The role of health insurance in explaining immigrant versus non-immigrant disparities in access to health care: Comparing the United States to Canada

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ABSTRACT

Using a cross-national comparative approach, we examined the influence of health insurance on U.S. immigrant versus non-immigrant disparities in access to primary health care. With data from the 2002/2003 Joint Canada/United States Survey of Health, we gathered evidence using three approaches: 1) we compared health care access among insured and uninsured immigrants and non-immigrants within the U.S.; 2) we contrasted these results with health care access disparities between immigrants and non-immigrants in Canada, a country with universal health care; and 3) we conducted a novel direct comparison of health care access among insured and uninsured U.S. immigrants with Canadian immigrants (all of whom are insured). Outcomes investigated were self-reported unmet medical needs and lack of a regular doctor. Logistic regression models controlled for age, sex, nonwhite status, marital status, education, employment, and self-rated health. In the U.S., odds of unmet medical needs of insured immigrants were similar to those of insured non-immigrants but far greater for uninsured immigrants. The effect of health insurance was even more striking for lack of regular doctor. Within Canada, disparities between immigrants and non-immigrants were similar in magnitude to disparities seen among insured Americans. For both outcomes, direct comparisons of U.S. and Canada revealed significant differences between uninsured American immigrants and Canadian immigrants, but not between insured Americans and Canadians, stratified by nativity. Findings suggest health care insurance is a critical cause of differences between immigrants and non-immigrants in access to primary care, lending robust support for the expansion of health insurance coverage in the U.S. This study also highlights the usefulness of cross-national comparisons for establishing alternative counterfactuals in studies of disparities in health and health care.

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Introduction

This paper examines the role of health insurance as a primary explanation for disparities in access to health care between immigrants and non-immigrants in the United States. Central to our approach is a cross-national comparative perspective. Specifically, we make a case for viewing Canada as a counterfactual scenario. In many relevant ways, Canada is similar to the United States, but maintains markedly different policy with respect to health care insurance; unlike the United States, Canada has a long-standing policy of universal health insurance coverage. We thus suggest that contrasting the United States with Canada provides an additional

and unique lens for understanding the extent to which health insurance accounts for immigrant disparities in access to health care.

Although there is a large body of research documenting disparities in health outcomes between immigrants and non-immigrants in the United States, direct measurement of disparities in access to health care remains somewhat limited. This is particularly true at the population level. Our literature review found a handful of studies using nationally representative surveys that examined this question (Ku & Matani, 2001; Leclere, Jensen, & Biddlecom, 1994; Lucas, Barr-Anderson, & Kington, 2003; Wagner & Guendelman, 2000; Xu & Borders, 2008). Using data from the National Health Interview Survey (NHIS), one investigation found that, after controlling for a host of competing explanations, immigrant status had a significant inverse association with physician contact during the preceding year (Leclere et al., 1994). This finding was replicated using the National Survey of America's Families (Ku & Matani, 2001). In contrast to commonly held beliefs, this latter

study also found similar inverse effects for Emergency Room visits (Ku & Matani, 2001). A third study concluded that immigrant status was associated with both fewer preventive and non-preventive health care visits (Xu & Borders, 2008).

Other population level studies have conducted examinations of this issue within race/ethnic groups. One study based on the Minority Health Survey restricted its analysis to adults identifying themselves as Hispanics, and found that those who were immigrants had significantly fewer visits to a health care professional and received less preventive care than their non-immigrant Hispanic counterparts (Wagner & Guendelman, 2000). Another study based on NHIS data focused on Black men and found that those who were foreign-born were less likely to have visited a physician than either their U.S.-born Black or White counterparts (Lucas et al., 2003). Further, when health care utilization is measured in dollar terms, the results are consistent with direct measures of health care use. A study using linked NHIS and Medical Expenditure Panel Survey data demonstrated that per capita health care expenditures for immigrants were almost half as much as those for individuals born in the United States: $1139 for immigrants versus $2546 for those native born (Mohanty et al., 2005). Across these studies there is overwhelming agreement that immigrants are much less likely to utilize health care than their U.S.-born counterparts.

Several potential reasons have been forwarded to account for these findings. Based on evidence that, compared to those native-born, immigrants exhibit better health outcomes (Argeseanu Cunningham, Ruben, & Venkat Narayan, 2008; Dey & Lucas, 2006; Singh & Siahpush, 2001, 2002) one possibility is that the lower rates of health care utilization are simply an artifact of less need for health care services. However, many of the aforementioned studies control for health status (Leclere et al., 1994; Wagner & Guendelman, 2000; Xu & Borders, 2008). Furthermore, this line of reasoning is insufficient for explaining disparities in primary and preventive care. Other suggestions include obstacles arising from linguistic and cultural dissonance (Kandula, Kersey, & Lurie, 2004). A systematic review of cultural competency in health care describes the difficulties encountered by language barriers, including health care access, diagnostic errors and inappropriate treatment, and delayed or refused care (Anderson et al., 2003; Derose, Escarce, & Lurie, 2007). Cultural understandings of health and wellness also affect diagnosis, interpretation of symptoms, and the use of various health services (Anderson et al., 2003; Garces, Scarinci, & Harrison, 2006; Yang & Kagawa-Singer, 2007). Stigma and discrimination, whether perceived or actualized, also hinder the ability to access quality health care. Stigma and discrimination arise from darker skin tones, dress, language, and perceptions (largely erroneous) of American health care workers regarding the burden to the social safety net imposed by immigrants (Derose et al., 2007; Lauderdale, Wen, Jacobs, & Kandula, 2006).

