

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

US study – Lagu et al. *JAMA Intern Med*, 2014. 174(6): p. 999-1001

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

1- Prevalence and monetary costs of dementia in Canada (2016): a report by the Alzheimer Society of Canada. *Health Promotion and Chronic Disease Prevention in Canada*, 2016. 36(10): p. 231-232.

2- Mitchell SL et al. The Clinical Course of Advanced Dementia. *New England Journal of Medicine*, 2009. 361(16): p. 1529-1538.

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

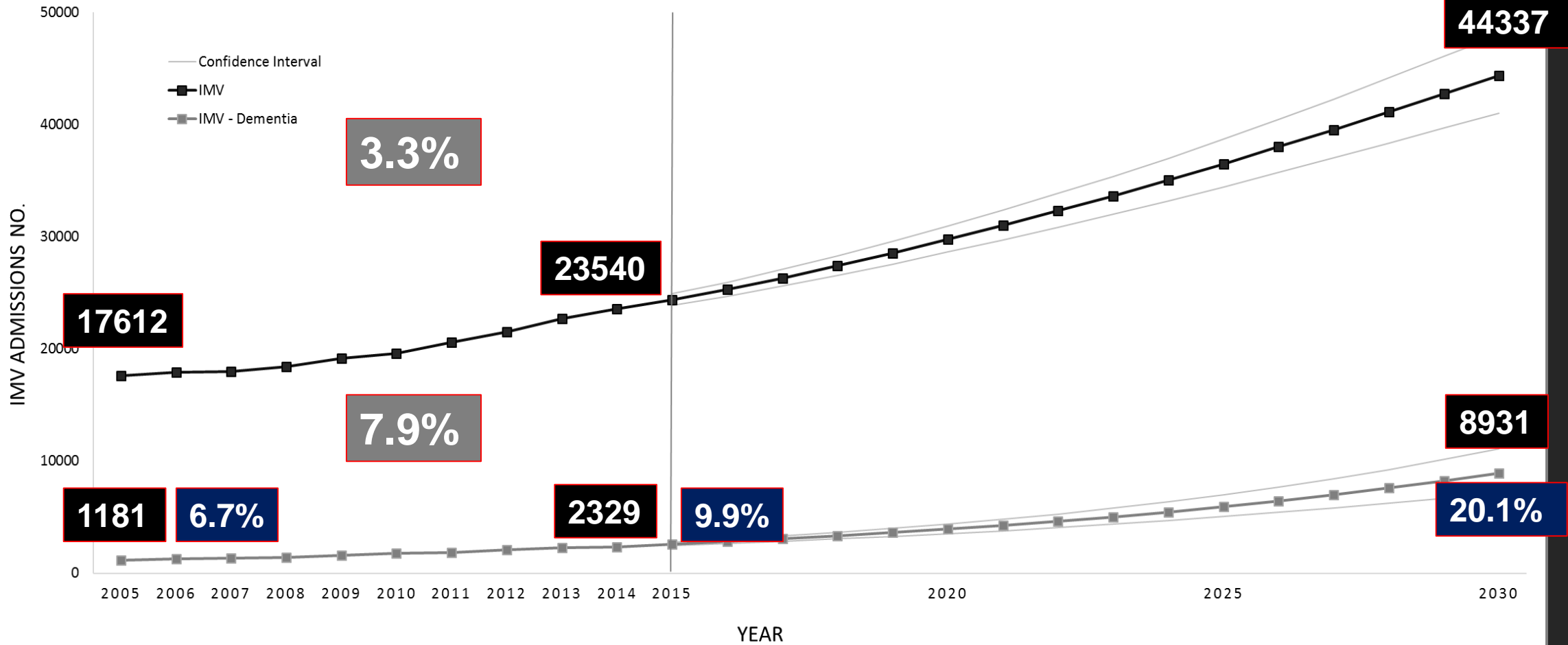
- ICES data 2005-2014
- IMV - OHIP billing codes and ICD-10-CM codes
- Stratification of dementia by a previous algorithm¹
- Excluded chronic mechanical ventilation by ICD-10-CM code

Projections

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

1. *J Alzheimers Dis*, 2016. 54(1): p. 337-49

Results



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

