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How Equitable is Health Care Utilization Among Older Adults in Canada?

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Abstract Although many of the financial barriers to accessing health care in Canada have been dismantled, there may exist other, socioeconomic barriers that result in inequitable utilization of health services. If true, such barriers may disproportionally affect older adults since this group is likely to be economically more vulnerable compared with the general population and is relatively more susceptible to disease and disability. This paper investigates the association between socioeconomic status and health services utilization for a sample of older adults (ages 65 and over) drawn from the public-use microdata files of the Canadian Community Health Survey for 2011 and 2012. The study includes controls for the individual's health needs and health behaviour so that correlations between socioeconomic status and health care use are reflective of equity (or not) in access to health care. Results from the analysis suggest that socioeconomic standing is significantly associated with the utilization of services that involve a private component such as vision and dental care. For publicly insured services such as FP/GP visits, results vary by gender and by the measure of socioeconomic standing used for the analysis. For these services, results suggest that while socioeconomic standing is not significantly associated with visits to FP/GPs or overnight stays in hospitals for males, females who have a higher socioeconomic standing, have more 'contact' with their physician compared with females with a lower relative socioeconomic standing.

Keywords Older adults · Health care needs · Health utilization · Socioeconomic status · Health services utilization

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Introduction

Government involvement in health care in Canada dates back to the early 1950s prior to which (i.e., before World War II) health care was, for the most part, privately funded and delivered (Health Canada 2012). Canada introduced a system of universal health coverage over a period of 25 years (1947 to 1972) following a number of province-led reforms aimed at distributing health services based on need and not ability-to-pay (Allin 2006). In 1984, the Canada Health Act (CHA) replaced the earlier federal hospital and medical insurance acts and consolidated their principles by establishing criteria on portability, accessibility, universality, comprehensiveness, and public administration. The Act also added provisions that prohibited extra billing and user fees for insured services (CUPE, 2008). The primary objective of the Act was that by tying federal contributions to provincial compliance with specific requirements, Canadians would have access to health care regardless of their ability to pay.

Since the introduction of the CHA, although accessibility has improved over time, there is evidence that inequity still persists in the use of health services (Allin 2006). For example, some studies claim that individuals belonging to higher socioeconomic groups may be better at navigating the health system and may be able to gain access to more extensive or more complex health services relative to those with lower socioeconomic standing (Hirschman 1970). In other words, there may exist non-financial socioeconomic barriers that may result in inequitable access to health care. Whether socioeconomic barriers to health care utilization exist among the older population (those 65 years of age or older) forms the central theme of this paper.

The paper analyzes health care utilization by older adults, measured as (1) visits to a family doctor/ general practitioner (FP/GP); (2) overnight stays in a hospital, nursing home or convalescent home (henceforth referred to as 'hospital'); (3) visits to an ophthalmologist or an optometrist (henceforth referred to as 'eye specialist'); and (4) visits to a dentist or orthodontist (henceforth referred to as 'dentist'). These services not only represent a range of services that the population may be expected to consume as they get older but are also reflective of services that may involve varying degrees of private insurance. For example, while the large part of the physician and hospital services may be free at the point of delivery – since the CHA prohibits a private alternative for medically necessary physician and hospital services –vision and dental care may involve significant out-of-pocket expenses. These expenses may represent a deterrent for people with a lower socio-economic standing.

The concern with inequitable access to health care in Canada is not new. Starting in the 1970s, studies have attempted to determine whether the Canadian system has indeed met its objective of providing equitable access to health care for its population. For example, Birch and Abelson (1993) point to the extensive literature during the 1970s and 1980s that has shown an association between greater health needs and great health use. However, one drawback of these studies, as pointed out by the authors, is the lack of an examination of socioeconomic variables in the relationship between health care needs and health care utilization.

More recently, studies have attempted to directly measure the association between socioeconomic status and health care use in Canada. These include population-based analyses in Winnipeg, Manitoba (Roos et al. 2005; Roos and Mustard 1997) and individual-level analyses in Nova Scotia (Veugelers and Yip 2003; Kephart et al.

1998). The underlying conclusion of these studies is that, controlling for age and gender, people in the lower socioeconomic status group use more health services relative to their counterparts.

