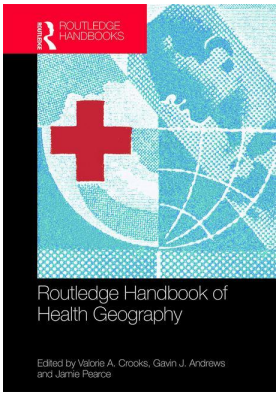

Routledge Handbook of Health Geography

Valorie A. Crooks, Gavin J. Andrews, Jamie Pearce

Immigrant health

Publication details
https://www.routledgehandbooks.com/doi/10.4324/9781315104584-29
K. Bruce Newbold
Published online on: 11 Jun 2018

29
IMMIGRANT HEALTH
Insights and implications

K. Bruce Newbold

With more than 244 million international migrants in 2015 alone, the number of international migrants continues to grow on a year-by-year basis, reflecting uneven economic opportunities, persecution, and conflict (United Nations, 2016). Fundamentally, international migration includes both voluntary and involuntary (forced) movement, with the reason for the former typically including family reunification as well as economic motivations – including a combination of push factors in the origin country, such as poor employment prospects, large populations and low wages, and pull factors in the receiving country including higher wages and employment prospects. Involuntary or forced migration includes refugees, or individuals who are forced from their home country in order to escape war, persecution or violence. In fact, immigrant and refugee movements have become one of the most pressing social, economic and humanitarian issues faced by countries around the globe. In 2015 alone, more than a million refugees made their way out of Africa and the Middle East into Europe, although this represented just a small part of the estimated 23.3 million refugees globally in the same year (United Nations, 2016).

Globally, the major sending regions include Asia, North Africa and Latin America, while both the developing world and developed world are important destinations. Not surprisingly, international migration (i.e., movement crossing national borders) represents an important research topic that includes disciplines such as demography, economics, sociology and geography, given the large numbers of individuals that cross international borders, with resulting political, economic and demographic implications. Despite the continued interest in the economic implications of immigration, along with the economic integration of new arrivals in their reception country, research has increasingly focused on the health of the immigrant population, particularly in the period immediately after arrival. Known as the *healthy immigrant effect*, the literature suggests that immigrants – at least in the developed world – are typically healthier and are less likely to report chronic conditions or impairments than the native-born of the receiving society (DeMaio and Kemp, 2010). Although most developed countries actively screen immigrants for health issues, such measures do not guarantee that the health of arrivals will be maintained. Indeed, the health advantage demonstrated by immigrants at the time of arrival has been observed to decline within a comparatively short period of time – approximately 5–10 years – after arrival, with health status tending to converge or even fall below the levels of the receiving population. For immigrants in less-developed countries, health screening is typically not used, and access to health-care services may be more precarious or non-existent, particularly for refugees, who are among the most vulnerable immigrants.

Health geographers have engaged in research associated with immigrant health and the healthy immigrant effect through various themes common to health geography, including health-care access and delivery,

social models of health and health care, and environment and health. Although often drawing insights from related fields, health geographers have emphasized the role of place and the individual or communal experiences when looking at immigrant and refugee health. Place effects could be reflected in the origin, the journey (particularly for refugees who transit through refugee camps or other countries before their final destination), and the actual destination, as well as everyday places and experiences, such as the local environment, access to employment resources, social and cultural roles, and social networks.

This chapter explores issues associated with the health of immigrants and refugees, including a discussion of the healthy immigrant effect. In addition, the health of the refugee population and other vulnerable immigrant subgroups will be considered, along with consideration of some of the hypothesized reasons why the healthy immigrant effect is observed, including connections to successful acculturation. The chapter concludes by providing insights into the evolving research agenda and key questions that health geographers should consider to advance the research agenda.

The healthy immigrant effect

Despite the abundance of literature that supports the healthy immigrant effect, questions whether changes in health status are real or perceived remain (Barcellos, Goldman and Smith, 2012). In part, these questions arise due to many studies' reliance on self-reported health status. It may be that individuals are re-evaluating their health downward relative to peers within the receiving country as compared to their origin and/or as the reality of immigrant life in the receiving country is revealed. In addition, the healthy immigrant effect may reflect diseases that are not diagnosed in the origin country but discovered after immigration. But such discussions also reflect the emphasis on economic or family class immigrants, as opposed to forced migration, with refugees much more likely to have poorer health because of the nature of their moves and their journey experience of places inclusive of refugee camps and limited access to health care (Newbold and McKeary, 2018), placing them in precarious positions.

