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The Financial Burden of Out-of-Pocket Expenses in the US and Canada: How Different is the US?

Katherine Baird

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the US?**

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Katherine E. Baird
Associate Professor of Economics
Politics, Philosophy and Public Affairs
University of Washington Tacoma
1900 Commerce Avenue
Tacoma, WA 98402
Email: kebaird@uw.edu
Fax: 253 692 5178

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The Financial Burden of Out-of-Pocket Expenses in the US and Canada: How Different is the US?

Abstract:

Background: This paper compares the burden medical cost-sharing requirements place on households in the US and Canada. It estimates and the probability that individuals with similar demographic features in the two countries have large medical expenses relative to income.

Method: We use 2010 nationally-representative household survey data harmonized for cross-national comparisons to identify individuals with high medical expenses relative to income. Using logistic regression, we estimate the probability of high expenses occurring among ten different demographic groups in the two countries.

Results: The results show the risk of large medical expenses in the US is one and a half to four times higher than it is in Canada, depending on the demographic group and spending threshold used. The US compares least favorably when evaluating poorer citizens, and when a higher spending threshold is used.

Conclusions: Recent health care reforms can be expected to reduce Americans' catastrophic health expenses, but it will take very large reductions in out-of-pocket expenditures—larger than can be expected—if poorer and middle class families are to have the financial protection from high health care costs that their counterparts in Canada have.

INTRODUCTION

Extensive research investigates the impact of medical cost-sharing requirements, often referred to as out-of-pocket (OOP) medical spending. Theoretically, these can help constrain the demand for health care, and therefore its cost; however, cost-sharing practices also tend to be regressive (Wagstaff et al., 1999; Waters, Anderson & Mays, 2004), can result in cost-related reductions in medical care, and can contribute to worse health outcomes. A common way to assess the impact of OOP measures is to examine the financial burden they create. Cross-national studies of the financial burden cost-sharing measures place on citizens in different countries are rare, but those few that do exist find that Americans face the highest burden (Hirth, Greer, Albert, Young & Piette, 2008; Schoen et al., 2010). A recent Commonwealth Fund (2014) study comparing the health care systems in eleven countries placed the US last both in terms of access as well as equity, rankings in large part due to the US's high OOP spending requirements.

This paper uses international-comparable household data from the Luxembourg Income Study for both the US and Canada to present a unique comparison between these two countries of the financial burden OOP requirements creates in each. We divide each country's population into ten distinct groups based on age and income, and make cross-national comparisons for citizens with identical age and income profiles. Canada makes a relevant reference point for the United States because of its physical proximity as well as the degree of similarity between the two countries. Moreover, OOP expenditures in each account for a similar share of total health expenditures, and have been trending upward (Catlin, Poisal & Cowary, 2015; Health Care Cost Institute, 2014; Kaiser Family Foundation, 2014; Law, Daw, Cheng & Morgan, 2013; Sanmartin, Hennessy, Lu & Law, 2014; Schoen, Collins, Kriss & Doty, 2008).

Canada is also typical of other wealthy countries in terms of the financial burden that OOP spending places on households (Commonwealth Fund, 2014; Schoen et al, 2010). As health reform in the US strives to provide Americans with the level of financial security more typical elsewhere, and thus improve the overall performance of its health care system, Canada serves as a benchmark to measure how far from the norm America is, and for speculating how much closer it will be to this norm after the Patient Protection and Affordable Care Act (ACA) is fully implemented.

This paper begins with a brief conceptual discussion of optimal cost-sharing practices, followed by a short portrayal of health care financing in Canada and the US. It then uses comparable household data from 2010 in the two countries to measure and compare the probability of high household medical expenses in the two countries, where high is defined relative to income.

NEW CONTRIBUTION

Measuring the financial burden created by medical spending requirements has become an increasingly common research topic within a wide range of countries. Greater cost-sharing measures commonly accompany rising health care costs, and researchers have been monitoring the burden these place on vulnerable populations within their countries, as cost-based underutilization of health care is becoming a growing public health concern.

But it is difficult to arrive at cross-country comparisons based on single country studies, because the data and/or variable definitions are often not comparable. This paper presents what we believe is a unique cross-national comparison of the burden cost-sharing measures place on household budgets. While it is well-accepted that health care financing policy in the US results

in a higher burden on health care users than it does in other countries, the paper provides concrete measures of this difference. Canada makes a relevant reference point for the United States because OOP expenditures in each country account for a similar share of total health expenditures, and both have been rising over time. The paper's direct, rigorous comparisons provides compelling evidence of the disparate impact the US's unusual manner of financing health care has on its citizens.