The finding that lower socioeconomic status is correlated with greater health use has been challenged by other authors who point to the lack of controls that measure the *need* for care or the individual's health behaviour. In the absence of such controls, it is plausible that respondents with lower socioeconomic status also have a greater health care needs or have riskier health behaviour which results in an overall negative association between socioeconomic status and health care utilization observed in the literature. In other words, in the absence of adequate controls for the respondent's health care needs or health behaviour, correlations between socioeconomic status and health care use are not reflective of appropriate access to needed care.

Nevertheless, studies that control for need for health care have produced mixed results. For example, while Katz et al. (1996) use the 1994 Ontario Health Survey and show that lower income is associated with greater utilization of physician services, Finkelstein (2001) uses the Ontario portion of the 1995 National Population Health Survey (NPHS) and shows that there is no significant association between health care utilization and income.

In their study, Asada and Kephart (2007) point to the use of different statistical methodologies and different indicators to control for need-for-care as reasons for the mixed results observed in the above studies. The authors use a broader set of need indicators as controls, drawn from the 2000/01 Canadian Community Health Survey (CCHS), and find that lower income is associated with less 'contact' with general practitioners and specialists. Their conclusions are based on a methodology that separately examines 'contact' with a health services provider and the resulting 'intensity' of services-use.

In line with the above research, this paper examines the association between socioeconomic factors and health care utilization in Canada. However, the paper employs the 2011/12 public use microdata file of the CCHS and analyzes health needs of older adults (those aged 65 and over) – a group that is not only expected to comprise an increasing proportion of Canada's population in the upcoming decades but to also have high health care needs (CIHI, 2011).

For example, estimates from Statistics Canada. Population Projections for Canada and Territories (2009) suggest that the share of seniors (those aged 65 and over) is expected to climb from 14% of the population in 2009 (4.8 million) to between 23 and 25% (10.4 million) by 2036. As well, by 2015, and for the first time in Canada's demographic history, the proportion of seniors (those aged 65 and over) in the population is expected to surpass the proportion of youth (those aged 14 and younger) (CIHI, 2011). In terms of health care utilization, seniors are heavier users of hospital services and also stay longer once admitted (CIHI, 2011). Further, seniors visit their family doctor more often than others. For example, in 2009, the share of seniors who frequently visited their FP (10 times a year or more) was almost double the share of frequent visitors among non-senior adults (9.7% versus 5.5%) (CIHI, 2011).

In the United States, despite access to Medicare, research suggests that older individuals with lower socioeconomic standing have increased mortality rates (Bassuk et al. 2002), higher stroke incidence (Avendano, et al. 2006), higher incidence of progressive chronic kidney disease (Merkin et al. 2007), and lower health-related

quality of life (Huguet et al. 2008). As well, older persons living in poor neighborhoods are more likely to have poorly integrated social networks (Black and Rubinstein 2000).

Inequitable utilization patterns by socioeconomic status are likely to affect the older people differently from the rest of the population. Given that most people aged 65 plus work considerably less or are likely retired, they are expected to have lower disposable incomes on average compared with the general population, placing them at a lower relative socioeconomic standing compared with the general population.

Further, out-of-pocket expenses for many vision or dental services may constitute an additional burden for older individuals who may require these services more than the general population. This is not only true for the older individuals residing in the United States, but also for the older groups in Canada where prescription drugs, vision or dental services remain, to varying degrees, outside the purview of services that are considered "medically necessary" and are therefore largely funded through private insurance.

The study is relevant for several reasons. First, such an analysis would shed light on the extent to which the Canadian health system is meeting its goal of providing equitable access to health care to a group that will account for an increasing share of Canada's population in the upcoming years. Second, the analysis can inform future government policy work through the identification of any need for improvement opportunities in the access to health care for the elderly.

Method

Data

The public use microdata files of the 2011/12 CCHS were used for the analysis. The data are based on interviews conducted over a two year period with approximately 130,000 respondents aged 12 or older, residing in households in all provinces and territories in Canada. The sample excludes residents living on Indian reserves, in institutions, in some remote areas and those that are members of the Canadian Forces. In addition to providing information on income and labour force characteristics of the population, the survey provides information on a wide range of topics including height and weight, general health, chronic health conditions, injuries, and use of health care services.

