Global Literature Synthesis Report:



Recent Canadian Research on Migrant Integration using Administrative Data

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Summary

This report provides a scoping review of Canadian research that uses administrative data to study the integration experiences of immigrants. There are five areas of research identified in 37 studies published since 2015, including studies on internal mobility, health, transitions to Permanent Resident status, occupational fit, and economic adaptation. Summaries of findings in each area are presented. This is followed by a brief discussion of the strengths and limitations of using administrative data to study migrant integration. Studies that find differences between immigration entry categories on outcomes claim different reasons for the divergence: research on economic migrants often highlights selection policy while research on the integration of resettled refugees overlooks selection and attributes different integration trajectories to variation in post-arrival integration support. After noting this inconsistency, the report calls for new approaches to research that capture additional data or considers alternate analytical approaches.

List of Acronyms:

CCHS Canadian Community Health Survey

DAD Discharge Abstract Database

ILF Immigrant Landing File

IMDB Longitudinal Immigration Database

IRCC Immigration, Refugees, and Citizenship Canada

LSIC Longitudinal Survey of Immigrants to Canada

PR Permanent Resident

SSHRC Social Sciences and Humanities Research Council

TRF Temporary Resident File

Introduction¹

Understanding how newcomers adapt to live in a new country is important for a wide variety of stakeholders. First, adopting a migrant-centred perspective, ensuring that programs allow newcomers to meet their objectives in migration in a new country is important (Kyeremeh et al. 2021). From the government's perspective, quantitative data can be used to monitor policy objectives regarding integration. For civil society, having a good sense of potential opportunities for improvement is important. To respond to these diverse needs, researchers have developed a variety of ways to study the integration experiences of migrants.

This report focuses on recent advances in Canada using administrative data to study migrant integration. In the early 2000s, the Canadian government was actively involved in funding research centres focused on studying migration and integration. Over time, this dedicated funding support subsided (Duncan 2019), but there continues to be a strong interest in supporting research on immigrant integration. Canada's Social Sciences and Humanities Research Council (SSHRC) has issued special calls for research on migration, and the regular funding available through SSHRC is often used by researchers to fund migration research. At the same time, Statistics Canada, the national statistical agency, has many staff who research migration issues using a variety of statistical data. Overall, there is an ever-growing body of research using many different methodological approaches to study migrant adaptation in Canada. However, when designing policy or making decisions about funding programs, bureaucrats rely on quantitative data about migrant integration (Boswell 2019; Palme, Ruhs, and Tamas 2019).

In recent years, a growing number of studies have used administrative data to study integration experiences of newcomers to Canada. Administrative data are gathered from datasets used by governments for routine practices. Therefore, rather than collecting data specifically for the purpose of research, administrative data are gathered by governments for other reasons, but then made available for research purposes (Penner and Dodge 2019). For this report, the studies that are reviewed are the result of efforts at Statistics Canada and the federal government's immigration department (currently called Immigration, Refugees, and Citizenship Canada [IRCC]) to link immigration records with tax records and other data and make these datasets available to researchers. This data provides new insights regarding the integration of newcomers for policymakers, organizations that assist newcomers, and scholars of migration. This report reviews this body of research, providing a scoping review of studies using the Longitudinal Immigration Database (IMDB) and other administrative datasets to investigate how this research contributes to our understanding of migrant integration in the Canadian context. In particular, the report identifies how recent research uses administrative data to present new findings in five domains of research: internal mobility, health, legal status transitions, occupational achievement, and economic integration. After presenting key findings in these areas, the report briefly discusses a few limitations of using administrative data in migration research and potential avenues for future studies.

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Migration and Integration in the Canadian Context

Canadian Migration Policy: A History

Canada is a settler-colonial state with a long history of immigration that initially was from Europe but more recently includes migration from around the world. After waves of French and English migration and displacement of Indigenous peoples, new cohorts of migrants from a variety of European countries arrived in the 19th and 20th centuries (FitzGerald and Cook-Martín 2014; Knowles 2016). Since the 1960s, Canada has taken a more global and less explicitly racist approach to migration (Triadafilopoulos 2013). Rather than assessing populations on a group level, the focus shifted to individuallevel assessments where migrants qualify for specific visa programs as economic, family, or humanitarian migrants. As a settler state, the focus was on attracting migrants that would settle in Canada long term. Canada has become well-known for its points system for economic migrants where selection decisions are made after calculating a score based on a variety of human capital characteristics including education, work experience, age, language proficiency, and other factors that measure adaptability (Bloemraad 2012; Boyd 2014). At the same time, family reunification and humanitarian migration represent significant components of immigrant inflows². Across migration programs, the government has, more recently, focused on diversifying the settlement patterns of newcomers beyond the country's largest cities and improving the economic outcomes of immigrants while responding to short-term labour market needs (Bures, Klvanova, and Stojanov 2020; Ferrer, Picot, and Riddell 2014).

In recent years, there has also been an increase in the number of individuals with temporary migration status in Canada. An increasingly complex policy environment has emerged with a variety of temporary foreign worker programs and numbers of temporary migrants that rival the amount of permanent immigration each year (Dauvergne 2016). Some migrants who initially obtain temporary status later obtain permanent residence within Canada (Moltaji 2019; Prokopenko and Hou 2018). During the Covid-19 pandemic, the government increased opportunities for individuals with temporary work permits to obtain PR status. Overall, two-step migration programs have become increasingly prevalent for economic migration, where individuals first obtain a temporary permit and then transition to Permanent Resident (PR) status. In contrast, resettled refugees and family reunification migrants generally receive PR status upon arrival in Canada. However, individuals who make refugee claims or applications for humanitarian protection after arriving in Canada also experience periods of uncertainty regarding whether they can remain in Canada after their initial arrival (Goldring and Landolt 2022).

