

Chronic health conditions, labour market participation and resource consumption among immigrant and native-born residents of Canada

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Received: 10 August 2013/Revised: 15 January 2014/Accepted: 22 January 2014/Published online: 7 February 2014
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Abstract

Objectives To compare chronic illnesses, economic dependence and health-care use by immigrants and native-born Canadians.

Methods A secondary analysis of the Canada Community Health Survey national data (2009–2010) was conducted.

Results Recent and established immigrants were healthier than native-born Canadians. Healthy, established immigrants were more likely than native-born Canadians to be working, and no more likely to use transfer payments. Health-challenged recent immigrants had high employment rates, but low rates of health care. Health-challenged established immigrants and native born were equally likely to be working, depending on transfer payments and using health care. Regardless of nativity or health, education, male gender and linguistic fluency increased the probability of employment. Female gender and advancing age increased the likelihood of dependency. Residents of Canada's most prosperous regions were the most likely to be employed and the least likely to receive transfer payments.

Conclusions Immigrants with chronic illnesses do not inevitably dilute the economic benefits of immigration or create excessive burden. Timely programs to promote integration can help ensure a favourable balance between economic contribution and social cost. Neglecting the health of new immigrants may eventuate in long-term disability.

Keywords Immigrant · Chronic illness · Ableism · Labour force participation · Social dependence · Immigrants with disabilities

Introduction

To help guarantee that immigration produces economic benefit, resettlement countries rely, to a greater or lesser extent, on ableism, the exclusion of immigrant applicants with physical and mental disabilities (Hanes 2011; Henry 2009; Wehbi and EI-Lahib 2012; Wadsworth 2013). Critics point out that ableism-driven policy ignores the value of attributes such as generosity and creativity (Wolbring 2008), encourages other forms of discrimination (Wolbring 2008; Wehbi and EI-Lahib 2012), reinforces damaging stereotypes (Council of Canadians with Disabilities 2009) and violates human rights (Wehbi and EI-Lahib 2012; Henry 2009; Iyioha 2008). Aside from the ethical, moral and perhaps legal implications of ableism-directed policy, the underlying and widely accepted assumption—that immigrants with physical and mental disabilities are likely to create economic burden rather than advantage (Wadsworth 2013; Wehbi and EI-Lahib 2012)—has received little empirical testing (Iyioha 2008). Using national Canadian data, the current report compares labour force participation, transfer payment dependence and health-care use by immigrants with chronic physical and mental health conditions, healthy immigrants, native-born Canadians with chronic health problems and healthy native-born Canadians.

Disability, referring to difficulty in performing key activities in daily life (Verbrugge and Jette 1994), can result from physical or mental conditions, or a combination of the two (see also Nagi 1991; WHO 2002). Among the population as a whole, persons with chronic mental or

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physical conditions are more likely to be unemployed than their healthier counterparts (Xiang et al. 2010). Surprisingly, however, immigrants with chronic illnesses may be more economically productive than their chronically ill, native-born counterparts. For example, in a US-based study, Xiang et al. (2010) found that, even after controlling for age, sex, race and education, disabled immigrants were not only more likely than disabled non-immigrants to be employed, but also to earn higher incomes. Disabled non-immigrant workers in Spain took sick leaves that were, on average, 1.5 times longer than disabled immigrant workers, despite the fact that there were no apparent differences between the two groups in type and severity of illness (Soler-Gonzalez et al. 2008). The authors (Xiang et al. 2010; Soler-Gonzalez et al. 2008) have offered two explanations: the first that, compared with their native-born counterparts, disabled immigrants are more likely to show up for work because of lack of job security, the second that immigrants tend to have a highly developed work ethic and an antipathy towards social dependency.

