The changing health of immigrants

by Edward Ng, Russell Wilkins, François Gendron and Jean-Marie Berthelot

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When immigrants arrive in Canada, their health is typically better than that of the average Canadian. In fact, many studies have established the existence of a so-called "healthy immigrant effect." This may partly be due to the fact that potential immigrants are screened on medical and other health-related criteria before they are admitted to the country. There is also a degree of self-selection in the originating countries, with applicants likely to be individuals with the stamina and motivation to undertake the rigours that immigration entails.

Previous studies have shown that immigrants, especially recent immigrants, are both less likely to have chronic conditions or disabilities than the Canadian-born population, and are more likely, upon arrival to Canada, to rate their health as good, very good or excellent. Most of these studies, however, have been based on data for a single point in time. As a result, they have not been able to track the changes over time in immigrants' health in their new country.

Using longitudinal data from Statistics Canada's National Population Health Survey (NPHS), this article assesses the health impact of the immigration process, as individuals adjust to life in Canada, by comparing changes in immigrants' self-perceived health status, health care use, and health-related behaviours with those of the Canadian-born population. Information was collected from the same individuals over an eight-year period from 1994/95 to 2002/03.

Immigrants' self-perceived health deteriorates over time

In 2001, Canada's 5.4 million immigrants made up just over 18% of the population, the highest percentage in 70 years. Canada now receives more than 200,000 immigrants each year, and they account for close to 60% of population growth. Without sufficient immigration to compensate for below-replacement fertility, the Canadian population would start to decline in about 30 years.[1] A better understanding of the dynamics behind any changes in immigrants' health could inform public policy about potential risks that confront this increasingly important component of Canadian society.

It is hypothesized that over time, immigrants' perception of their health converges toward that of the host population. In some cases, medical problems may arise as immigrants age just like anyone else. In others, health may deteriorate as immigrants integrate into their new country and adopt behaviours with potentially negative health impacts.

The process of immigration itself is stressful and disruptive, possibly involving financial constraints, employment problems or the lack of a social support network, all of which may undermine health. The loss of a support network of family and friends in the country of origin can be particularly difficult. It is a well-known fact that lack of social support is a risk factor for a decline in health: for example, in general, Canadians with low social support were 1.3 times more likely to indicate a decline in health than those with high levels of social support.[2]

CST What you should know about this study

Data in this article come from the National Population Health Survey (NPHS), which collects information about the health of Canadians. The survey covers private households and institutional residents in all provinces, except on Indian reserves, Canadian Armed Force bases, and some remote areas. The first cycle of the survey (in 1994/95) interviewed over 14,100 residents aged 18 years and over living in private households. These individuals were then followed over time. The statistical model used in the analysis controlled for age, sex, household income, education and other selected characteristics.

For people who rated their health as good, very good or excellent in 1994/95, changes in health status, health care utilization (frequent doctor contacts and hospitalization) and health-related behaviours (daily smoking, leisure activity and body mass index) were examined by European/non-European origin and duration of residence in Canada. They were compared to the Canadian-born population (i.e. those who were Canadian citizens by birth).

Duration of residence in Canada

Immigrants' actual duration of residence in Canada is not available from the National Population Health Survey (NPHS). As a result, the number of years between immigration and the first NPHS cycle (1994/95) was used as a proxy, but the duration of residence is not exact. Some people may have resided in Canada for several years before obtaining immigrant status, while others may have lived outside Canada for substantial periods after immigration. Because of sample size limitations, just two duration categories were created: recent immigrants (in Canada for 10 years or less as of 1994/95) and long-term immigrants (in Canada for more than 10 years as of 1994/95).

Self-perceived health

This is a commonly used indicator that has been shown to reflect other measures of health status such as mortality and clinically diagnosed morbidity. It was measured on a five-category scale: poor, fair, good, very good or excellent.

Income adequacy

This indicator is based on the number of people in the household and total household income from all sources in the 12 months preceding the 1994/95 survey. It was defined as less than $15,000 for a household with 1 or 2 persons, less than $20,000 for a household with 3 or 4 persons, and less than $30,000 for a household with 5 or more persons.

***Body mass index* (BMI)**

The BMI determines a person's weight relative to his or her height. An increase of at least 10% in the index reflects a substantial weight gain, which might be harmful to one's health.