Despite these lingering questions over the authenticity of the healthy immigrant effect, it has been observed for a variety of health outcomes beyond self-assessed health (Vang et al., 2015), including disability (Newbold and Simone, 2015), chronic conditions (Newbold, 2006), mental health (Smith et al., 2007; Stafford, Newbold and Ross, 2011), birth outcomes (Farré, 2016), immigrant status (Newbold, 2009) and life expectancy and mortality (Ng, 2011; Trovato, 2003). Additionally, the healthy immigrant effect has been observed in a variety of countries, including Canada, the United States (Jasso et al., 2003), Australia and Europe (Fennelly, 2007; Gotsens et al., 2015; Kennedy et al., 2015; McDonald and Kennedy, 2004).

Although the healthy immigrant effect is widely observed across a number of countries and for different health outcomes, declines in health post-arrival are far from universal and consistent in terms of timing, pace, or degree. For instance, race, origin and/or ethnicity impact health status, with immigrants from non-European origins more likely to experience declining health as compared to those from European origins after controlling for other effects (Veenstra, 2009). Beyond race and ethnicity, Vang et al. (2015) noted significant variations in the healthy immigrant effect across the life course, with the phenomenon strongest during adolescence and adulthood (Kwak, 2016; Vang et al., 2015), while Ng (2011) noted considerable variation (at least for mortality) with respect to geographic scale, gender, duration of residence and specific immigrant origins.

Immigrant status, notably the distinction between economic immigrants and refugees, also impacts changes to health status. Despite evidence that there is also a healthy immigrant effect among refugees (Newbold, 2009), refugees often arrive in the destination country with poorer health than their immigrant counterparts and experience some of the largest declines in health following arrival (relative to immigrants who enter under business or family reunification categories). Such nuances in health status and change among refugees is likely an outcome of their refugee experiences, their greater vulnerability and comparative precarity in society, and the recognized greater physical and mental health needs within this group (McKeary

and Newbold, 2010, 2017; Proctor, 2005). Transiting through or residing in refugee camps, individuals may experience violence, lack of access to basic medical care, poor nutrition (Harrison et al., 1999), crowded conditions and food (in)security, resulting in detrimental impacts on health (Koehn, 2005; Newbold and McKeary, 2018; Proctor, 2005). Numerous studies have also noted mental-health issues among refugees as a result of camp conditions, bereavement, separation of family and friends, loneliness, and lack of acceptance in the country where they settle (Whittaker et al., 2005). In particular, post-traumatic stress disorder (PTSD) has been highlighted as a significant concern for refugees, given potential experiences with violence either before being forced to flee or during transit (Beiser, 2009). Post-migration, stressors include the challenge of adapting to a foreign environment and language, economic hardship given limited employment opportunities, discrimination and an altered or absent family and social network (Maximova and Krahn, 2010).

Understanding immigrant health

By definition, immigrants move from one set of health risks, behaviors and constraints to an environment that potentially includes a very different mix, with possible adverse impacts upon health. But why does their health decline? A number of hypotheses have been put forward to explain the healthy immigrant effect. In part, better health at the time of arrival reflects selectivity effects. Immigration is typically self-selective and undertaken by individuals who are young and healthy. Further, countries often impose their own admission requirements that include health screening meant to restrict entry of individuals with health problems that might pose an economic burden to the country.

Some of the earliest work by health geographers interested in immigrant health looked at the health of newcomers as framed by the determinants of health (DoH) framework (Dunn and Dyck, 2000), recognizing that health status reflects social and economic processes as well as access and use of health-care resources. That is, the health of newcomers will be influenced by a range of factors beyond health care per se, with health influenced by lifestyle options, nutrition, housing, work, education and income, as well as social identity, social status, regulatory environments and control over life circumstances. Diminished social networks, poor working conditions, and language barriers may, for example, contribute to declines in health (i.e., Elliott and Gillie, 1998). Consequently, acculturation and integration explanations also figure prominently as explanations for the healthy immigrant effect, with individuals who are socially or economically excluded experiencing poorer health outcomes. Social exclusion has been shown to increase inequalities in health, especially between immigrants and/or ethnic minorities and the general population (Grey, 2003) and has been linked to lower access to appropriate care among ethnic minorities and mistreatment by health professionals (Mclean, Campbell and Cornish, 2003). It is well known that many immigrants experience de-skilling in the workplace and/or are employed in low-skilled jobs. Work by Subedi and Rosenberg (2016), for example, suggests that economic integration is critical for positive health outcomes, with workers engaged in lower-skilled jobs experiencing lower self-esteem, job dissatisfaction and greater work-related stress, resulting in poorer physical and mental health outcomes.

