



UBC CENTRE FOR
HEALTH SERVICES AND
POLICY RESEARCH

Informing Care for Older Adults with Higher Needs

Using routinely-collected data to characterize community-dwelling older adults with higher needs and identify promising points for health and social service intervention

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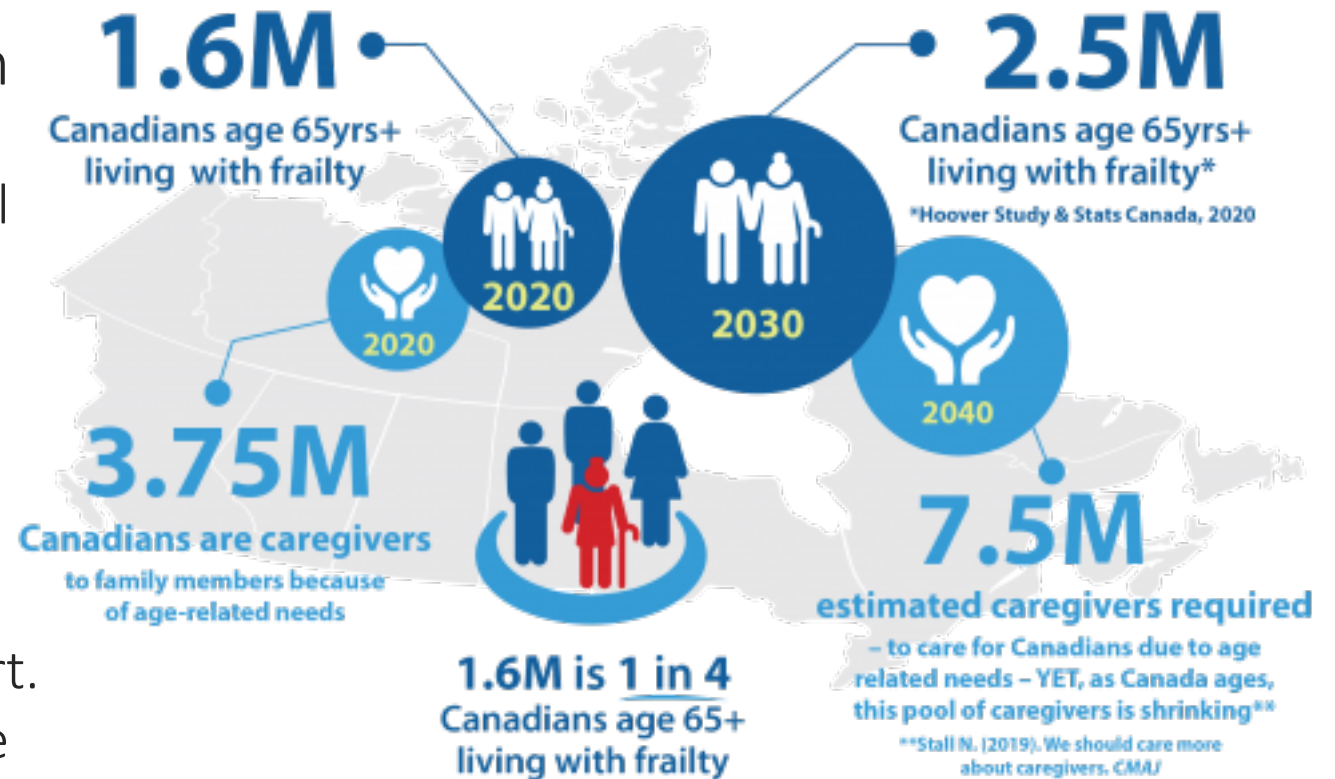
Disclosures and Disclaimers

- The authors have no conflicts of interest to disclose.
- This study is funded by the BC Ministry of Health and is conducted in partnership with the Ministry and United Way British Columbia.
- The following material was developed as part of the “Higher Needs Seniors” project, commissioned by BC Ministry of Health and United Way British Columbia.
- Access to data provided by the Data Steward(s) is subject to approval, but can be requested for research projects through the Data Steward(s) or their designated service providers.
- Further information on the data sets used for this project is at: catalogue.data.gov.bc.ca/organization/data-innovation-program-dip.
- All inferences, opinions, and conclusions drawn in these materials are those of the authors. They do not reflect the opinions or policies of the provider(s) of the data upon which they are based, the Province of British Columbia, or United Way British Columbia.