Data also challenge the popular belief that immigrants consume more than their fair share of societal resources. For example, Mohanty et al. (2005) showed that health-care expenditures for immigrants living in the USA were 55 % lower than for their US-born counterparts: these ratios held for both uninsured and publicly insured groups. Similarly, in a study of 20 EU countries, Barrett and Maître (2013) found that, with the exception of Portugal, immigrants were less likely than native-born people of working age to be receiving sickness or disability support. Some authors (Laroche 2000; Kim et al. 2013) have suggested that immigrants, particularly in the early years after arrival, may use fewer health services than the native-born because they are healthier. However, a German study by Wadsworth (2013) refutes this idea. Although immigrants in Germany were more likely than native-born populations to report poor health, they used hospital and GP services at roughly the same rates as native-born Germans. In a similar vein, Soler-Gonzalez et al. (2008) report that immigrant clients of primary health-care clinics in Spain took sick leave less frequently than their native-born counterparts and, when they did take leave, it was for shorter periods.

Disease conditions are a necessary, but incomplete component of the disability construct. Disability is the result of an interaction between a chronic or persistent health condition and personal and contextual factors that shape individual experiences or definitions of being disabled (World Health Organization (WHO) 2002). Personal factors such as gender affect the relationship between disease and disability. For example, Soler-Gonzalez et al. (2008) have reported that immigrant women tend to take shorter sick leaves than immigrant men, and research from Canada (Beiser and Hou 2001; Hou and Beiser 2006)

shows that both fluency in the receiving country language and good education increase the probability of gainful employment. Regional economic disparities in Canada affect employment rates among immigrants and non-immigrants alike (Beiser et al. 2011). Whether or not these personal and contextual differences affect employment and resource consumption among immigrants with chronic health conditions or whether the presence of illness overrides attributes and context has not, however, been studied.

Methods

The current study examines the effects of chronic health conditions, as well as personal resources and regional context on labour force participation, receipt of government transfer payments and use of health services by short- and long-stay immigrants compared with native-born Canadians.

Study samples

Analyses are based on data from the Canadian Community Health Survey (CCHS). Conducted annually by Statistics Canada, the CCHS is a cross-sectional, nationally representative survey of Canadian residents 12 years of age and older that collects information about health status, health-care utilization, determinants of health and utilization of health-care services, and demographic and socioeconomic characteristics. Following Statistics Canada standard procedures, the current report combines data from two successive years—2009 and 2010. About half the interviews were conducted in a face-to-face computer-assisted format, the other half by computer-assisted telephone interview. The CCHS uses two main sampling frames: area frame and telephone list frame. The area framework, based on geography, uses a multistage stratified cluster sampling design in which dwelling is the final sampling unit, and a randomly selected person within the dwelling is the interviewee. The telephone list frame, a cost-effective supplement to area frame sampling, uses the regularly updated Canada phone directory of names, addresses and telephone numbers, and then links these data to administrative postal code conversion files to map each telephone number to a stratum. Within each stratum, telephone numbers are selected using a simple random sampling process. Response rates for the 2009–2010 survey were 76 % for the area frame method and 69 % for telephone list frames. Unlisted numbers have no chance of being selected for the list frame: however, as the list frame is always used as a complement to the area frame, the impact of undercoverage due to list frame sampling is minimal and is dealt with during weighting. (for further details, please see Canadian Community Health Survey 2011). Because

labour force participation is one of the foci of the current study, the sample was restricted to people between the ages of 20 and 74 years who took part in the CCHS.

Study measures

The study used three outcome measures: labour force participation, use of government transfer payments and family doctor visits. (a) *Labour force participation* A dichotomous variable based on responses to either: “Are you currently working?” or, if not, “In the past 4 weeks, did you do anything to find a job?”: currently working or actively looking for a job = “in the labour force” (1), “not in labour force” (0). (b) *Use of government transfer payments* Persons whose main income source was employment insurance, worker’s compensation, old age security, guaranteed income supplement and/or provincial/municipal social assistance constituted the “use of government transfers” group (1); others (0). (c) *Use of family doctors*: based on the question “In the past 12 months, have you seen, or talked about your physical, emotional or mental health to a family doctor (paediatrician) or general practitioner?” Yes (1) No (0).