Some health geographers have made significant contributions to the literature and the understanding of changing health status after arrival, while others have contributed to the broader immigrant literature, including economic and social integration that often has implications for the health of new arrivals. Although self-selection and screening ensure good health status among immigrants at the time of arrival, they do not explain the observed rapid declines in health after arrival, with multiple explanations suggested within the literature. Researchers have, for example, hypothesized that changing lifestyles, and more specifically the adoption of riskier health practices among recent immigrants, contribute to declining health. In part, the health advantage experienced by immigrants when they first arrive may be due to cultural buffering effects, whereby immigrants are less likely to participate in activities, such as smoking and drinking, that are associated with poor health outcomes (Hochhausen, Perry and Le, 2010). With duration of residence in the receiving country, alcohol consumption and increased consumption of processed or fast foods have been

observed, with both linked to negative health outcomes (Sanou et al., 2014; Subedi and Rosenberg, 2014). Although these studies suggest that there is indeed an uptake of riskier lifestyles resulting in negative health outcomes, Vang et al. (2015) conclude that the overall evidence is limited.

Perhaps the greatest research attention, including in work by health geographers, has focused on access and barriers to health care, which implicitly assumes that faults (barriers) within the health-care system prevent immigrants from accessing care. Work by Wang, for example, has highlighted spatial accessibility to health-care services (i.e., Wang, 2011; Wang and Roisman, 2011). Despite an observed increased need for care (as measured by declining health status), the use of health-care facilities by immigrants does not necessarily increase (Kobayashi and Prus, 2012; Newbold, 2009), potentially reflecting unmet health-care needs and barriers to care (McKeary and Newbold, 2010; Pottie et al., 2008). After arrival, the need to navigate the health-care system highlights the barriers to health, including language, discrimination, cost, insurance, transportation, cultural roles and knowledge. All of these barriers may constrain access and use of health care, resulting in further challenges to health and increased health needs (Edge and Newbold, 2013; Kalich, Heinemann and Ghahari, 2016).

Lack of awareness of health-care opportunities may also play a role in changing health. New arrivals may be unaware of health opportunities. Research has, for example, identified that immigrants are less aware (and consequently less likely to use) preventative health services such as cancer screening (Woltman and Newbold, 2007), which may not be considered essential by the individual. A lack of insurance, distrust or unease of the health system, or a health system that does not provide culturally sensitive and appropriate care may create additional barriers (Woltman and Newbold, 2007), with the literature suggesting that immigrants face difficulties in both finding a physician and maintaining regular contact (Asanin and Wilson, 2008).

Beyond research focused on access to health and health care per se, health geographers have explored a variety of themes related to immigrant health and the broader DoH framework. Williams et al. (2015), for example, considered perceptions of quality of life among immigrant newcomers, finding that immigrants had lower perceptions of quality of life than their Canadian-born counterparts, with potential implications for physical and mental health. Asanin and Wilson's (2008) work on the relationship between neighborhoods and health has resulted in collaborations with local community-health groups and provided a more nuanced picture of what immigrants feel are important health issues, and transnational health-care seeking and behavior are addressed by authors including Wang and Kwak (2015).

Conclusions: where can health geographers add to this research?

Over the past decade, research has increasingly focused on the health of immigrant arrivals and has confirmed the healthy immigrant effect. Although the healthy immigrant effect is not a universal phenomenon, it is commonly observed across a range of health measures (e.g., self-reported health, mental health, and physical health outcomes), immigrant status (immigrant vs. refugee), and other socioeconomic and demographic variables and in various countries within the developed world.

