee is also currently working on a formal process of reviewing the use of antipsychotics.<sup>54</sup>
- In 2014, Fraser Health Authority (FHA) also released a Clinical Protocol on Polypharmacy risk reduction in residential care. The purpose of this protocol is to enhance safety, quality of life and quality of medical care for adults living in residential care homes resulting from person centred

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<sup>50</sup> Nursing homes ask province to help reduce violence among elderly. Jonathan Sher. Ottawa Citizen. January 4, 2016. Accessed at: <http://ottawacitizen.com/news/local-news/nursing-homes-ask-province-for-help-to-reduce-violence-among-elderly>

<sup>51</sup> Transforming Health Care. Ontario Government. February 25, 2016. Accessed at <http://www.fin.gov.on.ca/en/budget/ontariobudgets/2016/bk8.html>

<sup>52</sup> Ministry of Health. Improvements in Residential Care. June 2013. Accessed at: [http://www2.gov.bc.ca/assets/gov/people/seniors/about-seniorsbc/pdf/971961\\_improvements\\_in\\_residential\\_care.pdf](http://www2.gov.bc.ca/assets/gov/people/seniors/about-seniorsbc/pdf/971961_improvements_in_residential_care.pdf)

<sup>53</sup> Ministry of Health. Improvements in Residential Care. June 2013. Accessed at" [http://www2.gov.bc.ca/assets/gov/people/seniors/about-seniorsbc/pdf/971961\\_improvements\\_in\\_residential\\_care.pdf](http://www2.gov.bc.ca/assets/gov/people/seniors/about-seniorsbc/pdf/971961_improvements_in_residential_care.pdf)

<sup>54</sup> BC Patient and Safety Quality Council. The journey towards dignity & resident-centered care: summary results from the call for less antipsychotics in residential care. March 2015. Accessed at: <https://bcpsqc.ca/documents/2013/06/CLeAR-Final-Report-sm.pdf>

individualized medication use that is consistent with individualized Goals of Care.<sup>55</sup> FHA is also now piloting an approach to reduce polypharmacy at George Derby care home (BCCPA member) in Burnaby and The Residents of Mission (TRIM) in Mission.

- Across FHA, residential care homes went from 47.8% of residents in care in 2014/15 on 9+ medications to 43.7% in 2015/16 (overall goal is less than 40%), while the inappropriate use of antipsychotics went from an average of 31% in 2014/15 to 29% in 2015/16. FHA's goal is to have less than 15% of residents on antipsychotics without a diagnosis of psychosis.<sup>56</sup>
- Doctors of BC and the provincial government have also been working together through the Shared Care Committee on a Poly Pharmacy Risk Reduction project to help reduce the amount of medication prescribed to seniors. The initiative started in eight residential care homes and is being expanded province-wide. Antipsychotics and antidepressants are two of the drug classes examined.<sup>57</sup> This involves a multidisciplinary approach involving physicians, pharmacists, care home staff, the resident, and family members collaborating to design processes and implement strategies for polypharmacy risk reduction for each resident. Family members also play an important role when it comes to identifying ADEs and reporting improvements.<sup>58</sup>
- Enhanced medication reviews followed by close monitoring also supports the safe discontinuation of medications. In its preliminary phase, the Shared Care initiative has reduced the number of prescriptions for seniors in the pilot project sites, with residents also being more alert and active. In a Chilliwack care home, 194 medications were successfully discontinued for 90 residents.<sup>59</sup>
- In summary, various strategies have been implemented to promote the safe and appropriate use of drugs in seniors' care, including team-based approaches to care, medication reviews and the implementation of drug information systems and electronic medical records. More widespread adoption of electronic medical record and information systems may also help facilitate decision-making in the future, by ensuring that health professionals have access to more complete information on patients' medical conditions and other medications in addition to clinical decision support tools.<sup>60</sup>
- Given that nearly 13% of seniors with at least one chronic condition who were taking at least five prescription medications reported a side effect that required healthcare in the previous 12 months (CIHI 2011), clinical practice guidelines and electronic decision support for physicians may also help to ensure that all the medications being taken by seniors are properly managed.<sup>61</sup>
- Other solutions include the development of guidelines specifically targeting elderly persons and studies of interventions to improve the appropriate use of polypharmacy and reduce medication-related problems in older people. In particular, various tools have also been developed to assess the

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<sup>55</sup> Fraser Health Authority. Clinical protocol: polypharmacy risk reduction in residential care. September 2014.

