Institut de recherche
Robert-Sauvé en santé
et en sécurité du travail

Immigrant Workers and OHS in Québec

State of Knowledge from Published Statistical Surveys and Available Data Sources

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SPECIAL PROJECTS

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SUMMARY

Québec has seen a rapid rise in immigration over the past several years. The increase in this segment of the population changes the characteristics of the labour force, which could have repercussions on occupational health and safety (OHS). In this context of diversification of the province's workforce, it is important to learn more about the work characteristics of these immigrants that could be risky in terms of OHS. The goal of this study is to draw up a portrait of the immigrant labour force, using studies based on statistical data, and to identify population surveys that could help document the work characteristics of immigrants and the risks to their health or safety. A better understanding of the literature and the potential offered by population survey databases could guide the use of the statistical data for Québec to inform the research and identify gaps in OHS as it pertains to this group of workers.

The results of the review of the literature have been divided into five main topics: the context and the characteristics of the immigrant population; immigrants in the labour market; working and employment conditions of immigrants; occupational health and safety of immigrants; and temporary residents.

A number of differences with native-born Canadians have been pinpointed through an analysis of the immigration context and sociodemographic characteristics of the immigrant population. Among the findings: immigrants are younger, there are proportionately more men than women (in the case of economic immigrants), they have more graduate degrees and are in better health upon arrival.

Studies show that immigrants have more difficulties in entering the labour market than people born in Canada. In addition to their lack of knowledge of the Canadian job market, their work experience, skill levels or credentials are rarely recognized. Linguistic and cultural barriers compound those factors, and add to the other difficulties they experience.

An analysis of immigrants' working and employment conditions shows that for some variables (training, multiple job-holding, business size, etc.), there are few or no differences between immigrants and people born in Canada. However, the results may fluctuate according to the variables considered (duration of residence, occupation, sector of activity, etc.), the methodology chosen and the source of data used.

Although there are many immigrants in the labour market, few quantitative studies have looked at the specific risks they face. This can partially be explained by the fact that national studies rarely include information about employment injuries and labour conditions and, when they do, the sample size limits the analyses. Some studies on the subject were found, however, through a bibliographic search. One of them (Smith and Mustard, 2010) shows that immigrants are more vulnerable to OHS risks, compared to native-born Canadians. Even taking this into account in analyses of economic activity sectors, the relationship holds true.

The review of the literature also looked at temporary immigrants. While it is difficult to estimate the size of this population, studies indicate that it has risen since 2008. None of the studies selected provided statistics on temporary immigrants and occupational health and safety. However, the Preibisch and Hennebry (2001) study points out that the increase in numbers of temporary foreign workers, in particular those occupying low-skilled jobs, poses some challenges in terms of occupational health and safety.

The inventory of sources of statistical data from population surveys enabled us to assess their analytical potential for studying the immigrant population and OHS risks. In total, 12 databases were analyzed using two tools: the "Worker, Employment and Effect on Health" grid and information sheets. Overall, variables that highlight workers' characteristics are very common in the surveys. However, although variables related to work organization are present, they deal more with time spent at work than with psychosocial aspects. The absence of probative data on training or the information about prevention that they receive in the workplace limits the usefulness of these surveys. Moreover, there are significant information gaps for variables related to work situations. The literature and databases allow us to document adverse health effects and their consequences, but the more specific issue of health effects related to work is often neglected.

From the review of the literature, it can be seen that very few statistical studies have used data on the occupational health and safety of immigrant workers. Some key variables, such as duration of residence, occupation, or sector of economic activity could be useful in identifying vulnerable groups. On the other hand, the inventory of sources of statistical data clearly shows that none of these provide enough information to draw up a complete portrait of immigrant workers and OHS in Québec. Given the limits of the databases, the inventory highlights the relevance of some sources that could help in learning more about or in tracking the situation of immigrants in the workplace in terms of OHS, or to make comparisons with native-born Canadians. Having several sources of data or using mixed methods (qualitative, quantitative) could help answer some research questions in this regard. Recommendations have been made to organizations responsible for collecting data, as they determine the type and availability of information concerning immigrants and OHS.

ACRONYMS AND ABBREVIATIONS

CCHS: Canadian Community Health Survey

CIC: Citizenship and Immigration Canada

CMA: Census metropolitan area

CSD: Canadian Survey on Disability

CSST: Commission de la santé et de la sécurité du travail

EQCOTESST: Québec survey on working, employment and OHS conditions

ESSQ: Enquête sociale et de santé du Québec

GSS: General Social Survey

IMDB: Longitudinal Immigration Database

INSPQ: Institut national de santé publique du Québec

IRSST: Institut de recherche Robert-Sauvé en santé et en sécurité du travail

ISQ: Institut de la statistique du Québec

LFS: Labour Force Survey

LISA: Longitudinal and International Study of Adults

LSIC: Longitudinal Study of Immigrants to Canada

MICC: Ministère de l'Immigration et des Communautés culturelles (Québec)

MIDI: Ministère de l'Immigration, de la Diversité et de l'Inclusion (Québec)

MSSS: Ministère de la Santé et des Services sociaux (Québec)

NHS: National Household Survey

NPHS: National Population Health Survey

OHS: Occupational Health and Safety

PHD: Public health department

QHSHSS: Québec Health Survey of High School Students

QPHS: Québec Population Health Survey

SLID: Survey of Labour and Income Dynamics

WES: Workplace and Employee Survey

GLOSSARY

Cross-sectional survey: A survey that enables an analysis of data related to the signs of a phenomenon during a given period, often a calendar year.

Economic immigrant: Category of immigrants who arrive to perform an economic activity, such as being employed in a job, managing a company or investing.

Employment rate: Percentage of people aged 15 or older who have a job, in the total population.

Family class: Category of immigrants made up of members of a family sponsored by a Canadian citizen or permanent resident to come and live in Canada.

Longitudinal survey: A survey that follows a given population over time and that enables an analysis of data related to the signs of a phenomenon in a cohort.

Over-qualification: Status of someone whose level of education and knowledge is higher than what is normally required in their occupation.

Participation rate: Percentage of the labour force (working or unemployed) in the total population aged 15 years and older.

Permanent resident: Someone who is entitled by federal authorities to live permanently in Canada. These people are also referred to as landed immigrants.

Recent immigrant: Immigrants who have been in the country between five and ten years.

Refugee: Category of immigrants who fear persecution in their country of origin.

Temporary foreign worker: Someone whose main reason for being in Canada is to work for a specific employer and who is authorized to do so.

Temporary resident: Foreign national who is authorized to live in Canada for a limited period and who must leave at the end of his or her permit, unless it is extended or the person acquires another status.

Unemployment rate: Percentage of people unemployed in the labour force aged 15 and older.

Very recent immigrant: Immigrants who have been in the country for less than five years.

Well-established immigrant: Immigrants who have lived in the country for more than ten years.

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1. INTRODUCTION

Québec has seen a rapid rise in immigration over the past several years. Since 2000, there has been an approximately 66% increase in the annual admission of immigrants to the province, peaking in 2012 with the arrival of 55,036 immigrants (Ministère de l'Immigration et des Communautés culturelles, 2013a). According to the 2006 census, the immigrant population[1] represented 11.5% of the total population of Québec, while in 2011[2] the proportion rose to 12.6% (Benjamin and Ménard, 2010; Statistics Canada, 2013). The percentage is three times higher on the Island of Montréal, where approximately 35% of the population aged 15 and older are immigrants (Bélanger and Bastien, 2010). According to the ministère de l'Immigration et des Communautés culturelles[3] (2011), one of the primary contributions of immigration is that of maintaining and growing the working-age population.

The increase in this segment of the population changes the demographic and ethnocultural composition of the workplace. To foster the integration of immigrants, it is essential to document their employment situations and the characteristics of their workplaces, and to determine the risk factors they face in matters of occupational health and safety. As the CSST has pointed out, the integration of new arrivals into the workplace poses challenges in terms of prevention and control of workplace accidents, because immigrants have different perceptions and knowledge of work-related risks (CSST, 2010).

In Québec, few studies have documented the working and employment conditions of immigrants and there are even fewer that discuss the risks to their health and safety. Some researchers (Cousineau and Boudarbat, 2009) have remarked on the paucity of Québec studies comparing the situation of immigrants in the workplace to those of people born in Canada. With respect to the analysis of OHS-related risks for immigrant workers, the lack of information on the origin of workers in the CSST database makes it unusable (Gravel. et al., 2006). Therefore, other data sources that could be used to characterize immigrant labour and OHS risks must be sought out. This study attempts to shed light on the statistical information available in the literature and in population surveys so as to better inform and direct research into this population of workers.

This report therefore aims to provide an overview of the immigrant labour force using studies with analyses based on statistical data (from Québec or Canada as a whole). In addition, an index of databases from surveys documenting the working characteristics of immigrants or OHS risks has been developed.

A better knowledge of the literature and the potential offered by the various databases used will assist in determining how the statistical data concerning this population of workers can be utilized.

[1] Immigrant population: people from Québec who stated in the census that they were now or had been a landed immigrant (Benjamin and Ménard, 2010).

[2] In 2011, the long form census questionnaire was replaced by the National Household Survey (NHS).

[3] The name of the Ministère de l'Immigration et des Communautés culturelles (MICC) has been changed to the Ministère de l'Immigration, de la Diversité et de l'Inclusion (MIDI).

2. METHODOLOGY

This study has two main components, a knowledge review of statistical studies on the immigrant labour force in Québec and in Canada as a whole, and documentation from population survey databases used by researchers studying the issue of immigrant workers and OHS.

2.1 Knowledge Review of Statistical Studies on the Immigrant Labour Force in Québec and Canada as a Whole

To carry out the knowledge review, a number of steps were taken: a bibliographic research, selection of documents and analysis and treatment of the references chosen.

2.1.1 Bibliographic Research and Document Selection

The first step of the activity consisted of carrying out a bibliographic research by keyword, through the IRSST's documentation centre. To carry out this review of the literature, certain selection criteria were first identified according to the targeted objectives. We only considered studies focused on Québec (or Canada as a whole), based on analyses of statistical data from Québec (or Canadian) population surveys and for which the data were gathered since 1999. Criteria were set in order to obtain information that could be used to direct the future use of data on a province-wide scale.

The quantitative studies could come from the scientific literature or official publications from public organizations, such as the Institut de la statistique du Québec (ISQ), Statistics Canada and the Ministère de l'Immigration, de la Diversité et de l'Inclusion (MIDI). A grid was created (Table 2.1) to summarize the information contained in all the reference sources considered and to facilitate the selection of documents.

Table 2.1 : Reference selection grid

Factors considered	Selection criteria
Topic discussed	Workers or work conditions (organization and situation), or health problems and consequences
Variable under study	Immigrants
Type of study	Quantitative study
Source	Representative population survey
Region	Québec/Canada
Period covered by the data source used	From 2000 to 2013

The bibliographic research using keywords (e.g., work, immigrants, health) resulted in 68 references being found. A deeper analysis of the content enabled these to be divided into four categories, i.e., inclusions, exclusions, references pertaining to context and OHS references of interest.

The references included are those that respect the established selection criteria, i.e., the use of representative population data from Québec and Canada since 1999, regarding immigrants and OHS. We were able to note that there are few studies (N = 6) that respect all of the criteria and that there are only a few researchers working on these publications.

Some references, while they responded to the selection criteria, were excluded from the analyses, because they used databases that were too old or that dealt with specific subgroups that were not representative of the immigrant population as a whole (N = 9). The analyses in the references classified in the *of OHS interest* (N = 11) category were mainly based on non-representative data but contained information relevant to the occupational health and safety of immigrants in Québec only or Canada-wide. Thus, the OHS articles of interest were not specifically analyzed in the scope of the study, but Appendix 1 presents a descriptive table of some key information (objectives/questions, the targeted population, principal findings) contained in each of these references.

The contextual references target the entire immigrant population and not immigrant workers specifically (N = 42). This type of reference was used because it provided relevant information that assisted in better understanding and analyzing the statistics. The topics of these references dealt with, for example, Canada and Québec's immigration policies, socioeconomic characteristics, migration status, health, or entry and integration into the job market.

2.1.2 Analysis and Processing of the Selected Documents

The goal of analyzing the selected references is to document the characteristics of Québec's immigrant population in the labour market. Special attention is paid to the relationships that exist between these characteristics and OHS. The documents have been analyzed according to the topics presented in Table 2.2.

