A Relational Demographic Perspective on Later-Life Caregiving: Evidence from Canada

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Abstract

In Canada, one in four people aged 15 and older are caregivers. Within the next 50 years, the number of Canadians aged 85 and over is expected to triple to over 4.3 million. These demographic shifts disproportionately affect families, with women bearing the majority of informal, unpaid caregiving responsibilities. Recent literature has focused on care arrangements in increasingly aging populations, with less attention given to changes in the availability of care over the life course. This paper addresses this gap by integrating detailed caregiving data from the Canadian General Social Survey within a multi-state, relational demographic framework to provide a population perspective on caregiving in later life. We generate caregiving life expectancies by age, sex, and kin relationship, then extend these to population-level estimates. Our relational approach reveals gendered patterns of caregiving intensity across the life course, including simultaneous care provision for parents and spouses in later life.

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Introduction

Driven by improved life spans and fertility declines, population ageing is accelerating across the world. High-income countries are at the forefront of this ageing transition, where these demographic shifts are profoundly reshaping the demand for care. Canada exemplifies these dynamics. One in four Canadians aged 15 and older currently provides unpaid care to a family member, friend or neighbour – a proportion that highlights the centrality of informal care in the Canadian welfare context (Statistics Canada, 2022b). This reliance will only intensify as population aging accelerates. Currently, the number of Canadians aged 85 and older is projected to more than triple by 2046, placing unprecedented strain on already overextended care systems (Statistics Canada, 2022a). These demographic trends emphasize the urgency of understanding how care responsibilities are distributed, how they evolve later in life, and how they intersect with gender and severity of care needs at the population level.

Caregiving unfolds across the life course in unpredictable ways, emerging in early adulthood, midlife, or later life depending on whether one is caring for a child, parent, or spouse, and often colliding with other competing priorities (Moen et al., 1994). Research consistently shows that unpaid caregiving imposes significant stress on individuals who must balance their care roles alongside other family responsibilities, their employment, and their personal health (Bevans & Sternberg, 2012; Pearlin et al., 1990). Much of this stress is shaped by the severity of condition and type of care administered, ranging from financial management and transportation to feeding and toileting. Despite decades of work in this area, the literature tends to treat caregivers as a homogeneous group, overlooking variations in the severity of care and one's relationship to the care recipient (Utz & Warner, 2022). Differences in severity of illness and disability strongly predict levels of burden, yet these differences are not well understood at the population level (Ohaeri, 2003).

This paper contributes to filling this gap by providing a *population perspective* on caregiving in later-life by integrating survey data on caregiving dynamics within a multi-state, relational demographic modelling approach. We leverage a uniquely detailed survey module on caregiving dynamics from the Canadian General Social Survey, which provides a lens on caregiving by age, gender, severity and type of care, as well as the recipient of care. Our approach then proceeds in two steps: First, by integrating caregiving rates by age and sex within a multi-state lifetable framework, we generate caregiving life expectancies, i.e. the duration of time in an individual life span that an individual can expect to spend in providing informal care. We then extend these life expectancies to population-level estimates (population person-years lived, PPYL) of care provision by incorporating demographic estimates of those with a particular kin type (e.g. spouses, parents) by age and sex derived from a microsimulation. This *relational* perspective, whereby both our survey data and the population estimates draw on information about the recipient of care provides a nuanced measurement of the population-level time spent providing care. It quantifies how caregiving unfolds across the life course, and how these burdens are patterned by gender and kin relationships. Our focus on relationships quantifies the ages and durations at which care-giving intensity is most pronounced for whom, and reveals an oft-neglected dimension of 'sandwiching' – the coincidence of care provision for parents and spouses. We also show the gendered patterns of these caregiving by severity, with women spending a greater fraction of their lives providing care for more severe conditions.