Inequities in access to health insurance are also cited as a primary reason. A recent study estimates that 45% of non-citizen immigrants in the United States lack either public or private health insurance, though this figure varies based on length of time in the country, citizenship/naturalization status, country of origin, and the like (Carrasquillo, Carrasquillo, & Shea, 2000; Derose et al., 2007). For the native-born, the estimated proportion is less than half that at 15–20% of the population (Derose et al., 2007). For those individuals categorized as 'low-income' (i.e. who fall below 200% of the poverty line), the absolute proportions rise in both groups (approximately 58% for immigrants versus 33.7% for U.S.-born citizens), though the level of disparity remains roughly the same (Ku & Matani, 2001). One collective interpretation of this data is that the effect of immigrant status on obtaining health insurance is so strong, that disparities persist even as income levels rise.

Surprisingly, however, few of these studies have directly tested the influence of health care insurance on disparities in health care access between immigrants and non-immigrants. More commonly, disparities in insurance and disparities in access or utilization have been studied independently. In contrast, studies on the cultural factors discussed previously have made direct ties to health care access.

Our aim is to conduct a direct assessment of the role of health insurance in accounting for disparities in access to health care between immigrants and non-immigrants in the United States. We suggest that, in addition to examining this question using within-country counterfactuals, between-country analyses also provide a compelling perspective. Moreover, this form of cross-national comparative analysis is especially persuasive when applied to the United States and Canada.

The United States and Canada are similar in many important and relevant respects, but maintain markedly different policies with respect to access to health care insurance (Zuberi, 2006). Overall, Canada is characterized by a universal system of health care while the United States is not. Of note, non-emergency dental and vision care are not covered by public insurance in Canada, but rather through employer-based private insurance. Nonetheless, catastrophic care even in these areas is supported through government coverage. The result is that, in Canada, 30% of health spending occurs in the private domain, but this represents a rather small absolute amount and is largely limited to routine dental and vision care (Zuberi, 2006). By contrast, health insurance in the United States for all forms of care is overwhelmingly obtained through private (mostly employer-based) means, and public insurance is available only for the indigent and the elderly (Zuberi, 2006).

In many other respects, however, the United States and Canada are very much alike. Both are advanced capitalist societies, with per capita gross domestic products of $45,800 and $38,600 respectively (World GDP (PPP) & Population, Quick Reference Tables, 2007). Both are democracies. Both have a similar long tradition of a large and diverse immigrant population. While 2005 statistics for the United States estimate the immigrant population at 12% (Derose et al., 2007), Canada has an even larger immigrant population per capita: 2006 statistics for Canada suggest that nearly one in five Canadians (19.8%) is foreign born (Statistics Canada, 2006). Historically, immigration laws and reforms have tracked each other closely between the two countries. Most notably, both countries experienced an expansion to non-European groups within one year of each other during the 1970s (Reitz, 1998).

Despite the similarities between immigrants in these two nations, there are two caveats worthy of address. First, the sending nations of immigration differ in proportion between the United States and Canada (Most foreign-born residents of Canada are from Asia, while most in the United States are from Latin America) though this hardly seems relevant to the present hypothesis, unless it could be established that health care access was associated with sending nation, for which there appears to be no available evidence. Second, due to differences in immigration policies, there are differences in the educational levels of immigrants in the United States and Canada, which may enable access to health care. Overall, Canadian immigrants tend to be more educated and have higher levels of work-related skills than their U.S. counterparts. In part, this is due to the 'point system' used in Canada which favors more educated workers, and in part due to the proximity of the United States to Mexico, which yields less educated workers. However, this is not uniformly the case. Indeed there for many sending nations, levels of education and skill are higher among U.S. immigrants compared to Canadian immigrants (Reitz, 1998; Zuberi, 2006). We address the educational difference in our analyses.

These issues notwithstanding, Canada serves as a strong counterfactual for the United States with respect to immigrant disparities in health care. Of course, we do not mean to suggest that Canada is a perfect counterfactual. After all, countries are extremely complex entities which can hardly be matched on all characteristics. Nonetheless, viewing disparities from a cross-national comparative perspective yields useful and unique insights that complement findings obtained from within-country analyses.