BACKGROUND

Theory of Cost Sharing

The primary purpose of health insurance is to reduce the risk of high health care expenditures; however insurance can also give rise to oversupply and overconsumption of health care. In theory, cost sharing can balance the competing objectives of financial protection with the careful use of health care dollars (Baiker & Goldman, 2011; Swartz, 2010). Theoretical considerations of how to strike this balance suggest that cost sharing is more appropriate for the smaller and more certain expenses that can be anticipated, and for health expenses that might be considered more discretionary (Swartz, 2010).

The complex, interrelated and inter-temporal nature of health products and services, however, render these simple guidelines difficult in practice to implement. For instance, when demand for a product or service is elastic, optimal cost-sharing will depend on the efficacy and cost of its substitutes, the demand for which will likely increase with larger cost-sharing requirements on the former. And some elective procedures make subsequent prescription medicines or follow-up procedures essential, which complicates any optimal cost-sharing calculation.

A separate shortcoming of using cost-sharing to manage medical care costs is that for this to have its intended effect, consumers must be able to judge the value of a particular medical course of action vis-à-vis its alternatives, both in terms of immediate as well as longer-term benefits. Having done that, they must also make rational decisions over the best course of action given the costs of each involved. The first assumption is highly problematic given the often complex nature of health problems. The second requires full information on insurance benefits, which in practice individuals often lack or misjudge (Kyanko & Busch 2013; Reed et al., 2009). Cost-sharing may instead encourage patients to wait out a problem or delay a follow up, without giving due consideration to whether immediate medical care is essential or not (Swartz, 2010).

Empirical studies of OOP spending requirements clearly show that price features into health care choices (Balabanova, Roberts, Richardson, Haerpfer & McKee, 2012; Eddy et al., 2012; Goldman, Joyce & Zheng, 2007; Joyce, Escarce, Solomon & Goldman, 2002; Karaca-Mandic, Joyce, Goldman & Laouri, 2010; Wang, Liu, Bryson, Sharp & Maciejewski, 2011; Wharam et al., 2007). Not surprisingly, some individuals are more price-sensitive than others, particularly those with lower incomes (Chernew et al., 2008; Lesen et al., 2013; Piete, Heisler & Wagner, 2004; Reed et al., 2009; Schoen et al., 2010; Soumerai et al., 1994; Swartz, 2010; Tamblyn et al., 2001), the elderly (Chandra, Gruber & McKnight, 2010; Baiker & Goldman, 2011), and people of color (Weaver, Rowland, Bellizzi & Aziz, 2010). Careful studies have also shown that greater cost-sharing requirements not only reduce the use of medical services and adherence to medication therapies, but they can also lead to poorer health outcomes or more expensive alternatives (Chandra et al., 2010; Eddy et al., 2012; Heisler et al., 2010; Soumerai et al., 1991; Soumerai et al., 1994).

Such complications make it nearly impossible to ascertain *a priori* which cost-sharing practices strike the right balance between risk spreading and economic efficiency (Baiker & Goldman, 2011). While no consensus exists on clear rules and simple measures to assess cost sharing's overall impact, the most common practice (also employed here) is to judge them based on the extent to which they result in citizens devoting a large share of their income to out-of-pocket costs (Collins, Rasmussen, Doty & Beutel, 2014; Cunningham, 2009; Law et al., 2013; Sanmartin et al., 2014; Schoen, Hayes, Collins, Lippa & Radley, 2014). This measure offers a straightforward gauge of citizens' protection from the risk of large medical bills, and the inequities in health care financing, access, and outcomes that can result when they are not. That medical expenses are an important contributing factor to the financial distress of families, as well as the frequency with which they declare bankruptcy (Commonwealth Fund, 2011; Himmelstein, Thorne, Warren, & Woolhandler, 2009) adds a separate reason why large OOP expenses are usually viewed as socially undesirable.

Financing of Health Care in Canada and the United States

Canada's public insurance covers all citizens, is paid for out of tax revenue, and accounts for 70% of the country's total health expenditures (OECD, 2013). Since public insurance excludes a number of services and products, about two-thirds of Canadians supplement their public insurance with private (Commonwealth Fund, 2013), usually purchased at subsidized rates through their employer. Private insurance covers about 13% of all health expenses, and the balance of expenses (about 16%) is paid out-of-pocket (OECD, 2013).