Despite the seeming ubiquity of the healthy immigrant effect, its confirmation comes mainly from developed regions, with the research still needing to broadly consider its role and impact in the developing world. Moreover, concerns with refugee health have become more pressing since the global refugee crisis of 2015. By the end of 2015, the United Nations High Commission on Refugees (UNHCR) estimated that some 59.5 million people had been displaced due to persecution, conflict, violence or human-rights violations. Given their already vulnerable and precarious health, the implications of the healthy immigrant effect among refugees is even greater, as it might be expected that their health will continue to be challenged because of their status and relative vulnerability even after settlement in a new country (Newbold, 2009). For those individuals and families that are internally displaced or are forced to reside in refugee camps, such as the Syrian refugee camps in Jordan and Lebanon, concerns with their long-term physical and mental health are even greater and require attention by researchers. Similarly, questions and attention on receiving countries

such as Turkey, Greece and Italy is no less important, with implications for resource availability and delivery, public health and the short- and long-term health of refugees settled in these locations, particularly when their settlement lacks broad public support.

Consequently, there are multiple research avenues for health geographers to pursue, embracing both the more traditional aspects of health geography (i.e., patterns, causes and spread of disease, the planning and provision of health services) and more recent directions, such as the role and meaning of place and the experience(s) associated with health. First, given the ubiquity of the healthy immigrant effect, it is important for research agendas to better answer *why* the healthy immigrant effect occurs. As discussed earlier in this chapter, multiple hypotheses have been forwarded to explain the healthy immigrant effect. Although research has started to explore these more fully, the explanations are undoubtedly complex and overlapping. Importantly, understanding the changing health status and needs of new arrivals, along with how the decline in health can be minimized and the role of place, are important topics for research, particularly when better health status will enable acculturation, and ultimately economic success, within the receiving country. Second, if we are concerned with the impact of barriers to health, research must consider how such barriers can be overcome. That is, what programs or policies can minimize the healthy immigrant effect and ensure that the health advantage of recent arrivals is retained? This agenda would include moving beyond the provision of health and related services and include the role of family, friends and social networks in supporting health. Third, and following Vang et al. (2015), researchers may wish to focus on life-course stages and health outcomes where immigrants are most vulnerable.

If the previous set of research directions captures a more traditional health-geography focus, there is also ample room for health geographers to contribute to the literature with research opportunities that emphasize the role of place and lived experience among immigrants. Research agendas could, for example, pursue questions related to the nuances around the health of refugees, such as the implications associated with the reason for movement (i.e., were they pushed due to war and violence or political reasons and implications with PTSD), and the implications associated with the route, transit time to a host country and settlement in a destination country. Given the role of place, there are further opportunities to understand how the environment influences health and how this differs by context, place, and the meaning of place. Importantly, many of the studies to date have focused on immigrants and refugees in the developed world but have bypassed those in other locations, particularly refugees who either are stuck in camps or have failed to thrive in destination countries. Work in such locations will offer tremendous challenges, but also rewards as new insights are gained. Finally, reflecting a recent call made by Mark Rosenberg (2016), health geographers may (and should) bring different theoretical insights to bear on the research questions associated with international movement and the health of immigrants and refugees. Researchers are able to draw on a range of theories, including (but certainly not limited to) feminist, social and Marxist theories, or new frameworks, such as intersectionality, to frame their work.

Pursuing these research questions could include the use of representative datasets such as the census or other data files that identify immigrants and their health status. Preferably, longitudinal files that track immigrants over a period of time, and hence changes to their health, should be focused on. Although much of the work associated with immigrant health has been based on large, representative data files, qualitative data and research techniques also offer promise, particularly in untangling the explanations for changes in health status by focusing on the lived experiences and outcomes of new arrivals. Finally, there are many opportunities for health geographers to engage with scholars from other disciplines, including economics, sociology and anthropology, and draw upon different frameworks and perspectives to advance the immigrant health research agenda.

References

Asanin, J. and Wilson, K. (2008). I spent nine years looking for a doctor: exploring access to health care among immigrant in Mississauga, Ontario, Canada. *Social Science & Medicine*, 66(6), pp. 1271–1283.

Barcellos, S. H., Goldman, D. P. and Smith, J. P. (2012). Undiagnosed disease, especially diabetes, casts doubt on some of reported health "advantage" of recent Mexican immigrants. *Health Affairs*, 31(12), pp. 2727–2737.

Beiser, M. (2009). Resettling refugees and safeguarding their mental health: lessons learned from the Canadian Refugee Resettlement Project. *Transcultural Psychiatry*, 46(4), pp. 539–583.

De Maio, F. G. and Kemp, E. (2010). The deterioration of health status among immigrants to Canada. *Global Public Health*, 5(5), pp. 462–478.

