Recent Research on Immigrant Health from Statistics Canada's Population Surveys

Jennifer S. Ali, PhD¹

Sarah McDermott, MHSc²

Ronald G. Gravel, MA¹

ABSTRACT

This paper reviews recent research using Statistics Canada data to compare immigrant health with that of the Canadian-born. A number of Statistics Canada studies have been used for such comparisons, including the National Population Health Survey and the Canadian Community Health Survey.

Across the range of indicators studied, compared to the Canadian-born, immigrants are generally in as good or better health, have similar or better health behaviours, and similar or less frequent health service use (the "healthy immigrant effect"). These indications appear to be strongest among recent and non-European immigrants.

These studies have established baseline patterns and identified that important distinctions exist among immigrant subgroups. Future research on more detailed subgroups that uses longitudinal data and cross-culturally validated instruments is needed.

A key question in the study of immigrant health is how immigrants fare in comparison to the health of people born in Canada. Immigrants might be healthier than the general Canadian population because of self-selection and because the immigration process screens out those with serious health problems. On the other hand, immigrant experiences of economic strain, unemployment or underemployment, acculturation stress, language barriers, and lack of familiarity with Canadian institutions may all take a toll on immigrants' health and leave them in worse health with proportionately higher service use.

Because immigrants comprise a relatively small proportion of the population, meaningful comparisons and generalizations require large-scale studies that sample sufficient numbers of immigrants. In Canada, Statistics Canada is a primary source of suitably large-scale data for comparing the health of immigrants with that of the Canadian-born. This review assesses recent research that uses Statistics Canada data to compare immigrant and Canadian-born health.

AREAS OF RESEARCH

National data sources

The most common source of data for immigrant health research has been the National Population Health Survey (NPHS), a national survey (excluding the territories) with both cross-sectional and longitudinal components conducted in 1994/95, 1996/97, and 1998/99. The 1994/95 cycle included 17,626 people aged 12 years and over. Although the survey has a longitudinal component, almost all of the studies on immigrants to date have relied exclusively on the 1994/95 cross-sectional component.

A recent survey, the Canadian Community Health Survey 2000/01 (CCHS), offers expanded possibilities for immigrant research because the sample size is large (over 130,000 respondents) and captures enough immigrants to permit more detailed subgroup examinations than previously available.

Other surveys include the National Longitudinal Survey of Children and Youth (NLSCY) (1994/95), the Canadian Alcohol and Drug Survey (CADS), the General Social Survey (GSS) (1985,

La traduction du résumé se trouve à la fin de l'article.

1. Social Science Researcher, Health Statistics Division, Statistics Canada, Ottawa, ON

2. Analyst, Population Health Assessment Section, Surveillance Risk Assessment Division, Centre for Chronic Disease Prevention and Control, Health Canada, Ottawa, ON

Correspondence: Mr. Ronald G. Gravel, Health Population Survey Program, Health Statistics Division, Room 2600, Main Building, Tunney's Pasture, Ottawa, ON K1A 0T6, Tel: 613-951-4592, Fax: 613-951-4198, E-mail: ronald.gravel@statcan.ca

1991), and the Health and Activity Limitations Survey (HALS) (1986/87, 1991). The Census (1986, 1991) and the Vital Statistics Database (1985-1987, 1990-1992) constitute sources of administrative data valuable for immigrant health research.

KEY FINDINGS

Research on immigrants using Statistics Canada's national surveys has covered a wide range of health indicators, broadly grouped as physical health, mental health, health behaviours, and health service use.

Physical health

The most recent research uses the 2000/01 CCHS to examine chronic conditions; it found that immigrants report fewer chronic conditions than do the Canadian-born, and that this advantage was greatest for most recent immigrants (Figure 1).¹

This pattern is consistent with similar research using the 1994/95 NPHS.^{2,3} When diabetes, high blood pressure, heart disease, and cancer were considered individually, immigrants were similar to the Canadian-born, adjusting for age, education, and income.¹ Considering these adjustments, men who immigrated in the past 20 years had lower odds of heart disease than the Canadian-born. These differences were not due to differences in health behaviours, such as smoking, overweight, heavy drinking, physical inactivity, or fruit and vegetable consumption.¹ Similarly, considering place of origin did not explain differences between newest and earliest immigrant cohorts.