Context

- Aging population
- Preference to remain in their own homes and “age in place”^{1,2}
 - Requires access to health and social services and supports
- Growing population of community-dwelling older adults with “higher needs”.
 - Due to frailty, multiple chronic conditions, sociodemographic factors, and/or lack of social support.
 - 1.6 million Canadians 65+ (25%) are “medically frail”.³
- Face challenges in accessing adequate services - exacerbated by the COVID-19 pandemic.



<https://www.cfn-nce.ca/frailty-matters/>



Context

- United Way's Healthy Aging programs include⁴
 - Therapeutic Activation Programs for Seniors (TAPS)
 - Family and Friend Caregiver Supports
 - Social Prescribing
 - Better at Home
 - Navigation and Peer Support
 - Digital Learning/Active Aging Plus
 - Emergency Preparedness and Response



UNITED
for seniors in need

Healthy Aging

Programs designed to help aging British Columbians remain active, connected, and engaged in their existing communities.

Context

We must understand the characteristics and needs of this population to provide appropriate supports.

Research Aim: to provide information on who this group is, how their individual, social and environmental factors relate to their use of health services, and how this population and their service use have changed over time.



Overall Study Objectives

1. To describe and characterize the “higher needs older adult” population
2. To describe changes over time in their health care service use
 - Focus on changes resulting from the COVID-19 pandemic
3. To assess community-based variations in changes over time
4. To assess equity implications of the above
 - Age, sex, socioeconomic status, rurality, living alone



Research Questions

1. What are the characteristics and health care service use of the higher needs older adult population?
2. What are the changes over time in higher needs older adults' health care service use? What are the changes associated with the COVID-19 pandemic?



Methods

- Population
 - Older adults with higher needs aged 55+ in BC
 - Comparison group: All other community-dwelling older adults aged 55+ in BC
- Using routinely-collected provincial administrative data from BC⁵
 - Data from health services (e.g., hospital or public home care) and social support services (e.g., housing)
 - Whole population
 - Source: Population Data BC, Data Innovation Program
- Study timeline: April 1, 2017 to March 31, 2022
- Interrupted time series (ITS) analysis



Study Population

- Age 55+
- Community-dwelling (exclude those in LTC, hospice)
- Registered for BC Medical Services Plan
- Identified as frail per commonly used algorithms from:
 - The British Columbia Ministry of Health
 - Urquhart et al.⁵
- Censored upon entry into LTC, hospice, or death



Identifying Frailty

- “Frailty is a medical condition of **reduced function and health in older individuals**...Those living with frailty are at higher risk for deterioration of their health and death than what is expected based on their age alone.”- Canadian Frailty Network
- “Frailty is broadly seen as a state of **increased vulnerability and functional impairment** caused by cumulative declines across multiple systems.”- BC Guidelines
- Commonly used algorithms from: The British Columbia Ministry of Health and Urquhart et al.⁵
- Operationalized in administrative data by identifying combinations of fee items, diagnostic codes, and service use that are characteristic of older adults living with frailty, using recognized algorithms.



Health Service Use Outcomes of Interest

- Number of family physician visits
- Number of acute hospitalizations
- Number of emergency department (ED) visits
 - Admitted vs. not admitted
- Number of home and community care (HCC) service events
- Total health care service costs
 - Physician services, hospitalizations, ED, HCC, pharmaceuticals



Preliminary Findings – Population Characteristics

- Older adults in the community are living with frailty and with higher health and social service needs
- Those living with frailty are more likely to be older, female, have lower SES, be living alone, have more comorbid conditions, and have higher prevalence of receiving palliative care
- Frailty definitions used to identify the population appear to be robust
 - We will continue to refine and are adding one other definition



Preliminary Findings – Health Service Use

- The proportion of people using health services is greater among older adults who are frail, compared to those who are not frail
- Older adults with frailty use health services more frequently
- Among older adults using health services, those with frailty have greater intensity of use (e.g., longer hospital stays)