Table 2.2: Topics and subtopics analyzed

Topics	Subtopics
1 - Context and characteristics of Québec's immigrant population	Admission categories and immigrants Sociodemographic characteristics General health status of immigrants
2 - Immigrants in the labour market	Situation of immigrants in the labour market Integration challenges in the labour market
3 - Working and employment conditions of immigrants	Employment characteristics Workplace characteristics
4 - Occupational health and safety of immigrants	Data sources Types of analyses and variables Immigrants and OHS

The organization of this information is based on previously established conceptual frameworks (Champoux and Cloutier, 1996; Vézina et al., 2011), which take into consideration the links between working conditions and their impact on OHS. Thus, the conditions of work and employment are considered as being upstream from occupational health and safety problems. This knowledge review, based on statistical studies of the immigrant labour force, enabled a

determination of which databases were used and how they were used, and highlighted limitations in terms of OHS for that population.

2.2 Inventory of Databases

The purpose of the inventory was to document the databases from Canadian and Québec population surveys and to assess their potential for analyzing the immigrant population and risks related to occupational health and safety. The approach was based on that established by Duguay et al. (2007a and 2007b), which aimed to identify and describe public and parapublic databases from North America and Europe that could be used to contribute to a better analysis of the situation with respect to OHS and characteristics of work. The tools developed by Duguay et al. (2007a and 2007b) were used and adapted to the needs of this study.

2.2.1 Identification and Selection of Databases

To identify the databases to be documented, three distinct steps were carried out. The first consisted of choosing the Canadian databases identified in the initial project of Duguay et al. (ESSQ,[4] NPHS,[5] CCHS,[6] WES[7] and SLID[8]). The documentation for these surveys was updated and specific elements of the immigrant population were added, with the exception of a single one, the ESSQ 1997–1998, which was replaced in 2008 by the QPHS.[9] Secondly, a review of the literature on immigrant workers was carried out in the scope of this study, and it led to the discovery of two relevant surveys (LFS[10] and EQCOTESST[11]).

The Duguay et al. (2007a and 2007b) study and the review of the literature did not look at all of the databases available, and since this study was published, new surveys have also been carried out. For the third step, we searched the websites of the two major institutions responsible for population surveys: Statistics Canada and the Institut de la statistique du Québec. This final step led to adding six other databases to our inventory (NHS,[12] IMDB,[13] GSS,[14] LISA,[15] QHSHSS,[16] and CSD[17]). This brings to 13 the number of surveys considered in this study. The detailed content of these studies is discussed in section 4 of the report.

Each source identified was assessed using a grid (adapted by Duguay et al., 2007a) (Table 2.3) to determine its eligibility in our study. To be selected, the databases had to respect the following criteria: identify immigrants, contain information on work and/or OHS, be constituted of Canadian and/or Québec data, be representative of the population and accessible, both with respect to data processing and technical documents.

4 Enquête sociale et de santé Québec
5 National Population Health Survey
6 Canadian Community Health Survey
7 Workplace and Employee Survey
8 Survey of Labour and Income Dynamics
9 Québec Population Health Survey
10 Labour Force Survey
11 Québec study on working, employment and OHS conditions
12 National Household Survey
13 Longitudinal Immigration Database
14 General Social Survey
15 Longitudinal and International Study of Adults
16 Québec Health Survey of High School Students
17 Canadian Survey on Disability

Table 2.3: Database selection criteria

Criteria	Inclusion	Exclusion
Immigration	Information enabling immigrants to be identified	No possibility of identifying immigrants
Information on work, health or OHS	Information on work characteristics, health or OHS (working immigrants)	No information for identifying workers
Country/region	Canada including/or Québec only	All other countries' and Canadian sources do not enable analyses on a provincial scale
Organization type	Governmental or parapublic agency is responsible for the production, management or distribution of data, or there is government funding to produce the data source	Private databases held by employers, unions, etc.
	OR a parapublic agency with a mission or research areas related to OHS	
Representativeness of data	Data representative of immigrant workers	Non-representative sample
Frequency of production	Recurring or one-off	-
Access	Availability of technical documents or possibility of using data	Impossible to gain access to data and technical documents
Period targeted by the survey	From 2006 to 2012	Before 2006

Source: Adapted from Duguay et al. (2007a)

As a result of these analyses, the NPHS was removed from the selection. After verifying with Statistics Canada, we noted that the question regarding country of birth had been asked only once in the NPHS, in 1998–1999. That question was then taken out in later cycles. Ultimately, 12 data sources were considered in the scope of this study (Table 2.4).

Table 2.4: List of surveys used for the study

Country/region	Name of survey	Abbreviation	Year
Canada	Survey of Labour and Income Dynamics	SLID (inactive)	1993–2011
Canada	National Household Survey	NHS	2011
Canada	Labour Force Survey	LFS	1945–2014
Canada	Canadian Community Health Survey	CCHS	2001–2012
Canada	Longitudinal Immigration Database	IMBD	1980–2011
Canada	General Social Survey	GSS	1985–2012
Canada	Longitudinal and International Study of Adults	LISA	2012 and 2014
Canada	Workplace and Employee Survey	WES (inactive)	1999–2006
Canada	Canadian Survey on Disability	CSD	2012
Québec	Québec Population Health Survey	QPHS	2008

Country/region	Name of survey	Abbreviation	Year
Québec	Québec survey on working, employment and OHS conditions	EQCOTESST	2007–2008
Québec	Québec Health Survey of High School Students	QHSHSS	2010–2011

2.2.2 Analysis of Databases Considered

Once the surveys were selected, their content was analyzed, including all the relevant reference documents (questionnaires, methodologies, technical documents, etc.).

That step of the project helped identify the variables that would be relevant and useful for OHS research and for building a list of methodological components (target population, sample size, collection method, etc.) for each database selected. Our analyses were based on two tools designed by Duguay et al. (2007a), i.e., the *Worker, Employment and Effect on Health* grid and the information sheet. These tools were adapted to respond to the specific objectives of the study. Furthermore, a number of information requests were addressed to the organizations responsible for the databases, which enabled us to complete and expand on the information gathered.

2.2.2.1 The *Worker, Employment and Effect on Health* Grid

The *Worker, Employment and Effect on Health* grid was adapted from the Duguay et al. (2007a) grid, which consists of three sections. The largest section, in terms of number of subjects, deals with the characteristics of the workplace (work organization and situation); the second concerns the worker (characteristics and job status); and the third section deals with the effects on (health status related to work and in general) and consequences to health.

The grid enables the informational content of a survey to be summarized and the analysis potential of each of the databases considered to be assessed. It has proven to be a comprehensive tool, having been validated twice by OHS researchers. In the scope of the Duguay et al. (2007a and 2007b) study, 20 databases (national and international) were included in the grid.

To respond to our research objectives, the original grid was adapted to include characteristics of the immigrant labour force (Table 2.5). In fact, several new variables were added to the *Worker* section, under *Characteristics*: immigrant or non-immigrant, country of birth, immigration status, duration of residence, country where educational diploma was obtained and language(s) spoken. Other elements related to the management of diversity and the consequences of effects on health were also integrated. In the scope of this study, each survey selected was added to the grid, with shadowed cells signifying that the subject was measured in the database analyzed.

Table 2.5: *Worker, Employment and Impacts on Health*

WORKER		WORK CONDITIONS											
		Organization of work						Work situation					
		Human					Technical	Limits to the work activity			Environment		
Characte-ristics	Employment status	Working time		Psychosocial aspects		Other aspects	Techno. / others	Physical	Postural	Articular	Environ-mental conditions	Exposure to physical risks	Other risks
		Work schedules	Work pace	Demands of the task	Interaction (team-public)								
Age	Job type Wage earner, self-employed	Shift work, work shifts	Dependant on the automatic speed of a machine	Indepen-dence, control of the work	Relationships with co-workers	Regular rotation of position or according to needs	Use of new technologies and micro-computers	Manual handling of heavy loads	Difficult or tiring postures	Repetitive movements using hands and arms	Work outdoors, bad weather	Dust or fumes	Chemical risk
Gender	Employment status: regular, contractual	Irregular schedule	Rate	Psycho-logical demands of work	Support of co-workers	Payment mode	Machine tools and robots	Movements with physical effort (lifting, bending, stretching)	Working in standing, sitting position	Repetitive work at a rapid pace	Cold, hot, humid weather conditions	Vibrations from the ground, machines, tools or vehicles	Biological risk
Job seniority	Job type, trade, profession	On-call work	Assembly line work	Variety of tasks	Availability of necessary resources	Information or training on risks associated with work (discussions)	Numerically controlled machines	Efforts on tools and machines	Working in crouched position	Repetitive twisting, extension, muscular contraction	Light, lighting	Noise	Risk of electrocution
More than one job	Activity sector (of the business)	Evening or night work	Daily production standards	Precision required (concentration)	Relationships With the hierarchy (supervisor, foreman)	Working at home (telework)	Technological changes		Working on one's knees	Forced position of one or more joints	Ventilation		Risk of burns
Educational level (nature and level)	Union	Weekend work	Dependant on co-workers	Frequent interruptions to tasks	Direct contact with customers	Prevention activities	Individual or collective protective equipment				Unpleasant odours		Risk of radiation
Numbers of years of experience	Tasks and duties	Overtime	Immediate response to a request	Workload work Intensification	Violence, harassment, intimidation, aggression	Business size	Tools and material available to do the work						Other physical or environmental risks
Is an immigrant	Primary activity	Number of hours o work per day or week	Subject to tight deadlines	Decisional leeway	Team work	Satisfaction at work or with work	Work procedures						
Immigration status	Full or part time	Flexible hours	Direct supervision by team leader	Skills to do the job	Management of diversity	Presence of an OHS committee	Paid training provided by the employer						
Country of birth			Rest time	Complexity of tasks		Assessment of working conditions by the employer							
Duration of residency				Conse-quences of errors		Organiza-tional changes							
Languages spoken													

EFFECTS			
Health status linked to work		General health status	
Psychological health	Physical health	Psycho-logical health	Physical health
Measurement of psychological stress	Has had one or more industrial accidents	Measurement of psychological stress	
Depression	Has had one or more occupational diseases	Depression	
Stress	List of health (including chronic) problems	Stress	List of health (including chronic) problems
Social support	Musculoskeletal pain	Social support	Musculoskeletal pain
Mental health	Disabilities, limitations to activities	Mental health (in general)	Disabilities, limitations to activities
	Limitations to movement		Limitations to movement
	General conditions		General conditions

Work-related consequences		Consequences	
Compensation	Use of health services		Use of health services
Absence from work	Medication use	Absence from work	Medication use
Disability management		Disability management	

Source: Duguay et al. (2007a), the shadowed cells are variables that were added to the original grid

2.2.2.2 Database Information Sheet

The information sheet complements the *Worker, Employment and Effect on Health* grid. It summarizes the technical characteristics of the surveys selected and can be used to determine the scope and limits of use of these databases in terms of immigrant workers and OHS. The content of the information sheets was slightly modified for the study. Ultimately, 21 items were listed, including sample size, target population, access to data, and information related to immigrants (Table 2.6).

Table 2.6: Information sheet content

1 - English/French title
2 - English/French abbreviation
3 - Country/Region
4 - Survey objective
5 - Access to raw data
6 - Access to compiled data
7 - Questionnaire language
8 - Years of data collection
9 - Number of follow-up years
10 - Partner organizations
11 - Responsible institution
12 - Website
13 - Geographical coverage
14 - Frequency
15 - Source type
16 - Collection type
17 - Target population
18 - Sample size
19 - Response rate
20 - Source status
21 - Questions pertaining to immigrants

Source: Adapted from Duguay et al. (2007b)

The *Worker, Employment and Effect on Health* grid and the information sheet made it possible to obtain a detailed description that could be used to ascertain the potential of a source useful to subsequent studies on immigrant workers and OHS.

3. REVIEW OF THE LITERATURE

3.1 Context and Characteristics of the Immigrant Population in Québec

One of the objectives of the *Immigration and Refugee Protection Act* is "to permit Canada to pursue the maximum social, cultural and economic benefits of immigration" (*Immigration and Refugee Protection Act* S.C. 2001, c. 27). On the provincial scale, an agreement between the federal government and Québec means that the two levels of government share responsibilities in matters of immigration (Gouvernement du Québec, 1991). With respect to permanent immigration, Québec is mainly responsible for the selection of economic immigrants (qualified workers and business people) and refugees selected abroad. These two categories cover approximately 75% of all immigrants admitted province-wide. The federal government is responsible for temporary immigration, but Québec's consent is necessary for the admission of foreign students and some temporary workers (MICC, 2011).

In order to fulfill its immigration responsibilities, Québec has implemented a number of mechanisms, including annual and multi-annual immigration planning and a selection grid for candidates. There are also several programs[18] that deal specifically with integrating immigrants into the labour market: language training, employability development, etc.