We studied our overall question in three ways. 1) We conducted a within-country analysis that compared U.S. immigrants to U.S. non-immigrants. 2) We contrasted these findings with within-country analysis of disparities found between Canadian immigrants and non-immigrants in access to health care. 3) We conducted a cross-national analysis in which we directly compared U.S. immigrants to Canadian immigrants. The notion is that, if differences in health care coverage account for differences in health care access, insured American immigrants should have similar health care access to Canadian immigrants, who are all insured; the only differences should be between uninsured U.S. immigrants and Canadian immigrants. If there are also significant differences in health care access between insured U.S. immigrants and Canadian immigrants, this is suggestive that factor(s) other than health insurance (e.g. unaccounted immigrant background characteristics, social climate, national policies) influence health care access. This line of investigation presents a critical piece of evidence in the discourse on immigrant health care access disparities, as it examines a fundamental structural issue, that of availability of health insurance.

Methods

Data source

This study is based on publicly available data from the Joint Canada-United States Survey of Health (JCUSH). Conducted by Statistics Canada and the United States National Center for Health Statistics, the JCUSH is a cross-sectional telephone (land-line only) survey of American and Canadian household residents 18 years of age and older. Due to similarities in survey content and methodologies, JCUSH was structured for cross-national comparisons. The survey excluded institutionalized individuals, prisoners, full-time members of the Armed forces, and people living in Canadian or American territories. Administration of JCUSH questionnaire was performed using Computer-Assisted Telephone Interviewing (CATI) from November 2002 to March 2003. The survey was designed to produce reliable national estimates of three age groups (18–44; 45–64; 65 years and older) by sex.

Response rates were 65.5% for Canada and 50.2% for the United States—calculated by multiplying the proportion of valid telephone numbers by the cooperation rate (Joint Canada/United States Survey of Health Public Use Micradata File User Guide, 2004). Post-stratification adjustments for non-response were based on age, gender, and region for the Canadian sample and age, gender, and race/ethnicity for the United States sample. Respondents missing information on immigrant status were not included in the analysis. The final sample was composed of 4989 respondents from the United States (730 immigrants and 4259 non-immigrants) and 3469 respondents from Canada (659 immigrants and 2810 non-immigrants).

Variable coding and definitions

Main outcome variables

We examine access to health care through two measures of perceived access: *access to a regular doctor*, and *having unmet medical needs*. Having a regular doctor is a major factor in the

likelihood of obtaining preventive health care (Sanmartin et al., 2006). Further, both having a regular doctor and having unmet medical needs suggest access to basic health care (Sanmartin et al., 2006). Both variables had dichotomized responses with respondents reporting whether or not they had access to a regular doctor within the past year, and whether or not they felt they had unmet medical needs within the past year.

Main explanatory variables

The main explanatory variables were *immigrant status* and *health care insurance status*. Both were dichotomized. In both the United States and Canada, those respondents who reported being foreign-born were considered immigrants, while those who reported being born in the United States and Canada were considered non-immigrants. Health care insurance status was only asked in the United States sample, since all Canadians are insured by law. U.S. respondents who reported having any type of insurance (public or private) were coded as 'insured' while those reporting no insurance were coded as 'uninsured'.

Covariates

Other variables associated with immigrant status and access to health care were also included in the analyses. Selection of individual-level covariates was guided by Anderson's Behavioral Model (Andersen, 1995). In Andersen's model, health care utilization is a function of people's predisposition to health services, enabling resources, and need—as well as the characteristics of the health care system in terms of its organization, resources, and policies. In our analysis, age, sex, race and marital status were included as predisposing characteristics; education and employment status were included as enabling resources; and finally, self-reported health status was included to capture information on health care need.

Sex was dichotomized as female and male. *Age* was categorized into the following groups: 18–40; 41–64; 65 or over. *Race and ethnicity* was self-reported and coded as 'White' or 'nonwhite.' Finer racial categorizations were not available for the Canadian sample due to the small number of Blacks and Hispanics. *Marital status* was dichotomized into married/living common-law/living with a partner or single/divorced/separated/widowed. Given the high rate of non-response for household income (32%), *education level* was used as an indicator of socioeconomic status (SES). Education was dichotomized with the aim of reflecting meaningful distinction in job opportunities (and thus income and job conditions). Respondents were coded as having a high school diploma or less versus having a diploma or certificate form a trade school or community college, or a degree from a university or college. Because *employment status* was not directly asked in JCUSH, we defined it using responses about an individual's main source of income (employment versus. other). *Self-reported health status* was defined by a four-category variable (fair/poor health, good, very good, and excellent).

