

# Polypharmacy and frequently used medications before death in Quebec: any differences between persons with and without dementia?

Catherine Richer<sup>1</sup>, Isabelle Vedel<sup>1</sup>, Caroline Sirois<sup>2</sup>, Louis Rochette<sup>3</sup>, Victoria Massamba<sup>3</sup>, Marc Simard<sup>3</sup>, Shanna Trenaman<sup>4</sup>, Jasmine Mah<sup>5</sup>, Abby Emdin<sup>6</sup>, Claire Godard-Sebillotte<sup>7</sup>

1-Department of Family Medicine, McGill University, Montreal (Mtl), QC; 2- Faculty of Pharmacy, Université Laval, Quebec city, Quebec (QC);  
3- Institut national de santé publique du Québec, Quebec city, QC; 4- College of Pharmacy, Dalhousie University, Halifax, NS;  
5- Department of Medicine, Dalhousie University, Halifax, NS; 6- Dalla Lana School of Public Health, University of Toronto, Toronto, ON;  
7- Department of Medicine, Division of Geriatrics, McGill University, Mtl, QC

# The Research Question

What is the prevalence of polypharmacy and what are the most frequently used medications in the 90 days before death in community-dwelling persons with dementia (PWD) and persons without dementia (PWOD) ?

# Research Design and Method

## Design:

- Population-based retrospective repeated yearly cohort study on 15 years (2007 to 2022)

## Population Studied:

- Community dwelling decedents, aged 65 years and 90 days and older at the date of death, with and without dementia
- Enrolled to public health insurance system and to Public Prescription Drug Insurance Plan (covers more than 90% of the 65+)

## Dataset:

- Provincial database linking 5 Quebec administrative health databases

## Outcome measures:

- Number of medications used, during the 90 days before death, using the common drug denomination classification system
- Polypharmacy (5+;10+;15+;20+)
- 25 most frequently used medications, measured on the last cohort (2021-2022)

## Analysis:

- Descriptive analysis with direct age standardization

# What the Research Found



Persons WITH dementia (PWD)

Persons WITHOUT dementia (PWOD)

Number (nb)

101 142 | 417 418

Mean age

86.5 | 80.1

Female (%)

59.2 | 47.1

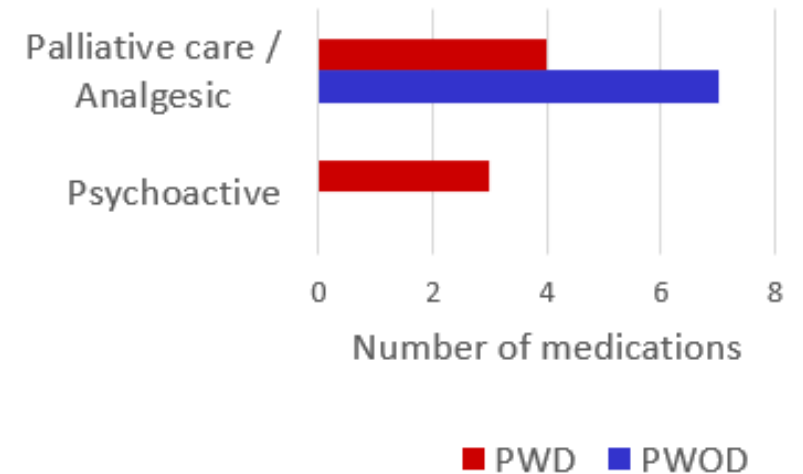
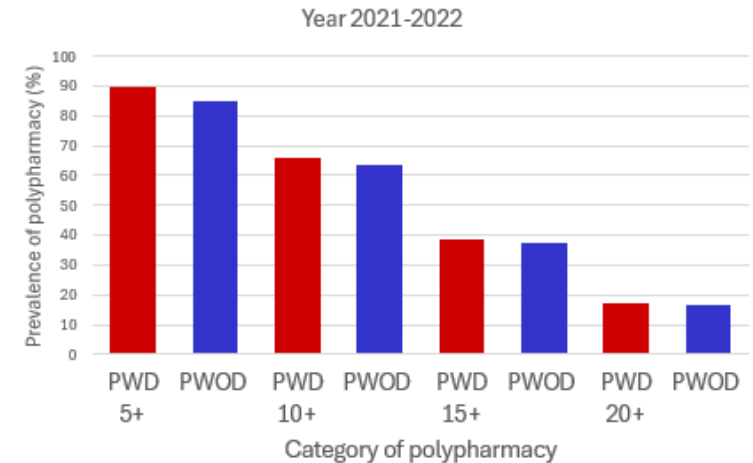
Nb of comorbidities\* (mean)

7.2 | 6.9

\* Other than dementia

Polypharmacy (5+; 10+; 15+; 20+) was similar in both groups for the 15 years, as is it presented in the graph for the year 2021-2022

PWD had more psychoactive medications and less palliative care medications than PWOD within the 25 most frequently used medications 90 days before death (2021-2022)



# What this means for Clinical Practice

- **Persons with and without dementia are affected by polypharmacy, even in the 90 days before death. This problem tends to increase through the years despite the growing literature on negative impact of polypharmacy, especially in PWD.**
- There are important differences in some categories of medication. Persons with dementia **have more psychoactive medications** and have **less palliative care medications** than persons without dementia.