² For statistics and visualizations of recent immigration cohorts, see: https://ubcmigrationdatahub.ca.

In 2015, migration became a political issue during the federal election campaign and the winning party, Justin Trudeau's Liberals, campaigned on resettling 25,000 Syrian refugees. Once his cabinet was appointed, Trudeau changed the name of the immigration ministry from Citizenship and Immigration Canada to Immigration, Refugees, and Citizenship Canada (IRCC) to reflect this priority. By the end of 2016, almost 40,000 Syrian refugees had arrived in Canada. This significant increase contrasted with the careful management of refugee resettlement numbers under the previous Conservative government. However, after the initial push to increase numbers, the government implemented policies to control the number of resettled refugees that arrive each year (Van Haren 2021). At the same time, new commitments were made in 2021 to welcome Afghan refugees through resettlement initiatives, and, in 2022, to provide an unlimited number of displaced Ukrainians with three-year work permits in Canada (IRCC 2021, 2022).

Table 1 provides recent statistics on migration to Canada, including the number of individuals who obtained PR status across different categories, and the number of individuals who had temporary work permits in Canada in recent years. The projected number of arrivals in upcoming years, which are presented and approved in Canada's Parliament on an annual basis, are also provided. As Canada's current population is about 38.7 million³, the arrival of about 400,000 new Permanent Residents each year represents a growth of the Canadian population by 1% per year through immigration, ensuring continued population growth despite the country's below-replacement birth rate.

Table 1: Number of New Temporary Residents and Permanent Residents in Canada, 2016-2020

Year	2016	2017	2018	2019	2020	2021	2022 - projection	2023 - projection	2024 - projection
New Permanent Residents									
Economic immigration	156,028	159,289	186,366	196,658	106,422	not yet released	241,850	253,000	267,750
Family reunification	77,998	82,468	85,170	91,311	49,290	not yet released	105,000	109,500	113,000
Refugees and Humanitarian Migrants	62,706	44,752	49,519	53,211	28,894	not yet released	84,795	84,555	70,250
Total immigration	296,732	286,509	321,055	341,180	184,606	not yet released	431,645	447,055	451,000
Temporary Residents									
Total Work Permits	286,079	301,236	337,460	403,869	326,739				
Student permit holders	264,625	315,145	354,784	402,427	256,740				

Note: Children and spouses of new permanent residents are counted in the category where the primary family member on the application qualified. In 2020, the Covid-19 pandemic led to a decrease in admissions.

Data from 2021 Annual Report to Parliament on Immigration <u>https://www.canada.ca/en/immigration-refugees-citizenship/corporate/publications-manuals/annual-report-parliament-immigration-2021.html and Supplementary Information for the 2022-2024 Immigration Levels Plan https://www.canada.ca/en/immigration-refugees-citizenship/news/notices/supplementary-immigration-levels-2022-2024.html</u>

³ For statistics on Canada's current population, see: https://www150.statcan.gc.ca/n1/pub/71-607-x/71-607-x2018005-eng.htm

Migrant Integration and Multiculturalism in Canada

A recent report by the Canadian government emphasizes the government's approach to integration, summarizing their goals as "a managed migration approach that relies on effective settlement interventions" (IRCC, 2021, p.8). significant investments into integration government makes programming, but also emphasizes how, as the objectives set out in Canada's Immigration and Refugee Protection Act state, "integration involves mutual obligations for newcomers and Canadian society" (IRPA, SC 2001, c. 27, s. 3(1)(e); see also IRCC, 2021, p 8). These commitments build on a longstanding commitment to multiculturalism in Canadian government policy. Rather than expecting complete assimilation, an approach of multiculturalism holds that "ethnic loyalties need not, and usually do not, detract from wider loyalties to community and country" and that "cultural pluralism is the very essence of Canadian identity. Every ethnic group has the right to preserve and develop its own culture and values within the Canadian context" (House of Commons, 1971, as cited in Winter 2015, p.638; see also Banting, 2014)4. Although the approach of multiculturalism is widely supported in most of Canada, the understanding of how multiculturalism works has shifted over time and risks becoming more about intergroup relations between minority communities rather than about a broader pluralist Canadian identity (Winter 2015). The government's commitment to multiculturalism is evident through programming and funding that supports the integration of newcomers into Canadian society in an effort to reduce barriers to participation (Berry 2013; Bloemraad 2012; Fleras 2009). In Quebec, the provincial government, which has significant autonomy in migrant integration programming, has taken a different approach and emphasizes interculturalism as the means of integrating newcomers into society (Fleras 2009)5.

As part of the commitment to multiculturalism and goals of ensuring effective settlement, the Canadian government provides significant integration programming for those who obtain PR status. The formal settlement programming includes programming in the following six areas: support to access settlement services, needs assessments and referrals, information and orientation services, language assessment and training, employment services, and community connections (IRCC 2021:9). Funds are dispersed towards a variety of civil society organizations that respond to the needs of immigrant communities (Bloemraad 2012; Hiebert 2016). The federal model results in a variety of approaches to service delivery across Canada's ten provinces and three territories (Ianni Segatto 2021; Paquet 2019). In Quebec, significant components of integration programming are offered directly through the provincial government though some aspects are also offered by civil society organizations (Bachellerie, Shields, and Preston 2020). Overall, a recent report by IRCC found that in the 2017-18 fiscal year, the Canadian government

⁴ House of Commons. (1971). *Debates*. Ottawa, Ontario, Canada: Queen's Printer. Retrieved from https://canadahistory.com/sections/documents/leaders/Pierre Trudeau/On Multiculturalism.html

