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Immigrant health, socioeconomic factors and residential neighbourhood characteristics: A comparison of multiple ethnic groups in Canada

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A B S T R A C T

Immigrant and minority health is a topic of critical importance both within the Canadian public policy realm and in the social science research contributed by many applied health geographers. Set within the social-determinants-of-health framework, the paper explores the relationships among individual socioeconomic status, residential neighbourhood characteristics and self-reported health for multiple immigrant groups in Canada. It examines health outcomes and health-care use among the foreign-born that are heterogeneous in country of origin. Comparison is made between the overall foreign-born that are highly culturally heterogeneous and native-born populations and among selected recent (Chinese and South Asian) and long-standing immigrant groups (Italian and Portuguese). Data are drawn from the raw microdata file of pooled 2005–10 Canadian Community Health Survey. Descriptive statistics and bootstrap-based *Z*-test reveal patterns of health outcomes (self-reported health, selected chronic diseases) and use of health services as well as individual and neighbourhood characteristics among the foreign-born and selected immigrant groups, compared to the native-born population. Further, logistic regression is used to identify key determinants of self-reported health for each group. Both individual socioeconomic and lifestyle factors and neighbourhood effects (material deprivation and ethnic density) are examined in logistic regression. Chow test indicates significant differences in the set of health predictors among the models for different study populations. The study adds to the literature on immigrant health by revealing heterogeneity in health within the broadly labelled foreign-born population and by simultaneously considering individual and neighbourhood characteristics in a determinants-of-health framework. It offers important insights on group differences and commonalities in understanding immigrant integration and resettlement in the domain of health.

Introduction

Canada is one of the world's most ethnically diverse countries. According to the most recent Census, in 2011, 20.6% of Canadians (6.8 million people) reported a mother tongue other than English or French. Within Canada's six largest Census Metropolitan Areas (CMAs) (Toronto, Montreal, Vancouver, Calgary, Edmonton, Ottawa-Gatineau), approximately 80% of the population gave the language most often spoken at home as other than English, French or one of the Aboriginal languages (Statistics Canada, 2011). Within the last decade and a half, there has been a rapid growth in scholarship on the impact of immigration on Canadian society and the adaptation experiences of immigrants in the host country. Immigrant health, however, has received much less attention than other areas, such as immigration and employment, housing, identity and education (Anisef & Lanphier, 2003; Li, Teixeira, & Kobayashi, 2011). Canada's healthcare system is an interlocking set of ten provincial and three territorial public health insurance plans guided by the principles of the Canada Health Act to provide the population with reasonable access to medically necessary hospital and physician services. However, immigrants, especially recent arrivals, are found to underutilize health-care resources, exhibit worsening health status over time and face numerous barriers to accessing quality health services (De Maio & Kempsearch, 2010; Wang, Rosenberg, & Lo, 2008). These gaps pose significant challenges for immigrant integration and drive important policy concerns about health and immigration, as health and well-being are critical indicators of quality of life.

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Studies conducted in Canada, the United States, Germany and Australia have revealed notable ethnic inequality in health status (Biddle, Kennedy, & McDonald, 2007; Eschbach, Stimpson, Kuo, & Goodwin, 2007; Glaesmer et al., 2011; Nazroo, 1998). One focus of research has been the healthy immigrant effect (HIE), which posits that recent immigrants have better health status than the native-born population but tend to lose their health advantage with length of residency, as evidenced in self-reported health (SRH) and functional health measures (Biddle et al., 2007; Eschbach et al., 2007; Gee, Kobayashi, & Prus, 2004). Evidence from LSIC (Longitudinal Survey of Immigrants in Canada) indicates significant decline in health status among immigrants to Canada as little as two years post-arrival (Newbold, 2011).

Much of the research on HIE is embedded within a socio-determinants-of-health framework based on contributors to health decline (Dunn & Dyck, 2000; Halli & Anchan, 2005). A primary focus has been the foreign-born population, which is extremely diverse in terms of source country, socioeconomic status and settlement experience, and broadly labelled ethnic groups such as white population and Asian population (Dunn & Dyck, 2000; Newbold, 2011; Son, 2013). Country-specific evidence of HIE and health determinants is relatively limited, with a few important studies examining the role of country of origin and ethnic origin in health outcome based on LSIC, CCHS and National Population Health Survey (NPHS) (Kobayashi, Prus, & Lin, 2008; Setia, Lynch, Abrahamowicz, Tousignant, & Quesnel-Vallee, 2011). In terms of factors contributing to immigrant health outcome, ageing and settlement stress are thought to be key contributors to health decline among immigrants in Canada (Dean & Wilson, 2010). While lower socioeconomic status in general results in a decline in immigrant health (Dunn & Dyck, 2000), income is perhaps the most important variable accounting for health variation, even after controlling for other socioeconomic variables (Wilkinson & Pickett, 2006). Health-care utilization among immigrants generally increases with length of residency. Yet both recent and long-term immigrants face difficulties accessing quality care, including linguistic barriers due to a lack of proficiency in the official language and geographic barriers resulting from poor access to same-language physicians (Wang et al., 2008; Zhang & Verhoef, 2002). Acculturation and change of diet and lifestyle in the post-migration period can also lead to health decline (Noh & Kaspar, 2003). Researchers often measure these factors at an individual level without taking into account the possible influence of neighbourhood characteristics on health.