To distinguish groups with cultural differences that might influence health, immigrants were grouped into two categories according to their country of birth: European and non-European. The European category also includes those born in the United States, Australia and New Zealand. Because of the diversity of the immigrant population, the European/non-European grouping is at best a crude way to capture the cultural differences underlying health transitions, but owing to sample size limitations, this was the only categorization possible.

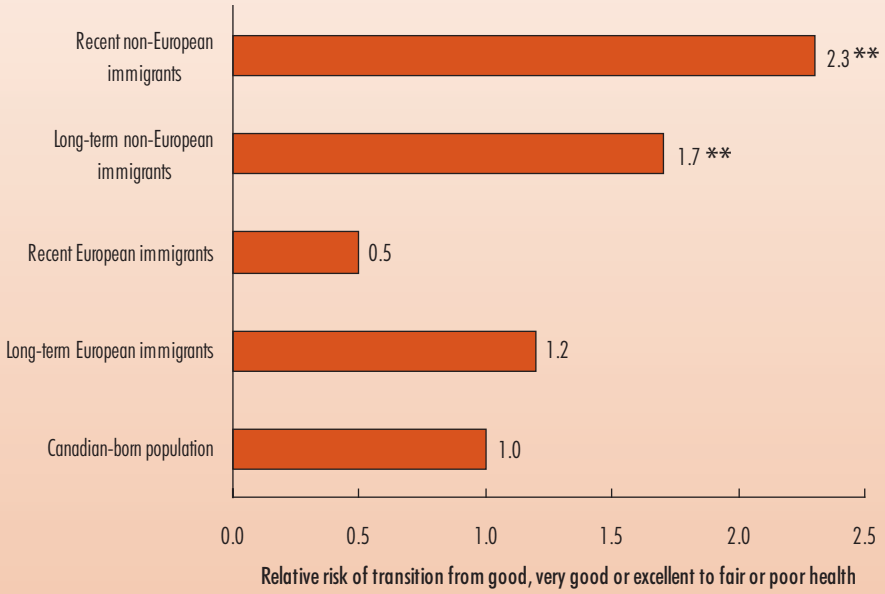
According to the NPHS, immigrants from non-European countries were twice as likely as the Canadian-born to indicate deterioration in their health between 1994/95 and 2002/03. In other words, these immigrants had rated their health as good, very good or excellent in the first year of the survey, but subsequently were more likely to describe themselves as being in fair or poor health than the Canadian-born.

This decline was particularly pronounced among *recent* non-European immigrants (those who, for purposes of this study, arrived in Canada in 1984 or later). But surprisingly, even *long-term* non-European immigrants (those who came before 1984) were more likely than the Canadian-born to indicate a shift toward fair or poor health. In contrast, there was no statistically significant difference between European immigrants' likelihood of reporting a decline in health and that of the Canadian-born. (The statistical model used in the analysis controlled for age, sex, household income, education and other selected variables.)

Non-European immigrants visit their doctor more frequently

In addition to their deteriorating self-perceived health, or perhaps mirroring it, recent non-European immigrants reported having visited their doctors more frequently than others over the years. Between 1994/95 and 2002/03, they were 1.5 times more likely than the Canadian-born to become frequent visitors to doctors (that is, to have visited in person, or consulted by phone, their general practitioner or other medical doctor at least six times in the previous year). Once again, European immigrants resembled Canadian-born individuals in their likelihood of visiting doctors.

CST Recent non-European immigrants were most likely to indicate a deterioration in health