⁵ The distinctive approach in Quebec is related to its unique status as the sole majority Francophone province within Canada. The province has negotiated control over certain aspects of migrant selection and integration funding (Paquet 2019).

spent \$1.3 billion on integration support for the 286,000 new permanent residents who were admitted into the country, including \$9356 in integration funding for each new Permanent Resident that was admitted in Quebec and \$3608 for each new Permanent Resident admitted in the rest of Canada (IRCC 2020:33). This places Canada near the top of per capita spending for immigrant integration worldwide. However, integration funding is not provided for most temporary residents including temporary foreign workers and international students—even when many will later obtain PR status through one of the many two-step migration programs. Rather, funding is targeted towards individuals who have obtained PR status (Praznik and Shields 2018). This emphasis may reflect the significance of self-sufficiency in Canadian integration policy and discourse and connects to the finding that much of the integration research in Canada focuses on the economic outcomes of immigrants and refugees. Recently, a variety of reports have been produced by research centres and the government on the approach to and effectiveness of settlement services, including those written by Praznik and Shields (2018), Bachellerie et al. (2020), and IRCC (2020, 2021).

Studying Integration with Administrative Data in Canada Studies of immigration integration in a new context can take a variety of approaches and are influenced by the perspective of the authors with respect to what is perceived as successful integration. In a multicultural framework, adaptation to a majority society is not a goal of integration frameworks, though defining what integration means can be challenging for scholars who attempt to work in such a context (Kivisto 2017). This report takes an inductive approach to explore how researchers who use administrative data study and understand integration in the Canadian context. Most of the research done in Canada has focused on traditional measures of integration including health, labour-market integration, and obtaining PR status. In addition, some research studies where immigrants settle and when they decide to relocate within Canada which explores how communities can counter population decline through immigration and ensure the benefits of a growing economy and population are shared across the country (Frenette 2018; Kaida, Hou, and Stick 2020a).

In Canada, a few different large, nationally representative datasets contain information about the experiences of newcomers. Of these, the IMDB has emerged as the primary dataset used by quantitative scholars to study immigrant integration (McDonald and Haan 2019). Although some impressive surveys studied migrants who arrived in Canada in the early 2000s, an underinvestment in survey data in recent years has resulted in a reliance on administrative data for studying the experiences of migrants in their new country. For example, the Longitudinal Survey of Immigrants to Canada (LSIC) studied immigrants who arrived in 2001, tracking their experience through three waves of data collection in 2001, 2003, and 2005. This is a valuable source of data, but it is now twenty years old and did not include migrants who transitioned to PR status from within Canada (Landolt, Goldring, and Pritchard 2021). The Ethnic Diversity Survey has also been a

valuable source of information on the experiences of Canadians of diverse origins, but as a one-time survey it only provides cross-sectional data from 2002. At times, Canada's General Social Survey has also oversampled migrant populations to provide information for specific modules of the survey, but these are again only cross-sectional studies and it is challenging to conduct detailed analyses of specific migrant groups due to sample size limitations. In addition, the long form of the census and some other Statistics Canada surveys have been connected to immigrant landing files which provides cross-sectional data (Landolt et al. 2021:4).

For scholars who are interested in more recent data, studying longer-term integration or accessing rich data on specific outcomes, the IMDB has emerged as the leading source of data in peer-reviewed studies. The IMDB connects the administrative data collected from immigrants at the time they obtain PR status (which is called the Immigrant Landing File (ILF)) with annual tax records collected through Revenue Canada. In some of the research reviewed in this report, scholars indicate they are using the IMDB but do not analyze any tax records. Rather, they link the ILF to other administrative databases such as health databases or surveys of the Canadian population. As part of this effort, Statistics Canada and IRCC have created new data linkages with the IMDB to link it to other administrative datasets. For example, published studies have linked the IMDB to the LSIC (Evra and Kazemipur 2019), to the Census (Cornelissen 2021), to firm-level tax data (Gu, Hou, and Picot 2020), and to administrative health data (Ng 2019). The ILF has also been used on its own to study demographic characteristics of arrival cohorts (Van Haren and Masferrer 2019). Statistics Canada and IRCC have indicated additional linkages between the ILF and other administrative data or surveys are forthcoming (Statistics Canada 2021).

Method

This report is a scoping review⁶ that identifies how researchers have used administrative data to study migrant integration in Canada since 2015 and highlights the main findings and gaps that this research has revealed. Although other migration research uses other datasets, a focus on administrative data permits an in-depth analysis of the growing body of research that uses innovative linkages between administrative sets to better understand the experiences of migrants. This report focuses on recent research published in recognized journals or publications of Statistics Canada. For more information about how this scoping review was conducted, see the **Appendix**.

⁶ Scoping reviews are a valuable technique to identify trends in research and identify gaps in knowledge (Arksey and O'Malley 2005; Pham et al. 2014). Scoping reviews differ from systematic reviews: systematic reviews generally aim to identify outcomes across research projects and synthesize results often with the aim of informing medical practices. In contrast, scoping reviews can be used for a variety of purposes linked to understanding a field of academic study (Munn et al. 2018). Although more common in the medical sciences than in the social sciences (Pham et al. 2014), scoping reviews take a structured approach to review a body of research, understand the state of a field, and map out coverage of research completed to date to identify opportunities for systematic reviews or research gaps (Arksey and O'Malley 2005). Completing a scoping review requires following a specific methodology, and best practice documents are available to researchers including the PRISMA-ScR checklist (Tricco et al. 2018) used in this review.

Key Themes and Topics: Overview of Studies Researchers using administrative data have examined a variety of outcomes. From the review of studies published since 2015, there are five major areas of research: settlement and internal mobility, health, legal status, occupations, and employment and income. Tables 2-6 summarize the studies reviewed in each respective area and the approach to research and main conclusions from these studies are discussed in the following paragraphs.