In the 1994/95 NPHS, rates of asthma were lower for immigrants than for the Canadian-born.⁴ Another study using the same survey found that rates of arthritis were lower for Asian-born immigrants compared to respondents born in Europe and Australia, and those born in North America.⁵

This trend of relative immigrant health is also reflected in activity limitations, mortality, and disability-free days.^{6,7} Based on the HALS (1986/87, 1991), Census (1986, 1991), and Vital Statistics Database (1985-1987, 1990-1992), immigrants have more disability-free years and longer life expectancies than Canadian-born, especially immigrants from non-European coun-

Figure 1. Odds ratios for chronic conditions in general, by sex and years since immigration, adjusted for age, education and income
Data Source: 2000/01 Canadian Community Health Survey
Claudio Perez. Health Status and Health Behaviour among Immigrants. Supplement to Health Reports (Statistics Canada, Catalogue 82-003) 2002;13:89-100.

tries.^{3,6} In the 1985 and 1991 GSS, non-European immigrants are less likely to suffer from a long-term activity limitation than are the Canadian-born.⁷

The pattern is mixed for self-rated health. In the 1994/95 NPHS, immigrants were more likely to report poor health status, likely because of an older age structure.² Immigrants from Europe, the United States, Australia, and longer-term (> 10 years) immigrants report more fair or poor health because of differences in age.² At the same time, immigrants from Asia, Africa, or South America are less likely to report excellent or very good health status compared to immigrants from Europe, Australia, and the United States and Mexico combined.² In contrast, research using the 1985 and 1991 GSS found that immigrants rated their health the same as non-immigrants.⁷ Although each survey had a different sampling design aiming for national representative results, the interview mode (face-to-face versus telephone) and the wording or ordering of questions may explain some of the variation.

In an analysis using the 1994/95 NPHS that compares narrowly selected groups

defined by region of birth and language for homogeneity, immigrants speaking only English (from North America, Europe, or Australia) had lower rates of "dysfunction" (Health Utilities Index score < .830) than Canadian-born speaking only English. European and Asian immigrants speaking other languages were less likely to be "healthy" than English-speaking Canadians (HUI score > .946), but had no difference on dysfunction.⁸ Differences among groups were also found when functional problems with emotions, pain, and cognition were examined. Thus, this study identifies certain subgroups of immigrants who report worse health than Canadian-born respondents speaking only English.

Tuberculosis was one disorder where immigrants had a health disadvantage. Although rates among immigrants have fallen over time, immigrants comprised 57% of tuberculosis cases in 1994 – perhaps because immigrants who have lived in a country where tuberculosis rates are high may be more susceptible to contracting it or may have had inactive tuberculosis at immigration that was later activated.⁹

Figure 2. Depression and alcohol dependence, by length of residence in Canada
 Data Source: 2000/01 Canadian Community Health Survey
 Jennifer Ali. Mental Health of Canada's Immigrants. Supplement to Health Reports
 (Statistics Canada, Catalogue 82-003) 2002;13:101-11.

Figure 3. Depression and alcohol dependence, by region of birth
 Data Source: 2000/01 Canadian Community Health Survey
 Jennifer Ali. Mental Health of Canada's Immigrants. Supplement to Health Reports
 (Statistics Canada, Catalogue 82-003) 2002;13:101-11.

Mental health

According to the 2000/01 CCHS, immigrants had significantly lower rates of both depression and alcohol dependence in the year prior to the survey than the Canadian-

born population.¹⁰ Paralleling the trends for chronic conditions, recently-arrived immigrants had the lowest rates while long-term immigrants reported rates similar to the Canadian-born (Figure 2).¹⁰ For

depression, immigrants who arrived 10-14 years ago and those who arrived 20-29 years ago had similar rates to the Canadian-born. The odds ratios (OR) for both groups comparing immigrants to the Canadian-born and adjusted for age, gender, marital status, income and education were 0.90 with confidence intervals (CI) of 0.78-1.03 and 0.79-1.03 respectively.¹⁰ For alcohol dependence, immigrants who arrived more than 30 years ago reported similar rates to the Canadian-born (OR = 0.74, CI = 0.50-1.09).¹⁰ These patterns held after also adjusting for proficiency in English or French, employment status, or sense of belonging to the local community.