Background

Unlike childcare, most care recipients requiring care in later life rely on family members and informal networks rather than paid professions for support (Feinberg et al., 2011). The literature indicates that the parents and spouses are the two direct kin relationships that are most likely to be the recipients of care, although caregiving unfolds for these kin types at different times and expectations (Rossi & Rossi, 1991, 2018; Wolff & Kasper, 2006). For adult children, the need to assume responsibility for an aging parent can be unpredictable, arising suddenly due to health crises or gradually as parents become less able to manage their daily activities independently. In Canada, 23% of women aged 15 and older provide unpaid care to a care-dependent adult compared to 19% of men (Statistics Canada, 2023). Women are more likely to perform routine, scheduled tasks like personal care, appointment coordination, and economic support. They also dedicate more time on average to caregiving for adults with long-term health needs, providing a median of 10 hours per work compared to 6 hours for men (Statistics Canada, 2023). These gendered caregiving patterns often reflect socialization processes wherein women are expected to be nurturers and attend to the needs of others, while men's caregiving capacity is assumed to be limited or secondary to other normative expectations (Revenson et al., 2016).

Likewise, caregiving for a spouse versus a parent involves distinct expectations. Those who are married benefit from the increased likelihood of receiving spousal care and greater long-term commitment to caregiving relative to other kin types (Lima & Allen, 2001; Wolff & Kasper, 2006). Unlike childcare, which is more predictable in timing, spousal care often emerges suddenly in older age due to illness, disability or functional decline, creating a profound shift in household dynamics (Lima et al., 2008). Life course research emphasizes that stress exposure and coping resources accumulate unevenly over time, meaning that the onset of intensive spousal caregiving in later life often collides with diminished reserves, (financial, social and physical) leaving older caregivers particularly vulnerable as they themselves age (Pearlin, 1989; Pearlin & Skaff, 1996; Wheaton, 2009). The majority of spouses assume the role of primary, and often sole, caregiver to their partner, however, this care work often reflects entrenched gendered divisions of labor. Husbands are more likely to receive care from their wives (Feld et al., 2006; Glauber, 2017) – a pattern that reflects longstanding cultural expectations and patterns of health inequality (Bird et al., 2009; Glavin et al., 2011).

Much less is known about how caregiving arrangements between spouses evolve over the life course, however, recent work by Glauber (2017) suggests that the gender care gap is most pronounced in middle age (ages 50-65) and begins to narrow in older age as men transition out of the labor force and consequently increase their provision of care. This gender disparity may be partially explained by the dual caregiving burden faced by the women in the "sandwich generation" (Brody, 1981; Miller & Cafasso, 1992; Wachter, 1997), who increasingly must simultaneously provide care to aging parents, support dependent children, and fulfill employment obligations (Aazami et al., 2018). Women's longer life expectancy further exacerbates this gender imbalance, as they tend to outlive their spouses and are therefore more likely to give care than receive it later in life. Situating spousal care within the broader sphere of the life course highlights how caregiving burdens shift across different stages of life; parental care in midlife, spousal care in later life, and how these unpredictable transitions intersect with competing priorities such as employment, health and family roles.

As population aging accelerates, the demand for care in later life will intensify. This project leverages rich, nationally representative survey data to examine caregiving dynamics in Canada in later life across multiple dimensions, including care intensity, caregiver-receiver relationships, and gender differences in caregiving patterns. We integrate that survey data with microsimulation to create population estimates that link caregivers to care recipients to develop a relational demographic approach that quantifies care flows at the population-level. This focus on later-life care addresses a critical gap by highlighting how unpaid caregiving is distributed across the Canadian population in later life, not just by age and gender, but by the relational and severity dimensions that shape who provides care, to whom, and under what circumstances. In doing so, it bridges demographic and sociological perspectives on care, offering a population-level quantification of informal care that reveals both the gendered and life-course inequalities embedded in Canada's ageing society. Specifically this paper addresses three questions:

Research Questions

- How do care life expectancies vary by age and sex?
- How much of caring life expectancy is attributable to caring for parents and spouses?
- How do demographic differences in caregiving translate to population-level estimates of care provision?

Data and Methods

The 2018 General Social Survey (GSS) - Caregiving and Care Receiving is a nationally representative survey on caregiving dynamics conducted by Statistics Canada (Statistics Canada, 2020). The survey questionnaire was administered to non-institutionalized individuals aged 15 and older across the 10 provinces of Canada. We restrict our sample to those providing care to family members with long-term health conditions, disabilities or age-related problems. Data collection took place between April and December of 2018 using a stratified probability sampling design.

