

## A Population-Based Examination of Benzodiazepine Receptor Agonist & Z-drug Dispensations in the Alberta Population: Prevalence of Use and Indicators of Potentially Inappropriate Use and Prescribing

Weir, D<sup>1</sup>, Samanani, S<sup>2</sup>, Niruban, SJ<sup>2</sup>, Oreopoulos, A<sup>2</sup>, Jess, E<sup>3</sup>, Gilani, F<sup>3</sup>, and Eurich, D<sup>4</sup>

<sup>1</sup>McGill University

<sup>2</sup>Okaki Health Intelligence

<sup>3</sup>College of Physicians and Surgeons of Alberta

<sup>4</sup>School of Public Health, University of Alberta

### Introduction

Canadian clinical practice guidelines for the management of anxiety disorders and insomnia suggest that benzodiazepine receptor agonist and Z-drug (BZRA) treatment is appropriate for short term use in adults (aged 20-64); use of BZRA's outside of these recommendations is considered "potentially inappropriate" given the increased potential for adverse effects.

### Objectives and Approach

The objective of this study was to characterize the use of BZRA's for all individuals 10 years of age or older in the province of Alberta in 2015 and to explore indicators of potentially inappropriate prescribing and use. Using data from Alberta's Pharmaceutical Information Network (PIN) as well as Vital Statistics, prevalence of BZRA use was determined as were characteristics of BZRA dispensations according to prescriber type, days supply and number of defined daily doses. Patient-level indicators of potentially inappropriate BZRA prescribing or use (days of consecutive use, use of multiple ingredients etc.) were calculated by age category and sex.

### Results

Overall, 372,870 individuals received 2,463,585 BZRA dispensations in 2015 (10% of Alberta population). The majority of users were female (63%), 28% were 65 years of age or older and 20% of individuals were dispensed both z-drugs and benzodiazepines. BZRA users received a median of 3 dispensations (IQR: 1-6), for a total of 91 days (IQR: 30-261) of use in the year, with a median period of consecutive use around 51 days (IQR: 21-128). 26% of individuals utilized these medications for 121 consecutive days or more increasing to 40% in those 65 + years of age. 17% of individuals utilized more than one distinct BZRA ingredient concurrently while those in the 20-49 year age group were most likely to visit multiple prescribers.

### Conclusion/Implications

Prevalence of BZRA use in Alberta is high, especially among females and the elderly. This study supports the need for patient and physician education, decision support for prescribers and continued monitoring of medication dispensing at the population level within the province of Alberta

