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The fiscal impact of informal caregiving to home care recipients in Canada: How the intensity of care influences costs and benefits to government

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ABSTRACT

The objective of this study was to estimate the annual costs and consequences of unpaid caregiving by Canadians from a government perspective. We estimated these costs both at the individual and population levels for caregivers aged 45 and older. We conducted a cost-benefit analysis where we considered the costs of unpaid caregiving to be potential losses in income tax revenues and changes in social assistance payments and the potential benefit of reduced paid care expenditures. Our costing methods were based on multivariate analyses using the 2007 General Social Survey, a cross-sectional survey of 23,404 individuals. We determined the differential probability of employment, wages, and hours worked by caregivers of varying intensity versus non-caregivers. We also used multivariate analysis to determine how receiving different intensities of unpaid care impacted both the probability of receiving paid care and the weekly hours of paid care received. At the lowest intensities of caregiving, there was a net benefit to government from caregiving, at both the individual and population levels. At the population level, the net benefit to government was estimated to be $4.4 billion for caregivers providing less than five hours of weekly care. At the highest intensity of caregiving, there was a net cost to government of $641 million. Our overall findings were robust to a number of changes applied in our sensitivity analysis. We found that the factor with the greatest impact on cost was the probability of labour force participation. As the biggest cost driver appears to be the higher likelihood of intense caregivers dropping out of the labour force, government policies that enable intense caregivers to balance caregiving with employment may help to mitigate these losses.

Introduction

There has been significant discussion surrounding the benefits and costs of unpaid caregiving (Barrett, 2008; Hollander & Chappell, 2002; Hollander, Liu, & Chappell, 2008; Lilly, Laporte, & Coyte, 2010). With an ageing population, the alternative to at-home unpaid caregiving is expensive and probably not supportable at current government budget levels. Despite the considerable debate about the government's role in providing paid home care in Canada, there have been no economic evaluations conducted of the impact of unpaid caregiving from a government's perspective. Yet this is a critical component of the debate.

The importance of such a contribution is highlighted by findings of recent literature. In a 2007 review of the existing literature on caregiving and labour force outcomes, Lilly, Laporte, and Coyte found that, while the majority of caregivers experienced limited labour supply repercussions, high intensity caregivers were much more likely to be out of the labour market than lower intensity caregivers or non-caregivers. These findings have been mirrored in subsequent research which has found intensity effects on the likelihood of caregivers' labour supply and outcomes in Europe (Carmichael & Charles, 2003; Crespo, 2007; Drinkwater, 2011; Hassink & Van den Berg, 2011; Heitmueller, 2007), North America (Lilly et al., 2010; Pyper, 2006), and Australia (Berecki-Gisolf, Lucke, Hockey, & Dobson, 2008). Most recently, a related project uncovered similar findings for the Canadian context (Lilly, Jacobs, Ng, & Coyte, 2011). None of these studies, however, have extended their analyses to determine the impact of these differential employment outcomes *on government finances*. In the present study, we aim to fill this gap.

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Unpaid caregiving can impact government expenditures in several ways. First, the above highlighted employment effects can impact government income tax revenues to the extent that unpaid caregiving drives down the incomes and employment rates of more intense caregivers relative to non-caregivers. Further, if there are lower labour force participation rates among caregivers, unpaid caregiving can have an impact on social assistance payments. As a benefit to government, unpaid caregiving can also act as a substitute for some paid government caregiving (Bonsang, 2009), thus potentially reducing public home care costs.

The purpose of this study was to conduct an economic evaluation of unpaid caregiving in terms of the costs and effects, strictly from a public payer perspective. Specifically, we compared the net benefit/cost of different intensities of caregivers relative to non-caregivers aged 45 and over taking into consideration differential tax revenues, social assistance payments, and paid care services. We conducted this analysis in the Canadian context, where, at the time in question, there were more than 2 million informal caregivers (CIHI, 2010). Levels of publicly supported home care services vary dramatically across the country due to a decentralized system of provincial financing and delivery. Aside from the tax credits available to caregivers from the federal government, there is little hands-on support provided to caregivers directly via the provincial health care systems (Lilly, Robinson, Holtzman, & Bottorff, 2012). Given this relatively minimal direct support for caregivers, we considered a scenario whereby the primary consequences to government resulted from the labour force effects of caregiving and government funded paid care for care recipients. Such an analysis should be of interest to policy makers who are considering extending caregiver benefits, as it provides a measure of the policy impact on government budgets.