To calculate caregiving rates by kin relationship and severity, we first restricted the sample to respondents providing care to a parent or a spouse, capturing two distinct periods of the care trajectory, earlier-life parental care and later-life spousal care. Within this subsample, we grouped individuals by sex, age group, kin type, and severity of care. Using survey weights, we computed the weighted number of caregivers in each group and divided it by the weighted total population of the corresponding age–sex group. This produced age and sex-specific caregiving rates disaggregated by kin relationship and severity, which were then used as inputs for the multistate life table calculations.

Multistate Lifetables

The rates of care by age, sex, type of kin and severity of care were combined with existing lifetables to estimate the expected number of years lived in each kin/severity care state using multistate lifetable methods. Specifically, we used abridged lifetables for males and females for Canada in 2018 estimated as part of the Human Mortality Database (2024b). For every age group [<1, 1-4, 5-9, 10-14,... 99+] and for men and women separately we calculated the lifetable person-years lived in kin/severity state i (for $i \in$ [parent mild, parent moderate, parent severe, spouse mild, spouse moderate, spouse severe, no caring]) as

$$L_{x,i} = p_{x,i} L_x$$

Where $p_{x,i}$ is the age-specific rate of caregiving in state i and L_x is the total person-years lived from HMD. Note that the 'no caring' state was calculated as the difference in the total person-years lived from HMD and the sum of the caring states. The life expectancy in state i was then calculated as

$$e_{x,i} = \frac{\sum_x \quad L_{x,i}}{l_x}$$

Where l_x is the number of survivors to age *x*. The interpretation of $e_{x,i}$ is the expected number of remaining life above age *x* that will be spent in state *i*. Note that the sum of all state-specific life expectancies is equal to the total life expectancy.

Microsimulation

Our microsimulation estimates rely on three sources of input data. The Human Fertility Database (HFD) (2024a) and Human Mortality Database (HMD) (2024b) provide fertility and mortality estimates. From the HFD, we obtain parity-specific period data on age-specific fertility rates disaggregated by age, sex, and calendar year. From the HMD, we obtain age-specific mortality rates using 1x1 life tables for males and females. We convert these annual HFD and HMD measures into monthly rates and probabilities in R. Age-specific marriage rates are computed using data from Statistics Canada (n.d.) on the number of women married and the mid-year population of women by age group and calendar year.

We implement our microsimulation using the *rSocsim* package (Theile et al., 2023) to generate synthetic populations and explore kinship dynamics at the individual level. Each simulated individual is assigned attributes including age, sex, and marital status, with demographic outcomes determined probabilistically using the input data described above. The software simulates life events like births, deaths, marriages and divorces to model family formation and evolution across generations. This approach enables us to estimate the availability of key kin types – specifically spouses and parents – across the life course and examine how demographic processes influence the timing and duration of these caregiving relationships.

Estimating Population-level Care Exposure Measures

As a final step we combined estimates from the multistate lifetable and microsimulation to estimate population-level exposures to care by kin and severity type. Specifically, the microsimulation gave us estimates of the proportion of the Canadian population in 2018 that had parents and spouses by age group and sex. We used estimates of the total population in Canada in 2018 by sex to convert these proportions to the number of Canadians who had parents and spouses. For a particular sex, denote the number of people in age group *x* who have a parent alive as P_x. Similarly, denote the number of people in age group *x* who have a spouse alive as S_x. For the kin/severity states *i* that involve parents, we then calculate the population person-years lived in age group *x* and state *i*, $PYL_{x,i}$ as

$$PYL_{x,i} = P_x \frac{L_{x,i}}{l_x}, \text{ for } i = 1,2,3$$

And similarly for the states that involve spouses:

$$PYL_{x,i} = S_x \frac{L_{x,i}}{l_x}, \text{ for } i = 4,5,6$$

Preliminary Findings

Descriptive Analysis

Of the total GSS 2018 sample *n* = 20,258, our analytic sample is restricted to the 7,664 individuals who reported providing unpaid care to a family member or friend with a disability or challenges related to aging. The GSS exclusively includes senior and disability care and omits any childcare unless the child has a disability. Table 1 presents weighted descriptive statistics for this caregiver population.