In the US, about half of all health expenses are paid for by the government, financed by both general and payroll taxes; public insurance covers eligible poor citizens (Medicaid) and the elderly (Medicare). Medicaid requires little out-of-pocket spending, while Medicare has limited

coverage and high cost-sharing requirements (Cubanski, Swoope, Damico & Neuman, 2014). Most citizens with Medicare purchase supplemental insurance to reduce their cost-sharing expenses, although this can still leave them with high OOP expenses (Cubanski et al., 2014; and Noel-Miller, 2013). Most Americans without Medicaid or Medicare are covered by private insurance, the cost of which is roughly split between employees and their employers. Private insurance accounts for about 35% of all health expenditures, and while private insurance plans vary widely, they commonly result in large OOP expenses (Abramowitz & O'Hara, 2015; Blewett, Rodin & Devern, 2009; Catlin et al., 2015; Kaiser Family Foundation, 2014; Schoen et al., 2008). About 16% of Americans were uninsured in 2010 and all of their health expenses were either paid for out-of-pocket or went uncompensated. Out-of-pocket spending in the US accounts for about 12% of all health expenditures (OECD, 2013).

METHODS

Logistic regression based on nationally-representative individual-level household survey data is used to measure and compare Canadians' versus Americans' probability of having high medical bills, where "high" is defined relative to income. While both data sets are for 2010, more recent estimates suggest that the probability of high household medical spending in both countries has been holding steady or slowly rising over the last few years (Health Care Cost Institute, 2013; Law et al., 2013; OECD, 2013; Sanmartin et al., 2014). To date, health care reform in the US, which was initiated in 2010, remains too recent and too partial to evaluate its complete effect on OOP spending; however after presenting the results, we offer some conjectures over the degree to which the ACA will reduce the differences measured here.

Data Description

Household survey data from both countries is obtained through the Luxembourg Income Study (LIS). LIS produces harmonized versions of nationally-representative household surveys by aligning variables with international standards to facilitate cross-national research, and 2010 is the last year for which it provides data from both countries.

For the United States, LIS uses the US Census Bureau's Current Population Survey's Annual Social and Economic Supplement (CPS), which very recently added a household-level variable capturing health expenses. The quality of this variable in the CPS has been found comparable to that in the Medical Expenditure Panel Survey (MEPS) (Caswell & O'Hara, 2010). While the MEPS is the most common nationally-representative data source for estimating Americans' OOP expenses, the CPS data (n=203,799 in this study) provides a far larger sample size and more detailed and accurate information on household income; as such it is becoming increasingly used for investigations into Americans' OOP expenses (Abramowitz & O'Hara, 2015; Caswell & O'Hara, 2010). The OOP expenditures in the CPS data also feature into official estimates of the US's Supplemental Poverty Index (Caswell & O'Hara, 2010), an index that takes household medical expenses into account.

Canada's household survey data is derived from Statistics Canada's Survey of Labour and Income Dynamics (n=60,313), which also contains household OOP expenditures from Statistics Canada's Survey of Household Spending, where the latter is used for official estimates of Canadians' spending patterns (Sanmartin et al., 2014). The analyses for both countries are based on all individuals with household income above zero, or more than 99% of those sampled.

Definitions

OOP Expenses. The US and Canada employ similar but not completely identical definitions of OOP spending. Out-of-pocket expenditures are typically measured by the expenses incurred while consuming health care, and includes deductibles, co-insurance, copayments, and expenses not covered by insurance (which for the uninsured would include everything). This is how it is defined in the US, but in Canada, it includes households' spending on secondary (private) health insurance premiums. While some, primarily elderly, Americans purchase secondary health insurance, these expenses are not accounted for in the US's data set. For this reason, the two sources are not completely compatible, and Canada's more comprehensive measure of OOP spending will, all else equal, give rise to a greater likelihood of registering large medical expenses. However, since very few non-elderly Americans purchase secondary insurance, this problem of comparability primarily applies to the elderly, for whom Canadians' estimates will be biased upward relative to Americans'. For others, the estimates should be relatively free of bias.