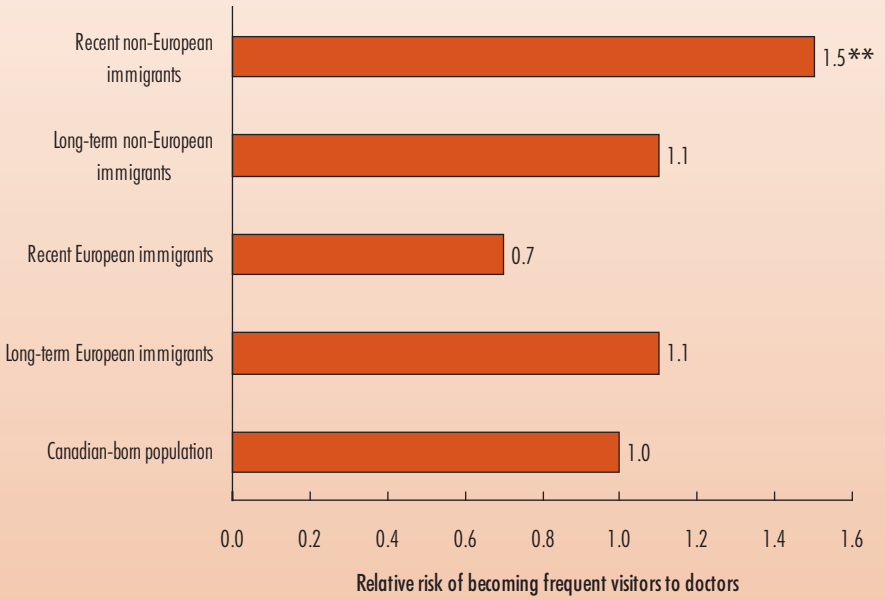


Note: Analysis based on individuals reporting good, very good or excellent health in 1994/95, and controls for age, sex, income adequacy, education, smoking, inactive leisure, social support/involvement and body mass index in 1994/95.

** Statistically significant difference from estimate for Canadian-born ($p<0.01$).

Source: Statistics Canada, National Population Health Survey, 1994/95 to 2002/03.

CST Recent non-European immigrants were more likely than the Canadian-born to become frequent visitors to doctors



Note: Analysis is based on individuals reporting good, very good or excellent health in 1994/95, and controls for age, sex, income adequacy and education in 1994/95.

** Statistically significant difference from estimate for Canadian-born ($p<0.01$).

Source: Statistics Canada, National Population Health Survey, 1994/95 to 2002/03.

There was no statistically significant difference between any of the groups of immigrants and the Canadian-born in the likelihood of being hospitalized. However, admission to hospital is usually necessitated by relatively serious health problems, and it is possible that during the eight years of follow-up the decline in health was not severe enough to require hospitalization.

What causes non-European immigrants' health to decline?

The decline in immigrants' self-perceived health might be attributable to a number of factors. For the Canadian population overall, daily smoking, inactive leisure time, and obesity were each found to be significantly associated with deterioration in self-rated health. Perhaps during the process of adjusting to the Canadian lifestyle, non-European immigrants have picked up some of these habits.

According to data from the NPHS, relatively few non-European immigrants became daily smokers. In fact, they were only half as likely as the Canadian-born population to start smoking on a daily basis between 1994/95 and 2002/03. Therefore, for these immigrants, daily smoking was unlikely to be associated with a higher risk of decline in self-reported health over the eight years. By contrast, European immigrants were as likely as their Canadian-born counterparts to start smoking during this period of time.

Non-European immigrants report lack of physical activity and weight gain

While non-European immigrants were not picking up the smoking habit, they were somewhat more likely than the Canadian-born to have become physically inactive during their leisure time.[3] This may help explain why these immigrants were more likely to report declining health.

CST Recent non-European immigrants were more than twice as likely as the Canadian-born to have indicated a decline in health between 1994/95 and 2002/2003

	Adjusted risk ratios for transition from good/very good/ excellent to fair/poor health
Immigration status and duration of residence	
Canadian-born	*1.0*
Recent European immigrants	0.5
Long-term European immigrants	1.2
Recent non-European immigrants	2.3**
Long-term non-European immigrants	1.7**
Sex	
Men	*1.0*
Women	1.1
Age group	
18 to 34	*1.0*
35 to 54	1.6**
55 and over	3.4**
Income adequacy	
Low	1.5**
Not low	*1.0*
Education	
Less than high school	1.9**
High school graduation/some postsecondary	1.2*
Postsecondary graduation	*1.0*
Smoking	
Daily smoker	1.5**
Not daily smoker	*1.0*
Inactive leisure	
No	*1.0*
Yes	1.2**
Social support	
High	*1.0*
Low	1.3*
Social involvement	
High	*1.0*
Low	1.1
Body mass index§	
Underweight	1.0
Normal weight	*1.0*
Overweight	1.2**
Obese	1.3**

Note: All explanatory variables are based on situation in 1994/95. Data refer to private household population aged 18 or older in Canada, excluding territories.

Reference categories shown in italics.

§ Excludes pregnant women.