Table 1. Weighted distribution of caregivers by demographic, relationship, condition, and severity characteristics, Canada, 2018 GSS

Variable	Category	Percent
Sex	Male	46.3
	Female	53.7
Age group	15 to 24 years	12.5
	25 to 34 years	11.3
	35 to 44 years	13.1
	45 to 54 years	21.0
	55 to 64 years	22.7
	65 to 74 years	12.8
	75 years and over	6.6
Relationship	Child	9.8
	Friend/Neighbour/Other	13.9
	Grandchild	0.9
	Grandparent	10.6
	Parent	43.7
	Sibling	6.3
	Spouse/Partner	14.8
Primary condition	Aging/Frailty	21.7
	Cancer	9.0
	Chronic physical illness	9.8
	Dementia	7.2
	Injury/Accident	18.0
	Mental illness	9.0
	Musculoskeletal	5.9
	Neurological/developmental	8.7
	Other	9.1
	Respiratory disease	1.7
Severity	Mild	12.6
	Moderate	45.5
	Severe	41.8

The distribution of caregivers is nearly balanced by sex and spans across the age range, with the largest proportions between ages 25–64. Parents are the most common care recipients (44%), followed by spouses/partners (15%) and friends, neighbours, or other relatives (14%). Conditions prompting care are diverse: aging and frailty (22%) and injury/accident (18%) are the most frequently reported, with substantial shares also caring for those with chronic illnesses, dementia, or mental health conditions. In terms of severity, nearly half of care is directed to individuals with moderate conditions (46%), while about 42% is for severe conditions. These descriptives highlight both the breadth of kin relationships and the importance of including the care recipient's condition when assessing caregiving burdens.

Figure 1. Rate of caregiving in Canada by age group and sex, based on weighted proportion of caregivers