<sup>56</sup> Fraser Health Authority. Spring 2016. Newsletter: Residential Care and Assisted Living.

<sup>57</sup> Doctors of BC. Seniors and Medication. April 8, 2015. Accessed at: <https://www.doctorsofbc.ca/hot-health-topics/seniors-and-medication>

<sup>58</sup> Polypharmacy Risk Reduction: Initiative Overview. Accessed at: [http://sharedcarebc.ca/sites/default/files/SC-PPhRR%20Initiative%20Overview\\_sept\\_FINAL.pdf](http://sharedcarebc.ca/sites/default/files/SC-PPhRR%20Initiative%20Overview_sept_FINAL.pdf). For further information see: <http://sharedcarebc.ca/initiatives/polypharmacy>

<sup>59</sup> Polypharmacy Risk Reduction: Initiative Overview. Accessed at: [http://sharedcarebc.ca/sites/default/files/SC-PPhRR%20Initiative%20Overview\\_sept\\_FINAL.pdf](http://sharedcarebc.ca/sites/default/files/SC-PPhRR%20Initiative%20Overview_sept_FINAL.pdf). For further information see: <http://sharedcarebc.ca/initiatives/polypharmacy>

<sup>60</sup> Healthcare Quarterly, 15(4) October 2012: 15-18. Medication Use among Canadian Seniors. Mark McPherson, Hong Ji, Jordan Hunt, Rob Ranger and Cheryl Gula Accessed at: <http://www.longwoods.com/content/23192>

<sup>61</sup> Healthcare Quarterly, 15(4) October 2012: 15-18. Medication Use among Canadian Seniors. Mark McPherson, Hong Ji, Jordan Hunt, Rob Ranger and Cheryl Gula Accessed at: <http://www.longwoods.com/content/23192>



appropriateness of prescribing in elderly patients; these include the Beers criteria, the Inappropriate Prescribing in the Elderly Tool, and the Screening Tool of Older Person's Prescriptions/Screening Tool to Alert Doctors to the Right Treatment. The GerontoNet ADR Risk Score, for example, was also developed as a simple method to identify elderly hospital inpatients at increased risk for an ADR.<sup>62</sup>

- National campaigns are also attempting to deal with polypharmacy issues include Choosing Wisely Canada (national campaign to reduce unnecessary tests and treatments) as well as the newly created Canada Deprescribing Network which has set a goal of reducing unnecessary or inappropriate medication use in older patients by 50% by 2020.<sup>63</sup>

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<sup>62</sup> Reducing polypharmacy: A logical approach. September 2, 2014. Accessed at: <http://www.ti.ubc.ca/2014/09/02/reducing-polypharmacy-a-logical-approach/>

<sup>63</sup> New network aims to wean seniors off inappropriate prescription drugs. Don Butler. Ottawa Citizen. February 26, 2016. Accessed at: <http://ottawacitizen.com/news/local-news/new-network-aims-to-wean-seniors-off-inappropriate-prescription-drugs>.