Currently, immigrants are selected using a points system that takes into account the education, employment experience and language skills of the candidate (Plante, 2010). Over time, some changes could be made to selection criteria, thus modifying the characteristics of the immigrant population admitted. Studies of the immigrant population therefore require that statistical data be contextualized according to the immigration policies in force (Benjamin and Ménard, 2010; Boudarbat and Boulet, 2010).

3.1.1 Admission and Immigrant Categories

In Canada, the reasons that an immigrant enters the country determine the admission category to which that person belongs. These categories refer to the status of permanent or temporary resident. In this section, we will discuss and define the various admission categories.

3.1.1.1 Permanent Residents[19] [20]

A permanent resident is defined as an individual to whom the federal authorities have granted the right to reside permanently in Canada [free translation] (MICC, 2014a, p.5). Permanent residents fall into one the following four categories: 72% are economic immigrants (skilled workers, business people), 18.6% are in the family class, 8.4% are refugees (selected abroad or recognized as refugees in Canada), and 1% are in the "other" category (selected according to certain special programs) (Table 3.1).

[18] http://www.midi.gouv.qc.ca/fr/programmes.html
[19] Permanent residents are also referred to as landed immigrants.
[20] Most of the references considered in the scope of this study deal with permanent residents.

Table 3.1: Distribution of admissions in 2012* per category of immigration

Immigration category	Numbers	%
Economic immigration - Skilled workers: 32,232 (81.3%) - Business class: 4634 (11.7%) - Other economic classes[1]: 715 (1.8%) - Special Haitian program: 2053 (5.2%)	39 634	72.0
Family class	10 250	18.6
Refugees and others in similar situations - Refugees selected abroad[2]: 1631 (35.4%) - Refugees recognized in Canada[3]: 2978 (64.6%)	4 609	8.4
Other immigrants[4]	543	1.0
TOTAL	55 036	100

*Preliminary data for 2012
1 Includes caregivers and other immigrants in the economic classes
2 Includes government-assisted refugees and sponsored refugees
3 Includes dependants abroad
4 Includes various specific categories of immigrants admitted on humanitarian and compassionate or public policy grounds
Source: MICC, *Plan d'immigration du Québec pour l'année 2014*, table 3 (MICC, 2013a) [free translation].

The proportion of economic immigrants in Québec has risen substantially over the past decades (Boudarbat and Boulet, 2010; MICC, 2013a), from approximately 30% in 1980 to almost 72% in 2012. In 2012, close to 40,000 immigrants landing in Québec were in this category, mainly as skilled workers (Table 3.1). These skilled workers are selected according to socio-professional characteristics such as training, work experience, age and knowledge of one of the official languages (MICC, 2013a; Houle and Yssaad, 2010), and settled here to enter the labour market.

3.1.1.2 Temporary Residents[21]

A temporary resident is defined as a foreign national who is authorized to remain in the country for a limited time period and who will leave the country at the expiration of the temporary status, unless that status is extended or a different status is granted (MICC, 2014a, p. 5). Temporary residents are admitted under one of the following categories: foreign workers, foreign students and humanitarian cases. Citizenship and Immigration Canada's annual estimate of the number of temporary residents is carried out on December 1. However, a recent study by the MICC (2014a)

[21] The information on temporary residents comes primarily from two studies, one by Martine St-Amour, of the Institut de la statistique du Québec, published in February 2012 in *Données sociodémographiques en bref*; the other by the MICC, published in January 2014: *L'immigration temporaire au Québec 2007-2012*.

points out that it is difficult to estimate the population of temporary residents, because it constantly fluctuates from month to month.

In 2012, more than 57,000 temporary immigrants entered the province of Québec (MICC, 2014a). In comparison, there were approximately 55,000 permanent immigrants in the province in the same period. Between 2000 and 2010, the number of temporary residents grew by approximately 50% (St-Amour, 2012).

As the objective of the stay for temporary foreign workers is to work for an employer, it is important to examine their particular situation. These workers are not entitled to live permanently in Canada and they must leave the country as soon as their temporary resident permit has expired (Thomas, 2010). Some temporary foreign workers are admitted under conditions that restrict them to working in a specific type of employment or for a particular employer (Thomas, 2010). Their participation and opportunities for employment in the labour market are therefore limited, which can affect their working conditions (such as remuneration).

In Québec, in 2012, temporary foreign workers accounted for 62.4% of admissions of temporary residents (MICC, 2014a) while foreign students and immigrants admitted on humanitarian grounds accounted for 30% and 8%, respectively. In comparison, the number of temporary foreign workers entering was almost identical to those of skilled workers admitted to Québec as economic immigrants in 2010, i.e., somewhat fewer than 34,000 (MICC, 2013a).

The authors mention the relevance of considering the admission category in studies of the immigrant population. Generally, whatever the admission category, these immigrants may, under certain conditions, participate in the labour market. However, the demands of their participation in the labour market may vary, depending on the admission category. Some studies (Boudarbat and Boulet, 2010; Bélanger et al., 2010) have shown that there are associations between access to employment and admission category. The studies suggest that economic immigrants (principal applicants) admitted primarily to enter the labour market, seem to have more rapid access to jobs than those in other categories. However, there are few data sources that would enable us to carry out analyses according to immigrant class (Bélanger et al., 2010).

3.1.2 Sociodemographic Characteristics

The objective of this section is to show the numerical importance of the immigrant population in Québec. It will also provide a statistical portrait of immigrants according to certain sociodemographic characteristics (gender, age, education, country of origin, settlement region). As these variables are associated with the integration of immigrants into the job market and their economic performance, it is relevant to document them. The results presented in this section refer to permanent (or landed) immigrants. Information specific to temporary immigrants is found in section 3.5.

Before analyzing sociodemographic characteristics, in order to completely understand the data, it is necessary to define the concept of duration of residence. Duration of residence is a variable commonly used in statistical analysis on landed immigrants, because it is closely associated with their integration into the job market (Zietsma, 2007; Kilolo-Malambwe, 2011; Bélanger and

Bastien, 2010; Benjamin and Ménard, 2010; Cousineau and Boudarbat, 2009; Gilmore, 2009). In the literature, immigrants are frequently defined in terms of their duration of residence, which is generally broken down into three groups, i.e.:

- **Very recent immigrants**: those for whom duration of residence in the country is less than five years.

- **Recent immigrants:** Those for whom the duration of residence in the country is between five and ten years.

- **Long-term immigrants**: Those for whom the duration of residence is more than ten years.

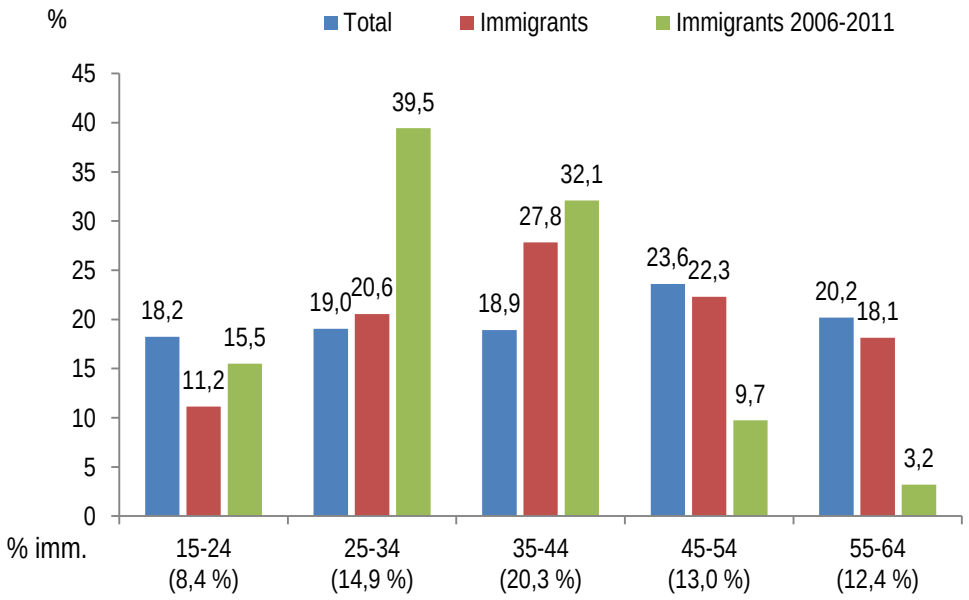
3.1.2.1 The Demographic Importance of the Immigrant Population

In 2011, in Canada as a whole, one person in five (20.6%) was born in another country. In Québec, the ratio was approximately one in eight (12.6%). This places Québec among the provinces with a high proportion of people born in other countries. It is, however, far lower than Ontario (28.5%), British Columbia (27.6%), and Alberta (18.1%) (Statistics Canada, 2013). Within the major CMAs,[22] 46.0% of the population in the CMA of Toronto were born in another country, in the CMA of Vancouver, the percentage is 40.0% and in Montréal, it is 22.6% (Statistics Canada, 2013). In absolute numbers, in 2011, 974,900 people who were born in other countries were living in Québec. Within this immigrant population, the relative proportion of very recent immigrants is 22.9%. A similar proportion was observed in the 2006 census (Benjamin and Ménard, 2010).

3.1.2.2 Distribution of the Immigrant Population According to Age

The age structure of the immigrant population differs from that of the population of Québec as a whole. The proportion of young people under 15 years of age and aged 15 to 24 in the immigrant population is much lower (under 15 years old: 7.4% compared to 16.3%; 15-24 age group: 8.4% compared to 12.6%) and a higher proportion of people aged between 25 and 44 (36.5% compared to 26.3%) and 65 years and older (17.1% compared to 14.6%). In addition, 70% of permanent immigrants admitted in 2011 were under 35 years old. Very recent immigrants are concentrated in the most active age group in the labour force (25 to 44) (*National Household Survey*, 2011; Bélanger and Bastien, 2010). Among very recent immigrants of working age, a significant proportion was aged between 25 and 34 (39.5%) and 35 and 44 (32.1%) compared to the working age population as a whole (*National Household Survey*, 2011) (figure 3.1).

[22] Census Metropolitan Areas



Source: adapted from Statistics Canada - *2011 National Household Survey*. No. 99-010-X2011027.

Figure 3.1: Distribution (%) of working age population (15-64 years old) according to the age group of the total population, immigrant and immigrant arrived between 2006 and 2011, Québec, 2011

3.1.2.3 Distribution of the Immigrant Population According to Gender

The number of women is slightly higher than the number of men, both within the total population and within the immigrant population. The relative weight of women was 50.7% of the total population of Québec and 51.0% of the immigrant population (MIDI, 2014a). Among immigrants admitted between 2009 and 2013, there are proportionately more men in the economic immigration category (74.4% compared to 62.2%) while women are more highly represented in the family class (24.6% compared to 16.5%) (MIDI, 2014b). With respect to the labour market, in Québec, in 2013, women represented 43.9% of the working immigrant population (ISQ, 2014).

3.1.2.4 Region of Birth and Region of Settlement

In Québec, the origin of landed immigrants has changed significantly over the past decades. Before 1970, they mainly arrived from Europe, while, increasingly, they now come from Asia, Africa and Latin America (Chicha and Charest, 2008). In Québec, very recent immigrants (who arrived between 2006 and 2011) come from Africa (31.8%), the Americas (25.4%), Asia, including the Middle East (24.3%), and Europe (18.5%) (Statistics Canada, 2013). This distribution of newcomers to Québec is very different than that of Canada as a whole, where 56.9% of immigrants are from Asia (including the Middle East) (Statistics Canada, 2013).

This can be explained primarily by the importance that Québec confers on French language skills in its immigrant selection process. Other studies have made similar findings, using the 2006 census (Benjamin and Ménard, 2010; Boudarbat and Boulet, 2010; Bélanger and Bastien; 2010).

Once they arrive in Québec, immigrants mainly settle in the greater Montréal region (Chicha and Charest, 2008; Chui and Tran, 2006; Bélanger and Bastien; 2010). In fact, in 2011, almost nine out of ten immigrants (86.8%) were living in the greater Montréal region, a proportion equivalent to that recorded in the 2006 census (86.9%) (MIDI, 2014b). However, a more recent study notes that between 2006 and 2012, the regional distribution of the working-age immigrant population became more diversified (Emploi-Québec, 2014).

3.1.2.5 Education

Education is an important criterion in immigrant selection, especially in the economic immigrant category. For several years, an increase in the educational level of immigrants has been observed, which is partially due to the greater weight given to that factor in selection criteria (Chicha and Charest, 2008; Boudarbat and Boulet, 2010; Bélanger and Bastien, 2010). All the studies considered (pan-Canadian and Québec-based) that dealt with the education of immigrants make the same finding: immigrants are more highly educated than the population as a whole (Boudarbat and Boulet, 2010; Forcier, 2012; Bélanger and Bastien, 2010; Zietsma, 2007; Gilmore, 2009).