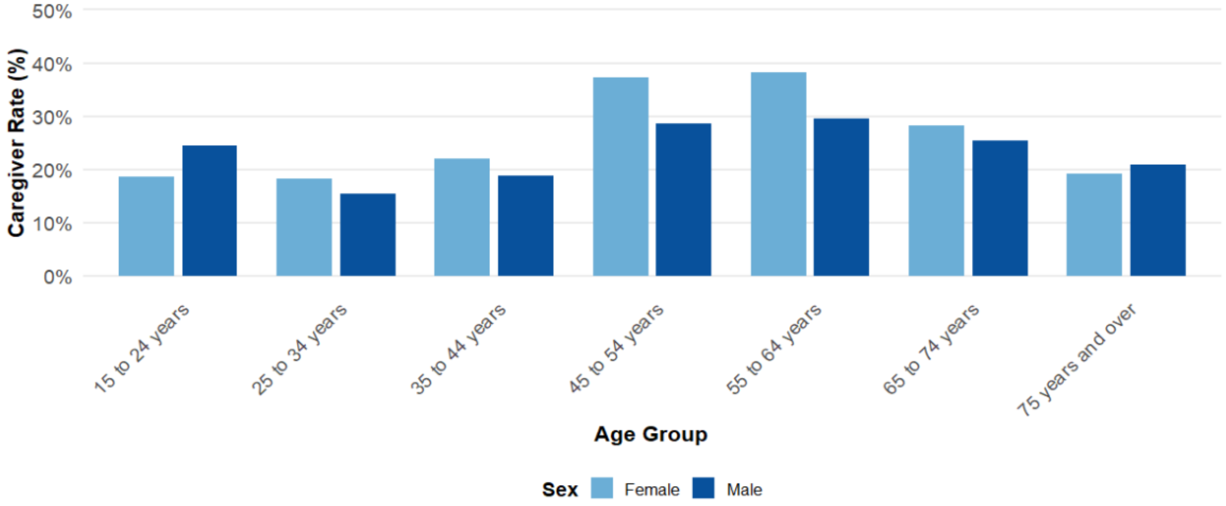


Figure 2. Severity of care receipt condition by age and sex of caregiver

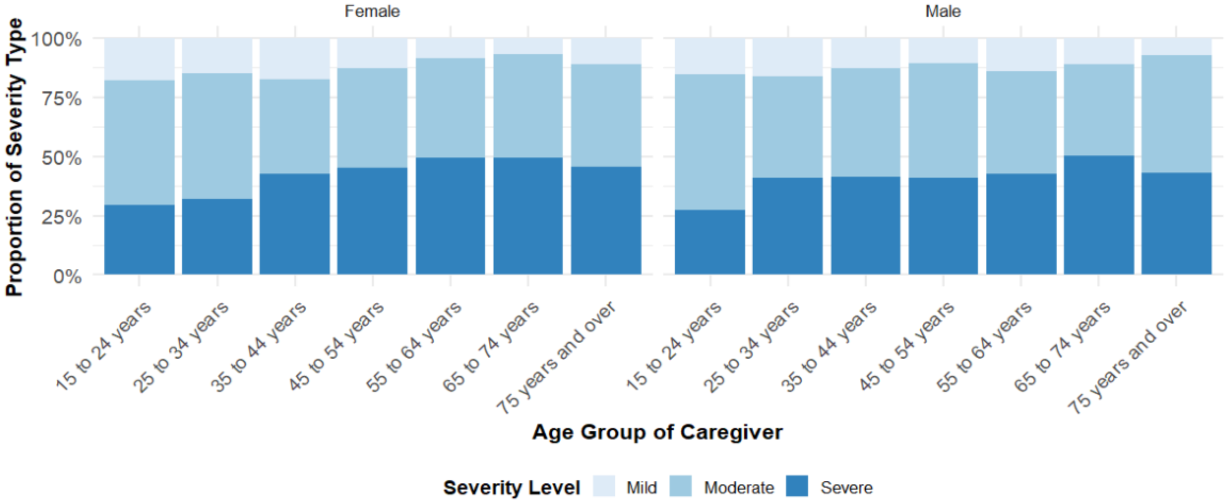


Figure 3. Caregiving rate by relationship type, sex, age group

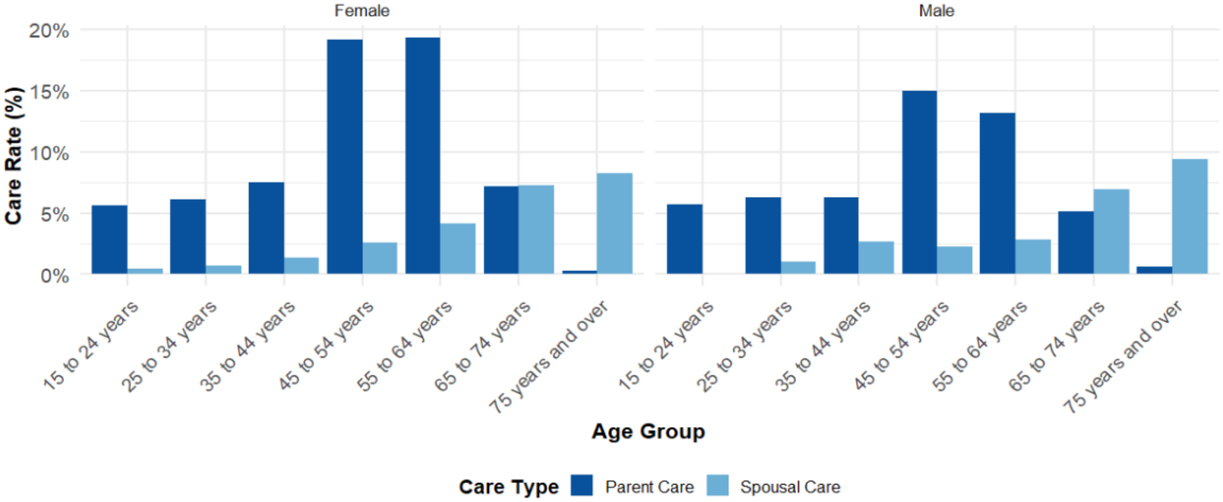


Figure 1 shows caregiver rates by age and sex from the GSS care module. This figure highlights how care-giving rates peak at midlife with a larger share of women reporting providing care compared with men, a gender gap that begins to widen from the mid-30s. Broken down by severity of care (Figure 2), we see that older adults provide a greater share of care for more severe conditions, likely a result of the older kin (e.g. parents) that they provide care for, as shown in Figure 3.