Statistical analyses

Statistical analyses were performed using *SUDAAN 9.0* (Research Triangle Institute, Research Triangle Park, NC) to account for the complex survey design and apply adjusted sample weights. Missing, refused, and 'don't know' responses were not included in the analysis. Prevalence of responses regarding having a regular doctor and having unmet medical needs were calculated for immigrants and non-immigrants in the United States and in Canada. Statistical significance of bivariate differences in prevalences were assessed using two-sided t-tests at the 0.05 alpha level. Multiple logistic regression was used to investigate differences in health care access between immigrants and non-immigrants in the United States, in Canada, and in cross-national comparisons. Six categories were

created: 1) insured American non-immigrants, 2) insured American immigrants, 3) uninsured American non-immigrants, 4) uninsured American immigrants, 5) Canadian non-immigrants and 6) Canadian immigrants. Within- and between-country comparisons were made by using these six groups in multiple logistic regression models and changing the referent group. First, we compared groups within the United States, using insured American non-immigrants as the reference category. Next, we compared Canadian immigrants to Canadian non-immigrants. Finally, cross-national comparisons were made with Canadian immigrants as the referent, to which all American categories were compared. Modeling proceeded in four steps, with separate models for each of the two outcomes. First, unadjusted odds ratios were calculated. Next, adjusted odds ratios (AORs) were calculated adjusted for sociodemographic characteristics (i.e. race, age, sex, and marital status). Then, education level and employment status were introduced into regression models to ascertain whether any observed differences were attributable to enabling resources. Finally, health status was added to regression models to account for health care need.

Results

Descriptive statistics for the United States and Canadian samples

Descriptive statistics by country and immigrant status are presented in Table 1. In the United States, 11.4% of the total sample was uninsured, with the proportion of uninsured immigrants almost three times that of uninsured who were native-born (24.3% versus 8.9%). Women represented 52% of the United States sample, and 50.8% of the Canadian sample. There was no significant gender difference by immigrant status in either nation. The proportion of respondents in each age category was remarkably similar in both nations, with nearly 85% of respondents falling into the two lowest age groups (<65 years). In both nations, age differences by immigrant status were significantly different for the lowest and highest age groups, though the nations diverged here as well. The United States had more immigrants than non-immigrants in the lowest age

group, while Canada showed the opposite pattern. In the oldest age group, the United States had significantly fewer immigrants compared to non-immigrants, while the reverse was seen in Canada. In both nations, roughly half of the respondents had either a college or vocational degree (50.8% in the United States compared to 49.2% in Canada). Both countries had significant education differences by immigrant status. In the United States, immigrants were less likely to hold a degree compared to their non-immigrant counterparts, while in Canada, immigrants were more likely to have higher educational attainment than non-immigrants. In the United States, higher proportions of immigrants reported employment as their main source of income, while in Canada, the opposite was true. Marital status was similar across countries overall, with 63.7% of respondents in the United States and 65.4% in Canada reporting being married, common law, or partnered. Immigrants in both countries were more likely to report being married than their non-immigrant counterparts. In the United States, fair/poor self-rated health was more common among immigrants. In Canada, the reporting of fair/poor health was almost identical for immigrants and non-immigrants. In both countries, it was more common for non-immigrants to report very good health and more common for immigrants to report good health. The reporting of excellent health did not differ by nativity in both countries.

Outcome proportions differed by country in the expected direction, but not to the degree expected, considering universal insurance availability of health care insurance in Canada. In the United States, 13.2% of respondents reported having unmet medical needs, while 10.7% reported the same in Canada. 20.4% of U.S. respondents and 15.1% of Canadian respondents reported lacking a regular doctor. The major difference between nations was in the degree of disparity between immigrants and non-immigrants. In the United States, immigrants were significantly more likely to report unmet medical needs and lack of a regular doctor. In fact, for the latter outcome, the proportion was nearly double that of non-immigrants (34.7% versus 17.7%). By contrast, in Canada, there were no significant differences in crude prevalence of either outcome.

Table 1
Population characteristics by country of residence and nativity: Joint Canada-United States Survey of Health, 2002.

Characteristic	United States				Canada			
	All ($n = 4989$)	Immigrant ($n = 730$)	Non-immigrant ($n = 4259$)	Two-sided t-test	All ($n = 3469$)	Immigrant ($n = 659$)	Non-immigrant ($n = 2810$)	Two-sided t-test
	%[a]	%[a]	%[a]	P-value	%[a]	%[a]	%[a]	P-value
Uninsured (U.S. only)	11.4	24.3	8.9	<0.001	...	...	...	...
Women	52.0	48.4	52.7	0.06	50.8	53.2	50.2	0.23
Nonwhite	27.7	67.4	20.0	<0.001	17.9	48.1	10.5	<0.001
Age groups(yrs)								
18-40	43.4	52.3	41.7	<0.001	43.7	39.9	44.6	0.05
41-64	40.7	37.6	41.3	0.09	40.8	39.7	41.1	0.57
≥65	15.9	10.1	17.0	<0.001	15.5	20.4	14.3	<0.001
College or vocational degree	50.8	45.3	51.9	0.003	49.2	56.0	47.5	<0.001
Main Source of Income: employment	77.4	85.2	75.9	<0.001	77.5	73.5	78.5	0.01
Married/common-law/partner	63.7	68.0	62.9	0.01	65.4	71.1	63.9	0.001
Self-rated health								
Fair/poor	14.3	21.7	12.9	<0.001	11.5	11.3	11.5	0.85
Good	26.6	31.3	25.6	0.007	27.8	36.1	25.8	<0.001
Very good	32.9	22.9	34.8	<0.001	36.7	29.3	38.6	<0.001
Excellent	26.3	24.2	26.7	0.20	24.0	23.4	24.1	0.71
Unmet medical needs	13.2	17.3	12.5	0.005	10.7	8.7	11.2	0.06
Lack of regular doctor	20.4	34.7	17.7	<0.001	15.1	17.3	14.7	0.16

[a] Weighted to the U.S. population as determined from the October 2002 Current Population Survey and weighted to Canadian population as determined from the 1996 Census.