The CCHS divided chronic condition into physical and mental. (a) *Chronic physical conditions* Respondents were presented with a list of long-term health conditions (defined for them as having lasted 6 months or more) for which they had received a diagnosis from a medical professional. The list included asthma, arthritis, back problems, high blood pressure, migraine headaches, chronic bronchitis, emphysema or chronic obstructive pulmonary disease (COPD), diabetes, heart disease, cancer, stomach or intestinal ulcers, the effects of a stroke, urinary incontinence and bowel disorder. (b) *Chronic mental conditions* Questions included: “Did a medical professional ever tell you that you had”...a mood disorder such as depression, bipolar disorder, mania or dysthymia? Yes (1) No (0). “...an anxiety disorder such as a phobia, obsessive–compulsive disorder or a panic disorder?” Yes (1) No (0).

Socio-demographic information included the following: (1) *Age* as a continuous variable. (2) *Gender*, woman (1), man (0). (3) *Marital status* classified into five categories: currently married, common law, widowed, divorced/separated and never married. (4) *Education* coded into five categories—university degrees, some post-secondary, high school graduation, less than high school graduation and education levels not reported. (5) *Official-language ability*, self-reported ability to conduct a conversation in English or French. (6) *Geographic region* classified into five groups: Ontario, Quebec, British Columbia, Alberta, Prairie (Saskatchewan and Manitoba) and Atlantic region.

Because of the complexity of the CCHS sample design (stratified and clustered), the current study used bootstrap

re-sampling with 500 replicate weights (provided by Statistics Canada) to estimate standard errors and confidence intervals of odds ratios.

Results

Sample characteristics

Table 1 provides demographic information about the three study samples—recent immigrants (resident in Canada for 10 years or less), established immigrants (present in Canada for more than 10 years), and native-born Canadians. Recent immigrants were, on the whole, younger and better educated than either established immigrants or native-born residents of Canada. Despite their generally high levels of education, more than one-quarter of recent immigrants were living in poverty. The rate of poverty for established immigrants was much lower than for recent immigrant, but it was still higher than for the native born.

Comparative productivity and use of resources

Table 2 compares the respective samples’ labour force participation, use of transfer payments and use of doctors. Overall, a higher percentage of recent immigrants were working than either established immigrants or native-born Canadians. Recent immigrants were less likely than the other two groups to be receiving transfer payments, but the use of transfer payments was highest among established immigrants. Recent immigrants made fewer doctor visits than either established immigrants or native-born Canadians. The presence of a chronic health condition increased the overall likelihood of seeing a family doctor, but

Table 1 Demographic characteristics: Canadian Community Health Survey 2009–2010

	Recent immigrants (n = 3,587)	Established immigrants (n = 10,810)	Native born (n = 83,949)
Age	36.4	50.5	44.8
Percent female	51.7	50.4	50.2
Education			
(a) University degree	50.0	28.8	21.0
(b) Some post-secondary	31.3	40.3	46.8
(c) High school graduate	11.6	17.8	16.1
(d) <High school	6.4	12.3	12.6
Ability to speak English/French	89.2	94.2	96.9
Poverty rate	26.8	12.6	8.6

Table 2 Productivity and use of resources: statistics Canada, Canadian Community Health Survey 2009/2010

	Recent immigrants	Established immigrants	Native-born
Percent working	74.2	70.4	73.2
Percent using government transfers	5.4	7.8	6.8
Percent seeing family doctor	69.0	82.1	77.6
Percent with physical illness who saw family doctor	80.7	88.7	86.5
Percent with mental illness who saw family doctor	86.3	93.3	91.3

Table 3 Predicted odds ratio of having a chronic condition, immigrants relative to the native-born: statistics Canada, Canadian Community Health Survey 2009/2010

	Recent immigrants	Established immigrants
Asthma	0.380***	0.597***
Arthritis	0.443***	0.817***
Back problems	0.629***	0.860***
High blood pressure	1.055	0.967
Migraine headaches	0.727***	0.977
Chronic bronchitis, emphysema or COPD	0.198***	0.498***
Diabetes	1.462*	1.204**
Heart disease	0.628	0.726***
Cancer	0.173***	0.860
Stomach or intestinal ulcers	0.971	1.133
The effects of a stroke	0.637	0.673**
Urinary incontinence	0.626	0.879
Bowel disorder	0.282***	0.469***
Mood disorder	0.298***	0.745***
Anxiety disorder	0.190***	0.588***
With at least one physical condition	0.656***	0.798***
With least one mental condition	0.258***	0.673***
With at least one physical and one mental condition	0.260***	0.660***

The odds ratios are estimated from logistic models with age, age squared and sex as controls

* Significant at $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

physically and mentally health-challenged recent immigrants were less likely than the other two groups to have made a doctor visit.