Region of origin was also relevant. Immigrants from Asia had the lowest rates of depression while those from Europe and North America appeared to experience rates more similar to the Canadian-born (Figure 3).¹⁰ Similarly, Europeans and North Americans experienced the highest rates of alcohol dependence among immigrants (albeit, lower than the Canadian-born), while those from Africa had the lowest rates (Figure 3).¹⁰

Based on the 1994/95 NLSCY, immigrant children aged 4-11 years were also in better mental health than Canadian-born children, with lower rates of externalizing and internalizing behaviours.¹¹ Apparently, more immigrant children face poverty but the negative effect of poverty on mental health was weaker for immigrant than for Canadian-born children.¹¹

Health behaviours

Research has shown that immigrants exhibit a mixed pattern with regard to health behaviours. Most recent research using CCHS 2000/01 data showed immigrants in the previous 10 years reported lower rates of overweight than the Canadian-born, and revealed an increasing gradient with duration in Canada. Immigrants overall were found to consume fruits and vegetables at a higher rate.¹ Similarly, the 1994/95 NPHS showed recent immigrants had lower rates of overweight. However, the NPHS also showed that women who immigrated 10 or more years ago had a higher prevalence of overweight than Canadian-born women.¹² Additionally, although immigrant men from Asia had significantly lower rates of overweight than Canadian-born men,

those from other regions had comparable rates.¹²

Using the CADS, teenagers were compared on illegal substance use. Foreign-born teens were less likely to use illicit substances than their Canadian-born counterparts. Most recent immigrants and those who did not speak an official language (i.e., English, French) at home were the least likely to use illicit drugs.¹³

CCHS 2000/01 data additionally revealed that immigrants smoked less than the Canadian-born,¹ and, with the exception of women who immigrated over 30 years ago, had lower rates of heavy drinking. Once again, increasing gradients were observed with duration in Canada. Patterns were consistent in that immigrants were either healthier than or in similar health to the Canadian-born. An area in which immigrants were doing worse than the Canadian-born was physical inactivity. Interestingly, health behaviours did not play an important role in explaining differences in chronic conditions.¹

Health care utilization

A number of studies have looked at health care utilization. Overall, immigrants have similar rates to the Canadian-born in terms of visits to general practitioners, specialists, nurses, and overnight hospital stays.^{2,3,7} In the 1991 GSS, immigrants from Europe and South America were less likely to consult a general practitioner.⁷ In the 1994/95 NPHS, age-adjusted hospitalization rates were significantly lower for non-European immigrants than for the Canadian-born.³ A study examining preventive health care found that, among women aged 35-59 with no breast problems, immigrants were more likely than the Canadian-born to receive screening mammography.¹⁴

Immigrants may use the health care system less simply because they encounter barriers to its use. However, analysis of the three waves of the NPHS data reveals that immigrants did not report different rates of unmet health care needs because of availability or accessibility problems.¹⁵ Moreover, immigrants reported fewer unmet needs related to problems of acceptability of services than did the Canadian-born. This difference was not significant when adjusting for demographics and health status.^{2,15}

DIRECTIONS FOR RESEARCH

Address public debates

Comparing the health of immigrants to that of the Canadian-born provides information to address public debates over whether immigrants are a burden to Canadian society. The research using Statistics Canada studies indicates that, on the whole, this concern is unfounded with respect to health. Immigrants are generally in similar or better physical and mental health compared with the Canadian-born. Similarly, their health behaviours are similar to or better than the Canadian-born and their use of health services is similar or less frequent. These enduring patterns have been termed the "healthy immigrant effect." This trend is linked to the immigration selection process, both through self-selection and the Canadian screening process.

One trend noted is a gradient by length of time in Canada, with the health advantage most pronounced among recent immigrants and attenuated or non-existent among longer-term immigrants. Another important distinction is by region of origin, with immigrants from non-European source areas more frequently reporting lower rates of adverse health outcomes than the Canadian-born and other immigrants. The findings based on Statistics Canada surveys are consistent with other Canadian studies.¹⁶

Research opportunities and limitations

Statistics Canada data sources for immigrant health research, although sufficiently large-scale, are primarily self-reported and cross-sectional. The patterns produced by analyses of cross-sectional data establish trends and suggest hypotheses, but cannot illustrate processes of acculturation and change. There are many differences between recent and long-term immigrants, and differences observed may reflect a cohort effect rather than the effect of how living in Canada affects health. To understand how the process of immigration and acculturation affects health, longitudinal research is needed over a large sample of immigrants.

One limitation of this survey data is that the questions have been tested on the general population. But reporting patterns

among immigrants may be influenced by cultural interpretations of the questions or culturally based patterns of response, differences in the meaning of health and illness, or differences in definitions of appropriate ways to treat illness. In addition, although some surveys, such as the CCHS, are translated into several languages, some of the most recent or least acculturated immigrants who do not speak other languages may be excluded.

Clearly, these studies illustrate that distinctions among immigrants are important for understanding differences in immigrant health. While benchmarks have been established for immigrants as a whole, the most important distinctions may be among immigrant cohorts and subgroups. More detail is needed about subgroups, such as refugees, women, and children, as well as about contextual factors such as patterns of health at source country, circumstances of immigration, selection effects, socioeconomic factors, and psychosocial and support resources available to the immigrant.