From the file, data were restricted to respondents aged 65 and over and four separate files were created, by gender, by the dependent variables used to assess health care utilization: visits to a FP/GP; overnight stays in a 'hospital'; visits to an eye specialist; and visits to a dentist. These measures represent self-reported consultations or stays in the 12 months prior to the survey.

Variables

The dependent variables listed above reflect the different mechanisms through which individuals in Canada access health services. For example, while individuals may themselves choose to visit a family doctor or a general practitioner (or an emergency department), hospital stays, visits to an eye specialist or a dentist may be via referral by providers.

For the purposes of the analysis, two dependent variables were created from the measures of health care utilization: the first is a binary variable indicating use or non-use (of FP/GP or hospitals or vision or dental), representing 'contact' with a health service provider and the second – only in the case of visits to a FP/GP – is a count variable indicating the number of consultations for those who had at least one 'contact' with a FP/GP. Except for FP/GP visits, the 'intensity' of use of health services is often not the patients' choice, but is dependent on referrals by providers to other providers. As such, in this study, the intensity of the use of health services is modeled for only FP/GP visits.

The independent variables used to measure socioeconomic status are (1) household income, available in the CCHS as different income bands; (2) whether homeowner or not; and (3) the respondent's educational credentials. The income variable was recoded into 3 groups: high income earners (respondents that reported household income of $80,000 or more), middle income earners (respondents that reported earnings between $20,000 and $79,999) and low income earners (respondents that reported earnings below $20,000). Note that the income variable (and other independent variables) includes a 'missing' category that has been derived from responses in the CCHS that were coded as 'not stated'. The education variable was also recoded into three groups: less than high school, secondary school/some post-secondary and post-secondary graduate.

Other controls include the respondent's cultural or racial origin, whether immigrant or not, marital status and the province/territory of residence. The latter accounts for any systematic differences in health care systems across Canada's provinces and territories.

All the independent variables used in the study are shown in Table 1. These variables, which include measures of health need and health behaviour, are similar to those used in the Asada and Kephart's (2007) study and are based on Andersen and Newman's (2005) model. According to the model, the health care received by individuals depends on a number of factors: the predisposition of individuals to use services (such as their demographics), and on their health needs and behaviors. Controlling for these factors in a regression framework allows for the measurement of the association between socioeconomic factors and health utilization for individuals with the same health needs and the same health behaviour.

Methodology

For FP/GP visits, a 'double hurdle' framework is employed. The model, originally due to Cragg (1971), consists of two equations. The first equation determines whether or not a respondent had a 'contact' (the "first hurdle") with a health service provider and the second equation determines the 'intensity' of 'contact' (the "second hurdle"). The appeal of the model lies in its ability to recognize different decisions in the health utilization process. That is, in order to observe an outcome equal or larger than zero (the 'intensity' of use), it is necessary to register a strictly positive count (that is, to cross the first hurdle representing 'contact' with a health service provider).

For the first part of the model – employed for all four measures of health utilization – a logit regression is used. The equation measures whether or not the respondent used a health service. For the second part – employed for only FP/GP visits – a zero-truncated negative binomial (ZTNB) model is used. The model measures the number of

Table 1 List of variables used in the study

Independent variables	
Education	less than secondary school graduation; secondary school graduation/ some post-secondary; post-secondary; and missing
Household Income	low income (income less than $20,000); medium income (income between $20,000 and $79,999); high income (income above $80,000); and missing (income 'not stated').
Marital Status	married; common-law; widowed/separated/divorced; single/never-married; and missing ('not stated')
Immigrant	Immigrant; non-immigrant; missing ('not stated')
Cultural or Racial Origin	White; visible minority; missing ('not stated')
Province of residence	Newfoundland and Labrador; Prince Edward Island; Nova Scotia; New Brunswick; Quebec; Ontario; Manitoba; Saskatchewan; Alberta; British Columbia; Yukon/Northwest/Nunavut territories
Home Ownership	Yes; No (includes those with responses 'don't know' or 'refusal'); missing ('not stated')
Health Needs	
Self-perceived health	Excellent; very good; good, fair; poor; missing ('not stated')
COPD	Yes; no; missing ('refusal' or 'not stated')
Diabetes	Yes; no; missing ('refusal' or 'not stated')
Cancer	Yes; no; missing ('refusal' or 'not stated')
Heart disease	Yes; no; missing ('refusal' or 'not stated')
Arthritis	Yes; no; missing ('refusal' or 'not stated')
Asthma	Yes; no; missing ('refusal' or 'not stated')
Blood pressure	Yes; no; missing ('refusal' or 'not stated')
Migraine	Yes; no; missing ('refusal' or 'not stated')
Stomach ulcers	Yes; no; missing ('refusal' or 'not stated')
Urinary incontinence	Yes; no; missing ('refusal' or 'not stated')
Bowel disorder	Yes; no; missing ('refusal' or 'not stated')
Mood disorder	Yes; no; missing ('refusal' or 'not stated')
Injured	Yes; no; missing ('not stated')
Health Behaviour	
Weight (own opinion)	Overweight, underweight, just right, missing (includes 'not applicable', 'don't know', 'refusal', 'not stated')
Smoker	Yes (includes 'daily smoker', 'occasional smoker', 'always an occasional smoker', 'former daily smoker', former occasional smoker'); no; missing ('not stated')
Alcohol drinker	Yes (includes 'regular drinker' and 'occasional drinker'); no; missing ('not stated')
Food and vegetable consumption (daily)	Less than 5 times; between 5 and 10 times; more than 10 times; missing ('not stated')