Income. To measure resources available to meet OOP expenses, and gauge the extent to which OOP spending remains affordable, we use household disposable income, meaning income after accounting for both government taxes and social transfers, or that available to meet household expenses. Since LIS standardizes this variable, it is defined in an identical fashion across the two nations.

High Medical Expenses. To measure high medical spending, each household's OOP spending is expressed as a share of its disposable income. Consistent with the literature, high spending is defined as expenditures in excess of a threshold value of income (Abramowitz & O'Hara; Blewett et al., 2009; Collins et al., 2014; Cunningham, 2009; Law et al., 2013;

Sanmartin et al., 2014; Schoen et al., 2014). This study uses expenditures of at least 5%, and alternatively 10% of income, which are the two most common thresholds in the literature. All individuals in the same household are assigned the same spending ratio, and thus all have the same indicator (either 1 or 0) for high medical expenses.

Demographic Characteristics. How affordable any level of OOP expenditures is will depend on income; moreover, the risk of high OOP tends to be especially large among the elderly population because of their more substantial medical needs. In order to compare the prevalence of high spending between the two countries, we take these two characteristics into account by calculating the probability of high OOP spending separately for the elderly and non-elderly, and for five different income categories (defined below). Probabilities in each country are calculated for these ten different demographic groups.

To control for income, each nation's population is partitioned into income quintiles based on the standard practice of using individuals' equivalized household disposable income (disposable income divided by the square root of household size). All members of the same household receive identical values of equivalized household disposable income, and thus are all in the same income quintile. Because this group is so economically heterogeneous, the top income quintile is separated into the 80-95th income percentile and the top 5% of income. We distinguish the elderly from the non-elderly by classifying those 65 years and older as elderly.

Table 1 presents summary statistics for the two countries.

Table 1 here

Estimation Technique

To estimate the probability that elderly and non-elderly individuals in each of the income quintiles have high medical spending, we use logistic regression, with high spending alternatively defined as exceeding a 5% and a 10% of income threshold. The dependent variable, high health expenses, is a binary variable. The independent variables are income quintile (the third quintile is the reference), and an elderly dummy variable that takes the value of 1 for those 65 and older. To estimate the probability of high expenses P occurring for individual i (P_i), the β coefficients from the logistic regression with n characteristics of the population are used to calculate the probability as follows (Long, 1997):

$$(1) P_i = \frac{\exp(\beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \dots + \beta_n X_{ni})}{1 + \exp(\beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \dots + \beta_n X_{ni})}.$$

As an illustration, the X variables for non-elderly citizens in the third (reference) quintile all take the value of zero; accordingly, the estimated probability of high health expenses P for this group is:

$$(2) P = \frac{\exp(\beta_0)}{1 + \exp(\beta_0)}.$$

RESULTS

Table 2 presents the estimated β coefficients (and standard errors) from the logistic regressions; Table 3 uses these values to estimate the probability of high spending for each of the ten demographic groups based on equation (1) above.

Table 2 here

As columns 1 and 2 in Table 3 show, Americans in all ten demographic groups are much more likely than their Canadian counterparts to have health expenses exceeding 5% of their income. In the US, the risk of this occurring is most common among poor elderly citizens (those in the bottom quintile, see row 1); among this group, we estimate a 41% probability of high medical expenses compared with a 27% probability among Canadians. In absolute terms, the largest difference in probabilities occurs between the non-elderly poor: the probability of high expenses in the US is 27%, versus 11% in Canada.

Table 3 here

Table 3 column 3 presents relative risk levels by showing the US rate relative to Canada's (e.g., 41%/27% in the case of poor elderly citizens). As shown, elderly Americans face between 1.2 and 2.1 times the risk faced by elderly Canadians. Among nonelderly Americans, the relative risk of spending at least 5% of one's income on medical expenses ranges from 1.7 to 3.2 times that in Canada.

Examining the risk of large medical bills when "high" is defined as exceeding 10% of income (Table 3 columns 4-5) also shows that the risk in the US is highest among poor elderly citizens (27% versus 12% in Canada). The absolute gap is also largest among this group. The relative risk of high expenses in the US compared with that in Canada (column 6) is larger when measured by the 10% threshold instead of a 5% one. Excluding those with income in the top 5% (where the relative risk in the US is exceptionally high because Canada's numbers are so low),

elderly Americans face two to two-and-a-half times the risk faced by elderly Canadians, and non-elderly Americans face around three to four times the risk of Canadians.