Care Life Expectancy

Figure 4 and 5 report remaining caregiving life expectancy at age x, i.e. the expected number of years an individual spends providing care, by severity and to the recipient, as well proportion of remaining life years at age x spent providing care for women and men, respectively. These estimates combine population estimates from Canadian life tables, together with the rates of care-giving derived from the 2018 GSS (as shown in Figure 1). We focus on the two most common kin relationships who are the recipient of care, parents and spouses (Table 1). Women can expect to spend approx 8.75 years providing care (e0) over their life, compared with 7.5 years for men. In the late 40s and and early 50s, we see peak 'sandwiching' in terms of the presence of simultaneous care needs emerging for parents as well as increases in caregiving emerging for spouses. Caregiving for parents declines over age, likely as a result of parental death or transition to institutional care, with caregiving needs shifting to spouses. The proportion of remaining life expectancy providing care rises sharply around the mid-70s for both men and women, although women spend a greater fraction in caring for both parents and spouses with severe conditions. Although the care-giver rates are higher for women at nearly all ages (Figure 3), the proportion of remaining life expectancy at later ages spent providing care is lower than that of men, due to men's average shorter life spans.

Figure 4. Remaining life expectancy (years) and proportion of remaining life expectancy by kin type and severity of care, **Women**

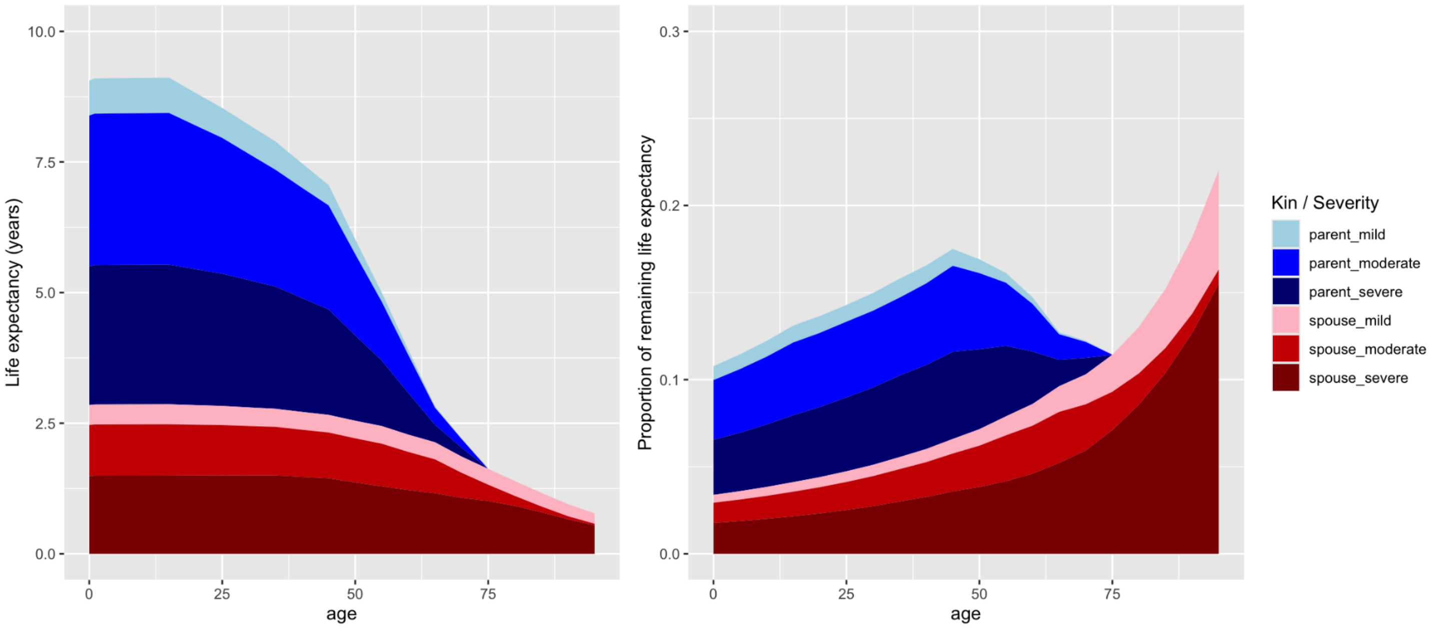


Figure 5. Remaining life expectancy (years) and proportion of remaining life expectancy by kin type and severity of care, **Men**