The data reveal that the selection criteria for immigrants are a determining factor in the sociodemographic differences between them and the Canadian-born population living in Québec.

3.1.3 General Health of Immigrants

Given that individuals' health is in part associated with their occupational situation and working conditions (Vézina et al., 2011), this section documents certain related characteristics.

Both pan-Canadian and Québec-based studies note that immigrants are in better health than Canadians by birth, at least according to certain health indicators (self-assessment, chronic health problems). Even when the data are adjusted to take into account certain demographic and lifestyle differences, the disparities between immigrants and native-born Canadians do not completely disappear (Nanhou and Audet, 2008; Pérez, 2002; Fuller-Thomson et al., 2011).

Researchers stated that the "healthy immigrant effect" can be explained in part by the fact that, to be admitted to the country, immigrants must comply with the *Immigration and Refugee Protection Act*, which includes certain health status requirements, thus favouring candidates in good health. However, the health of immigrants tends to converge with that of the host population over time, and health problems declared by immigrants appear to increase according to the number of years lived in Canada. The Fuller-Thompson et al. (2011) study identifies the factors associated with declining health of immigrants using data from the Longitudinal Survey of Immigrants to Canada (LSIC). In that study, health is measured by self-reporting on four levels: excellent, very good, good, and fair or poor. The study looked at two-step health declines, i.e., from excellent to good or from very good to fair or poor. The links between duration of residence and health declines are confirmed and the results show that some factors, such as initial health status, age, gender, marital status, language, income, country of birth and perceived discrimination by immigrants, all play a role.

In his study, Pérez (2002) provides several hypotheses to explain this phenomenon of convergence of immigrants' health status with that of native-born Canadians. He says that as soon as immigrants arrive in the country, the "process of acculturation" begins, which means that, over time, immigrants adopt the behaviours of their host country, thus reducing the originally observed differences. The difficulty in accessing health services is also identified as a factor contributing to the deterioration of the health status of immigrants.

Another study looked at the effects of occupational over-qualification on the health status of new immigrants in Canada (Chen et al., 2010). The results show that overqualified new immigrants were more likely to experience a decline in their mental health status. The analysis did not show an association between over-qualification and a negative general health status.

These results show the importance in pursuing studies on the relationships between work, health and the immigrant population.

3.2 Immigrants in the Labour Market

The situation of immigrants in the labour market can be analyzed through the lens of a variety of subjects, such as their integration into the workforce, economic performance, participation in the labour market, how quickly they gain employment, and the correspondence between education and employment. This subject has been well documented because it is a key element to integration in the host country (Benjamin and Ménard, 2010; Chui and Tran, 2005).

The primary objective of this section is to document the situation of immigrants in the labour market in Canada, particularly in Québec. The factors identified in the literature that cause difficulties in labour market integration will also be reviewed.

3.2.1 The Situation of Immigrants in the Labour Market

In Québec, between 2006 and 2013, the proportion of immigrants in the labour force grew steadily, rising from 11.5% to 14.2%. In 2013, the immigrant labour force in Québec was slightly over 600,000 (ISQ, 2014). Rates of unemployment, participation and employment are indicators that are often used to record the situation of immigrants in the labour market. They show that the situation for immigrants is more difficult than for people born in Canada (Cousineau et and Boudarbat, 2009; Gilmore, 2009; Boudarbat and Boulet, 2010; Benjamin and Ménard, 2010; Bélanger and Bastien, 2010; Yssaad, 2012, Forcier, 2012; Kilolo-Malambwe, 2011; Zietsma, 2007). However, the situation of immigrants in the labour market tends to converge with that of the host population the longer they are in the country.

With respect to the unemployment rate among immigrants, the main findings from the review of the literature are as follows:

- Immigrants in Québec have a higher unemployment rate than Quebeckers born in Canada, no matter the region, reference year, age group, gender or educational level (Kilolo-Malambwe, 2011; Benjamin and Ménard, 2010; Boudarbat and Boulet, 2010; Forcier,

2012; Bélanger and Bastien, 2010; Cousineau and Boudarbat, 2009; Gilmore, 2009; Zietsma, 2007; Yssaad, 2012)

- Immigrants in Québec have a higher unemployment rate than immigrants in the other provinces and territories of Canada (Kilolo-Malambwe, 2011; Yssaad, 2012).

- Over the entire Montréal CMA,[23] the unemployment rate of the immigrant population is almost twice as high as that of the non-immigrant population (Bélanger and Bastien, 2010).

- In Québec, the unemployment rate is particularly high among new immigrants (Bélanger and Bastien; 2010). This rate falls as length of residence increases (Kilolo-Malambwe, 2011; Yssaad, 2012). However, even after several years in the country, the unemployment rate of immigrants remains higher than that of people born in Canada.

- The unemployment rate of female immigrants is higher than that of male immigrants in Québec (MICC, 2013c).

- In Québec as in the rest of Canada, the unemployment rate drops with higher levels of education (Kilolo-Malambwe, 2011; Zietsma, 2007), a phenomenon that is also observed for people born in Canada. However, for people with a university degree, the unemployment rate is higher among immigrants than native-born Canadians (Kilolo-Malambwe, 2011).

- In Québec, in general, with the same level of education, immigrants who completed their highest degree in another country were disadvantaged with respect to employment (Boudarbat and Boulet, 2010; Kilolo-Malambwe, 2011).

- In Québec, the unemployment rate varies according to country of origin. In 2012, people born in western (5.5%) and southern Europe (6.6%) had better chances of getting a job, while those born in the Caribbean and Bermuda (15.4%), and North Africa (14.3%) had high unemployment rates. For North African immigrants, the high unemployment rate could be due to the fact that there is a greater proportion of very recent immigrants (35.6%), for whom the unemployment rate is typically high (MICC, 2013c).

The proportion of immigrants in Québec's labour force increased every year between 2006 and 2013, going from 11.5% to 14.2% (ISQ, 2014). Participation and employment rates trend inversely to the unemployment rate. Certain particularities should be highlighted:

- For participation and employment rates, the situation in the Canadian labour market for immigrants aged 55 or over is not statistically different than for people born in Canada. In Québec, their participation level even exceeds that of the population born in the country. The later entry of immigrants into the labour market could explain why they tend to remain there longer (Kilolo-Malambwe, 2011; Benjamin and Ménard, 2010; Boudarbat and Boulet, 2010; Bélanger and Bastien, 2010; Cousineau and Boudarbat, 2009).

[23] Census Metropolitan Area

- In 2010, 2011 and 2012, the participation rate of immigrants in Québec was higher than that of immigrants in other provinces with a high rate of immigration (MICC, 2012b; MICC, 2012c; MICC, 2013c).

- In Québec, the rise in the participation and employment rate of immigrants registered in 2010 shows a reduction in this gap between immigrants and the population as a whole (MICC, 2012b).

3.2.2 The Challenges of Integrating into the Labour Market

In Québec, as in the rest of Canada, the analysis of labour market indicators (unemployment, employment and activity rates) shows that immigrants experience greater difficulties in entering the labour market than people born in Canada. The studies analyzed identify a number of reasons for this. The lack of Canadian work experience, the lack of recognition of work experience, credentials or diplomas earned abroad, and linguistic barriers all play a role in barring access and entry to jobs for immigrants (Zietsma, 2007; Plante, 2010; Forcier, 2012; Chui and Tran, 2006; Bélanger et al., 2010; Chicha and Charest, 2008; Gilmore, 2009; Premji, 2008). Among these factors, the lack of Canadian work experience constitutes the greatest obstacle for immigrants looking for jobs (Chui and Tran, 2006), while language skills come in second (Boudarbat, 2011).

Age at admission is a variable that influences the integration of immigrants into the labour market. The older the immigrant is when admitted into the country, the more difficult it is for that person to enter the Québec labour market (Boudarbat and Boulet, 2010; Bélanger et al., 2010). The challenges facing immigrants in getting a first job also vary according to gender. In fact, in Québec, access to a first job appears to be more difficult for women than for men (Bélanger et al., 2010). Bélanger and his colleagues showed that it took 17.1 months for 50% of women arriving in Québec to obtain a first job compared to 8.2 months for men.

Education is another variable associated with workforce integration. The studies looked mainly at two aspects related to education, educational level and where diplomas were earned. The educational level refers to the highest level of certification obtained, while the place where it was earned refers to the notion of quality (Kilolo-Malambwe, 2011). Educational level influences how quickly immigrants are able to get their first jobs. Moreover, the authors stress that how quickly recent immigrants are able to gain employment also depends on individual characteristics such as gender, age, immigrant category or fluency in the official languages. Other studies focused on how the place where the diploma was earned influenced labour market integration. In Québec, over half the immigrants with postsecondary degrees earned them abroad (Bélanger and Bastien, 2010). Diplomas are recognized differently depending on where they were earned (Boudarbat and Boulet, 2010). In fact, it appears that the origin of the diploma has a greater influence on how quickly an immigrant gets a job than the level of education (Bélanger et al., 2010).

Over-qualification is also a factor that poses challenges in the integration of immigrants into the labour market. In Québec, overqualification is more frequent among immigrants, especially among women (Kilolo-Malambwe, 2013). On average, four immigrants in ten are over-qualified, compared to three in ten for Canadian-born individuals. A study has shown that over half of

qualified workers (principal applicants) believe that they were over-qualified in the first job they held in Québec (Deslauriers et al., 2013). This proportion tends to decrease with length of time of residence. A recent study showed that this over-qualification among immigrants prevails even within various occupational groups (Kilolo-Malambwe, 2013).

3.3 Work and Employment Conditions among Immigrants

Cousineau and Boudarbat (2009) point out the lack of studies comparing the characteristics of work carried out by immigrants and those of native-born Canadians. A few studies in Québec and Canada as a whole have dealt with some aspects of the occupational situation of immigrants (sector of economic activity, occupation, work pattern, etc.). They highlight elements that differentiate this population from people born in Canada (MICC, 2012b; Vézina et al., 2011; Gilmore, 2009; Kiolo-Malambwe, 2011). Because the environment and working conditions are important determining factors in occupational health and safety (Smith et al., 2011; Vézina et al., 2011), it is relevant to ascertain how the work characteristics of immigrants are different than that of workers born in Canada.

This section describes working and employment conditions that could be associated with the occupational health and safety of immigrants to Canada, including Québec. More specifically, we will focus on employment characteristics (occupation, work pattern, employment status, seniority, etc.), workplace characteristics (sector of economic activity, union coverage, business size, etc.), remuneration, schedules and hours worked, and training. These characteristics are known as being associated with the risk of employment injuries (Vézina et al., 2011).

3.3.1 Employment Characteristics

3.3.1.1 Occupation

Occupation is a key variable in OHS, because the risk of employment injuries varies, depending on the type of job (Premji, 2008, Premji et al., 2010). In 2010 in Québec, the highest proportion of people working, both immigrants (21.4%) and the population as a whole (23.7%), was employed in sales and service jobs (MICC, 2012b). Compared to the population as a whole, a greater proportion of immigrants was working in the fields of natural or applied sciences and in associated occupations. However, there are proportionately fewer immigrants in occupations in the primary sector and in trades, transport and machinery, and sales and services. This occupational distribution of workers differs, however, according to length of residence in the country and other characteristics such as gender and age. With respect to qualified workers (principal applicants), their first jobs were most frequently found in occupations related to the sales and services sector (Deslauriers et al., 2013).

Table 3.2: Distribution (%) of immigrants employed, according to occupational categories, 15 years old or over, Québec, 2010

Occupations	Immigrants (%)	Entire pop. (%)	Gap Imm. - Tot. (%)
Natural and applied sciences and related occupations	11.5	7.9	**3.6**
Management	10.0	8.5	1.5
Health sector	7.3	6.5	0.8
Social sciences, teaching, public administration and religion	10.7	10.0	0.7
Transformation, manufacturing and public utility services	6.0	5.3	0.7
Arts, culture, sports and leisure activities	4.0	3.7	0.2
Business, finance and administration	17.9	18.3	-0.3
Occupations unique to primary industry	0.9	2.1	-1.2
Sales and services	21.4	23.7	-2.3
Trades, transportation and machinery	10.2	14.0	-3.7
Total	100	100	

Source: table adapted from *Les immigrants et le marché du travail Québécois en 2009 et 2010*, MICC, 2012b, Table 12.