Canadian Community Health Survey 2011/12

consultations with a FP/GP, reflecting the 'intensity' of use of physicians' services. As mentioned previously, since individuals can only choose their visits to a FP/GP (with visits to most other services resulting from physician referrals), it seemed reasonable to model the intensity of use of services for only FP/GP visits.

In terms of choice of the model for FP/GP visits, the ZTNB model was chosen over the zero-truncated Poisson model –another candidate for the analysis – due to the greater flexibility inherent in the ZTNB model. The ZTNB model, unlike the Poisson model, does not require that the variance of health care utilization data be equal to the mean. In other words, the ZTNB model allows for over dispersion (as is usually the case) in health care utilization data.

To carry out the analysis, weights provided in the public-use files were used to adjust for the unequal probability of selection. Note that the public-use files do not have the necessary information to obtain bootstrapped standard errors. However, all standard errors reported are heteroskedasticy-robust (White) standard errors.

Results

Table 2 describes utilization of health services by the three measures of socioeconomic status: household income, whether homeowner or not, and educational qualifications and shows the percentage of respondents who did not use health care services in the past year.

In terms of all three measures of socioeconomic standing, a larger percentage of older females who are in the lower income band never visited a FP/GP relative to older females in the medium income and higher income bands. For example, 18% of older females that were in the lower income band never visited a FP/GP compared with 13% of older females in the medium or high income bands. On the other hand, the percentage distribution of males across the three measures of socioeconomic status is almost the same. In other words, socioeconomic status does not seem to matter for males in terms of 'contact' with a FP/GP.

For overnight stays in a hospital, a larger percentage of older females in higher socioeconomic groups never had an overnight hospital stay compared with older females in the lower socioeconomic band. For example, 87% of older females who had a post-secondary degree and 89% of older females who had some secondary school/some post-secondary education never had an overnight stay in a hospital compared with 84% of older females who had less than a high-school education. For males, the patterns are less clear in terms of household income and education. However, in terms of homeownership, a larger percentage of older males who owned a home (86%) never had an overnight hospital stay compared with older males who did not own a home (79%).

For the next two health services, vision and dental care, the distribution of females and males across the three measures of socioeconomic status suggest that individuals belonging to higher socioeconomic groups (relative to individuals in lower socioeconomic groups) visited their eye specialist and/or dentist more than those in the lower socioeconomic groups. This is particularly true for dental visits where about 67% of females (74% males) belonging to the low household income group never visited their dentist compared with only 34% of females (35% males) in the higher income group who never visited their dentist. The results are not surprising given that these services involve out-of-pocket expenses.