A new survey that may be able to delve into more detail, the Longitudinal Survey of Immigrants to Canada, interviews immigrants three times in their first four years in Canada and will include questions on self-reported health, mental health, access to health care services, and satisfaction with services received. The first wave included 12,004 immigrants interviewed at approximately 6 months post-landing between April 2001 and June 2002. The target is to have longitudinal data on 5,800 immigrants by late 2005. Preliminary results are available,¹⁷ and a more detailed publication of results from the first wave of the survey is planned for release in early 2004. Perhaps research using this survey as well as other, more focussed studies will be able to further the understanding of which immigrants are in better or worse health and why.

REFERENCES

1. Perez C. Health status and health behaviour among immigrants. *Health Rep* 2002;13 (Suppl.):89-100.
2. Dunn JR, Dyck I. Social determinants of health in Canada's immigrant population: Results from the National Population Health Survey. *Soc Sci Med* 2000;51:1573-93.
3. Chen J, Ng E, Wilkins R. The health of Canada's immigrants in 1994-95. *Health Rep* 1996;7:33-45.
4. Chen Y, Dales R, Krewski D, Breithaupt K. Increased effects of smoking and obesity on asthma

- ma among female Canadians: The National Population Health Survey, 1994-1995. *Am J Epidemiol* 1999;150:255-62.
5. Wang PP, Elsbett-Koeppen R, Geng G, Badley EM. Arthritis prevalence and place of birth: Findings from the 1994 Canadian National Population Health Survey. *Am J Epidemiol* 2000;152:442-45.
 6. Chen J, Wilkins R, Ng E. Health expectancy by immigrant status, 1986 and 1991. *Health Rep* 1996;8(3):29-37.
 7. Laroche M. Health status and health services utilization of Canada's immigrant and non-immigrant populations. *Can Public Policy* 2000;26:51-75.
 8. Kopec JA, Williams JI, To T, Austin PC. Cross-cultural comparisons of health status in Canada using the Health Utilities Index. *Ethn Health* 2001;6(1):41-50.
 9. Wilkins K. Tuberculosis, 1994. *Health Rep* 1996;8(1):33-39.
 10. Ali J. Mental health of Canada's immigrants. *Health Rep* 2002;13(Suppl.):101-11.
 11. Beiser M, Hou F, Hyman I, Tousignant M. Poverty, family process, and the mental health of immigrant children in Canada. *Am J Public Health* 2002;92:220-27.
 12. Cairney J, Ostbye T. Time since immigration and excess body weight. *Can J Public Health* 1999;90(2):120-24.
 13. Chien LY, George MA, Armstrong RW. Country of birth and language spoken at home in relation to illicit substance use. *Can J Public Health* 2002;93(3):188-92.
 14. Tudiver F, Fuller-Thomson E. Who has screening mammography? Results from the 1994-1995 National Population Health Survey. *Can Fam Phys* 1999;45:1901-7.
 15. Chen J, Hou F. Unmet needs for health care. *Health Rep* 2002;13:23-34.
 16. Hyman I. Immigration and Health. Health Policy Working Paper Series. Working paper 01-05. Ottawa, ON: Health Canada, September 2001.
 17. Statistics Canada. Longitudinal Survey of Immigrants to Canada. *The Daily, September 4, 2003*; Cat. No. 11-001-XIE: 2-5.

RÉSUMÉ

L'article examine des études récentes fondées sur les données de Statistique Canada afin de comparer la santé des immigrants à celle de la population née au Canada. Pour ces comparaisons, on a utilisé plusieurs études de Statistique Canada, notamment l'Enquête nationale sur la santé de la population et l'Enquête sur la santé dans les collectivités canadiennes.

Pour toute la gamme des indicateurs employés, par comparaison avec la population née au Canada, les immigrants sont en général en meilleure santé, leurs habitudes de santé sont supérieures ou égales, et la fréquence à laquelle ils ont recours aux services de santé est inférieure ou égale (on appelle cela « l'effet de l'immigrant en bonne santé »). Ces indications se manifestent très fortement chez les nouveaux arrivants et chez les immigrants de souche non européenne.

Les études en question établissent des tendances de base et montrent l'existence de distinctions importantes entre les sous-groupes d'immigrants. Il faudrait pousser la recherche sur ces sous-groupes en utilisant des données longitudinales et des instruments adaptés aux différences culturelles.