Other studies (Vézina et al., 2011; Smith et al., 2009a) use three occupational categories[24] (manual, non-manual, mixed). In comparison to major occupational groups, this grouping has the advantage of comparing groups of workers in terms of the role that physical activity plays at work. In general, these are workers in manual occupations, who are at greater risk in terms of occupational health and safety (Premji, 2008, Smith et al., 2009a). In Québec, the distribution of immigrant workers in the three categories differs from that of people born in Canada (Vézina et al., 2011). More than half (54.2%) of workers born outside of Canada have non-manual jobs compared to 47.2% of workers born in Canada. However, this difference in distribution according to occupational category varies according to duration of residence and category of the immigrant (Smith et al., 2009a). Recent immigrants hold manual jobs more frequently (Smith and Mustard, 2010). It is also possible that this distribution of labour by occupational category can be partially explained by the composition according to gender.

3.3.1.2 Self-employment

In Québec, several studies published by the Ministère de l'Immigration using LFS data (MICC, 2012b; MICC, 2012c; MICC, 2013c) have focused on the significance of self-employment among immigrants. The proportion of self-employed workers among immigrants is higher than in the population as a whole, regardless of the year considered by the studies. This situation can only be ascribed to those who arrived over ten years ago, because they are the only group with a higher proportion of self-employed workers than the Canadian-born population (MICC, 2013c).

[24] Category devised by the IRSST, see Duguay et al., *Les indicateurs de lésions professionnelles indemnisées: analyse par industrie et catégorie professionnelle*, Québec, 2005-2007, Report no. R-749.

3.3.1.3 Work Pattern

The work pattern is related to time spent working. Normally, it refers to full-time, part-time or involuntary part-time work. Some authors believe that the work pattern is a factor that contributes to the quality of the job and influences its stability (Bélanger and Bastien, 2010; Gilmore, 2009). In fact, having a part-time job (voluntarily or involuntarily) or working full-time only part of the year are indicators of job instability.

In Québec, the number of people working full-time is slightly higher among immigrants. In 2012, among the working age population, 82.9% of immigrants in Québec were working full time compared to 81.1% for the population as a whole (MICC, 2013c).

For Canada as a whole, the proportion of immigrants in the core working age group (25 to 54) working part-time was similar to that of native-born Canadians. However, a higher proportion of immigrants in the core working age group were working part-time involuntarily (Gilmore, 2009).

3.3.1.4 Employment Status

Employment status refers to the contractual relationship between workers and their employers. This employment relationship is generally permanent or temporary. According to Gilmore, having permanent employment provides some job security, which contributes to an "overall sense of well-being and economic stability." On the other hand, because of its fixed duration, temporary employment provides less job security (Gilmore, 2009). The EQCOTESST data enabled links to be established between the status of temporary employment and being exposed to many physical stressors and a higher rate of workplace accidents. In Canada, including Québec, the proportion of immigrants with permanent employment is slightly lower than that of people born in Canada (Gilmore, 2009; MICC, 2012b). Temporary employment was more common among recent immigrants, but this tends to decrease as length of residence increases (Gilmore, 2009; MICC, 2012b; Smith and Mustard, 2010).

In 2010 in Québec, 85.6% of salaried workers had permanent jobs and 14.4% had temporary jobs. Among immigrants, the proportions were 84.8% and 15.2%, respectively (MICC, 2012b). However, the significance of temporary employment varies according to duration of residence. In fact, in Québec, in 2010, 25.6% of very recent immigrants (less than five years) had temporary positions, while this proportion was 17.6% in recent immigrants (between five and ten years) and 11.1% among long-term immigrants (over 10 years).

Statistics about employment status show differences according to category of immigrant. In Québec, qualified workers (principal applicants) admitted between 2002 and 2009 appear to have permanent employment (61.4%) in their first job (Deslauriers et al., 2013). The first jobs held by qualified workers with postgraduate (masters or doctorate) university degrees were more often temporary positions, compared to those with a post-secondary degree, a high school diploma or less.

3.3.1.5 Multiple Job Holding

According to Chui and Tran (2005), almost half of immigrants admitted had held a single job for their first two years in Canada. Some pan-Canadian and Québec-based studies note that there is no difference between immigrants and native-born Canadians in working at multiple jobs. However, immigrants who had more than one job worked more hours than people born in Canada (Gilmore, 2009; Vézina et al., 2001).

3.3.1.6 Employment Duration

Employment duration refers to the period of time that has elapsed since starting a job, generally referred to as seniority. It normally goes hand-in-hand with an improvement in conditions such as job permanency, remuneration and social benefits.

Vézina et al. (2011) mention several studies that have documented the relationship between changing jobs and higher occupational health and security risks. This kind of job mobility means that the worker is subject to variable and different working environments. However, for some immigrants, job mobility can mean a transition from part-time work towards full-time work (Chui and Tran, 2005). It is not surprising that there are disparities between immigrants and native-born Canadians in terms of seniority. In fact, unlike people born in Canada, immigrants have not been in the country long enough to gain as much seniority in their jobs. The EQCOTESST data also showed the same differences in Québec, (Vézina et al., 2011). The workers in the core working age group (25 to 54 years) born in Canada are more likely to have a great deal of seniority, even in comparison with immigrants in the country for over 10 years (Gilmore, 2009). Moreover, it is been proven that in the first months of a job, accident risk is higher (Breslin and Smith, 2006). Because immigrant workers are more frequently found in this category with less seniority, they are more exposed to the “risks” associated with occupying a new job.

3.3.2 Workplace Characteristics

This section describes the ways in which the workplace characteristics (sector of economic activity, union coverage, etc.) of immigrants are different than those of workers born in Canada.

3.3.2.1 Sector of Economic Activity

The risk of sustaining an employment injury varies from one economic activity sector to another (Vézina et al., 2011; Premji et al., 2010). Differences in industrial distribution between immigrants and native-born Canadians can vary slightly year by year. The MICC study (2012b) found the greatest disparity in the professional, scientific and technical services sector (table 3.3). In contrast, a smaller proportion of immigrants work in the construction, public administration, information, culture and recreation sectors, or in retail businesses (Chicha and Charest, 2008; Vézina et al., 2011; MICC, 2012b).

Table 3.3: Distribution (%) of people employed according to sector of activity, immigrant population, 15 years or over, Québec, 2010

Total employment	Immigrant (%)	Entire pop. (%)	Gap Imm. - Total
Consumer goods industry	17.5	21.7	-4.2
Agriculture	0.5	1.4	-0.9
Forestry, fishing, mining, oil and gas	-	0.8	-
Public services	-	0.9	-
Construction	3.4	5.9	-2.5
Manufacturing	13.4	12.8	0.6
Service industry	82.5	78.3	4.2
Commerce/trade	14.4	16.3	-1.9
Transportation and storage	4.8	4.2	0.6
Finance, insurance, real estate and leasing	6.7	6.0	0.7
Professional, scientific and technical services	11.7	7.6	4.1
Business, building and support services	4.9	3.7	1.2
Educational services	6.3	6.6	-0.3
Health care and social services	13.7	12.9	0.8
Information, culture and recreation	3.3	4.5	-1.2
Accommodation and food services	7.1	6.2	0.9
Other services	5.4	4.3	1.1
Public administration	4.2	6.1	-1.9

Source: *Les immigrants et le marché du travail québécois en 2009 et 2010*, MICC, 2012b, table 11.

3.3.2.2 Union Coverage

There is a link between unionization and the frequency of workplace accidents. EQCOTESST data show that accident frequency is high in heavily unionized sectors (Vézina et al., 2011).

The authors hypothesize that this may be because unionized workers are more aware of occupational health and safety risks, which means that they are more likely to report accident events. In addition, in jobs in some sectors with a higher proportion of unionized workers, such as the manufacturing sector, there is greater risk of injury than in other less unionized sectors, such as the retail sector.

The unionization rate is lower among immigrant workers than among native-born Canadians. This is true throughout Canada, including Québec, no matter the length of residence (Gilmore, 2009; Smith and Mustard, 2010; Vézina et al., 2011; Boudarbat and Connolly, 2013). In Québec, in 2012, the proportion of unionized workers was 31.9% among immigrants, while it was slightly over 40% among Canadian-born workers (Boudarbat and Connolly, 2013).

3.3.2.3 Business Size

The Vézina et al. study (2011) notes no significant difference between business size and country of birth. However, findings from studies into the situation in Canada as a whole point to the contrary when it comes to recent immigrants (Gilmore, 2009; Smith and Mustard, 2010). In fact, proportionally, more of them work in small businesses (Smith and Mustard, 2010; Gilmore, 2009).

3.3.2.4 Schedules and Hours Worked

Immigrants' schedules and hours worked have not been very well documented in studies. However, these elements should be considered because they make it possible to estimate duration of exposure to injury risk and night work. In Canada, in 2008, immigrants worked slightly more hours on average than people born in the country (Gilmore, 2009). In Québec only, no difference was found between these two groups with respect to schedules and hours worked (Vézina et al., 2011). However, the proportion of immigrants working overtime in their primary jobs was lower than that of native-born Canadians.

3.3.2.5 On-the-job Training

According to the study by Gilmore (2009), access to training (formal or informal) is important because it "not only provides the employee an opportunity to learn and develop, but may also improve their safety on the job." According to that study, the proportion of workers who had received on-the-job training is similar between immigrants and those born in Canada.

3.3.2.6 Job Satisfaction

Despite the difficulties encountered, immigrants state that they have a high level of satisfaction, comparable to that of people born in Canada (Chui and Tran, 2005, Gilmore, 2009). The level of satisfaction was higher than that of native-born Canadians in the case of immigrants who were working in their preferred profession or who worked full-time. However, the Gilmore study (2009) showed that the proportion of workers who said that they were "very satisfied" with their job was higher among people born in Canada. In Québec, a survey of qualified workers (principal applicants) admitted between 2002 and 2009 found that 80% of qualified workers were satisfied or very satisfied with the job they had, while 20% were not very satisfied or not at all satisfied. The main reason for dissatisfaction related to the job held was that it did not correspond to their qualifications or skills (Deslauriers et al., 2013).

3.3.2.7 Summary of Differences

Table 3.4 summarizes the differences identified in section 3.3 between immigrants and native-born Canadians concerning working conditions and employment.

Table 3.4: Summary of differences between immigrants and native-born Canadians concerning working conditions and employment

Employment and working characteristics	Differences between immigrants/native-born Canadians
Occupation	• Québec: Higher proportion of immigrants working in the natural and applied sciences and associated occupations. Not as numerous in the primary sector and in the trades, transport and machinery, and sales and services.
Employment category	• Over half (54.2%) of immigrants occupy non-manual professions compared to 47.2% of native-born Canadians. This can vary according to duration of residence and immigration category.
Self employment	• Québec: Higher proportion of self-employed workers among immigrants, but this is attributable to those who have been in the province for more than 10 years.
Work pattern	• Canada as a whole: No difference in part-time work. However, among immigrants, there are proportionately more jobs in involuntary part-time work. • Québec: Full-time work is slightly higher among immigrants.
Employment status	• Canada as a whole, and Québec only: Fewer permanent jobs among immigrants, but that number increases with duration of residence.
Multiple job holding	• Canada as a whole, and Québec only: No difference.
Duration of employment	• Canada as a whole, and Québec only: Shorter duration of employment among immigrants.
Sector of economic activity	• Québec: Greater proportion of immigrants in professional services, scientific and technical sectors and fewer in construction, public administration, information, culture and recreation, and retail business.
Union coverage	• Canada as a whole, and Québec only: Lower rate of unionization among immigrants.
Business size	• Canada as a whole: Recent immigrants proportionately more numerous in small businesses. • Québec: No difference.
Schedule and hours worked	• Canada as a whole: Immigrants work slightly more hours. • Québec: No difference.
On-the-job training	• Canada as a whole: No difference.
Job satisfaction	• Canada as a whole, and Québec only: Native-born Canadians and immigrants have a high level of job satisfaction. The level of satisfaction varies according to the type of job.

It is important to note that there are few studies that focus on employment characteristics and work. We must therefore be prudent in drawing conclusions from them.

3.4 The Occupational Health and Safety of Immigrants

While there are many immigrants in the labour market in Canada, including Québec, few quantitative studies have looked into the occupational health and safety risks present in their workplaces (Premji et al., 2010). The bibliographic search identified some studies on immigrants and OHS that responded to the defined selection criteria (Premji, 2008; Premji et al., 2010; Smith and Mustard, 2009; Smith and Mustard, 2010; Smith et al., 2009b; Gilmore, 2009).

Among the studies analyzed, most deal with Canada as a whole and use data from Statistics Canada surveys. These studies mainly document the differences between immigrants and native-born Canadians concerning workplace accidents and the impact of some risk factors on OHS, such as employment characteristics and the workplace. Only two studies focused solely on Québec corresponded to the selection criteria. These studies used administrative files from the CSST and the 2001 census for the greater Montréal region (including suburbs) to analyze the relationship between belonging to an ethnic and linguistic minority and working in an industry and employment category where there is a high level of risk (Premji, 2008; Premji et al., 2010).