The analysis thus finds large differences between the two countries in the risk of high health expenses among all demographic groups, with the relative risk especially elevated when using the higher threshold of 10% of income, and when comparing non-elderly citizens in the two countries. In absolute terms, the largest differences are among poorer citizens, with those in the US facing a particularly large chance of having high medical expenses compared with their Canadian counterparts.

DISCUSSION

The paper finds the risk of incurring large expenses to be about 1.5 to 4 times higher in the United States, depending on the demographic group and how large the definition of “large expenses” is. The nature and depth of these differences (see Table 2) indicates that this difference is not only due to the US’s more costly medical system, but also to the nature of health care policy that places a greater financial burden on those poor and middle class citizens in need of medical care.

Having consumers of medical care and health products pay some portion of their costs out-of-pocket has some merit as a policy tool to manage demand. While the appropriate reliance on such a financing mechanism and its precise form remain unsettled and important questions not addressed here, what is not is that from an equity standpoint, health insurance should provide citizens with appropriate levels of financial protection against high health care costs.

The need for this protection is particularly important among the most vulnerable populations—the elderly, the poor, and the sick—because these groups are the most prone to

cost-related underusage of health care. The large effect that costs can have on the under-treatment of health problems, such as Piette et al. (2004) document, underscores the public health dimension of large OOP expenses. The prevalence of large out-of-pocket requirements may help explain why the US has such wide disparities in access to health care among different socioeconomic groups (Smedley, Stith & Nelson, 2003; Palmer et al., 2013), disparities that contribute to its recent rating by the Commonwealth Fund (2014) as the most inequitable health care system among the eleven that it compared.

Canada serves as the paper's benchmark, its inclusion not because of its status as the ideal (see Sanmartin et al., 2014), but rather because it is typical of other wealthy nations for which comparable data has been compiled. Canada provides a vantage from America's backyard of how political choices and health care costs affect the extent to which health care's financial burden falls on those needing medical care, and is a reasonable basis for judging how adequate health care financing reform in the US has been.

Limitations

Two limitations in this study suggest that its findings underestimate both the degree of financial risk in the US, as well as the gap in risks between the US and Canada. The paper estimates the risk of high OOP spending by actual spending patterns, thus failing to capture those who do not register high OOP spending only because they defer or forgo medical treatment rather than pay its cost; this omission may seriously underestimate the risk of high medical costs (Abraham, DeLeir & Royalty, 2010). And if the deterrent effect of OOP requirements increases as the cumulative burden of OOP expenditures grows (Karaca-Mandic et al., 2010), the estimates here fall especially short of measuring Americans' true exposure to medical care's financial risks. And while the paper represents a rare cross-national examination of OOP spending using

data that has been harmonized for exactly that purpose, Canada's employment of a more expansive definition of OOP implies that the true difference between the elderly in the US and Canada is likely larger than estimated here.

POLICY IMPLICATIONS

An important goal of health care reform in the US is to limit the burden cost-sharing practices place on individual households. Will recent policy changes with the ACA significantly improve Americans' financial protection so that it might approach the level provided in Canada and other countries?

For sure, the expansion in insurance levels that have already begun to occur will reduce the large and catastrophic expenses of the uninsured population (Busch, Golbertstein & Meara, 2014; Cantor, Monheit, Delia & Lloyd, 2012; Chen, Bustamante & Tom, 2015; Chua & Sommers, 2014). The ACA's intent to match the actuarial value of insurance to income, and to place more stringent limits on maximum OOP expenses, is also a significant step in reducing very high OOP costs (Gruber & Perry, 2011). However, the ACA's coverage expansion may continue to leave some groups of vulnerable citizens without insurance (Abramowitz & O'Hara, 2015). And the Act still permits the running-up of large medical bills, amounts which can easily exceed 20% of poor and middle class incomes (Associated Press, 2014; Goodnough & Pear, 2014; Rosenthal, 2015). It also may not do much to reduce the high health care expenses of poor elderly citizens, those who despite being eligible for both Medicaid and Medicare, often have high health expenses (Noel-Miller, 2013). For the elderly, a large part of their high OOP expenses comes from services not covered by Medicare (Noel-Miller, 2013). A significant share

of OOP expenses for others can be traced to the contribution of out-of-network expenses, and protection against these costs may not be adequate under the ACA (Kyanko & Busch, 2013).