Multiple logistic regression analyses

Unmet medical needs

Table 2 presents results of multiple logistic regression analyses for unmet medical needs. At 10.1% and 10.9% respectively insured non-immigrants and insured immigrants had similar rates of unmet medical needs. By contrast, about one-third of their uninsured counterparts reported unmet medical needs. In the United States, compared to insured non-immigrants, insured immigrants did not experience significantly greater unmet medical needs. However, both uninsured non-immigrants and uninsured immigrants were significantly more likely to report unmet medical needs compared to insured non-immigrants. In the fully adjusted models, their effect sizes were attenuated and similar, with uninsured non-immigrants (AOR: 3.68; 95% CI: 2.68–

5.06) having slightly higher odds of reporting unmet needs than uninsured immigrants (AOR: 3.04; 95% CI: 1.94–4.77). We also conducted analyses stratified by insurance status. Among insured Americans (AOR: 0.85; 95% CI: 0.58–1.26) and uninsured Americans (AOR: 0.83; 95% CI: 0.50–1.36), differences between immigrants and non-immigrants were non-significant. In Canada, unmet medical needs did not differ by nativity.

In the cross-national analysis, both uninsured American immigrants (AOR: 3.96; 95% CI: 2.41–6.52) and uninsured American non-immigrants (AOR: 4.77; 95% CI: 3.08–7.38) had substantially more unmet medical needs than Canadian immigrants. The unmet medical needs of insured American immigrants (AOR: 1.10; 95% CI: 0.69–1.75) did not differ from Canadian immigrants. Results from the crude to the fully adjusted models did not change substantially. Moreover, the

Table 2
Unmet medical needs by country, nativity, and insurance status: Joint Canada-United States Survey of Health – 2002.

	%[a]	Crude OR (95% CI)	Model 1[b] AOR (95% CI)	Model 2[c] AOR (95% CI)	Model 3[d] AOR (95% CI)
Within U.S.					
U.S. Insured Non-immigrant(Ref)	10.1	1.0	1.0	1.0	1.0
U.S. Insured Immigrant	10.9	1.09 (0.77–1.55)	0.90 (0.61–1.31)	0.92 (0.63–1.34)	0.85 (0.58–1.26)
U.S. Uninsured Non-immigrant	34.5*	4.71 (3.49–6.35)*	3.93 (2.90–5.34)*	3.71 (2.72–5.06)*	3.68 (2.68–5.06)*
U.S. Uninsured Immigrant	37.6*	5.38 (3.71–7.80)*	3.90 (2.54–6.00)*	3.72 (2.41–5.74)*	3.04 (1.94–4.77)*
Within CA					
CA Non-immigrant(Ref)	11.2	1.0	1.0	1.0	1.0
CA Immigrant	8.5	0.75 (0.53–1.05)	0.79 (0.54–1.15)	0.78 (0.53–1.14)	0.77 (0.53–1.12)
Comparing CA to U.S.					
CA immigrant(Ref)	8.5	1.0	1.0	1.0	1.0
U.S. insured non-immigrant	10.1	1.21 (0.86–1.69)	1.32 (0.92–1.90)	1.31 (0.91–1.88)	1.28 (0.90–1.83)
U.S. insured immigrant	10.9	1.32 (0.84–2.06)	1.20 (0.77–1.89)	1.22 (0.78–1.93)	1.10 (0.69–1.75)
U.S. uninsured non-immigrant	34.5*	5.68 (3.76–8.57)*	5.23 (3.40–8.05)*	4.91 (3.19–7.57)*	4.77 (3.08–7.38)*
U.S. uninsured immigrant	37.6*	6.49 (4.07–10.35)*	5.27 (3.26–8.53)*	5.00 (3.08–8.13)*	3.96 (2.41–6.52)*
Covariates					
Sex					
Women(Ref)	13.4		1.0	1.0	1.0
Men	12.1		0.87 (0.71–1.05)	0.88 (0.73–1.07)	0.91 (0.74–1.11)
Race					
Nonwhite	17.8*		1.43 (1.10–1.85)*	1.38 (1.07–1.78)	1.23 (0.95–1.59)
White(Ref)	11.0		1.0	1.0	1.0
Age groups(yrs)					
18–40	15.6*		2.05 (1.54–2.74)*	3.22 (2.25–4.62)*	4.29 (2.99–6.17)*
41–64	12.3*		1.91 (1.43–2.54)*	2.78 (1.99–3.90)*	3.09 (2.22–4.32)*
≥65 (Ref)	6.1		1.0	1.0	1.0
Marital Status					
Married/common-law/partner (Ref)	11.3		1.0	1.0	1.0
Not married	15.4*		1.22 (1.00–1.48)	1.14 (0.93–1.39)	1.13 (0.92–1.39)
Education					
College/vocational degree(Ref)	10.4*			1.0	1.0
Less than college	15.3			1.27 (1.04–1.54)*	1.06 (0.87–1.30)
Main source of income					
Employment	12.9			0.60 (0.46–0.78)*	0.73 (0.56–0.95)*
Other (Ref)	12.4			1.0	1.0
Self-rated health					
Fair/poor	25.5*				4.71 (3.35–6.61)*
Good	14.6*				2.03 (1.49–2.77)*
Very good	10.0				1.39 (1.03–1.89)*
Excellent (Ref)	7.8				1.0
No. of respondents		8663	8663	8663	8663
(−2)Loglikelihood		5875.6	5803.4	5764.71	5568.81