Preliminary Findings – Trends in Health Service Use

- We see effects of the COVID-19 pandemic on health service use
 - Family physician visit rate
 - Declined at start of pandemic and returned to usual rate in both groups
 - Urgent hospital episode rate
 - A greater decline in rates among frail older adults than their counterparts in March 2020
 - More variability in rates throughout the pandemic period among frail older adults
 - Fairly steady state for older adults who were not frail
 - Emergency room visit rate
 - Among frail older adults, there was a sharp decline in visits in March 2020
 - Visit rates did not return to pre-pandemic levels and had more variability
- Some differences in effect between community-dwelling older adults living with frailty and those who are not



Next Steps

- Complete our analysis
- Interpret findings with Steering Committee
- Report for BC Ministry of Health and United Way British Columbia
- Disseminate findings to community partners and in academic articles and presentations



Discussion

- Findings from this study will have important implications for health system and policy planning, especially as the older adult population grows in BC and Canada
- Describing characteristics and trends in health care use of the higher needs older adult population can be used to inform:
 - policymakers on the current and future needs of these groups
 - the planning and implementation of programs and interventions for this population, including investment in community-based services



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Additional Slides



Data Sources

- The data were sourced from 9 of BC's administrative databases, which are housed by Population Data BC.
 - Medical Services Plan (MSP) registration file
 - MSP payment files
 - Discharge Abstracts Database (hospital separations)
 - National Ambulatory Care Reporting System (emergency department visits)
 - Chronic Disease Registry
 - Home and Community Care MRR (publicly funded services)
 - BC Vital Events and Statistics
 - BC Housing (subsidized housing programs)
 - PharmaNet (drug dispensations)
- Provisioned through the Data Innovation Program



Interrupted Time Series Design

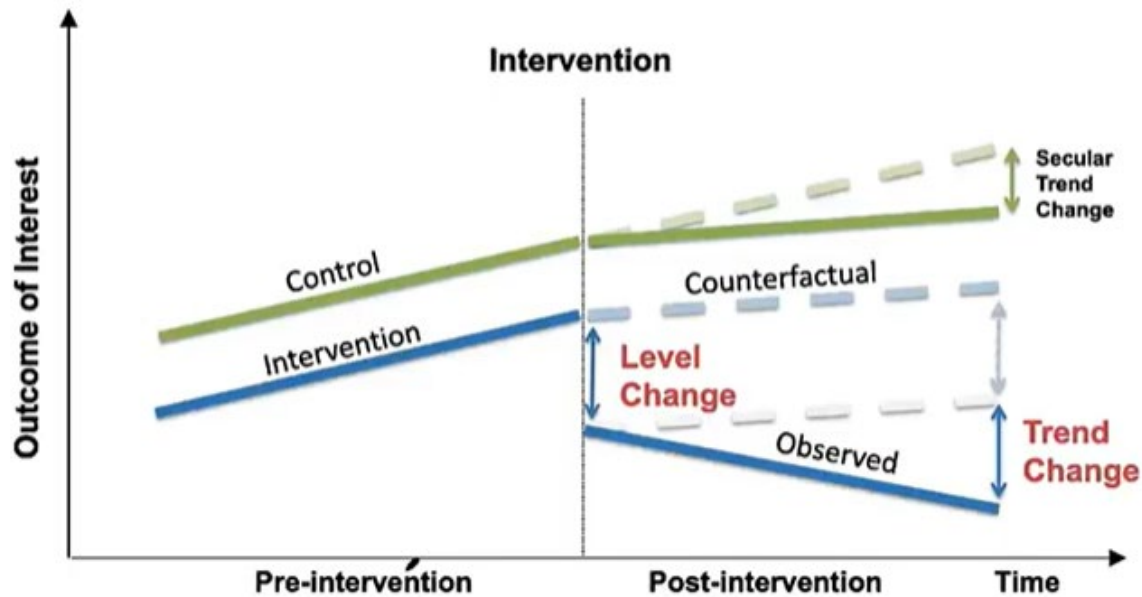


Image representing Controlled Interrupted Time Series.

Source: Law, M. 2022. UBC SPPH 506 Quantitative Research Methods.

- Repeated observations of an outcome are collected over time, both before and after a policy change or intervention of interest.
- Segmented regression analysis is used to measure changes in trend level and slope for each outcome.
- With a control group, we can determine differential changes between the two groups.