In short, once fully in place, the ACA should noticeably decrease the high costs associated with needing medical care and health products. However, there is reason to believe it will not accomplish as much reduction as needed. Moreover, in the absence of effective measures to reduce the cost of health care in the US, shifting away from cost-sharing and toward a greater reliance on insurance could help, but only at a cost of increasing insurance premiums and taxes. Without addressing America's high health care costs, attaining financial protection on par with that in Canada is best achieved through stricter, more comprehensively-defined and binding income-based limits on OOP spending than is currently provided for in the ACA.

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Table 1: Summary Statistics

	US (US\$)	Canada (US\$)
Median Income		
Elderly	\$26,367	\$24,734
Non-elderly	\$30,617	\$28,876
Income Quintile		
20 percentile	\$16,206	\$16,900
40 percentile	\$25,049	\$24,526
60 percentile	\$35,684	\$32,302
80 percentile	\$50,903	\$43,937
95 percentile	\$83,045	\$66,400
Percent High Spending		
≥ 5 percent	20.9%	11.2%
≥10 percent	9.4%	3.1%
OOP/Income		
50 percentile	2.0%	0.9%
75 percentile	4.2%	2.4%
90 percentile	9.3%	5.4%
Number observations	203,799	60,313

SOURCE: Authors calculations from 2010 LIS data (www.lisdatacenter.org). Results for Canada converted to US\$ based on OECD's Purchasing Power Parity for consumption available at http://stats.oecd.org/Index.aspx?datasetcode=SNA_TABLE4.

NOTES: All calculations based on weighted observations. Median income is defined as median equivalized disposable income. Disposable income is bottom coded to zero. Income quintiles based on equivalized disposable income.

Table 2: Estimated Coefficients and Standard Errors from Logistic Regressions

	-----OOP/Income 5%-----				-----OOP/Income 10%-----			
	US		Canada		US		Canada	
	β	se	β	se	β	se	β	se
Elderly	0.624	0	1.061	0.001	0.661	0.004	1.031	0.002
Income								
Quintile 1	0.341	0	0.048	0.002	0.772	0.001	0.748	0.003
Quintile 2	0.146	0	0.263	0.002	0.329	0.001	0.435	0.003
Quintile 4	-0.305	0	-0.490	0.002	-0.522	0.001	-0.195	0.004
80-95%	-0.845	0.001	-1.041	0.002	-1.228	0.001	-1.215	0.006
Top 5%	-1.501	0.001	-1.930	0.006	-1.874	0.002	-2.492	0.017
Constant	-1.320	0	-2.109	0.001	-2.424	0	-3.791	0.002
No obs.	203,799		60,313		203,799		60,313	

Note: Based on weighted observations. Dependent variable is indicator of household OOP spending exceeding 5% or 10% of household disposable income.

Source: Authors calculation based on LIS data (www.lisdatacenter.org).

Table 3. The Probability of High Out-of-Pocket (OOP) Expenses by Income Group and Elderly Status, Canada versus the US

	Estimated Probability High Spending=1					
	OOP/Inc 5%		Relative	OOP/Inc 10%		Relative
	US	Canada	Prob. (1/2)	US	Canada	Prob (4/5)
Elderly						
Q1	41.2%	26.9%	1.5	27.1%	11.8%	2.3
Q2	36.6%	31.3%	1.2	19.2%	8.9%	2.2
Q3	33.3%	26.0%	1.3	14.6%	6.0%	2.5
Q4	26.9%	17.7%	1.5	9.2%	5.0%	1.9
Q5:						
80-95	17.6%	11.0%	1.6	4.8%	1.8%	2.6
Top 5	10.0%	4.8%	2.1	2.6%	0.5%	4.9
NonElderly						
Q1	27.3%	11.3%	2.4	16.1%	4.6%	3.5
Q2	23.6%	13.6%	1.7	11.0%	3.4%	3.3
Q3	21.1%	10.8%	1.9	8.1%	2.2%	3.7
Q4	16.5%	6.9%	2.4	5.0%	1.8%	2.7
Q5:						
80-95	10.3%	4.1%	2.5	2.5%	0.7%	3.8
Top 5	5.6%	1.7%	3.2	1.3%	0.2%	7.2

SOURCE: Authors' calculations from 2010 LIS data (www.lisdatacenter.org) n=203,799 (US) and 60,313 (Canada).

NOTES: Based on estimated logistic regression coefficients in Table 3. See text for detail. Q=quintile.