*$p < 0.05$.
[a] Weighted percents; percents weighted to the U.S. population as determined from the October 2002 Current Population Survey and weighted to Canadian population as determined from the 1996 Census.
[b] Odds ratios adjusted for sex, race, age, marital status.
[c] Odds ratios adjusted for sex, race, age, marital status, education, employment.
[d] Odds ratios adjusted for sex, race, age, marital status, education, employment, self-rated health.

unmet medical needs of insured American non-immigrants (AOR: 0.91; 95% CI: 0.75–1.10) did not differ significantly from Canadian non-immigrants.

Other inequities in unmet medical needs were observed—of which the direction and magnitude were similar in the United States and Canada (data not shown). The elderly had lower adjusted odds of unmet medical needs compared to younger age groups. Employment was associated with lower adjusted odds of unmet medical needs. Lastly, worse self-rated health was linked to higher odds of unmet medical needs (Table 2).

Lacking a regular doctor

Table 3 presents results of multiple logistic regression analyses for lacking a regular doctor. In the United States, 14.3% of insured non-immigrants reported lacking a regular doctor compared to the majority of uninsured immigrants (75.8%). Within the United States, fully adjusted models indicated that, compared to insured non-immigrants, insured immigrants (AOR: 1.56; 95% CI: 1.17–2.08), uninsured non-immigrants (AOR: 4.41; 95% CI: 3.26–5.95) and uninsured immigrants (AOR: 16.97; 95% CI: 10.84–26.57) all had higher odds of lacking a regular doctor, though clearly the odds for insured immigrants were far smaller in magnitude than for either uninsured groups. The addition of covariates moderately attenuated effect sizes. Analyses stratified for insurance status yielded similar results. Among the insured and uninsured in the U.S., immigrants were more likely to lack a regular doctor than non-immigrants. Nonetheless, differences between American immigrants and American non-immigrants were markedly smaller among the insured

Table 3
Lack of a regular doctor by country, nativity, and insurance status: Joint Canada-United States Survey of Health, 2002.

	%[a]	Crude OR (95% CI)	Model 1[b] AOR (95% CI)	Model 2[c] AOR (95% CI)	Model 3[d] AOR (95% CI)
Within U.S.					
U.S. insured non-immigrant(Ref)	14.3	1.0	1.0	1.0	1.0
U.S. Insured immigrant	21.6*	1.66 (1.29–2.14)*	1.55 (1.17–2.06)*	1.55 (1.17–2.07)*	1.56 (1.17–2.08)*
U.S. uninsured non-immigrant	51.1*	6.28 (4.76–8.27)*	4.65 (3.45–6.26)*	4.37 (3.23–5.90)*	4.41 (3.26–5.95)*
U.S. uninsured immigrant	75.8*	18.83 (12.57–28.23)*	17.31 (11.08–27.04)*	16.15 (10.38–25.13)*	16.97 (10.84–26.57)*
Within CA					
CA non-immigrant(Ref)	14.7	1.0	1.0	1.0	1.0
CA immigrant	17.2	1.20 (0.92–1.57)	1.43 (1.04–1.97)*	1.44 (1.04–1.98)*	1.40 (1.02–1.93)*
Comparing CA to U.S.					
CA immigrant(Ref)	17.2	1.0	1.0	1.0	1.0
U.S. insured non-immigrant	14.3	0.80 (0.62–1.05)	0.76 (0.58–1.01)	0.74 (0.56–0.98)*	0.75 (0.56–0.99)*
U.S. insured immigrant	21.6	1.33 (0.95–1.86)	1.18 (0.84–1.66)	1.14 (0.81–1.60)	1.16 (0.82–1.63)
U.S. uninsured non-immigrant	51.1*	5.04 (3.55–7.15)*	3.52 (2.42–5.14)*	3.21 (2.20–4.70)*	3.29 (2.25–4.80)*
U.S. uninsured immigrant	75.8*	15.12 (9.55–23.92)*	13.23 (8.22–21.29)*	11.96 (7.44–19.22)*	12.83 (7.93–20.75)*
Covariates					
Sex					
Women(Ref)	15.3		1.0	1.0	1.0
Men	24.5*		1.91 (1.61–2.26)*	1.89 (1.60–2.24)*	1.88 (1.59–2.23)*
Race					
Nonwhite	26.4		0.96 (0.76–1.19)	0.92 (0.74–1.15)	0.94 (0.75–1.17)
White(Ref)	17.4*		1.0	1.0	1.0
Age groups(yrs)					
18–40	29.5*		4.24 (3.23–5.56)*	3.57 (2.55–5.01)*	3.37 (2.40–4.74)*
41–64	14.2*		1.96 (1.48–2.59)*	1.71 (1.24–2.37)*	1.68 (1.21–2.33)*
≥65 (Ref)	6.7		1.0	1.0	1.0
Marital Status					
Married/common-law/partner (Ref)	16.9*		1.0	1.0	1.0
Not married	24.8		1.46 (1.23–1.73)*	1.46 (1.22–1.73)*	1.46 (1.23–1.73)*
Education					
College/vocational degree(Ref)	16.0*			1.0	1.0
Less than college	23.7			1.44 (1.21–1.70)*	1.48 (1.25–1.77)*
Main Source of Income					
Employment	22.3*			1.35 (1.03–1.77)*	1.31 (0.99–1.72)
Other (Ref)	10.8			1.0	1.0
Self-rated health					
Fair/poor	16.2*				0.64 (0.46–0.87)*
Good	21.6				0.87 (0.69–1.10)
Very good	17.6*				0.77 (0.62–0.96)*
Excellent (Ref)	22.5				1.0
No. of respondents		8677	8677	8677	8677
(−2)LogLikelihood		7260.4	6850.2	6811.6	6791.56

