

## Population Estimates of Dementia in Alberta (PEDA)

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The Population Estimates of Dementia in Alberta (PEDA) dementia definition was derived from the existing Public Health Agency of Canada (PHAC) dementia definition. Based on the PHAC dementia definition, Albertans diagnosed with dementia (including Alzheimer's disease) were identified as those with:

- One or more hospitalizations with a diagnosis of dementia; or
- Three or more physician claim records 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 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.

The 30-year projection of dementia in Alberta, for those aged 40 and older, shows a steady increase in the number of Albertans living with dementia from 2014/15 to 2042/43 (56,050 to 228,949). It is projected that the prevalence rate of dementia in Alberta will increase from 25 per 1,000 population in 2014/15 to 34 per 1,000 population in 2024/25. The prevalence rate will then level off and remain fairly constant at 35 per 1,000 population.

### Methodology:

Observed prevalent case estimates were extrapolated for the years, 2015-2016 to 2042-2043. These estimates were constructed based on conservative assumptions. Constant age and sex specific dementia incidence and death rates were assumed to prevail for the duration of the 30 year projection period. These rates were applied to the moderate growth population projections (IHDA ) by age group and 40+ and then summed to produce the expected number of prevalent diagnosed dementia cases in the Alberta population. The forecasted prevalence counts were age-specific, using five-year age groups, and rounded to the nearest 100.

The following is an overview of the forecasting process

- 1) The IHDA population projection, for the next fiscal year, was applied to population for the 2014-2015 fiscal year. (Constant: PopWti)
- 2) The death count was removed from the prevalent count for the given fiscal year.

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- 3) The prevalent cases, for each age group, were factored by the proportion of the oldest single year of age, for each previous fiscal year five-year age group, from the 2014-2015 population. For the last age group (85+) no end weights were used. (Constant:  $\text{ji}$ )
- 4) The robust incidence rates were also used to produce the incident cases for the next fiscal year.
- 5) The robust incidence rates (for fiscal years 2008-2009 to 2012-2013) were applied to the results of steps 1-4, to produce the prevalent cases for the next fiscal year. (Constant: IRI)
- 6) The NDSS robust death rates (for fiscal years 2008-2009 to 2012-2013) and were applied to the results of steps 1-5 to produce the death cases for the next fiscal year. (Constant: MRI)

For the projection up to 2042-2043., the previous year of projected prevalence, based on the IHDA projected population estimate, was used in the calculation.

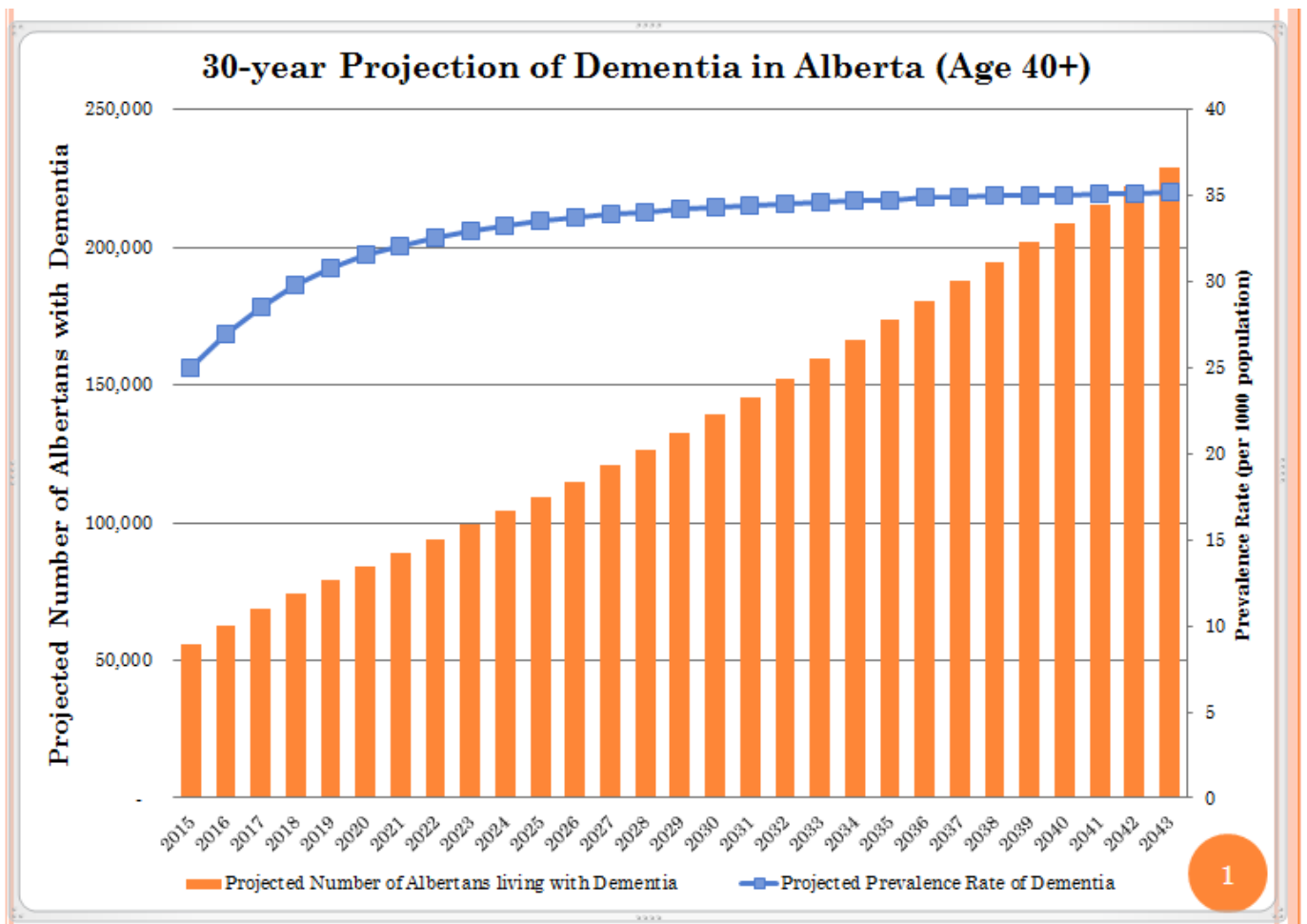


Diagram provided by Population Estimates of Dementia in Alberta (PEDA) (August 17<sup>th</sup>, 2015)