Settlement and Internal Mobility

As Table 2 summarizes, a variety of scholars have investigated the settlement patterns and subsequent migration within Canada of new immigrants. This research often is a response to political concerns about the geographic dispersion of migrants within Canada, though it also contributes to social scientific understandings of decisions to migrate and satisfaction with initial communities of settlement. In addition, the studies examine whether the initial community of settlement is a good 'fit' for newcomers. Some studies focus primarily on pre-arrival characteristics including country of origin or the immigrant category through which the newcomer obtained their PR status. Such studies assist in understanding newcomer decisions of where to initially reside and, in some cases, subsequent migration to other municipalities in Canada (Bonikowska, Hou, and Picot 2017; Frenette 2018; Mata 2017). Other studies emphasize the nature of receiving communities as a factor in decisions to move another time. These studies examine whether immigrants who first settle in smaller municipalities tend to remain in municipalities of the same size (Kaida, Hou, and Stick 2019) or how the presence of francophones in cities in English-majority provinces or anglophones in Quebec's municipalities affects the likelihood that immigrants will remain in their initial city of residence (Haan, Arbuckle, and Prokopenko 2017). Finally, recent papers have looked at experiences of employment and education since arriving in Canada to see how they influence decisions to relocate to a new municipality in Canada (Choi, Ramaj, and Haan 2021; Kaida et al. 2020a). This final set of papers contribute most directly to migration theory as they identify how employment, education, and family structure influence decisions to move within Canada.

As noted in the 'Findings' column in Table 2, some conclusions can be drawn from this research. There is variation across different types of migrants regarding where they initially settle and whether they remain in these communities or relocate to other municipalities. For initial settlement, variation over time in the destinations chosen by new immigrants is affected by both changing migration legislation and the source countries of immigrants (Bonikowska et al. 2017). After arriving in Canada, new Permanent Residents tend to remain in their initial location of settlement. However, some immigrants, such as individuals who have a refugee claim recognized in Canada or individuals without children, have higher rates of internal migration. Host community factors, such as linguistic profiles, also influence migration decisions.

Table 2: Studies focused on Mobility

Citation	Focus	Comparisons	Findings	Data
Bonikowska, Hou, and Picot 2017	Examines variation in settlement patterns of new immigrants.	Examines variation due to immigrant selection programs and countries of origin	Not all variation is explained. Country of origin is influential for destinations that received more immigrants, but selection programs were influential in destinations that receive fewer immigrants.	ILF and IMDB
Haan, Arbuckle, and Prokopenko 2017	Examining immigrant retention by focusing on individual and community-level factors that affect retention of official language minority speakers.	Regression analysis considers multiple individual and community level factors on probability of moving to another province.	Overall, Official Language Minority Communities have higher levels of retention of immigrants.	IMDB (with tax data) and Census for community-level variables.
Mata 2017	Examines frequency of inter-provincial moves among resettled refugees and recognized refugees in Canada.	Descriptive statistics show variation in type of refugee and variation in origin and destination provinces.	Individuals who make refugee claim in Canada more likely to move, and individual-level factors are more influential than the refugee category in whether refugees move.	IMDB tabular data
Frenette 2018	Looking at decisions of economic immigrants to initially settle in Canada's three largest cities and then following up to see about moving into and away from these cities later on.	Regression analysis considered multiple individual-level factors on residential mobility decisions.	Immigration category and country of origin are good predictors of initial location of settlement, but for subsequent moves country of origin is a stronger predictor of moving.	IMDB
Kaida, Hou, and Stick 2019	Investigates settlement patterns of immigrants, to examine whether those who go to smaller cities end up living in smaller cities.	Looking at residential patterns by immigration	While individuals who initially reside in smaller cities are less likely to remain in their initial municipality, it appears they often relocate to municipalities of a similar size.	IMDB
Kaida, Hou, and Stick 2020a	Looking at rates of relocation within Canada after arrival for refugees compared to other migrants.	Compares refugees with other types of immigrants and also looks at a variety of individual-level employment and schooling characteristics since arriving in Canada that affect outcomes.	Geographic distribution of immigrants most influenced by initial place of settlement.	IMDB
Choi, Ramaj, and Haan 2021	Looking at whether having children and age of children affects likelihood of internal migration in Canada.	Examines a variety of individual-level and community-level characteristics.	Families with children less likely to move, with older children even less likely to move. Some variation when in large urban areas and in examining longer-distance moves based on social-spatial characteristics.	IMDB + Census/NHS

Health

The set of research conducted on health takes advantage of datasets that link immigration landing records with the Canadian Community Health Survey (CCHS) or national or provincial level hospital discharge databases (Ng 2019; Sanmartin et al. 2016; Urquia et al. 2021). These linkages allow for conclusions about the prevalence of specific health outcomes among migrant communities and comparisons to the Canadian-born population. As summarized in Table 3, the studies generally find that immigrants are healthier than Canadians and less likely to be hospitalized for causes other than pregnancy (Lu and Ng 2019; Ng et al. 2021). When making comparisons within Canada's immigrant population, refugees require more medical treatment (Lu and Ng 2019; Ng, Sanmartin, and Manuel 2016). Generally, this body of research doesn't recommend policy changes, but rather highlights variation in the rates of accessing care across different types of immigrants to suggest that planning is required to ensure sufficient healthcare services are provided. One exception is found in a study focused on vaccine-preventable diseases where the authors suggest requiring immigrants to have a full complement of vaccines before coming to Canada could reduce the burden on the healthcare system (Ng, Sanmartin, Elien-Massenat, et al. 2016).

