

## Data Impact Challenge Answer Submission Template

### Template:

- Question: What portion of older adults (65+) has been prescribed antipsychotics to treat behavioural and psychological symptoms of dementia?
- Team and list of all team member names:
  - Fareeza Khurshed
  - Dan Metes
  - Afiba Aku
  - Yiye Zeng
  - Henrietta Akuamoah-Boateng
  - Alexandra Frunza

### **Describing the Data and Analysis**

- Data Custodian Organization(s) and data sources:
  - Alberta Health
- List of Datasets Used (e.g. names of database and/or data origins):
  - IHDA population estimates derived from Alberta Health Care Insurance Plan (AHCIP) Population Registry Files (As of Mar 31).
  - Pharmaceutical Network Information database (PIN)
  - Alberta Blue Cross reimbursement database
  - Alberta Hospital Discharge Abstract Database
  - Alberta Physician Claims Data
- Nature and Size of Cohort (e.g. geographic area covered, number of patients included):
  - Includes all Albertans with age 65 and above (as of Mar 31), who has a valid Personal Health Number (PHN).
- Data timeframe: 2010 to 2013
- Exclusions: Individuals with age 64 or younger (as of Mar 31) were excluded.

Please provide a brief summary of the analysis methodology:

Dementia was identified from administrative databases using the dementia definition from Public Health Agency of Canada (PHAC). The PHAC dementia definition identifies Dementia (including Alzheimer's disease) as:

- One or more hospitalizations with a diagnosis of dementia (ICD-10: F00, F01, F02, F03, G30); or
- Three or more physician claim records (ICD-9: 290, 294, 331) at least 30 days apart and within a 2-year period, the identification date is based on the most recent claim; or
- One or more prescribed anti-dementia drug (Donepezil hydrochloride, Galantamine hydrobromide, Memantine hydrochloride, Rivastigmine tartrate) dispensing record or reimbursement record.
- Age is restricted to include only people aged 40 and older. For physician claim definitions requiring more than 1 visit, the identification date is based on the most recent claim used in the algorithm definition. If multiple data sources are used, the definition is based on the earliest identification date between the data sources. For this analysis, the population is limited to persons age 65 and over.

Pharmaceutical Network Information (PIN) database provides information on antipsychotics (both typical and atypical antipsychotics) prescription drugs to Albertans in community and out-patient pharmacies. In-patient drug use information is not captured in PIN. The following drugs are considered as antipsychotics in the analysis:

- Typical Antipsychotics: Compazine (prochlorperazine), Loxitane (loxapine), Mellaril (thioridazine), Navane (thiothixene), Orap (pimozide), Prolixin (fluphenazine), Stelazine (trifluoperazine), Thorazine (chlorpromazine), Trilafon (perphenazine)
- Atypical Antipsychotics: Clozaril (clozapine), FazaClo (clozapine), Risperdal (risperidone), Seroquel (quetiapine), Zyprexa (olanzapine), Symbyax (olanzapine and fluoxetine)

#### Limitations:

Dementia is usually underestimated using an administrative database. Inpatient diagnosis and those not utilizing the health care system are not captured. Patients do not always adhere to medical advice, as well as off label usage for dementia medication may occur.

#### Describing the Findings

Numerator: # of older adults in Alberta (age 65+ as of Mar 31) diagnosed with dementia and receiving prescribed antipsychotic drugs.

Denominator: The number of older adults with a valid Alberta health registration at the end of the fiscal year, ie for 2012/2013 the number of senior registrants on Mar 31, 2013.

In Alberta, approximately 1.6% of older adults are prescribed antipsychotics to treat dementia. Among older adults diagnosed with dementia, approximately 20% are prescribed antipsychotics. The trend shows that this number has been slightly increasing over the 3-year study period.

**TABLE 1 SUMMARY OF RESULTS**

	2010/11	2011/12	2012/13
Number of older adults (age 65+) in Alberta	410,846	431,523	455,004
Number of older adults living with Dementia	33,329	34,785	35,717
Number older adults with dementia being prescribed antipsychotics	6,291	6,940	7,391
<b>Proportion of older adults being prescribed antipsychotics to treat dementia</b>	<b>1.5%</b>	<b>1.6%</b>	<b>1.6%</b>
Proportion of older adults diagnosed with dementia being prescribed antipsychotics	18.9%	20.0%	20.7%