Dunn, J. and Dyck, I. (2000). Social determinants of health in Canada's immigrant population: results from the National Population Health Survey. *Social Science & Medicine*, 51, pp. 1573–1593.

Edge, S. and Newbold, K. B. (2013). Discrimination and the health of immigrants and refugees: exploring Canada's evidence base and directions for future research in newcomer receiving countries. *Journal of Immigrant and Minority Health*, 15, pp. 141–148.

Elliott, S. J. and Gillie, J. (1998). Moving experiences: a qualitative analysis of health and migration. *Health & Place*, 4(4), pp. 327–339.

Farré, L. (2016). New evidence on the healthy immigrant effect. *Journal of Population Economics*, 29(2), pp. 365–394.

Fennelly, K. (2007). The "healthy migrant" effect. *Minnesota Medical Magazine*, 90(3), pp. 51–53.

Gotsens, M., Malmusi, D., Villarroel, N., Vives-Cases, C., Garcia-Subirats, I., Hernando, C. and Borrell, C. (2015). Health inequality between immigrants and natives in Spain: the loss of the healthy immigrant effect in times of economic crisis. *European Journal of Public Health*, 1–7.

Grey, B. (2003). Social exclusion, poverty, health and social care in Tower Hamlets: the perspectives of families on the impact of the family support service. *British Journal of Social Work*, 33(3), pp. 361–380.

Harrison, A., Calder, L., Karalus, N., Martin, P., Kennedy, M., and Wong, C. (1999). Tuberculosis in immigrants and visitors. *New Zealand Medical Journal*, 112, pp. 363–365.

Hochhausen, L., Perry, D. F. and Le, H. N. (2010). Neighborhood context and acculturation among Central American immigrants. *Journal of Immigrant and Minority Health*, 12(5), pp. 806–809.

Jasso, G., Massey, D., Rosenzweig, M. R. and Smith, J. (2003). *Immigrant health: Selectivity and acculturation*. Santa Monica, CA: RAND.

Kalich, A., Heinemann, L. and Ghahari, S. (2016). A scoping review of immigrant experience of health care access barriers in Canada. *Journal of Immigrant and Minority Health*, 18, pp. 697–709.

Kennedy, S., Kidd, M. P., McDonald, J. T. and Biddle, N. (2015). The healthy immigrant effect: patterns and evidence from four countries. *International Migration and Integration*, 16, pp. 317–332.

Kobayashi, K. M. and Prus, S. G. (2012). Examining the gender, ethnicity, and age dimensions of the healthy immigrant effect: factors in the development of equitable health. *International Journal of Equity Health*, 11(8), pp. 1–6.

Koehn, P. H. (2005). Medical encounters in Finnish reception centres: asylum-seeker and clinician perspectives. *Journal of Refugee Studies*, 18(1), pp. 47–75.

Kwak, K. (2016). An evaluation of the healthy immigrant effect with adolescents in Canada: examinations of gender and length of residence. *Social Science & Medicine*, 157, pp. 87–95.

Maximova, K. and Krahn, H. (2010). Health status of refugees settled in Alberta: changes since arrival. *Canadian Journal of Public Health*, 101(4), pp. 322–326.

McDonald, J. T. and Kennedy, S. (2004). Insights into the "healthy immigrant effect": health status and health service use of immigrants to Canada. *Social Science & Medicine*, 59(8), pp. 1613–1627.

McKeary, M. and Newbold, K. B. (2010). Barriers to care: the challenges for Canadian refugees and their health care providers. *Journal of Refugee Studies*, 23(4), pp. 523–545.

Mclean, C., Campbell, C. and Cornish, F. (2003). African-Caribbean interactions with mental health services in the UK: experiences and expectations of exclusion as (re)productive of health inequalities. *Social Science & Medicine*, 56(3), pp. 657–669.

Newbold, K. B. (2006). Chronic conditions and the healthy immigrant effect: evidence from Canadian immigrants. *Journal of Ethnic and Migration Studies*, 32(5), pp. 765–784.

Newbold, K. B. (2009). The short-term health of Canada's new immigrant arrivals: evidence from LSIC. *Ethnicity and Health*, 14(3), pp. 1–22.

Newbold, K. B. and McKeary, M. (2018). Journey to health: (Re) contextualizing the health of Canada's refugee population. *Journal of Refugee Studies*, fey009, https://doi.org/10.1093/jrs/fey009.