Although Table 2 provide suggestive evidence of the association between an individual's socioeconomic status and utilization of health services, there may exist

Table 2 Unweighted number and percentage of patients (aged 65 and older) not using health care services, by household income, homeownership, and education

		Household Income			Homeownership		Education		
		Low Income	Medium Income	High Income	Owned a home	Did not own	Less than high school	Some secondary school/ some post-secondary	Post-secondary
Patients who never visited a family doctor/general practitioner in the past year	Males (n)	14	81	14	91	17	54	13	39
	%	15%	14%	15%	14%	13%	16%	16%	12%
	Females (n)	42	100	8	111	36	71	23	48
	%	18%	13%	13%	14%	12%	17%	13%	10%
Patients who never had an overnight stay in a hospital, nursing home or convalescent home in the past year	Males (n)	81	505	79	549	111	289	68	281
	%	84%	84%	86%	86%	79%	84%	82%	86%
	Females (n)	202	698	54	693	250	350	163	411
	%	82%	86%	84%	86%	84%	82%	89%	87%
Patients who never visited an eye specialist (ophthalmologist or optometrist) in the past year	Males (n)	64	300	41	332	69	190	44	156
	%	67%	51%	45%	52%	49%	56%	53%	48%
	Females (n)	109	334	26	347	115	188	70	193
	%	45%	41%	41%	43%	39%	44%	39%	41%
Patients who never visited a dentist or orthodontist in the past year	Males (n)	71	344	32	350	91	239	41	149
	%	74%	59%	35%	56%	66%	71%	51%	47%
	Females (n)	159	386	22	386	171	272	78	191
	%	67%	48%	34%	49%	58%	65%	44%	41%

Adapted from the Canadian Community Health Survey 2011/12

variation in the use of health services based on one's health behaviour or health needs or other factors. Tables 3 through 4 present results describing the association between the respondent's socioeconomic status and utilization of health services, controlling for factors listed in Table 1. Table 3 presents regression results describing the association between socioeconomic status and utilization of services of a FP/GP and the intensity of use of such services for males and females; Tables 4 and 5 present results for the association between socioeconomic status and utilization for the other three health services (hospital stays, visits to an eye specialist, and visits to a dentist) for older males and older females, respectively.

Physician (FP/GP) services' Utilization

For males, regression results from the logit model (odds ratios) in Table 3 suggest that after controlling for the variables listed in Table 1, socioeconomic status did not matter in terms of accessing a FP/GP. The results are similar to those found in Table 2 and are only weakly significant for homeownership. However, results from the ZINB model (the incidence risk ratios) suggest that once the initial 'contact' with FP/GP was made, older males who did not own a home used physicians' services with greater 'intensity 'compared with older males who were homeowners – the coefficient is statistically significant.

For females, although household income and homeownership did not matter (results are not statistically significant) in terms of 'contact' with a FP/GP, older females who had a post-secondary degree were significantly more likely to visit the FP/GP compared with older females who had less than a high school education. In terms of the 'intensity' of use of physicians' services, the incidence risk ratios indicate that socioeconomic status is not associated with intensity of use of physician's services; none of the coefficients are statistically significant.

For the most part, these results are consistent with a large body of work that suggests that socioeconomic factors are not associated with inequity in access to health care. This should not be surprising given that visits to a FP/GP are independent of income. However, there is some evidence in Table 2 that socioeconomic factors –when measured as homeownership for males and education for females – are indeed associated with inequity in the use of physicians' services. Further, the direction of the relationship also differs by gender: for older females, socioeconomic status is positively associated with 'contact' with a FP/GP while for older males, socioeconomic status is negatively associated with 'contact' with a FP/GP.

Other Health Services Utilization

In contrast to utilization of physicians' services, socioeconomic status, as measured by household income, homeownership or education did not have a statistically significant association with overnight hospital stays for males. On the other had, older females who had some secondary or some postsecondary education had significantly (in statistical terms) more overnight hospital stays compared with females who had less than a high school education. However, the other two socioeconomic variables were not significantly associated with overnight hospital stays.

Table 3 Regression results for the number of visits and intensity of visits to a family doctor / general practitioner by measures of socioeconomic status: household income, homeownership, and education, for males and females ages 65 and over

Variables measuring socioeconomic status	Visit to family doctor/general practitioner							
	Males				Females			
	Odds Ratio	SE	Incidence Risk Ratio	SE	Odds Ratio	SE	Incidence Risk Ratio	SE
Household income - Reference: High Income ($80,000 or more)								
Low income (<$20,000)	0.738	0.623	0.9937	0.1638	0.688	0.402	1.173	0.248
Middle income ($20,000–$79,000)	0.775	0.503	0.9320	0.1106	1.531	0.710	1.344	0.245
Homeownership - Reference: Owns a home								
Does not own a home	2.088*	0.856	1.4281***	0.1772	1.168	0.400	1.106	0.114
Education - Reference: Less than High School								
Some secondary school/some post-secondary	0.675	0.357	0.8069	0.1241	1.483	0.675	0.940	0.124
vPost-secondary	0.917	0.383	0.8654	0.0806	2.020**	0.673	0.932	0.103
N	755		666		1,098		952	