Table 3: Research on Health

Citation	Focus	Comparisons	Comparison to Canadian population?	Findings	Data
Ng, Sanmartin, and Manuel 2016a	Age-specific hospitalization rates for immigrants.	Examines immigrant admission category, year of arrival, and world source region.	No	Refugees have higher hospitalization rates than economic immigrants.	Discharge Abstract Database (DAD) and ILF
Ng, Sanmartin, and Manuel 2016b	Age-standardized hospitalization rates for refugees from Poland, Vietnam, and the Middle East.	Compares type of refugee (admissions category), national origin, and makes comparisons to other immigrants and the Canadianborn population.	Yes	Refugees generally have lower hospitalization rates than the Canadian-born population.	DAD and ILF and 2006 census
Ng, Sanmartin, Elien-Massenat, et al. 2016	Looking at hospitalization rates for vaccine-preventable diseases among immigrants compared to Canadian-born	Compares type of immigrant, source region, time in Canada, and compares to Canadian-born.	Yes	Immigrants from Southeast and East Asia and Government Assisted Refugees had higher vaccine preventable disease hospitalization rates than other immigrants or the Canadian-born.	DAD and ILF and 2006 census
Ng, Sanmartin, and Manuel 2017	Examining rate of hospitalization of economic immigrants (primary applicants only) compared to Canadian population.	Different types of economic migration visa and by gender.	Yes	Economic migrants have lower rates of hospitalization than Canadian population.	ILF-DAD and 2006 census for comparison

Citation	Focus	Comparisons	Comparison to Canadian population?	Findings	Data
Ng et al. 2018	Studying prevalence of tuberculosis using hospitalization data.	Examines age, country of origin, gender, year of arrival, intended location in Canada, and immigrant category.	No	Immigrants who have tuberculosis generally come from countries known to have a higher risk for tuberculosis.	IMDB-DAD link
Lu and Ng 2019	Studying whether immigrants are healthier than the Canadian population.	Examines time since obtaining PR status and immigrant category.	Yes	Found support for healthy immigrant effect, though not as strong for refugees.	IMDB-CCHS link
Batista et al. 2019	Investigates variation in enrolment in primary care services between immigrants and long-term Ontario residents.	Compares levels of enrolment in primary care models by type of model for immigrants and long-term residents.	Yes, though immigrants pre-1985 counted as long-term residents, not immigrants.	Overall, immigrants have lower enrolment in primary care services though there is variation by service delivery model.	Registered Persons Database (RPDB) - persons eligible for health coverage in Ontario, with Landed Immigrant Database.
Ng and Zhang 2020	Investigates variation in self- reported mental health (SRMH) of immigrants and Canadian population.	Examines time in Canada, source region, and immigration category.	Yes	SRMH is similar for immigrants and the Canadian born, with some variation for source world regions and immigrant admission category.	IMDB-CCHS link
Ng et al. 2021	Looking at age- standardized hospitalization rates for immigrants and Canadian-born population.	Examines landing year, admission category, and world region of birth.	Yes	Support for healthy immigrant effect, but with some variation in immigrant population.	DAD and OMHRS with IMDB (also 2011 National Household Survey for Canadian born)
Ng and Zhang 2021	Examining rate of mental health consultations, also controlling for the self-reported mental health of respondents.	Examines immigrant admission category, duration in Canada since landing, and world source region.	Yes	Identifies differences in access to mental health consultations for immigrants of varying characteristics when compared to Canadian-born individuals.	CCHS and IMDB

Transitions to Permanent Residence

Although most studies using administrative data focus exclusively on individuals who obtain PR status in Canada, new data linkages have allowed research on whether migrants who first arrive in Canada on work permits eventually obtain PR status. This research, summarized in Table 4, highlights how Canadian policy contexts have a significant impact on which migrants transition to obtaining PR status in Canada (Lu and Hou 2017; Prokopenko and Hou 2018). As a growing number of migrants first enter Canada with temporary status before obtaining PR, this research identifies who is able to remain in the country long-term, and with which type of legal status. Overall, the findings show that Temporary Foreign Workers who enter through programs that are structured to provide transitions to PR status, such as the Live-In Caregiver program and pilot programs for lower-skilled workers, have higher rates of obtaining PR status in Canada (Lu and Hou 2017; Prokopenko and Hou 2018).

Table 4: Transitions to Permanent Residence

Citation	Focus	Comparisons	Findings	Data
Lu and Hou 2017	Examines changing number of temporary foreign workers in Canada from 1980-2014 changing rates of obtaining PR status.	Looks at changes over time, and also at how individual-level factors, immigration programs, and source country GDP impact likelihood of transition to PR.	Likelihood of obtaining PR status is strongly correlated with type of work visa obtained by migrant. Also, migrants from countries with lower GDP had higher rates of obtaining PR status.	Temporary Residents File and Immigrant Landing File.
Prokopenko and Hou 2018	Investigates which migrants who arrived in Canada through a Temporary Foreign Worker (TFW) program remained in Canada and obtained Permanent Residence.	Examined individual- level factors, variables relating to the source country, and Canadian policy and contextual factors that influence decisions to remain and/or obtain PR.	Canadian migration policy and other local dynamics were much more predictive of whether migrants would stay than other factors	Temporary Residents File (TRF), an administrative dataset from Immigration, Refugees and Citizenship Canada (IRCC). The TRF contains demographic and permit-related information for all temporary residents admitted to Canada between 1980 and 2014, including over 1.3 million temporary foreign workers (p 263)
Haan et al. 2021	Looking at whether individuals who arrived in Canada on work permits from 2005-2010 later obtained permanent resident status.	Looks at how age, sex, time in Canada, skill levels, and source-country income affect likelihood of obtaining PR.	While country of origin does not predict obtaining PR, other individual-level factors are correlated with varying transitions.	IMDB 2015 which includes TRF