Comparative health status

Recent immigrants were in better physical health than their long-term or native-born counterparts. Among recent immigrants, 31.7 % had at least one physical condition, compared with 52.9 % for established immigrants and 51.1 % for the Canadian born. Recent immigrants also had

the best mental health. Whereas 11.1 % of native-born Canadians and 7.9 % of established immigrants had at least one mental health condition, the comparison rate for recent immigrants was 3.2 %.

Table 3 describes the odds ratios for all physical and mental health conditions for the two immigrant groups with native-born Canadians as the reference group. Analyses control for inter-group differences in age and gender. With the exception of diabetes, high blood pressure and gastrointestinal ulcers, both recent and long-term immigrants were in better health than native-born Canadians. Both recent and long-term immigrants were, however, at higher risk for diabetes than the native born.

Predicting productivity and use of resources

Table 4 describes the predictors of labour force participation, use of transfer payments and use of physicians. The reference group for all odds ratios of groups by immigration and health status is Canadian-born residents with no chronic conditions. Ontario is the reference region for regional comparisons.

Labour force participation

Recent immigrants, whether healthy or troubled with chronic health problems, were less likely to be working than healthy native-born Canadians. Recent immigrants with chronic health problems were less likely to be working than similarly affected native-born Canadians. Healthy, established immigrants were more likely than healthy native-born Canadians to be participating in the labour force. Although established immigrants with chronic illness were less likely to be working than established immigrants in good health, their labour force participation was no different from that of native-born Canadians with chronic illnesses. Regardless of health status, advancing age, female gender and poor education were barriers to productivity. Whether immigrant or native born, residents of Alberta and the Prairies were more likely to be working than people elsewhere in Canada.

Transfer payments

Healthy immigrants, whether recent or established, used transfer payments at rates that equalled those of healthy native-born Canadians. Immigrants with chronic conditions relied on transfer payments more heavily than healthy native-born Canadians, but neither more nor less than the chronically ill native born. Increasing age, female gender, inability to speak one of Canada's official languages and poor education increased the likelihood of relying on transfer payments. Residents of Quebec and the Atlantic

Table 4 Odds ratios from logistic regression models examining the effects of chronic health conditions on labour force participation and use of resources: statistics Canada, Canadian Community Health Survey 2009–2010

	Labour force participation			Transfer use			Seeing physicians		
	Odds ratio	95 % confidence interval		Odds ratio	95 % confidence interval		Odds ratio	95 % confidence interval	
Recent immigrants, no chronic conditions	0.36***	0.30	0.44	1.07	0.74	1.54	0.78***	0.70	0.89
Recent immigrants, with chronic conditions	0.44***	0.34	0.57	2.86***	1.94	4.20	1.64***	1.31	2.05
Established immigrants, no chronic conditions	1.19*	1.03	1.37	1.20	0.90	1.59	1.16*	1.01	1.33
Established immigrants, with chronic conditions	0.74***	0.66	0.82	2.01***	1.64	2.47	2.73***	2.32	3.18
Canadian born, with chronic conditions	0.71***	0.66	0.75	1.84***	1.64	2.05	2.71***	2.55	2.89
Ability to speak English/French	3.28***	2.60	4.13	0.54**	0.35	0.82	0.78*	0.60	0.98
Age	0.94***	0.94	0.94	1.01***	1.01	1.02	1.02**	1.02	1.02
Woman	0.53***	0.50	0.55	1.72***	1.56	1.90	1.95***	1.84	2.06
Some post-secondary education	0.71***	0.66	0.77	2.59***	2.14	3.15	0.79***	0.73	0.86
High school graduation	0.56***	0.50	0.61	3.31***	2.70	4.06	0.67***	0.61	0.74
Less than high school	0.29***	0.27	0.32	8.34***	6.80	10.21	0.60***	0.54	0.66
Education not reported	0.05***	0.04	0.07	8.00***	4.76	13.47	0.54***	0.40	0.69
Quebec	0.87***	0.80	0.94	1.18*	1.03	1.36	0.64***	0.59	0.69
British Columbia	0.98	0.90	1.07	0.95	0.81	1.12	1.03	0.93	1.12
Alberta	1.18**	1.06	1.32	0.70***	0.58	0.84	0.88**	0.79	0.96
Saskatchewan and Manitoba	1.25***	1.14	1.36	0.75***	0.64	0.87	1.01	0.92	1.11
Atlantic region	0.88***	0.81	0.95	1.59***	1.41	1.79	0.93	0.85	1.01
Pseudo <i>R</i> -squared	0.21			0.10			0.08		