## REFERENCES

- Deprescribing medication for frail elderly patients in nursing homes: A survey of Vancouver family physicians. BCMJ, Vol. 56, No. 9, November 2014, page(s) 436-44. Accessed at: <http://www.bcmj.org/articles/deprescribing-medication-frail-elderly-patients-nursing-homes-survey-vancouver-family-physi>
- BCCPA. Best Practices Guide for Safely Reducing Anti-Psychotic Drug Use in Residential Care (2013) <http://www.bccare.ca/wp-content/uploads/Anti-Psychotics-Guide-hr-06-05-13.pdf>
- BC Patient and Safety Quality Council. CLear Initiative. See <https://bcpsqc.ca/clinical-improvement/clear/>
- BC Office of the Seniors Advocate. Residential Care Facilities: Quick Facts Directory. January 2016. <http://www.seniorsadvocatebc.ca/wp-content/uploads/sites/4/2016/05/BC-Residential-Care-Quick-Facts-Directory-May-2016.pdf>.
- BCCPA. Lonely Seniors Suffer in Silence. December 2014. Accessed at: <http://www.bccare.ca/opinion-piece-lonely-seniors-suffer-silence/>
- BCCPA. BCCPA Partners with Mitacs on Best Practices for Recreational Programs. November 2015. Accessed at: <http://www.bccare.ca/bccpa-partners-with-mitacs-on-best-practices-for-recreational-programs/>
- Fraser Health Authority. Clinical protocol: polypharmacy risk reduction in residential care. September 2014.
- Fraser Health Authority. Spring 2016. Newsletter: Residential Care and Assisted Living.
- Deprescribing in Clinical Practice: Reducing Polypharmacy in Older Patients Linda Brookes. November 26, 2013. Accessed at: [http://www.medscape.com/viewarticle/814861\\_2](http://www.medscape.com/viewarticle/814861_2).
- Seniors are given so many drugs, it's madness. Andre Picard. Globe and Mail. March 8, 2016. <http://www.theglobeandmail.com/opinion/seniors-are-given-so-many-drugs-its-madness/article29061583/>.
- Choosing Wisely Canada. Choosing Wisely Canada: National Meeting – Abstract Book. 2016. Accessed at: [http://www.choosingwiselycanada.org/wp-content/uploads/2016/03/abstractbook\\_final1.pdf](http://www.choosingwiselycanada.org/wp-content/uploads/2016/03/abstractbook_final1.pdf)
- Healthcare Quarterly, 15(4) October 2012: 15-18. Medication Use among Canadian Seniors. Mark McPherson, Hong Ji, Jordan Hunt, Rob Ranger and Cheryl Gula Accessed at: <http://www.longwoods.com/content/23192>
- BC Office of the Seniors Advocate. Placement, Drugs and Therapy... We Can Do Better. April 2015. Accessed at: <http://www.seniorsadvocatebc.ca/wp-content/uploads/sites/4/2015/09/PlacementReport.pdf>

Reducing polypharmacy: A logical approach. September 2, 2014. Accessed at: <http://www.ti.ubc.ca/2014/09/02/reducing-polypharmacy-a-logical-approach/>

Medical Journal of Australia. First do no harm: a real need to deprescribe in older patients. Ian A Scott, Kristen Anderson, Christopher R Freeman and Danielle A Stowasser. Med J Aust 2014; 201 (7): 390-392. Accessed at: <https://www.mja.com.au/journal/2014/201/7/first-do-no-harm-real-need-deprescribe-older-patients#4>

CMAJ Open. Frequency and cost of potentially inappropriate prescribing for older adults: a cross-sectional study. Steve Morgan et al. Accessed June 22, 2016. Source: <http://cmajopen.ca/content/4/2/E346.full>

Prescription Pharmaceuticals in Canada: Off-Label Use. Standing Senate Committee on Social Affairs, Science and Technology. January 2014. Accessed at: <http://www.parl.gc.ca/Content/SEN/Committee/412/soci/rep/rep05jan14-e.pdf>

Postmedia News. Senate calls on Health Canada to improve monitoring of off-label drug use. Andrea Hill. January 31, 2014. Accessed at: <http://www.canada.com/health/Senate+calls+Health+Canada+improve+monitoring+label+drug/9455392/story.html>

Choosing Wisely Canada. Canadian Geriatric Society. Five Things Physicians and Patients Should Question. April 2, 2014. Accessed at: <http://www.choosingwiselycanada.org/recommendations/geriatrics/>

CIHI. Use of Antipsychotics Among Seniors Living in Long-Term Care Facilities, 2014. Accessed at: <https://www.cihi.ca/en/types-of-care/pharmaceutical-care-and-utilization/use-of-antipsychotics-among-seniors-in-ltc>

Canadian Institute for Health Information. (2014). Your Health System. Retrieved 2015, from <http://yourhealthsystem.cihi.ca/hsp/indepth?lang=en#/indicator/008/2/C9001/>

Geriatric depression: The use of antidepressants in the elderly. BCMJ, Vol. 53, No. 7, September 2011, page(s) 341-347 Articles. Bonnie Wiese. Accessed at: <http://www.bcmj.org/articles/geriatric-depression-use-antidepressants-elderly>

Canadian Coalition for Seniors' Mental Health. National guidelines for seniors' mental health: The assessment and treatment of depression. Toronto, ON: Canadian Coalition for Seniors' Mental Health; 2006. Accessed at [www.ccsmh.ca/en/guidelinesUsers.cfm](http://www.ccsmh.ca/en/guidelinesUsers.cfm).