Occupational Fit and Other Studies

Another line of inquiry summarized in Table 5 uses administrative data to examine whether economic migrants end up working in the field which they indicated they hoped to work in when entering Canada. This research, examining a variety of occupational fields, generally highlights that there are a variety of factors influencing whether migrants remain in the sector they were trained in (Cornelissen 2021; Jantzen 2015; Lightman 2021). The likelihood that immigrants will end up working in their intended occupation is slightly higher in non-regulated professional occupations than in fields like engineering which require passing provincial-level professional licencing processes (Jantzen 2015). In addition, another study using the IMDB and the Canadian Employer-Employee Dynamics Database found that firms with a greater proportion of immigrants had higher levels of productivity across a few different productivity measures (Gu et al. 2020).

Table 5: Occupational Fit and Other Studies

Citation	Focus	Comparisons	Findings	Data
Jantzen 2015	Examines whether economic migrants are able to work in their intended occupation once in Canada.	Compares match rates for immigrants intending to work in five different occupations.	There is substantial variation across intended occupations on whether immigrants work in their intended field.	ILF and 2011 NHS
Cornelissen 2021	Looks at intended occupation at time of migration and eventual area of work for people in nursing.	Examines different intended occupations (captured in IMDB) and type of current work (from Census). Also looked at variation in proportion of immigrants who reported intention to work in healthcare based on source region. Also, additional comparative work using census.	A little over half of the immigrants who indicate they will work in professional occupations in nursing end up working in health occupations. For lower-skill nursing occupations (LPNs, aides, etc.), the proportion who remain working in healthcare is lower. There is variation over time in the proportion of immigrants who come to Canada that plan to work in nursing.	IMDB and Census
Gu, Hou, and Picot 2020	Examines how proportion and composition of immigrants in firms impacts productivity.	Investigates how different aspects of migrant population, including time of arrival, language ability, entry category, skill level and education and occupational background impact different productivity measures.	Positive association between proportion of immigrants in firm and firm productivity.	Canadian Employer- Employee Dynamics Database and IMDB

Income

The largest set of published research using the IMDB and other administrative datasets focus on economic outcomes. As Table 6 shows, this research often looks at the total earnings immigrants report on their taxes. In addition, some studies look at employment rates by identifying the proportion of immigrants with employment income or studying the population that receives social assistance payments. Generally, studies focus on how pre-arrival characteristics and immigration programs influence these outcomes over time. As administrative data capture aspects of variation including gender, age, country of origin and crude measures for language proficiency and education, researchers can identify variation in outcomes. However, even when controlling for the available individual-level characteristics, much variation remains (Mata and Pendakur 2017) and the effect of different individual-level characteristics can vary over time. For example, language ability and previous work in Canada are more influential in income outcomes soon after obtaining PR status while education level and age have a greater effect on earnings after ten years (Hou, Picot, and Bonikowska 2015).

In some cases, researchers attribute differences in economic outcomes to migration selection policy. This includes studies focusing on how specific economic migration programs select migrants who earn higher incomes (Fleury, Bélanger, and Lechaume 2020), how immigrating through a structured program for caregivers provides a slight advantage in long-term economic outcomes compared to similar migrants who entered through other migration streams (Lightman 2021), and how refugee claimants who obtain PR status have higher incomes and receive less support from social assistance than refugee claimants who do not obtain PR status (Lu, Gure, and Frenette 2020). Some studies look at changing admissions criteria over time, finding that as refugee legislation changed to accept more vulnerable refugees, a higher portion of refugees accessed social assistance (Kaida, Stick, and Hou 2021). However, other research points to significant variation between refugees who arrive in different programs, concluding that "[v]ery little of the variation in earnings ... could be accounted for by differences in observable human capital characteristics, economic conditions or the program of entry to Canada" (Picot, Zhang, and Hou 2019:5). Further, another study focused on immigrants from Afghanistan presents a counterintuitive finding that, when controlling for other individual-level characteristics, men who arrived as economic migrants have lower incomes than those who arrived as refugees (Pendakur 2017).

Table 6: Economic Integration

Citation	Focus	Comparison s	Comparison to Canadian population?	Findings	Data
Hou, Picot, and Bonikowska 2015	Economic immigrants (primary applicants) selected in points system	Earnings	Earnings at different time points, based on individual-level characteristics	Different factors influence earnings over time.	IMDB
Lu, Frenette, and Schellenberg 2015	Use of social assistance by refugee claimants	Rates and amounts of social assistance payments	Many individual and family-level characteristics, with an emphasis on province of residence and country of origin. Also provides some comparisons to overall rates of accessing social assistance in Canada.	Relatively high rates of accessing social assistance among refugee claimants, particularly in first year after making claim. Rates decrease over time. There is variation by country of origin and province of residence.	Refugee Claimant Database (RCD)
Mata and Pendakur 2017	All new immigrants	Earnings	Immigrants entering in different categories, controlling for some human capital measures	Different earnings for immigrants arriving in different migration programs.	IMDB
Pendakur 2017	Comparing different categories of immigrants from Afghanistan	Earnings	For study focused on IMDB, looks at individual-level factors that predict income for immigrants from Afghanistan compared to all other immigrants.	Men from Afghanistan who arrived in skilled worker program made less than those in other programs.	2011 NHS and IMDB (tabular data)
Prokopenko 2018	Looking at impact of post-secondary studies in Canada for resettled refugees on likelihood of employment and earnings	Employment and earnings.	Compares outcomes across immigration categories depending on whether pursued studies in Canada.	Studying in Canada correlated with increased likelihood of employment and increased income.	IMDB
Evra and Kazemipur 2019	Examining how friend networks at and soon after arrival impact income over a longer term.	Earnings	In addition to studying variation in social networks, also examines ethnicity and religion.	Having friends at or soon after arrival correlated with increased income.	IMDB & LSIC
Houle 2019	Examining earnings of Syrian refugees soon after arrival in Canada.	Earnings	Gender and resettlement program.	Government transfers represent a significant portion of the income for newly arrived refugees.	IMDB