* Statistically significant difference from reference category ($p<0.05$).

** Statistically significant difference from reference category ($p<0.01$).

Source: Statistics Canada, National Population Health Survey, 1994/95 to 2002/03.

However, more research is needed to understand the complex associations between the level of leisure-time activity and health among immigrant groups. For example, the group most likely to become inactive were recent European immigrants. Yet, paradoxically, in contrast to their non-European counterparts, these recent European immigrants were not at a greater risk of indicating a decline in their health relative to the Canadian-born.

Although the fact that recent non-European immigrants' self-perceived worsening health could not be directly linked to daily smoking, weight gain was a possible contributor. Rapid changes within and between body mass index (BMI) categories could be considered as important indicators of potential problems. Indeed, recent non-European immigrants were almost twice as likely as the Canadian-born population to have experienced at least a 10% increase in their BMI since 1994/95.[4]

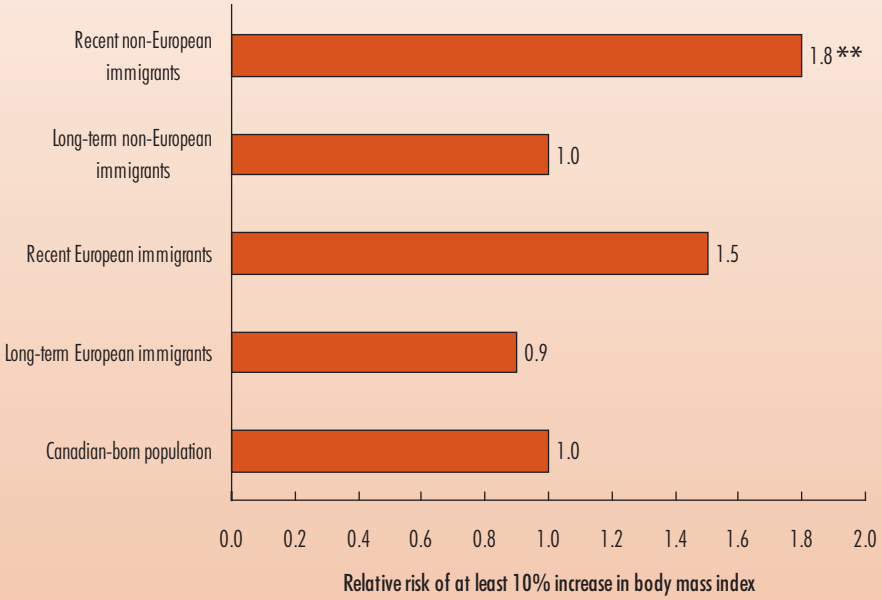
Summary

When immigrants arrive in Canada, they tend to have better health than the Canadian-born. However, as time passes, their health appears to decline and eventually approximates that of the host population. Potential reasons for the deterioration in immigrants' self-perceived health may include the process of aging, the adoption of behaviours with negative health effects and the stress of immigration itself.

The decline in health was most pronounced among recent non-European immigrants. Although this decline did not seem to be associated with the initiation of daily smoking, weight gain and physical inactivity may have been contributing factors.

The relationship between immigration and health transitions is highly complex, involving not only socio-economic, cultural, behavioural, environmental and biological factors, but also pre-immigration history.

CST Recent non-European immigrants were almost twice as likely as the Canadian-born to have indicated a substantial weight gain



Note: Analysis is based on individuals reporting good, very good or excellent health in 1994/95, and controls for age, sex, income adequacy and education in 1994/95. Excludes people who were underweight in 1994/95.

** Statistically significant difference from estimate for Canadian-born ($p < 0.01$).

Source: Statistics Canada, National Population Health Survey, 1994/95 to 2002/03.

More research is needed to clarify the links between the causes and effects of these factors.

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1. Statistics Canada. 2001. *Population Projections for Canada, Provinces and Territories, 2000-2026* (Statistics Canada Catalogue no. 91-520).
2. To measure levels of social support, respondents were asked if they had someone to confide in or count on, who could give them advice, and who made them feel loved. The effect of social support on health status is not included in subsequent analysis because the questions asked were not identical in the various cycles of the survey.
3. Difference was statistically significant at the 90%, but not at the 95%, confidence level.
4. Individuals who were underweight in 1994/95 were excluded from the analysis.