* Significant at $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Provinces were more likely to be receiving transfer payments than people in other regions of Canada.

Use of physicians

In comparison with native-born Canadians, recent immigrants who were in good health were less likely, but established immigrants more likely, to have seen a family doctor. Recent immigrants with chronic health problems were less likely than either health-challenged established immigrants or native-born Canadians with similar problems to have seen a doctor. Established immigrants with chronic conditions and similarly health-challenged native-born Canadians did not differ in their use of doctors. Increasing age and female gender were associated with an increased likelihood of using physician services. Ability to converse in English or French and higher education reduced the likelihood of using physician services. Residents of Quebec and Alberta were significantly less likely to use physician services than residents of other provinces.

Discussion

Consistent with the concept or the “healthy immigrant effect” (HIE) (Kim et al. 2013; Gushulak 2007), newly

arriving immigrants were healthier than native-born Canadians, but established immigrants were less healthy than their newly arrived counterparts. The current study data are cross-sectional rather than longitudinal, a fact that constrains commentary on another component of the healthy immigrant model—that the initial health advantage of immigrants declines in parallel with the length of residence in resettlement countries (Kliewer and Ward 1988; Dunn and Dyck 2000; Newbold 2006). The data do not, however, support convergence, the favored explanation for deteriorating immigrant health. According to the convergence premise, exposure to existing physical, social, cultural and environmental influences in resettlement countries sets in motion a process in which immigrant patterns of morbidity shift to resemble the (usually worse) resettlement country health norms (Kliewer and Ward 1988; Dunn and Dyck 2000). The health of long-term immigrants did not converge with Canadian norms. Regardless of length of stay, immigrants in this study were healthier than native-born Canadians. Other Canadian research also contradicts convergence. A longitudinal study by So and Quan (2012) revealed that, while some immigrants experienced declining health status over time, others experienced improvement.

Diabetes was a striking exception. Both recent and long-term immigrants had higher diabetes rates than the native

born. The most likely explanation is an interaction involving physiological predisposition characteristic of certain ethnocultural or country of origin groups, lack of exercise and the adoption of unhealthy diets (Chiu et al. 2012; Creatore 2010; Ozra-Frank and Narayan 2010).

Immigrants in Canada commonly experience an initial “entry period,” characterized by poverty and difficulty in finding employment, after which their situations tend to improve (Hum and Simpson 2004). As might, therefore, have been expected, recent immigrants in this study were less likely to be working than native-born Canadians. However, 10 years and more after their initial arrival, healthy immigrants were more productive than their healthy native-born counterparts, an observation that supports the argument that immigrants contribute to the long-term economic benefit of Canada. Chronic illness impaired productivity for everyone, immigrant and native-born alike. Recent immigrants with chronic health problems were less likely to be working than similarly health-challenged native-born Canadians, but employment levels for long-term immigrants with chronic health problems were convergent with those of health-challenged native-born Canadians. Convergence to Canadian norms may apply less to health per se than to health-related immigrant disability.