This section sums up the principal findings of these studies and focuses on the data sources used, the types of analyses and variables selected and workplace accidents.

3.4.1 Data Sources

The small number of quantitative studies on immigrants and OHS can be explained in part by a lack of probative data (Premji et al., 2010). National surveys rarely include questions that would identify immigrants and risks related to OHS. Moreover, when they are included, the sample size limits the analyses. For example, Smith and Mustard (2009) used data from the *National Population Health Survey* (NPHS), noting that the sample for very recent immigrants (five years or less, 3% of the sample studied) and recent immigrants (six to ten years, 3% of the sample studied) is not large enough to study certain specific characteristics that could influence the results, such as country of origin.

The administrative data rarely include information on sociodemographic characteristics (Premji et al., 2010; Smith and Mustard, 2009). In Québec, the CSST's administrative files do not show whether industrial accident victims are immigrants. The only available variable that may have a relationship with immigration is the language (English or French) in which the employer filled out the form. Moreover, the administrative data are not necessarily representative of all employment injuries occurring in Québec. In fact, to appear in the files, the injury must have been reported and accepted by the CSST, which means that frequency is most likely underestimated. This underestimation of employment injuries appears to be more common among certain groups, such as immigrants (Premji, 2010).

Most of the studies selected focus on Canada as a whole and mainly use two Statistics Canada surveys, the *Survey of Labour and Income Dynamics* (SLID) (Smith et al., 2009b; Smith and Mustard, 2010) and the *National Population Health Survey* (NPHS) (Gilmore, 2009; Smith and Mustard, 2009).

3.4.2 Types of Analyses and Variables

Despite the many limits found in the data sources, the studies make several very relevant findings regarding immigrants and OHS. Most of the studies selected use multivariate analyses (essentially logistic regression) to assess the correlation between residence status and the prevalence of certain risk factors associated with workplace accidents. Unlike percentage distributions, multivariate analysis takes several variables into account simultaneously, enabling a more precise determination of the relationships that exist among the variables considered.

It should be noted that the way of defining and collecting information about workplace accidents varies according to the source of data used, the specific objectives and the population targeted by the study. Thus, a workplace accident could be considered if it involves a limitation in activity, requires medical assistance, results in absence from work, etc. Therefore, special attention must be paid to the analysis of the research results. Note that none of the studies identified in the scope of this one present levels of frequency of employment injuries specific to immigrants.

The variables considered in multivariate analyses concern the characteristics of the respondents (e.g., gender, age, birthplace, language, duration of residence), employment characteristics (e.g., seniority, hours worked and schedules, work pattern, occupational category), and the characteristics of the workplace (e.g., business size, economic activity sector, union coverage).

3.4.3 Immigrants and OHS

In Canada, a study showed that the proportion of immigrants who had suffered an injury related to work was smaller than that of non-immigrants (Gilmore, 2009). In 2005, 2.6% of immigrants who had jobs and were aged between 25 and 54 had sustained a work-related injury in the 12 months preceding the survey, compared to 3.9% for workers born in Canada. These results should be interpreted carefully, however, because the statistics do not take into account a number of important characteristics (duration of residence, age, educational level, occupation, industry, etc.) that could reveal differences between immigrant workers and those born in Canada.

A study that utilized the results of the *National Population Health Survey* (NPHS) (Smith and Mustard, 2009) considered certain factors, such as duration of residence and gender, to measure how they could affect the probability of having a workplace accident. The study showed that very recent (five years or less) male immigrants were at higher risk of having a workplace accident[25] that could limit their activities of daily living and require medical assistance compared to native-born Canadians. In addition, the authors noted that the proportion of employment injuries that limited normal activities the day after the injury occurred and that had required medical care from a healthcare professional in the 48 hours following the accident is much higher among recent immigrants then among native-born Canadians (90% compared to 65%). These results suggest that the severity of the employment injuries is greater among immigrants. The study also pointed out that recent immigrants place greater importance on their jobs because of the financial pressures they face. That situation could lead to immigrants being less likely to express their concern about the risks present in their workplace or their needs with respect to

[25] In this study, the accidents in question must either have limited daily activities, or have limited daily activties AND required medical assistance.

training. Those issues could also have an influence on whether or not they report employment injuries.

Another study, using data from the *Survey of Labour and Income Dynamics*, compared the prevalence of certain factors associated with employment injury risk (union affiliation, physically demanding work, companies with fewer than 20 employees, type of work schedule and employment status) between immigrants and native-born Canadians (Smith and Mustard, 2010). The authors note that immigrants are more exposed to OHS risk factors than native-born Canadians. Even taking this into account in analyses of sectors of economic activity, these relationships are confirmed. The authors mentioned that OHS risks among immigrants are higher, partly because they are unaware of their legal protection in OHS matters or they have difficulties in communicating their concerns about OHS risks present in their workplaces. The authors suggest that information on occupational health and safety be made available when immigrants enter the Canadian labour market**.**

Access to compensation benefits following a workplace accident is also a subject addressed in the literature. A study based on data from the *Survey of Labour and Income Dynamics* looked into access to compensation benefits following a workplace accident for certain groups of workers (Smith et al., 2009b). The authors observed that the probability of not receiving benefits after a workplace accident requiring an absence from work was higher among certain groups such as women, recent immigrants, youth, workers with less seniority, workers in small businesses, nonunionized and part-time workers.

In Québec, the CSST estimates that immigrant workers constitute almost half of compensation cases on the Island of Montréal (CSST, 2010). In the scope of this research activity, two quantitative studies dealing specifically with the greater Montréal region[26] were analyzed (Premji, 2008; Premji et al., 2010). These measured the relationship between belonging to an ethnic or linguistic minority and the probability of being in an industry or employment category in which the risk and severity of compensated employment injuries are higher. The studies revealed that the associations are positive, but weak, and are more significant among women. The analyses carried out in the studies are much more detailed and precise than the simple percentage distributions presented previously. In fact, the Premji et al. (2010) study performed a gender-based analysis, according to industry and employment category. The two studies are therefore not comparable, which explains why there appears to be a contradiction between their results.

However, analyses specifically focused on manual workers show that there is a larger proportion of unilingual French workers in manual jobs where OHS risks are higher than of immigrants (and minorities). The authors explain the results, in part, by the underreporting that exists among so-called vulnerable populations (Premji et al., 2010) and by the fact that, in Montréal, bilingualism is often one of the demands of employment in non-manual work such as in the service sector. However, French speakers have fewer difficulties than immigrants when they report an accident to the CSST, even though the Commission provides services in English to

[26] This study covers the greater Montréal region, including its suburbs (South Shore and North Shore). The author identifies the municipalities covered by the CSST Montréal's regional offices, on the South Shore and the North Shore, which are determined by the worker's place of residence (Premji, 2008, p. 30).

those who request it, and allows the immigrant clientele to be accompanied by someone who speaks French or English if the worker has difficulties in one or both of the official languages. Despite this, it appears that the awareness of rights or the compensation process is higher among people who speak French.

3.4.4 Scope and Limits of Studies on Immigrants and OHS

While there are few statistical studies on immigrants and OHS, it is relevant to present the scope, limits and methodological choices of the various studies to better inform users of the possible ways they could be utilized.

The Smith and Mustard (2009) study focuses on Canada as a whole and its analyses are based on the NPHS, which has the advantage of using a questionnaire translated into 23 different languages. Thus, immigrants whose comprehension of French or English is limited could respond in the language of their choice, encouraging better representation of the immigrant population and increasing the quality of the information gathered.

Surveys are rarely designed to study the effects on the health of workers and their consequences and even less for those that affect immigrants. Because this issue concerns small numbers of workers, the researchers must use certain strategies to increase the size of the sample. The targeted population and selection criteria could have an influence. Other studies, such as those of Gilmore (2009), Smith and Mustard (2009), Smith et al. (2009b) combined different collection periods or panels to mitigate the problems of statistical power. Bringing together several years of collected data increases the sample size and enables a more detailed analysis. Smith and Mustard (2009) noted that combining years of gathered data made it possible to consider duration of residence in their analyses. Despite this, the sample size representing the population of immigrants who have been in Canada for less than ten years remains relatively low. To the authors' knowledge, this study is the first to have dealt with injury risks among immigrants according to their duration of residence, Canada-wide. The authors state, however, that some groups such as recent immigrants are less likely to be absent from work following a workplace accident because of their precarious job situation and financial constraints. These situations could affect the reporting of accidental events.

The Premji (2008) study uses a different approach to verify whether, in the Montréal context, ethnic minorities are over-represented in the riskiest jobs. To reach that objective, the author of the study used a mixed methodology that combines quantitative and qualitative analysis techniques. The quantitative aspect is mainly based on two sources of data, those of the CSST's administrative files and the 2001 Canadian Census. The problems of workers are therefore of less concern in this case. Because the CSST does not gather any information about the country of birth or duration of residence, the study only attempts to verify whether immigrants are concentrated in jobs where the risk of employment injuries[27] is high. The qualitative aspect takes up a greater part of the study and makes it possible to better understand the phenomenon. Such

[27] The Premji (2008) thesis used CSST and census information to calculate the frequency rates (measurement of risk) of employment injuries in each economic activity/occupational category. The census was also used to determine the proportions of immigrants in each sector. It is thus possible to make associations between the level of employment injury risk and the concentration of immigrants within an occupational sector or category.

recourse to qualitative studies is often useful in clarifying or studying certain aspects that are more difficult to measure and that cannot be quantified with large population surveys. Appendix 1 lists several studies that make relevant findings on the ease and difficulties of access to compensation benefits, the participation of immigrants in OHS measures in small businesses, training and initiation to tasks, etc.

3.5 Temporary Immigrants

Temporary immigrants merit closer study because many of them come to Québec to participate in the labour market. However, certain factors make this investigation very difficult. Changes were recently made to the temporary immigration program, which is under federal jurisdiction. These changes, related to selection concepts and criteria, mean that information found in the literature is not always current. In addition, the number of temporary immigrants can vary considerably from one month to another because of people entering and leaving the province, which makes estimations difficult. Moreover, immigrants are not obliged to inform authorities when they leave the province (MICC, 2014a). Recently the Ministère de l'Immigration et des Communautés culturelles published a document presenting a statistical portrait of temporary immigrants in Québec with the analyses broken down according to *entries*[28] or *presence*.[29] The statistics presented in the following section come primarily from that document.

This section concentrates mainly on a subgroup of temporary immigrants, temporary foreign workers, because the primary objective of their stay is to fill a job in Québec. They can play an important role in the labour market, especially in some sectors of economic activity or certain occupations (e.g., farm worker, caregiver) (MICC, 2014a; Thomas, 2010). These foreign workers are covered by the OHS program in the same way as other workers, except for domestic workers, who live with their employers.

The Temporary Foreign Worker Program "allows employers to hire foreign workers to fill short-term labour and skill shortages when no Canadians are available to do the job."[30] (CIC). In some cases, the employer must request a Labour Market Impact Assessment (LMIA)[31] to hire the foreign worker. A positive LMIA means that the worker can fill a vacant position because there is no Canadian available to fill it. In addition, a work permit is obligatory for all foreign workers; it is provided only after the impact assessment.

3.5.1 Distribution of Temporary Immigrants in Québec

Between 2008 and 2013, the average annual number of temporary immigrants entering Québec was slightly over 53,000. In comparison, slightly more than 51,000 permanent immigrants were admitted annually, on average, over the same period (MICC, 2014a). The temporary immigrant

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28 Corresponds to the total of first-time entries and re-entries of temporary residents registered during the observation year (MICC, 2014a, p.6).

29 Number of temporary residents who, on December 1 of a given year, have a valid document (work permit, study permit, asylum application, etc.) (MICC, 2014a, p. 6).

30 http://www.cic.gc.ca/english/helpcentre/glossary.asp#t

31 http://www.cic.gc.ca/english/resources/publications/employers/temp-foreign-worker-program.asp, formerly LMO (labour market opinion).

presence increased constantly between 2008 and 2013, rising from 84,005 people to 107,086 people. The numbers of foreign workers with respect to the pool of temporary immigrants also increased, both in terms of presence and entries.

On December 1, 2013, the number of temporary foreign workers was 47,563, of whom three quarters were workers without LMIA. These foreign workers were mainly youth participating in exchange programs, workers participating in research, teaching or training programs, the spouses or partners of qualified workers, intrafirm transfers and workers subject to international agreements (MICC, 2014a). The pool of foreign workers with LMIA was mainly composed of low-skilled workers, such as seasonal agricultural workers and caregivers.

