Rates of mechanical ventilation for patients with dementia in Ontario

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Background

Dementia

• 564,000 elderly living with dementia in Canada
• Aggressive interventions in ICU have unclear benefit

• Rates of IMV in elderly with and without dementia increased over time
• Dementia and IMV -> annual growth rate of 11.4%

Objectives

(1) To determine rates of IMV in patients with dementia in Ontario and generate projections out to 2030.

(2) To determine if these rates are similar and increasing at the same rate as in the US, or whether patterns of IMV are different in a country where the healthcare system has a different financial model (single-payer).
Methods

Cohort
- ICES data 2005-2014
- IMV - OHIP billing codes and ICD-10-CM codes
- Stratification of dementia by a previous algorithm\(^1\)
- Excluded chronic mechanical ventilation by ICD-10-CM code

Projections
- Statistics Canada and the Ontario Ministry of Finance: estimates of population in Ontario
- Poisson Regression: 2015 to 2030

Results

- 3.3%
- 7.9%
- 17612
- 23540
- 44337

- 6.7%
- 7.9%
- 1181
- 2329
- 8931
- 20.1%

YEAR

IMV ADMISSIONS NO.
Conclusions

• Rates of IMV in elderly individuals with dementia are increasing over time in Ontario
• By 2030, one in five elderly patients receiving IMV will have dementia
• Annual growth rate in US 11.4% vs Ontario 7.9%

Limitations:
• Unable to identify severity of dementia, or decisions regarding goals of care
• Rates of dementia in the population may shift, altering projections
Acknowledgments

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Thank you