The Conversation. Reducing depression in nursing homes requires more than just antidepressants. July 27, 2015. Accessed at: <http://theconversation.com/reducing-depression-in-nursing-homes-requires-more-than-just-antidepressants-38970>

CIHI. Positive trends in antipsychotic use in LTC emerging: Initiatives to address inappropriate use showing success. February 25, 2016. Accessed at: <https://www.cihi.ca/en/types-of-care/pharmaceutical-care-and-utilization/use-of-antipsychotics-among-seniors-in-ltc>

CFHI. New National Results: Taking seniors off antipsychotics shows dramatic improvement in care. May 16, 2016. Accessed at: <http://www.cfhi->

[fcass.ca/NewsAndEvents/NewsReleases/NewsItem/2016/05/16/new-national-results-taking-seniors-off-antipsychotics-shows-dramatic-improvement-in-care](http://fcass.ca/NewsAndEvents/NewsReleases/NewsItem/2016/05/16/new-national-results-taking-seniors-off-antipsychotics-shows-dramatic-improvement-in-care)

CFHI. Report prepared by Risk Analytica. Modeling the CFHI Reducing Antipsychotic Medication Use Collaborative. National and Provincial Analysis. Final Report. April 2016. Accessed at: <http://www.cfhi-fcass.ca/sf-docs/default-source/work-with-us/AP-RiskAnalytica-E.pdf>

Canadian Foundation for Healthcare Improvement (CFHI). CFHI and Nursing Homes Join Forces to Improve Dementia Care in New Brunswick. May 17, 2016. Accessed at: <http://www.newswire.ca/news-releases/cfhi-and-nursing-homes-join-forces-to-improve-dementia-care-in-new-brunswick-579780731.html>

BC Ministry of Health. British Columbia Best Practice Guideline for Accommodating and Managing Behavioral and Psychological Symptoms of Dementia in Residential Care. October 2012. Accessed at: <http://www.health.gov.bc.ca/library/publications/year/2012/bpsd-guideline.pdf>

BC Patient and Safety Quality Council. The journey towards dignity & resident-centered care: summary results from the call for less antipsychotics in residential care. March 2015. Accessed at: <https://bcpsqc.ca/documents/2013/06/CLeAR-Final-Report-sm.pdf>

Ministry of Health. Improvements in Residential Care. June 2013. Accessed at: [http://www2.gov.bc.ca/assets/gov/people/seniors/about-seniorsbc/pdf/971961\\_improvements\\_in\\_residential\\_care.pdf](http://www2.gov.bc.ca/assets/gov/people/seniors/about-seniorsbc/pdf/971961_improvements_in_residential_care.pdf)

Doctors of BC. Seniors and Medication. April 8, 2015. Accessed at: <https://www.doctorsofbc.ca/hot-health-topics/seniors-and-medication>

Polypharmacy Risk Reduction: Initiative Overview. Accessed at: [http://sharedcarebc.ca/sites/default/files/SC-PPhRR%20Initiative%20Overview\\_sept\\_FINAL.pdf](http://sharedcarebc.ca/sites/default/files/SC-PPhRR%20Initiative%20Overview_sept_FINAL.pdf). For further information see: <http://sharedcarebc.ca/initiatives/polypharmacy>

New network aims to wean seniors off inappropriate prescription drugs. Don Butler. Ottawa Citizen. February 26, 2016. Accessed at: <http://ottawacitizen.com/news/local-news/new-network-aims-to-wean-seniors-off-inappropriate-prescription-drugs>.

BCCPA. Op-ed: Reducing Resident on Resident Aggression in British Columbia. January 5, 2016. Accessed at: <http://www.bccare.ca/op-ed-reducing-resident-on-resident-aggression-in-british-columbia/>

Nursing homes ask province to help reduce violence among elderly. Jonathan Sher. Ottawa Citizen. January 4, 2016. Accessed at: <http://ottawacitizen.com/news/local-news/nursing-homes-ask-province-for-help-to-reduce-violence-among-elderly>

Transforming Health Care. Ontario Government. February 25, 2016. Accessed at <http://www.fin.gov.on.ca/en/budget/ontariobudgets/2016/bk8.html>