Temporary foreign workers are relatively young and proportionally there are more men. The countries of origin of temporary immigrants differ from that of the immigrant population in every category (MICC, 2014a). Participants in exchange programs are mainly from France, workers under international agreements are mainly from the United States, women in the caregiver program are mainly from the Philippines, and agricultural workers are mainly from Guatemala and Mexico.

3.5.2 Work Characteristics

While temporary immigrants make up a small percentage (1.3%) of the working population (MICC, 2013c; Thomas, 2010), in certain occupations, their numbers are significant. The Canadian study by Thomas (2010), which used 2006 census data, finds that approximately 20% of the labour force working as full-time caregivers were temporary immigrants. The study also observed a concentration of temporary immigrants in jobs such as research assistants, postsecondary teachers and agricultural workers.

There are also disparities along gender lines and the types of job filled by temporary foreign workers. In fact, jobs for men appear to correspond to their qualification levels, in most cases. Among male foreign workers, the majority of men are employed as university professors, computer technicians or agricultural workers, while women mainly work as caregivers or housekeepers (Thomas, 2010).

As the occupational category plays a role in the occurrence of an employment injury, it is useful to examine the jobs held by temporary workers. The fact that a LMIA is necessary for certain types of jobs could have an effect on job selection that may influence the risk of employment injury. In Québec, foreign workers hired with a LMIA mainly worked in primary sector jobs (especially agriculture), natural and applied sciences, and sales and services (especially caregivers) (MICC, 2014a), which is in sharp contrast to the jobs held by established immigrants. Among foreign workers hired without a LMIA, many are classified in "other categories,"[32] in occupations related to the natural and applied sciences and management. It is important to note that the distribution within various occupational categories varies little, when we look at the statistics in terms of *entries* or *presence*.

[32] Mainly concerns workers from France participating in exchange programs.

3.5.3 Temporary Foreign Workers and OHS

Among the studies selected, none presented statistics on temporary immigrants and OHS. However, the Preibisch and Hennebry (2011) study has a number of findings that should be highlighted. The increase in the number of temporary foreign workers to Canada, in particular those in low-skilled jobs (e.g., caretakers, agricultural workers), poses several challenges with respect to occupational health and safety. In fact, these jobs could put foreign workers in vulnerable situations, which could have effects on their health. For example, the fear of losing one's job may increase tolerance to certain risky conditions or behaviours; training could also be less effective because of language barriers and, in order to maximize their income, these workers are more inclined to work longer hours.

4. DATABASE INVENTORY

The objective of the inventory is to document available databases resulting from pan-Canadian and Québec-only population surveys, as well as assessing their potential to analyze the immigrant population with respect to OHS risk. We based our method on work done by Duguay et al. (2007a and 2007b), which aimed to identify and describe the public and parapublic North American and European databases that have contributed to a better analysis of risks related to OHS and work characteristics. In the scope of this study, 12 databases were selected and analyzed. The following section presents a summary of each of them. These summaries are based on information gathered through information sheets and analysis grids and emphasize the scope and the limits of sources as well as the possibilities of analyses focused on immigrants in Québec and OHS. The detailed information (information sheets and grids) is found in Appendix 2.

4.1 Survey of Labour and Income Dynamics (SLID)[33]

Statistics Canada's *Survey of Labour and Income Dynamics* (SLID) is a longitudinal survey carried out annually between 1993 and 2011. The data from this survey have been used by several of the studies analyzed in the literature review. The goal of the survey is to understand changes related to the economic situation of individuals and families. It provides a great deal of information about the characteristics of immigrants (year of immigration, country of birth, visible minority groups, etc.), but not about their migration status (as citizens, permanent residents, etc.). It provides a wide range of information about employment (e.g., salaried/self-employed, occupation, sector of activity, seniority at work) and work schedule (irregular hours, on call, evening/night shifts, numbers of hours worked, etc.). The survey also contains information about health, and above all, OHS (limitations to activities, stress, occurrence of employment injury, compensation). Moreover, it is possible to establish relationships among these diverse components through a longitudinal analysis and to study the changes in status that could punctuate the "employment pathways" of individuals (studies, employment, unemployment, absence because of an employment injury, etc.).

For anyone looking into the risk of injury among immigrants in Québec specifically, the sample may be problematic. For example, the response to a statistical request made to Statistics Canada showed that in 2011, 45,000 Canadians aged 16 and over responded to the "work" component. Among them were approximately 8500 Quebeckers, of whom 600 were immigrants (born outside of Canada). Of these 600 immigrants, fewer than 20 had received compensation benefits for workplace accidents. The data are only from a single year, while each panel figures in the sample for six years. It is possible to combine the data from several panels to increase the sample size. The possibility of studying the employment pathways of immigrants and the elements that influence their integration could prove interesting. However, it is important to remember that the survey ended in 2011 and that final year only dealt with cross-sectional data.

[33] http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=3889

4.2 National Household Survey (NHS)

Statistics Canada's *National Household Survey* (NHS) is a survey that was administered for the first time in 2011 and was to be administered every five years, at the same time as the national census. The survey's objective was to gather social and economic data on the Canadian population. The potential usefulness of the NHS is mainly found in the description of the sociodemographic profile of the immigrant population (age, gender, languages spoken, country of origin, ethnic minority, etc.) and how it is distributed throughout the labour market (employment rate, worker category (salaried/self-employed), sector of activity, occupation). The NHS contains an abundance of descriptive statistics on the immigrant population and its situation in the labour market, based on three very large samples.

However, the representativeness of the sample, especially for small geographic areas, is the NHS's main weakness. As a general rule, the risk of error in the NHS increases for smaller geographical levels and small populations (ISQ, 2013). According to Statistics Canada (NHS reference guide), recent data seem to indicate that recent immigrants were underestimated in the 2011 *National Household Survey*. Furthermore, the survey has limits with respect to working conditions and effects on health. It also contains little information about hours worked (how many and what hours of the day) and on general health status (disabilities and functional limitations).

4.3 Canadian Community Health Survey (CCHS)[34]

The *Canadian Community Health Survey* (CCHS) is a cross-sectional survey conducted by Statistics Canada. Between 2001 and 2005, information was collected biannually, and since 2007 it has been collected annually. The type of information gathered relates to health, use of healthcare services, and health determinants of the Canadian public. The CCHS makes it possible to differentiate between individuals born outside of Canada and those born in Canada, the year immigrants arrived in the country, their ethnic origin and their knowledge of the official languages. With respect to employment, information on worker category (salaried/self-employed), occupation, industry, number of hours worked and job satisfaction are available. There is an abundance of information on general health and OHS.

In addition to information about general health status, mental health, stress and various health problems, there is information about the occurrence of a workplace accident or an occupational disease, and on the presence of musculoskeletal disorders. It is thus possible to use the CCHS to make comparisons between immigrant workers and non-immigrant workers with respect to effect of work on health.

However, there are limitations to the data in this survey. In fact, although the CCHS provides some information about immigrants, it does not describe their migration status (citizen, permanent resident, etc.). Variables on work conditions are also very rare (with the exception of the 2008–2009 survey on healthy aging, which contained information on shift work, irregular hours, on-call work, employment status (regular/contractual) weekend work, but which

[34] http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=3226

concerned only those aged 45 or over). Finally, regarding the sample size (12,105 individuals in Québec in 2013), it dealt with all individuals aged 12 and older, and not workers only, but as it is possible to combine samples over more than one year, there may be sufficient numbers of immigrants in the samples to perform certain analyses. A request was made to Statistics Canada for the number of individuals in this sample who lived in Québec, had a job and were born abroad. However, the Health Analysis Division of Statistics Canada did not provide the information to us.

4.4 Longitudinal Immigration Database (IMBD)[35]

The IMBD is a survey with a longitudinal design. The data are extracted from administrative files in the Field Operational Support System and taxation data. The linkage rate of administrative files is approximately 80%. This longitudinal immigration database (IMBD), managed by Statistics Canada, was created to obtain reliable and detailed data on the results and repercussions of the immigration program. This source of data is probably the most complete in terms of descriptions of immigrants. Furthermore, it contains information on the occupations and trades envisaged upon arrival, occupational skill and education levels. All the information available on income tax returns (employer's activity sector, presence of job income, workplace accident compensation, etc.) is added to these variables. Given that all this information has been gathered since 1980 for all landed immigrants who have filed at least one income tax statement after becoming landed immigrants and that it is a longitudinal database, there are many possibilities.

On the other hand, this database contains no information on working conditions and very little on effect on health. For the latter, we can only learn whether the individual received compensation for workplace accidents. Furthermore, because the database only contains information about immigrants, it is practically impossible to do a comparative analysis with workers born in Canada.

4.5 Longitudinal and International Study of Adults (LISA)[36]

The *Longitudinal and International Study of Adults* (LISA) is a biannual (2012, 2014, etc.) longitudinal survey produced by Statistics Canada, which aims to help improve education, employment and social services in Canada. This database provides excellent possibilities for comparisons between immigrant and non-immigrant workers with respect to their distribution in the labour market (according to sector of activity, occupation, years of experience, etc.), and especially with respect to the organization of work (independence, skills, complexity of tasks, teamwork, business size, etc.). Moreover, the LISA makes it possible to create indicators related to literacy and skills used at work (problem negotiation and resolution, planning, interaction with co-workers, physical strength, writing, reading, mathematics, computer technology).

According to the type of analyses planned and the numbers of variables involved, the numbers of immigrants to Québec in the sample (n=735) could be limiting (the number does not include

[35] http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=5057

[36] http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=5144

workers only). Moreover, it is important to note that the survey provides no information about health status related to work and very little on general health status.

4.6 Canadian Survey on Disability (CSD)[37]

The *Canadian Survey on Disability* (CSD) is produced by Statistics Canada with the objective of gathering information about Canadians aged 15 or over, whose daily activities are limited by a long-term health problem. The information from the CSD, because it was completed with approximately 200 variables from the NHS, makes it possible to draw up a detailed description of immigrants (year of immigration, languages spoken, country of origin, ethnic minority, etc.). This combination of data sources also makes it possible to draw up a detailed portrait of immigrants in the labour market (seniority at work, occupation, industry, union membership, number of hours worked, business size, etc.). Moreover, the NHS data were not only used to complete the portrait of CSD respondents, they also enabled the selection of a sample of respondents to add to the CSD's analytical file. That makes it possible to compare the situation of immigrants (and other workers) in the labour market who have disabilities with those who do not have disabilities.

However, the primary appeal of the CSD is that it contains a great deal of information on health and the impact of health status on work. It is possible to learn the severity of the disability, its nature and origin (was work the cause?), in addition to the consequences of the disability on work (change in type of work, quantity of work, limitations to advancing in a job, retirement, needs for accommodations with respect to working conditions and workplace, etc.). The final sample of the CSD in Canada was 21,026 respondents. The response of Statistics Canada to an information request revealed that among the respondents, there were 1941 Quebeckers, including 231 immigrants (born outside of Canada). Out of the 231 immigrants in the sample, fewer than 40 had a period of disability caused by a workplace accident. It is therefore a very limited sample that considerably restricts possible analyses on this population of individuals with a work-related disability.

4.7 General Social Survey (GSS)[38]

The *General Social Survey* (GSS) from Statistics Canada is an annual survey. Since 1999, its core topics have been repeated every five years. The GSS has a number of objectives, including gathering data on social trends in order to monitor changes in the living conditions and well-being of Canadians. The different variables related to ethnic origin, language and migration status make it possible to clearly identify the population concerned. With respect to the working world, the variables that could potentially be used for a comparative analysis between immigrants and non-immigrants are mainly restricted to employment status (salaried/self-employed, regular/contractual, union membership, industry, occupation) and hours worked. Furthermore, the possibility of establishing relationships between these characteristics and OHS is extremely limited. To our knowledge, the only OHS-related variable concerns work-related stress, but it is only present in cycle 24 of the survey. General health status is better documented.

[37] http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=3251

[38] http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=4503

Of course, the information gathered fluctuates from one cycle to another, but it is nevertheless possible to find information on disabilities and limitations to activities, various health problems and social support, in particular.

In addition to an almost complete absence of information on health status related to work, the GSS is limited by the languages in which the questionnaire was drafted and the sample size. In fact, because the questionnaire only exists in French and English versions, and proxy interviews for individuals who do not speak either of these languages were not allowed, there is probably a bias in the representativeness of immigrants and, moreover, immigrants who are vulnerable in terms of OHS (because of their limitations in the official languages) would not have participated in the survey. In addition, the sample size for Québec is relatively small for anyone interested in studying immigrant workers. We learned from Statistics Canada's response to an information request that in a sample of approximately 5000 Quebeckers, 2741 were 15 to 65 years old and among them, only 330 were born outside of Canada.