Recently there has been a growth in scholarship on the relationship between neighbourhoods and health – that is, how variations in individual health are linked to differences in places, neighbourhoods, geographical settings or contexts (Duncan, Jones, & Moon, 1998; Henke & Petropoulos, 2013; Hernandez, Chowdhury, Fleming, & Griffith, 2011; Kawachi & Berkman, 2003; White, Matheson, Moineddin, Dunn, & Glazier, 2010). In addition to compositional differences in individuals measured using conventional health determinants, contextual or neighbourhood effects that capture differences between places can explain variations in health. Some commonly used measures of neighbourhood social and physical characteristics are material deprivation, transportation and access to amenities (Diez Roux & Mair, 2010). This literature focuses on the general population, paying little attention to how neighbourhood characteristics affect immigrant health. Another stream of research examines ethnic density effect, revealing that residential concentration of same-ethnicity people may serve to reduce health disparities by providing a sense of community, fostering high levels of social capital and reducing discrimination (Karlsen, Nazroo, & Stephenson, 2002; Pickett & Wilkinson, 2008). There have been mixed findings on ethnic density effect, including a harmful impact or a non-linear relationship between density and health (Mason et al., 2011; McLafferty, Wdener, Chakrabarti, & Grady, 2012). It remains largely unknown how ethnic density, an important social feature of neighbourhood for immigrants, interacts with other neighbourhood and individual risk factors in predicting health outcomes.

These research gaps give rise to three research questions and each question is followed by a hypothesis: (1) What are the general patterns of health status (including self-rated health and key chronic conditions) and health-service utilization among Canada's foreign-born, native-born, and selected recent and long-standing immigrant populations? Hypothesis 1: Recent immigrants have a better health status and use less health services than the overall foreign-born, native-born and long-standing immigrant populations. (2) In what ways do individual risk factors and neighbourhood characteristics affect the SRH status of immigrants and non-immigrants? Hypothesis 2: Determinants of SRH as measured by individual and neighbourhood factors differ for different study populations. (3) Is there evidence of a healthy immigrant effect (HIE) for different immigrant groups? Hypothesis 3: An HIE is observed for different immigrant group.

To address the research questions and test the hypotheses raised above, the paper takes a group comparative approach by using statistical methods to analyze data from the Canadian Community Health Survey (CCHS). In addition to the foreign-born and native-born populations, two recent (Chinese and South Asian) and two long-standing (Italian and Portuguese) immigrant groups are selected to gain group-specific insights into the determinants of immigrant health. The paper contributes to the literature on immigrant health by examining possible intragroup differences in health and health-service utilization within Canada's highly heterogeneous foreign-born population. The study takes into account neighbourhood characteristics represented by material deprivation and ethnic density. This is an original aspect of the study that draws on two distinct streams of research: that on the determinants of immigrant health, which focuses on individual characteristics; and that on neighbourhoods and health, which focuses on the general population.

Data, study groups and methods

Data on population health are drawn from the CCHS. The CCHS is a cross-sectional survey, administered by Statistics Canada, that collects information related to health status, health-care utilization and health determinants for the Canadian population. The most recent three cycles of the CCHS, from 2005 to 2010, are combined to create a large sample using the pooled approach suggested by Statistics Canada. Respondents aged 18–75 years are included in the final data set.

The paper focuses on two recent groups (Chinese and South Asian) and two long-standing groups (Italian and Portuguese) to examine immigrant health outcomes and contributors to health. The four groups are also compared with the overall foreign-born and native-born populations. They are selected based on length of residence in Canada, immigration pattern and population size. The CCHS has a limited number of variables on country of birth. The Chinese, Italian and Portuguese are defined by country of birth. However, South Asian immigrants can only be identified by cross tabulating the two variables on ethnic origin (i.e., South Asian) and immigration status (i.e., foreign-born). Furthermore, Chinese immigrants are defined as those born in Mainland China and Hong Kong. Hong Kong was Canada's top immigrant source country for many years until it was returned to China in 1997 (Wang & Lo, 2005); China was Canada's leading immigrant sending country from 1998 to 2010, when immigration from the Philippines surpassed that from China (Citizenship and Immigration Canada [CIC],