International Journal of Population Data Science

Journal Website: www.ijpds.org

Utilizing population-based clinical and administrative data to estimate the incremental healthcare costs of dementia and frailty among community-residing care recipients.

Mondor, L¹, Maxwell, C², Bronskill, S¹, Campitelli, M¹, Hogan, D¹, and Wodchis, W⁴

¹Institute for Clinical Evaluative Sciences

²University of Waterloo

³University of Calgary

⁴University of Toronto

Introduction

Current cost estimates for dementia in Canada are lacking and no studies have yet to examine the incremental healthcare costs associated with both dementia and frailty, despite evidence of increasing prevalence of both conditions and their bidirectional association. These data are essential for informed clinical and public policy programs.

Objectives and Approach

Using linked clinical and health administrative databases in Ontario, we conducted a cohort study of all long-stay home care clients aged 50+ years with a clinical assessment between April 2014 and March 2015 (n=160,209). We defined dementia using a validated algorithm, and frailty categories (robust, pre-frail, frail) using a modified frailty index from clinical assessment data. Clients were followed prospectively for 1-year, for which we obtained total- and sector-specific healthcare costs for all encounters. We calculated cost differences (in \$2015CAD) between dementia-frailty groups using a survival- and covariate-adjusted cost estimator described by Manning and Basu (2010) that included dementia-frailty interactions.

Results

In this population-based cohort of long-stay home care recipients, the prevalence of dementia was 26.8% and 33.3% of these clients were frail (vs. 26.9% among clients without dementia). Approximately 15% of the cohort died over the 1-year follow-up. The average 1-year estimated total health system cost was \$26,965. On average, home care clients with dementia categorized as frail incurred \$14,291 (SE=\$139) more in charges than similar robust clients (\$35,381 vs. \$21,091, respectively). In contrast, frail persons without dementia incurred \$12,796 (SE=\$95) more in charges than similar robust clients (\$33,659 vs. \$20,864, respectively). Among frail persons, those with dementia incurred \$1,722 (SE=\$149) more

in expenditures, on average. Wide variation in sector-specific costs were also observed by dementia and frailty strata.

Conclusion/Implications

Dementia and frailty pose significant challenges to healthcare systems. Our findings illustrate large incremental costs associated with frailty, regardless of dementia status. Further research using the linked clinical assessment and administrative data is needed to inform variations in, and to delineate key drivers of, formal healthcare and informal care costs associated with dementia and frailty.