Methods

We conducted a cost-benefit analysis of unpaid caregiving. Our analysis followed the Canadian Agency for Drugs and Technologies in Health (CADTH) economic evaluation guidelines where appropriate (CADTH, 2006). The target population was families who received paid and/or unpaid caregiving. The alternative interventions were unpaid caregiving and government paid caregiving. We took a government perspective, where we consider the provincial and federal governments combined. The timeline was over a one year period, specifically 2007; hence, no discounting was conducted. All analysis and interpretation were conducted in 2011 and using STATA/SE version 11.

Data and sample

We used the Canadian 2007 General Social Survey (GSS) to conduct our analysis. The GSS is an annual, nationally representative survey of community-dwelling adults aged 45 and over, designed to gather information on social trends and socio-economic well-being. The dataset is publicly available; however, key variables relating to individuals' wages were only available for analysis through a Statistics Canada Research Data Centre. Ethical approval for the study and for access to restricted data was obtained through the University of Toronto Research Ethics Board. The 2007 GSS cycle gathered specific information on unpaid caregiving and care receiving. When these caregiving data are combined with detailed demographic and employment information included in the main survey, the GSS forms the richest source of data on both labour supply and caregiving for a cross-section of Canadians. The 2007 GSS interviewed approximately 23,000 Canadians, focussing only on individuals aged 45 and over. While this captures the majority of caregivers in Canada, the exclusion of those under age 45 limited our ability to analyse the influence of caregiving on younger labour force participants. The 2007 Labour Force Survey (LFS) and Survey of Labour and Income Dynamics (SLID) were used to assign costs to avoided paid care expenditures and social assistance payments respectively.

We began our analysis with a brief descriptive overview of the potential labour force participant (i.e. caregivers and non-caregivers under age 65) and care recipient (i.e. individuals who had received paid or unpaid care in the previous 12 months) samples. These samples respectively formed the basis of our labour force outcomes and paid care analyses.

Costing methods

Below we provide an overview of how we calculated the yearly costs (income tax revenues and social assistance payments) and benefits (paid care expenditures) for different intensity caregivers relative to non-caregivers. We provide a schematic overview of our costing methods in Table 1.

Income tax revenues

The first cost we considered was the difference in income tax revenues due to potentially lower labour force outcomes of caregivers versus non-caregivers. Caregivers in the GSS were defined as individuals who provided unpaid assistance to a family member or friend with a long term disability or physical limitation in the previous 12 months. Assistance with the following activities was included in the definition: personal care, house maintenance, transportation, banking, health services, and care management. Based on findings from Lilly et al. (2011), we categorized caregiving by intensity using the weekly hours of care that a caregiver provided. We considered caregivers providing less than 5 h of weekly care as

Table 1
Overview of costing methods.

Cost of government paid home care	− (Lost income tax revenues	+ Social assistance payments)
Probability of receiving paid care (Probit multivariate using GSS)	Probability of labour force participation (Probit multivariate using GSS)	Probability of receiving social assistance (Weighted proportions using GSS)
× Weekly hours of paid care (Two-stage multivariate Heckman model using GSS)	× Wage rate (Two-stage multivariate Heckman model using GSS)	× Social assistance payment rate (Age and sex adjusted from LFS)
× Average personal support worker wage (Using SLID estimates)	× Hours worked (Selection corrected OLS using GSS)	× Number in caregiving group (Using GSS population weights)
× Proportion of government funded care (Using OHCA estimates)	× Weeks worked (Weighted proportion using GSS)	
× Number in caregiving group (Using GSS population weights)	× Number in caregiving group (Using GSS population weights)	