Newbold, K. B. and Simone, D. (2015). Comparing disability amongst immigrants and native-born in Canada. *Social Science & Medicine*, 145, pp. 53–62.

Ng, E. (2011). *Insights into the healthy immigrant effect: Mortality by period of immigration and birthplace*. Canada: Health Research Working Paper Series. Statistics Canada, Catalogue 82–622-X No. 008.

Pottie, K., Ng, E., Spitzer, D., Mohammed, A. and Glazier, R. (2008). Language proficiency, gender and self-reported health: an analysis of the first two waves of the longitudinal survey of immigrants to Canada. *Canadian Journal of Public Health*, 99(6), pp. 505–510.

Proctor, N. G. (2005). "They first killed his heart (then) he took his own life." Part 1: a review of the context and literature on mental health issues for refugees and asylum seekers. *International Journal of Nursing Practice*, 11, pp. 286–291.

Rosenberg, M. (2016). Health geography III: old ideas, new ideas or new determinisms? *Progress in Human Geography*, 41(6), pp. 832–842. DOI: 10.1177/0309132516670054

Sanou, D., O'Reilly, E., Ngnie-Teta, I., Batal, M., Mondain, N., Andrew, C., Newbold, K. B. and Bourgeault, I. L. (2014). Acculturation and nutritional health of immigrants in Canada: a scoping review. *Journal of Immigrant and Minority Health*, 16(1), pp. 24–34.

Smith, K. L. W., Matheson, F. I., Moineddin, R. and Glazier, R. H. (2007). Gender, income and immigration differences in depression in Canadian urban centres. *Canadian Journal of Public Health*, 98(2), pp. 149–153.

Stafford, M., Newbold, K. B. and Ross, N. (2011). Psychological distress among immigrants and visible minorities in Canada. *International Journal of Social Psychiatry*, 57(4), pp. 428–441.

Subedi, R. P. and Rosenberg, M. W. (2014). Determinants of the variations in self-reported health status among recent and more established immigrants in Canada. *Social Science & Medicine*, 115, pp. 103–110.

Subedi, R. P. and Rosenberg, M. W. (2016). High-skilled immigrants – low-skilled jobs: challenging everyday health. *The Canadian Geographer*, 60(1), pp. 56–68.

Trovato, F. (2003). *Migration and survival: the mortality experience of immigrants in Canada*. Edmonton, AB: Prairie Centre for Research on Immigration and Integration (PCRII).

United Nations, Department of Economic and Social Affairs, Population Division. (2016). *International migration report 2015: Highlights* (ST/ESA/SER.A/375). New York: United Nations.

Vang, Z., Sigouin, J., Flenon, A. and Gagnon, A. (2015). The healthy immigrant effect in Canada: a systematic review. *Population Change and Lifecourse Strategic Knowledge Cluster Discussion Paper Series/Un Réseau stratégique de connaissances Changements de population et parcours de vie Document de travail*, 3(1), Article 4.

Veenstra, G. (2009). Racialized identity and health in Canada: results from a nationally representative survey. *Social Science & Medicine*, 69(4), pp. 538–542.

Wang, L. (2011). Analyzing spatial accessibility to health care: a case study of access by different immigrant groups to primary care physicians in Toronto. *Annals of GIS*, 17(4), pp. 237–251.

Wang, L. and Kwak, M. J. (2015). Immigration, barriers to healthcare and transnational ties: a case study of South Korean immigrants in Toronto, Canada. *Social Science & Medicine*, 133, pp. 340–348.

Wang, L. and Roisman, D. (2011). Modeling spatial accessibility of immigrants to culturally diverse family physicians. *The Professional Geographer*, 63(1), pp. 73–91.

Whittaker, S., Hardy, G., Lewis, K. and Buchan, L. (2005). An exploration of psychological well-being with young Somali refugee and asylum-seeker women. *Clinical Child Psychology and Psychiatry*, 10(2), pp. 177–196.

Williams, A., Kitchen, P., Randall, J., Muhajarine, N., Newbold, K. B., Gallina, M. and Wilson, K. (2015). Immigrant's perceptions of quality of life in three second- or third-tier Canadian cities. *The Canadian Geographer*, 59(4), pp. 489–503.

Woltman, K. and Newbold, K. B. (2007). Immigrant women and cervical cancer screening uptake: a multilevel analysis. *Canadian Journal of Public Health*, 98(6), 470–475.