Citation	Focus	Comparisons	Comparison to Canadian population?	Findings	Data
Picot, Zhang, and Hou 2019	Examining employment rates and earnings for refugees from thirteen source countries	Employment and earnings.	Type of refugee (including asylum seekers), country of origin, and gender.	Significant variation in employment rates and earnings with little that explains this variation.	IMDB
Fleury, Bélanger, and Lechaume 2020	Studying economic outcomes for migrants selected in different economic migration programs, including the Quebec Experience Program (PEQ).	Employment and earnings.	Comparing outcomes for migrants selected in PEQ with other economic immigrants.	Migrants selected in the PEQ generally have better employment rates and median income than other immigrants.	IMDB
Kaida, Hou, and Stick 2020b	Long-term economic outcomes of resettled refugees.	Employment and earnings.	Comparing Government Assisted Refugees (GARs) with Privately Sponsored Refugees (PSRs).	For the first fifteen years of settlement, PSRs have higher employment rates and income.	IMDB
Lu, Gure, and Frenette 2020	Employment and Social Assistance for Resettled Refugees and Refugee Claimants in Canada	Rates and levels of social assistance and employment income	Different types of Resettled Refugees and Refugee Claimants	Refugee claimants who receive PR status are likely to access social assistance soon after arriving in Canada, but within a few years have comparable incomes to other refugees. In contrast, Government Assisted Refugees are less likely to find work in the mediumterm compared to other refugees.	IMDB
Lightman 2021	Economic outcomes for women who immigrated as care workers	Earnings	Looking at women in lower skilled work to compare those who intended to work in care occupations and other types of work, and also comparing the effect of participating in the Live-In Caregiver Program (LCP).	Women who intended to work in care occupations generally had lower incomes than other comparable female migrants, though those in the LCP have an advantage over other care workers.	IMDB
Kaida, Stick, and Hou 2021	Use of social assistance by Government Assisted Refugees	Use of social assistance.	Comparing GARs who arrived in Canada before, during and after changes due to the implementation of the Immigration and Refugee Protection Act.	Refugees who arrived after IRPA was implemented in 2001 had comparatively higher rates of accessing social assistance in years 3-8 after arriving in Canada.	IMDB
Zhang and Banerjee 2021	How initial employment experiences affect long-term economic integration for immigrants.0	Earnings	Using individual-level controls, focusing on periods of unemployment in first years in Canada, not initially working in intended occupation, and part-time employment on longterm outcomes.	If, in the first four years in Canada, respondents work part-time, they will have lower incomes over a longer term. Also, for men, an occupational mismatch in the intermediate term reduces long-term incomes. Experiencing unemployment in first years in Canada also reduces income, but by a lesser scale.	IMSB-LSIC

Three studies focus on how experiences after arrival in Canada affected economic outcomes of immigrants by using innovative measures or linkages. First, Prokopenko (2018) examines how tax records can be used to identify refugees who completed studies after immigrating to Canada, finding that completing additional studies increases the likelihood of employment and overall incomes for refugee newcomers. Second, Evra and Kazemipur (2019) link the IMDB to the 2001 LSIC which allows them to incorporate measures of social networks, religion, and ethnicity into their analysis: measures that are not otherwise found in administrative data. They find that immigrants who had more friends upon arrival, or soon after arriving, had higher incomes. Zhang and Banerjee (2021) also use the IMDB-LSIC linked file to focus on how employment experiences in the first years after arrival affect longer-term employment outcomes. They find that, for both women and men, initially working part-time has a negative effect on long-term employment outcomes. Early employment in a field that varies from the person's intended occupation also decreases long-term earnings for men. Apart from these three papers, other studies rely exclusively on information obtained at the time the immigrant obtained PR status.

Discussion and Conclusion

This report provides the results of a scoping review of Canadian research published since 2015 that use administrative data to study migrant integration. It investigates five topics: settlement and internal mobility, health, transitions to Permanent Residence, occupational adjustment, and economic integration. Overall, the findings demonstrate that immigrants to Canada are doing well as they adjust to life in a new country.

The significant investments that the Canadian government makes in integration support have good outcomes. Although there is variation, immigrants in Canada are able to find employment, and are generally healthier than the Canadian population. Most remain long-term in their initial communities of settlement, and while there are challenges in obtaining employment that is equivalent to their pre-migration work experience, studies show that immigrants contribute to the Canadian economy. Most of the research reviewed in this report carefully examines specific outcomes among newcomers to Canada, and while there is some variation observed in how different immigrants adapt to life in their new country, the general findings show that the investments in selection policy and integration support ensure most newcomers become self-sufficient soon after arrival.

Migration to Canada is managed quite closely. The annual targets of intake and finessing of legislation regarding selection of economic migrants in particular responds to a dynamic policy environment. Studies that examine how policy changes impact outcomes have broadly identified findings consistent with expectations: when policies changed to accept more vulnerable refugees, more financial support was required for these new immigrants (Kaida et al. 2021). Policies that selected economic migrants with work experience in Canada resulted in increased earnings for these new immigrants

(Fleury et al. 2020). Refugee claimants who obtained PR status in Canada had higher rates of employment and higher incomes than refugee claimants who did not obtain PR status (Lu et al. 2020).