*$p < 0.05$.
[a] Numbers and weighted percents; percents weighted to the U.S. population as determined from the October 2002 Current Population Survey and weighted to Canadian population as determined from the 1996 Census.
[b] Odds ratios adjusted for sex, race, age, marital status.
[c] Odds ratios adjusted for sex, race, age, marital status, education, employment.
[d] Odds ratios adjusted for sex, race, age, marital status, education, employment, self-rated health.

(AOR: 1.56; 95% CI: 1.17–2.08) than uninsured (AOR: 3.85; 95% CI: 2.31–6.41) and similar in magnitude to immigrant inequities seen in Canada (AOR: 1.40; 95% CI: 1.02–1.93).

In our fully adjusted model, uninsured American non-immigrants were over three times (AOR: 3.29; 95% CI: 2.25–4.80) as likely as Canadian immigrants to lack a regular provider. However, uninsured American immigrants were over twelve times (AOR: 12.83; 95% CI: 7.93–20.75) as likely as Canadian immigrants to lack a regular provider (Table 3). Only after controlling for sociodemographic characteristics, education, and employment were insured American non-immigrants less likely to lack a regular provider than Canadian immigrants, and even then, only marginally so (AOR: 0.74; 95% CI: 0.56–0.98). Further accounting for health status did little to influence the effect measure (AOR: 0.75; 95% CI: 0.56–0.99). Insured American immigrants (AOR: 1.08; 95% CI: 0.92–1.28) and insured American non-immigrants (AOR: 1.16; 95% CI: 0.82–1.63) did not differ from Canadian immigrants and Canadian non-immigrants respectively in lack of a regular provider.

Moreover, the following inequities in health care access were observed both in the United States and Canada: Men were more likely to lack a regular doctor than women. Again, we see that elderly individuals had lower adjusted odds of not having a regular doctor compared with younger individuals. Not being married increased the odds of having no regular doctor. While we found that worse self-rated health was associated with higher odds of unmet medical needs, worse self-rated health was associated with lower odds of not having a regular doctor.

Discussion

The objective of the present study was to investigate whether the known disparities in health care access between immigrants and non-immigrants in the United States are due in part to disparities in health care insurance. Indeed, analyses within the U.S. suggested that, after accounting for health insurance, there were no significant differences in unmet medical needs between immigrants and non-immigrants. Further, results from analyses of Canadian immigrants and non-immigrants, all of whom are insured, were consistent with results obtained from the U.S. sample, which provided further corroboration of the instrumental role of health insurance in mitigating disparities in unmet medical needs. Finally, even when American immigrants (both insured and uninsured) were compared to Canadian immigrants, this finding held true; no significant differences were found between U S. insured immigrants and Canadian immigrants.

For lack of a regular doctor, in both the United States and Canada, significant differences did exist between insured immigrants and insured non-immigrants, though their effect sizes (ranging from 1.40 to 1.56) were small, both in absolute terms, and in comparison to the magnitude of differences observed between uninsured American immigrants and uninsured American non-immigrants (AOR: 3.85). For both outcomes, insured American immigrants and insured American non-immigrants did not differ from Canadian immigrants and Canadian non-immigrants respectively.