(1) All Standard Errors (SE) are robust and the data have been weighted

(2) All regressions include controls (not shown above) listed in table 1, including controls for the respondent's health needs and health behaviour

(3) All variables shown above (except 'province of residence') include a 'missing' dummy category that is not shown in the results

***$p<0.001$, **$p<0.05$, *$p<0.10$

Table 4 Regression results for the use of various health services by measures of socioeconomic status: household income, homeownership, and education, for males ages 65 and over

Variables measuring socioeconomic status	Overnight stays in a hospital, nursing home, or convalescent home		Consultations with an eye specialist (ophthalmologist or optometrist)		Consultations with a dentist or orthodontist	
	Odds Ratio	SE	Odds Ratio	SE	Odds Ratio	SE
Household income - Reference: High Income ($80,000 or more)						
Low income (<$20,000)	0.575	0.394	0.269**	0.138	0.070***	0.039
Middle income ($20,000–$79,000)	0.678	0.359	0.658	0.232	0.201***	0.077
Homeownership - Reference: Owns a home						
Does not own a home	1.393	0.652	1.141	0.372	0.862	0.290
Education - Reference: Less than High School						
Some secondary school/some post-secondary	0.929	0.404	0.910	0.350	1.785	0.703
Post-secondary	1.439	0.462	1.204	0.323	2.046***	0.546
N	784		783		768	

(1) All Standard Errors (SE) are robust and the data have been weighted

(2) All regressions include controls (not shown above) listed in table 1, including controls for the respondent's health needs and health behaviour

(3) All variables shown above (except 'province of residence') include a 'missing' dummy category which is not shown in the results

***$p<0.001$, **$p<0.05$, *$p<0.10$

Table 5 Regression results for the use of various health services by measures of socioeconomic status: household income, homeownership, and education, for females ages 65 and over

	Overnight stays in a hospital, nursing home, or convalescent home		Consultations with an eye specialist (ophthalmologist or optometrist)		Consultations with a dentist or orthodontist	
Variables measuring socioeconomic status	Odds Ratio	SE	Odds Ratio	SE	Odds Ratio	SE
Household income - Reference: High Income ($80,000 or more)						
Low income (<$20,000)	1.849	1.173	1.007	0.443	0.260***	0.120
Middle income ($20,000–$79,000)	1.424	0.811	1.445	0.527	0.471**	0.169
Homeownership - Reference: Owns a home						
Does not own a home	1.265	0.366	1.475	0.350	0.693	0.165
Education - Reference: Less than High School						
Some secondary school/some post-secondary	0.502*	0.210	1.213	0.398	1.731*	0.564
Post-secondary	1.063	0.328	1.207	0.292	2.609***	0.660
N	1,113		1,116		1,095	

(1) All Standard Errors (SE) are robust and the data have been weighted

(2) All regressions include controls (not shown above) listed in table 1, including controls for the respondent's health needs and health behaviour

(3) All variables shown above (except 'province of residence') include a 'missing' dummy category which is not shown in the results

***$p<0.001$, **$p<0.05$, *$p<0.10$

In contract to FP/GP visits and hospital stays, a large majority of visits to an eye specialist or to the dentist involve out of pocket expenses, which might impose significant burden on the older population. The evidence from Tables 4 and 5 seem to support this claim. For example, in terms of visits to an eye doctor, there is some evidence that older males belonging to the lower income band had significantly less 'contact' with their eye doctor compared to older adults in the high-income band. However, there was no significant difference (in statistical terms) by socioeconomic status for females.

On the other hand, older males who were part of the low and the medium income groups had significantly less 'contact' with the dentist compared with older males belonging to the high-income group. As well, older males with a post secondary education had significantly more 'contact' with the dentist compared with older males who had less than a high school education. Results for females confirm the findings for males that older females who were part of a higher socioeconomic group (whether measured in terms of household income or education), had significantly more 'contact' with the dentist compared with older females belonging to the lower socioeconomic group.