On the cost side of the ledger, healthy immigrants were no more likely to use transfer payments than healthy native-born Canadians. The presence of chronic health problems increased the probability of using transfer payments for everyone—short- and long-stay immigrants and the native born, and there were no differences in the levels of transfer dependency among the three groups. According to these data, the societal burden associated with chronic illness (as measured only by transfer payments, an admittedly incomplete operational index) among immigrants is no lesser or greater than it is for other residents of Canada. Residents of Canada’s most prosperous regions, immigrant and non-immigrant alike, were the most likely to be employed and the least likely to rely on transfer payments.

Recent immigrants with health problems used health-care resources far less often than similarly health-challenged long-term immigrants or native-born Canadians. In a study of immigrants in Italy, Buja et al. (2013) report immigrant underutilization of primary health care. Although immigrants and non-immigrants both used emergency and hospital services inappropriately, inaccessibility of primary health care as experienced by immigrants accentuated the tendency to use more costly emergency and hospital services. Conversely, (So and Quan 2012) suggest that access to appropriate primary health care may help account for some immigrants’ reports of improving health after they arrive in Canada. These observations raise a significant question for further research. Does failure to take measures to protect the good

health of new immigrants and to attend to the health needs of the chronically ill among them have deleterious long-term consequences? (see also Hilsel and Jasper 2012 on this point).

The term “immigrant,” connotes an illusory homogeneity and its use as an analytic category is a limitation of this as well as many other immigration studies. Future reports will examine potential implications of intra-group heterogeneity. For example, a future study will examine similarities and differences in the use of societal support and health care among immigrants from low or medium income, versus high income source countries. Such a study can shed light on the frequently articulated concern that many immigrants choose to come to Canada to benefit from this country’s generous health and social programs. The use of “working versus not working” and transfer payments and doctors as proxy measures for, respectively, economic productivity and use of resources has limitations. For example, these measures leave out such things as wages and setting up independent businesses as dimensions of economic productivity and the inclusion of a broader range of social services that could be used in future cost–benefit analyses.

Conclusions

National (Multi-Ethnic Association for the Integration of Persons with Disabilities 2001) and international (Iyioha 2008) advocacy has had an effect on ableism-directed policy and practice. In Canada, for example, Article 38 (2) of the Immigration and Refugee Protection Act (2001) prohibits the former practice of excluding family class or refugee admissions on the basis of diagnosis, and instead directs medical officers to make their recommendations after taking into account an individual’s familial and social context as well as health. If liberalizing trends regarding the admission of immigrants with chronic health problems seem to be what the future holds, it is important to examine the consequences of prioritizing equity over pragmatism. On the whole, immigration creates either a net economic advantage for Canada, or the balance between immigrant contribution and cost is close to zero (Dungan et al. 2012). The case regarding immigrants with chronic health conditions is more ambiguous. The current study results compare contributions and social costs associated with immigrants who were admitted to Canada despite ableism-derived barriers or who developed chronic illnesses after admission. A definitive approach to the question of the consequences, whether positive or negative, of Canada’s ableism policies would require the inclusion of immigrant applicants who were rejected on health grounds. Nevertheless, the data in this report challenge the assumption that admitting immigrants with chronic physical and mental health conditions dilutes the economic benefits of immigration and creates

excessive societal burden. Healthy immigrants present in Canada for 10 years or longer were more economically productive than native-born Canadians, and their health-challenged immigrant counterparts were as economically productive as, and no more likely to use scarce resources than, similarly challenged native-born Canadians.

Providing opportunities to acquire the needed skills such as language and labour market opportunities in which to exercise motivation and skills could tip the balance even more favourably. Further studies are also needed to investigate the very real possibility that neglecting immigrant health needs during the early years of resettlement can result in the transformation of illness into disability.

The report is based on a secondary analysis of publicly available data collected and made available by Statistics Canada that ensure strict confidentiality. The procedures complied with Canadian laws and guidelines.

Conflict of interest The authors declare that they have no conflict of interest with respect to this publication.

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