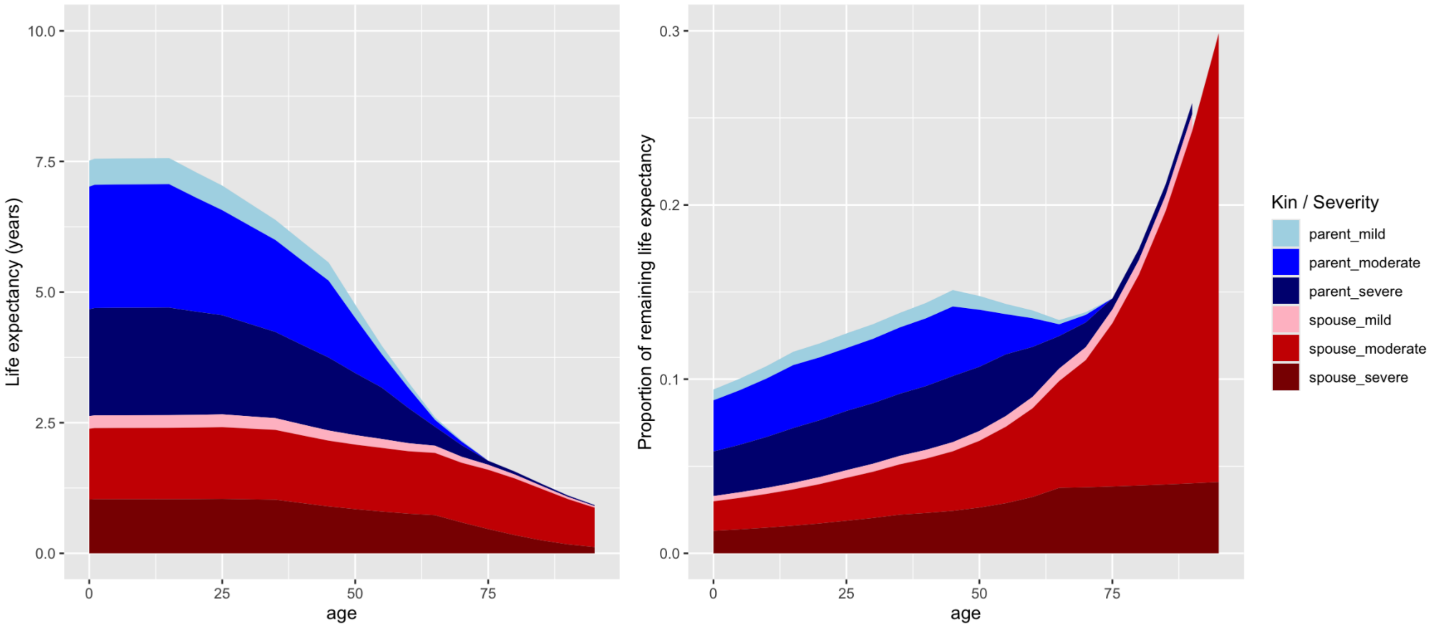


Figure 6 and 7 translate the care life expectancies into population-level person years lived (PYL) estimates. These estimates account for age structures as well as population-level differences in the availability of specific kin types to create a population-level estimate of informal care provision. These figures highlight how caregiving rises sharply by the mid-40s until the mid-60s. By the mid-40s about 20%

of all person-years lived in this age group (in absolute terms, ~1 million PYLs) provide some type of care to either a parent or spouse.

Figure 6. Population Person-Years Lived (PYL) and percent of remaining PYL, **Women**