Discussion and Conclusion

One of the primary objectives of the Canadian health system, as entrenched in the 1984 Canada Health Act, is to provide equitable access to health services to its population. This paper investigates whether this is true for a sample of older adults (males and females 65 years and older) in Canada with varying socioeconomic status. The paper analyzes the association between respondents' socioeconomic status as measured by their household income, whether they are homeowners, and their educational credentials and utilization of health services that are publicly insured (FP/GP visits, overnight hospital stays) and services that involve a private component (vision and dental). Analysis is conducted using the public-use microdata files of the CCHS for 2011 and 2012.

Results vary by gender and depending on the variable used to measure socioeconomic status, unveil some socioeconomic inequities in utilization of health services in Canada. For older males, socioeconomic status is not significantly associated with 'contact' with a FP/GP (barring the weakly significant result for homeownership). However, results suggest once 'contact' with a FP/GP is made, older male respondents who do not own a home use physician services more intensively, compared with older males who are homeowners.

For older females, the results are different. Females with a higher socioeconomic standing (those with a post-secondary education) visit their FP/GP more compared with females with a lower socioeconomic standing (those with less than a high school education). However, socioeconomic standing is not significantly associated with the 'intensity' of use of physician services.

Results also suggest that, for the most part, a person's socioeconomic standing does not matter in terms of overnight stays in a hospital. However, for health services that require varying degrees of out of pocket expenses, such as vision or dental services, socioeconomic standing makes a significant difference. For example, persons of a higher socioeconomic standing (those in the high income group or with a post-

secondary education) have significantly more 'contact' with the dentist or an orthodontist compared with people with a lower socioeconomic standing.

Differences between males and females in their utilization of services of a FP/GP are not surprising. Studies and polls in many countries have reported that females in general tend to be more proactive than males with regard to healthcare (Thomas 2006). Further, having a post-secondary education may enable females to be better able to acknowledge their needs, identify the services available, and make demands on their GPs for more complex services. On the other hand, since males most likely postpone visiting their physician, they- especially older males in the lower socioeconomic band – end up using the services with greater intensity once a 'contact' has been made.

These results are important in the context of challenges facing the health of the older population. Barriers to health care access are likely more pronounced among older adults, compared with the general population. In addition, older adults face other challenges such as lack of mobility, insufficient social support, lack of Internet resources and so on; these challenges may be exacerbated for individuals belonging to lower socioeconomic groups and may also account for the variation in the use of health services (such as dental, vision). Further, from the context of the health system, given the socioeconomic inequities observed above for older adults for health services such as vision and dental care, the goal of government policy should focus on addressing social determinants of health as interventions aimed at improving health outcomes and subsequently reducing costs for the health system. This is especially relevant given that some recent research has shown that *future* high-cost use of health care is strongly associated with multiple dimensions of socio-economic status including income, education, homeownership, food security and neighborhood marginalization (Fitzpatrick et al. 2015).

This study has some limitations. First, there are several other types of health care that are consumed by older adults, data for which are not available. These include services of nurse practitioners, podiatrists, and several other specialists. As well, there may be other measures of wealth that more accurately reflect socioeconomic status of older adults than the three measures used in the study.

Second, the CCHS group together data for several services such as overnight stays in a hospital, nursing home or convalescent home as one. The definitions of these vary by province, as do the mechanisms by which people are admitted into them. Further, the data only includes the community dwelling population, thereby excluding older adults who are institutionalized and may be nearing the end of their lives. This includes older adults living in long-term care institutions, hospices or hospitals. If this (excluded) group of high-needs older adults consists of sicker adults on average compared with older adults living in the community, then the sample of older adults observed in the data may consist of healthier individuals. If the excluded individuals were included in the data, empirical results may show more variation by socioeconomic status than is actually observed.

Finally, while this study has used a host of variables to control for potential confounders that may bias the association between socioeconomic status and health care utilizations - such as the respondent's need for health care or a person's health behaviour, there may be other significant variables that are not included in the analysis. These include the distance to the physician office or hospital; the presence of walk-in clinics close-by which may serve as a substitute for hospital or physicians' services. As

well, the study is cross-sectional and does not suggest a causal relationship between the variables. However, the correlations established could serve as a starting point for a more rigorous analysis.

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