Our results highlight the importance of health insurance in greatly reducing (albeit not entirely eliminating) immigrant health care access inequities. We suggest our results are particularly robust due to the cross-national comparative approach we employed. Moreover, although the focus of this study was on differences in health care access by nativity, we observed that other characteristics (i.e. age, employment, self-rated health)—identified as being relevant in the Andersen model—were also related significantly to health care access in the United States and Canada.

It is difficult to contrast our studies with previous research since few studies have compared health care disparities in Canada and the United States, and (as mentioned earlier) since there is little evidence

in the United States directly tying health care insurance as an explanation for immigrant disparities in health care utilization. In their descriptive overview of results from JCUSH, Lasser et al. (Lasser, Himmelstein, & Woolhandler, 2006) reported significant differences between immigrants and non-immigrants for both the United States and Canada in adjusted odds of having a regular doctor. We found that only among insured Americans were immigrant inequities in having a regular doctor similar in magnitude to immigrant inequities observed in Canada. Previous within nation studies have demonstrated findings consistent with those of our study, with disparities between immigrants and non-immigrants present in the United States (as discussed in the Introduction), but attenuated or not present in Canada. For instance, using data from the General Social Survey (Laroche, 2000) and the Canadian Community Health Survey (Wu, Penning, & Schimmele, 2005) investigators found that health care utilization among immigrants did not significantly differ from that of non-immigrants. However, recent studies, for instance among newly arrived immigrants, suggest some disparity in primary care utilization (Chen, Kazanjian, & Wong, 2008; Woltman & Newbold, 2007).

Consistency among the three approaches used in our study provides compelling support for providing health care insurance as an effective means for reducing immigrant-based disparities in access to primary and preventive health care in the United States. Put differently, the results indicate that the effect of immigrant status on access to health care is largely attributable to lack of health care insurance among immigrants. Further, our findings provide evidence to suggest that a more universal approach to provision of health insurance, such as the one found in Canada, would improve health care access for U.S. immigrants.

Our study used a robust methodology for ascertaining the effect of health care insurance on differences between immigrants and non-immigrants in health care access, but did not examine the influence of other factors, such as barriers stemming from cultural characteristics and stigma or discrimination. We were unable to examine issues of culture and discrimination since this information was not asked of respondents in the JCUSH study. To our knowledge, there are also no prior studies that have simultaneously examined the effects of health care insurance and culture or discrimination. We further assert that the inability to study these factors together does not impose a bias on our results, since barriers to accessing primary and preventive care that are interpersonal in nature (occurring from the interaction of health care providers and patients) can be considered only after access to health care insurance has been established. Therefore, we do not view health care insurance and issues of culture and discrimination as competing, but rather as complementary, explanations.

In fact, the dearth of evidence from Canada regarding systemic stigma and discrimination experiences in the health care system may result from a universal health insurance policy. It may be the case that entitlement programs of this nature change the interpersonal dynamics between health care providers and patients, either because they alter the perceptions of health care providers, or because they alter the extent to which providers act upon their perceptions. One can imagine that, in an atmosphere of universal coverage, providers are more likely to internalize the idea that health care is a basic right of all individuals. These propositions are worthy of further investigation.

Our study is subject to several limitations. The 50.2% response rate in the United States sample may have decreased representativeness of the sample to the American population. Survey non-response was addressed through the post-stratification adjustment of weights based upon sociodemographic characteristics of the American population. Moreover, unmet medical needs were assessed via self-reports, which may have resulted in the underestimation of differences between immigrants and non-immigrants in the United States. Studies have found that Mexican Americans, the largest immigrant group in the U.S. (Pew Hispanic Center,

2009), are less aware of their health conditions compared to Whites (Ford, Mokdad, Giles, & Mensah, 2003; Hajjar & Kotchen, 2003).

Furthermore, countries have their specific histories and compositions and thus cross-national comparisons are inevitably imperfect. For instance, in Canada recent waves of immigrants have come largely from Asian countries (including the Middle East). Indeed in 2006 for the first time, the proportion of foreign-born individuals born in Asia and the Middle East (40.8%) was higher than the proportion born in Europe (36.8%) (Statistics Canada, 2009). In the United States, Hispanics (52%) compose the largest group of immigrants (U.S. Census Bureau, 2003). Nonetheless, even with differences in immigrant populations, insured American immigrants have similar reported rates of unmet medical needs and lack of a regular doctor compared to Canadian immigrants.

Even though cross-national comparisons are not without substantial limitations, we believe they are still highly valuable as they provide a unique lens for examining disparities in health and health care. Our study lends support to the notion that, in the United States, disparities between immigrants and non-immigrants in access to primary and preventive care would be greatly reduced by expanding health insurance coverage. These findings are made more robust by using Canada as a counterfactual scenario. The use of cross-national comparative analysis, particularly between United States and Canada as a result of their similarities and differences, provides powerful evidence of the role of health insurance policy as a critical factor for explaining disparities in access to health care between immigrants and non-immigrants in the U.S.

Appendix. Supplementary material

Supplementary data associated with this article can be found in the online version, at doi:10.1016/j.socscimed.2009.08.030.

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