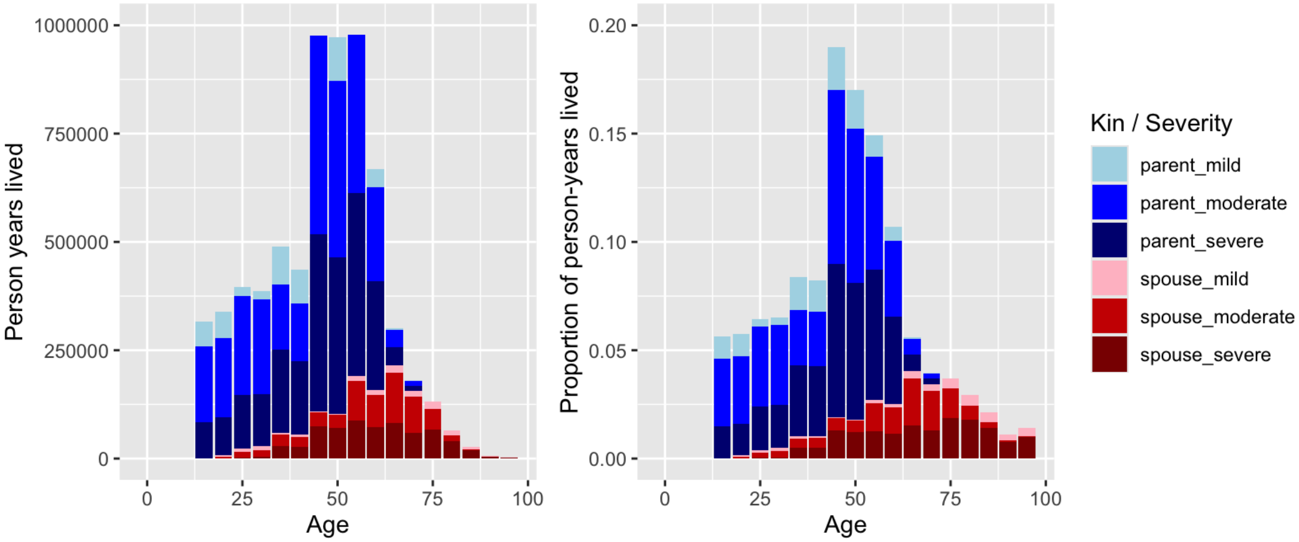
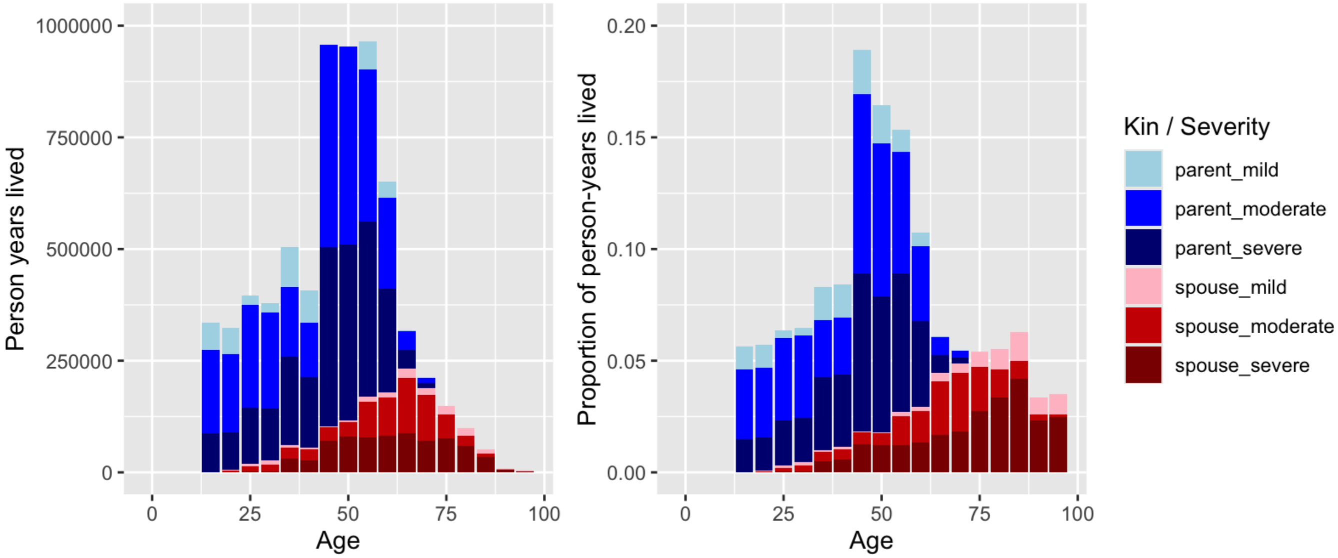


Figure 7. Population Person-Years Lived (PYL) and percent of remaining PYL, **Men**



Our preliminary results focus on care provided to parents and spouses, who represent the primary recipients of informal care during midlife and later life. To contextualize the relative contributions of these key kin relationships, future analysis will explore additional kin types. Such decomposition would allow us to quantify how much of the total caregiving burden is concentrated among parental and spousal care versus distributed across other relationship types, providing a more complete picture of the informal care landscape and the centrality of intergenerational and spousal care obligations in Canada.

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