Although the general finding from these studies is positive, the studies are limited in the types of outcomes that they measure. Recent work on holistic integration has emphasized the multiple levels of integration that impact outcomes. Hynie, Korn, and Tao (2016) describe how integration operates on three levels. The first is internal to individuals as they build a subjective sense of belonging and safety and security. Second, integration occurs at the interactional level and draws on personal attributes of language, culture, and the resources that an individual can draw on, including education, housing, employment, and health services. Finally, the broader social reception offered to newcomers also impacts integration (Hynie et al. 2016). Many of these measures are not captured in administrative data and require different forms of research such as surveys to assess trends within the population.

Most of the studies reviewed here focus exclusively on individuals who obtained PR status⁷. As Landolt, Goldring, and Pritchard (2021) note, individuals who are in Canada without PR status, including temporary foreign workers and international students, are overlooked in this research which limits the generalizability of the findings. As research on transitions to PR status demonstrates, some migrants remain in Canada for a long term without obtaining PR status (Prokopenko and Hou 2018). In addition, although Canada's strict border regime makes entry difficult for most aspiring migrants (FitzGerald 2019), those who enter Canada without any documentation are not captured in the studies reviewed in this report (Landolt et al. 2021). Therefore, although those with fixed-term or no legal status are excluded, administrative data provide robust results for all who obtain PR status.

The limited number of measures that are available in administrative data also make it challenging to draw robust conclusions that identify mechanisms that cause differences. As a result, research emphasizing differences between migrants selected in different programs may emphasize either differences in selection policy or integration support as the key factor leading to these outcomes. For example, research focused on the integration of resettled refugees often claims an advantage for refugee sponsorship due to the integration support offered to refugees but does not sufficiently interrogate whether there are differences in selection processes that result in these outcomes (Mata and Pendakur 2017)⁸. In contrast, research focused on the economic outcomes of migrants selected for their ability to integrate on an

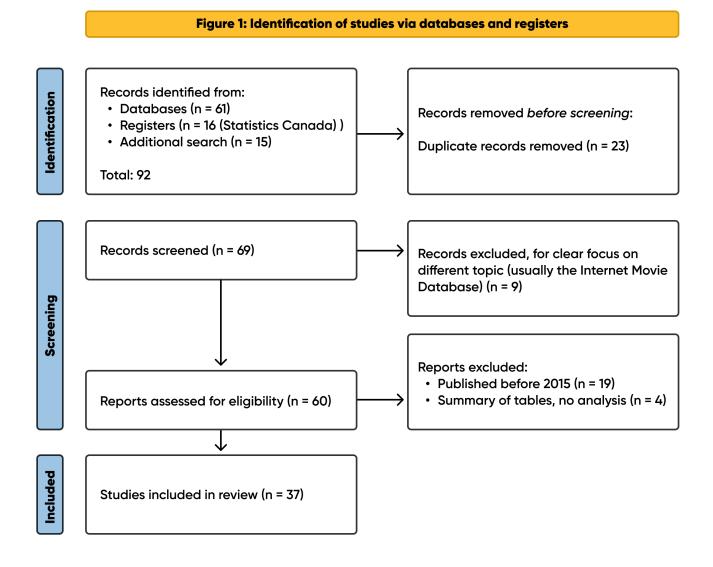
⁷ The five studies that also include individuals who do not have PR status are Haan et al. (2021); Lu, Frenette, and Schellenberg (2015); Lu, Gure, and Frenette (2020); Lu and Hou (2017); Prokopenko and Hou (2018).

⁸ One exception is a study conducted by Picot, Zhang, and Hou (2019) which looks at variation of refugees from specific countries of origin and finds the difference observed within countries of origin remain unexplained by administrative data. In addition, Kaida et al (2020b) note that some refugees are selected due to their vulnerability and acknowledge that "factors related to pre-migration characteristics, selection processes, and host country reception could account for the difference[s]" observed between different types of refuges.

economic basis are quick to highlight how selection policy impacts earnings (Fleury et al. 2020). In both cases, these studies focus on individual-level analysis and compares all immigrants across a few covariates finding a difference based on immigration program. However, the interpretation of the factor leading to different outcomes differs. Therefore, when studying integration experiences of refugees who arrive through resettlement or sponsorship programs, future research should consider how both selection factors and different levels of integration support influence outcomes before making comparisons across categories. This point has already been made by some prominent refugee and migration scholars in Canada (Boyd and Perron 2020; Hyndman, Payne, and Jimenez 2016:14–16), but needs to be more clearly incorporated into studies of migrant integration.

Appendix Methodology—Scoping Review

For this scoping review, a protocol was designed to search three databases that contain peer-reviewed social science research, including SocIndex, Canadian Business & Current Affairs⁹, and EconLit as well as downloading current papers on Statistics Canada's webpage that are labelled as having used the IMDB for analysis¹⁰. The papers were downloaded on September 15, 2021. For the academic databases, the search terms used were the full name of the database in French and English as well as the acronym with the word Canada added. After screening the results to ensure they were not on another topic and were full research papers and limiting the sample to studies published since 2015 and then adding fifteen papers that were not identified through the search criteria, a final sample of 37 papers were reviewed.



⁹ Sources on wire services and newspapers were excluded. However, CBCA was included because of its inclusion of Canadian-focused academic publications like Canadian Diversity.

¹⁰ https://www150.statcan.gc.ca/n1/en/type/analysis?sourcecode=5057&p=1-analysis/articles and reports#articlesandreports. To keep the focus on current research, I excluded documents labelled as 'archived' on the Statistics Canada website.

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