4.8 Québec Survey on Working, Employment and OHS Conditions (EQCOTESST)

The *Québec survey on working, employment and OHS conditions* (EQCOTESST) is a Québec study conducted by the IRSST, the INSPQ and the ISQ, between November 2007 and February 2008. Its objective was to gather information about working conditions and occupational demands and to measure the associations that may be present between those conditions and OHS. Variables such as country of birth, duration of residency and languages spoken at home were used to identify the immigrant population. The great strength of this survey was that it gathered a large amount of information about working conditions (time spent at work, psychosocial aspects, physical demands, exposure to certain stressors in the workplace, etc.), and their effects on the health (MSD, accident, etc.) of workers in Québec.

The EQCOTESST data on immigrant workers and the language spoken at home should be used with caution. There is a certain problem of representativeness in the sample because the immigrants who responded to the questionnaire had specific characteristics. They had to be able to speak French or English, because the questionnaire was not translated into other languages. Furthermore, even though educational level is a criterion for immigrating to Canada, it appears that the EQCOTESST overestimates educated immigrants and those whose duration of residence is over ten years. The EQCOTESST sample size may also pose some challenges for the analysis of certain phenomena. For example, out of 5000 respondents to the survey, 11.4% were born outside of Canada and, among them, only 23 had suffered a workplace accident.

4.9 Labour Force Survey (LFS)[39]

The *Labour Force Survey* (LFS) has been widely used to portray employment among immigrants. This monthly cross-sectional survey is conducted by Statistics Canada in order to gather information about major trends in the labour market. Because the survey is administered on a monthly basis in each province, it has the advantage of being able to track major

[39] http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=3701

employment trends among immigrants (since 2006) and to make interprovincial comparisons. The survey also contains several variables that enable the workers to be described (immigrant, educational level, sector of economic activity, occupation, unionization, etc.), and some elements related to the organization of work (numbers of hours worked, business size, remuneration, etc.).

The occupational health and safety content of the LFS is quite limited. The survey contains no information about the work environment and on the possible effects on health, related or unrelated to work. The only information gathered by the LFS about that topic concerns reasons for being absent from work. The survey provides information about whether workers are absent from work because of illness or disability, without stating whether these problems are related to work. Furthermore, the fact that immigrants represent a very small group in the LFS sample could introduce significant variability into the data. Therefore, the sample size may limit the possibilities of analyses at the provincial level.

4.10 Québec Population Health Survey (QPHS)

The *Québec Population Health Survey* (QPHS) was a cross-sectional survey carried out between February 2008 and March 2009 by the ISQ and the MSSS, in partnership with the INSPQ and the DSP. Its objective was to draw up a portrait of public health with regional representativeness in order to gather priority information and to follow the trends of a number of specific health problems and their determinants. The survey also aimed to gather information on indicators that were either not covered or were poorly documented regionally by existing data sources and to analyze the social and emotional development of children aged 3 to 14 years old (only provincially). While the QPHS did not solely concern workers, they were an important part of the sample. In fact, out of some 38,000 respondents, approximately 22,000 were workers (INSPQ, 2012). This survey identified and characterized the immigrant population (country of birth, duration of residence, languages spoken, age, gender) and also provided information on work characteristics. Several questions concerned health in the workplace and generated information on the organizational environment, psychosocial and mental health status, exposure to certain physical stressors and hazardous work situations, musculoskeletal disorders, injuries, etc.

With respect to OHS and immigrants, the QPHS offers excellent possibilities of analysis on a province-wide scale. In the QPHS, 12% of the population aged 15 and over were born outside of Canada (Traoré et al., 2010b). The sample appears sufficient to perform analyses on workplace health and immigrants. For example, the response to an information request addressed to the INSPQ revealed that 14.2% of workers born outside of Canada suffer from a work-related MSD, while that proportion reaches 20.5% in native-born Canadians. However, the QPHS has certain limits with respect to representativeness of the immigrant population. Like the EQCOTESST, the immigrants selected had to speak French or English, because the questionnaire was not translated into other languages. Moreover, the QPHS is not the best source of data to study workplace accidents because information concerning injuries was only documented for the most severe injuries and not the most recent.

4.11 2010-2011 Québec Health Survey of High School Students (QHSHSS)

The *Québec Health Survey of High School Students* (QHSHSS) was a vast cross-sectional survey conducted during the 2010–2011 school year by the ISQ in partnership with the MSSS, and is to be repeated every five years. It attempts to bridge the gap between the need for information on the health status and well-being of high school students and health determinants. While the QHSHSS concentrates specifically on youth, it makes it possible to identify young immigrants (country of birth and duration of residence) and to gather information about their jobs (paid or unpaid, numbers of hours worked, job type), OHS (safety advice and employment injuries). Given the many subjects to be covered, the ISQ designed two versions of the questionnaire. The only difference between these two versions concerns the section on work experience: two questions did not appear in the second questionnaire, i.e., the job type and awareness of a co-worker who had previously been injured while performing the same tasks. The survey also gathered information on psychological distress, dropping out of school and prescription drug use. A total of 63,000 high school students participated.

The data from this survey have, however, certain limits. The most significant is that the "country of birth" variable is found only in questionnaire number two, which has no information on the job type and awareness of a co-worker who had previously been injured while performing the same tasks, which limits the analyses. Moreover, as the questions in the QHSHSS dealing with work refer to the current job (which excludes summer jobs), it is likely that the number of youth working throughout the year is underestimated. Because of the methodology used for the survey, it is better to analyze the data according to educational level than according to age. The information gathered about employment injuries in the QHSHSS is somewhat limited because the data do not provide a detailed description of the injury (nature of the injury, seriousness, absence from work, etc.).

4.12 Workplace and Employee Survey (WES)[40]

The *Workplace and Employee Survey* (WES) is a longitudinal study conducted by Statistics Canada for which the information was collected annually between 1999 and 2006. Its aim was to examine the way in which employers and employees react and adapt to changes in the workplace. The WES is divided into two sections, one related to the workplace and the other concerning the employee. The "workplace" section compiles information on the use of technology, human resource management (work organization and organizational changes), innovation, certain labour force characteristics and the distribution of positions (workforce size, hiring, etc.). The "employee" component compiles information about employment characteristics, work schedules and conditions, demographic and ethnocultural characteristics, disability or limitation to activities, and training.

In the context of profound transformations in the working world since the data were collected, and because the characteristics of the immigrant population are also changing, it should be kept in mind that this survey may not faithfully reflect the current population profile. Moreover, the

[40] http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=2615

response to an information request to Statistics Canada revealed that provincial analyses were not possible in the WES. Statistics Canada also told us that its staff is no longer producing anything from the data of this survey and custom tabulation is not possible.

4.13 Summary of the Information

The analysis of the content of the *Worker, Employment and Effect on Health* grid reveals that the number of variables in the type of information gathered varies greatly from one source to another. Moreover, each source has its own scope and limits that must be considered when the data are utilized. In all, the grid lists 19 variables on the worker's characteristics, 53 on work organization, 25 on work situations, 13 on effects on health and their consequences and 16 on those related to work. Table 4.1 summarizes the content of the 12 sources of data analyzed, and identifies certain aspects to be considered and key information on the effects/consequences related to work. The detailed content of the grids and the information sheets for each survey are found in Appendix 2.

Overall, the databases provide a way to characterize the worker. Among the 12 surveys considered, six (SLID, LISA, CSD, EQCOTESST, LFS, WES) cover over 80% of the variables listed for that subject. The SLID constitutes the most complete survey for describing the worker because 95% of the 19 variables identified are covered. The various sources also make it possible to document subjects such as over-qualification, quality of work, job type, sector of economic activity or occupation. In addition, as sectors of economic activity and occupation are variables that play a significant role in terms of risk of employment injuries, it seems appropriate to provide more details about results published in the literature to better target action and intervention. For that purpose, the NHS appears to be the best source because it makes it possible to more accurately describe the immigrant population and its distribution in the labour market. On a Québec-wide scale, it would be possible to see a more detailed distribution of the labour force according to occupation or sectors of economic activity. The results could be broken down according to duration of residence, which would provide unique and relevant data to identify certain targeted groups.

Overall, the variables related to the organization of work are presented in the surveys, but more frequently relate to work schedules than psychosocial aspects. Work situations (work activity and work environment demands) are rarely discussed; only two Québec-based surveys (EQCOTESST and QPHS) contain information on that subject.

To respond to this study's objectives, effects on health and their consequences are important aspects to consider when looking at OHS issues. Most of the data sources list information on that subject, with the exception of the NHS and the LISA. However, the type of information gathered varies greatly, according to the data source. Some surveys (SLID, LSIC, EQCOTESST) contain information on the compensation provided to workers. As the CSST files do not contain information on country of origin or duration of residence, the surveys offer a relevant alternative for studying this aspect. To document exposure to various work situations (physical and psychosocial work environment), the EQCOTESST or the QPHS are the best sources because they cover specific issues in that regard. Among the surveys considered, some target specific subgroups, such as youth (QHSHSS), or individuals with long-term disabilities (CSD). In

addition, there may be associations among the various aspects measured (worker, work organization, work situation, impacts/consequences related to work, general impacts/consequences) that are also of interest with respect to OHS-related issues. In that regard, the EQCOTESST, the QPHS, the SLID and the CCHS offer interesting possibilities for analysis.

The choice of which data sources to use thus depends on criteria such as research questions and hypotheses, the scope and limits of the data sources, and the type of information available.

Table 4.1: Information gathered in the *Worker, Employment and Effect on Health* grid

Sources	Aspects measured					Aspects to consider	Information Effects/consequences related to work
				Effects/consequences			
	Worker (N=19)	**Work organization** (N=53)	**Work situation** (N=25)	**Work related** (N=16)	**General** (N=13)		
SLID	95%	13%	-	25%	23%	- No information on work situations - Sample size for Québec - Last year of collection: 2011	- Information on limitations to activities, stress, the occurrence of an employment injury and compensation
NHS	68%	4%	-	-	15%	- Representativeness limited to small geographic clusters - Information limited to work conditions and effects on health	Not covered
CCHS	74%	11%	-	31%	77%	- Information limited to work conditions - Sample size that limits detailed analyses for immigrants to Québec	- Information on the occurrence of a workplace accident or an occupational disease and on the presence of musculoskeletal disorders.
IMDB	63%	-	-	6%	0%	- No information on working conditions - Information limited to effects on health - Comparison of immigrants compared to native-born Canadians practically impossible - Target population: all landed immigrants since 1980, who had filed at least one income tax return	- Information on benefits received for a workplace accident

Sources	Aspects measured					Aspects to consider	Information Effects/consequences related to work
				Effects/consequences			
	Worker (N=19)	Work organization (N=53)	Work situation (N=25)	Work related (N=16)	General (N=13)		
LISA	89%	23%	-	-	15%	- Sample size that limits detailed analyses for immigrants to Québec - Very little information about health status	Not covered
CSD	84%	9%	-	19%	54%	- Target population: Canadians 15 years and over whose daily activities are limited by their long-term health status or problem - Sample size that limits detailed analyses for immigrants to Québec	- Information on the severity of the disability, its nature and origin (was work the cause?) - Information on the consequences of the disability on work
GSS	79%	13%	-	6%	46%	- Little information on working conditions - Questionnaire language (English and French) - Sample size that limits detailed analyses for immigrants to Québec	- Information on stress related to work (cycle 24)
EQCOTESST	84%	53%	36%	44%	62%	- Representativeness limited to immigrants - Questionnaire language (English and French) - Sample size that limits detailed analyses for immigrants to Québec	- Information on MSD, workplace accidents, violence at work, mental health problems related to work
LFS	84%	8%	-	6%	15%	- Little information on effects on health - Sample size that limits detailed analyses for immigrants to Québec	- Information on the reasons for absence from work
QPHS	68%	17%	28%	25%	62%	- Questionnaire language (English and French)	- Information on the organizational environment, health status, both psychosocial and mental, exposure to certain physical stressors and risky work situations, musculoskeletal disorders, injuries, etc. - Workplace accidents are documented for the most serious injury and not the most recent

Sources	Aspects measured					Aspects to consider	Information Effects/consequences related to work
				Effects/consequences			
	Worker (N=19)	**Work organization** (N=53)	**Work situation** (N=25)	**Work related** (N=16)	**General** (N=13)		
QHSHSS	37%	4%	-	6%	15%	- Target population: high school youth - The country of birth is documented for part of the sample	- Information on safety guidelines and workplace injuries
WES	95%	53%	-	6%	8%	- Last year of data collection: 2006 - No provincial analysis possible - No custom tabulation produced by Statistics Canada	- Information on functional limitations

5. DISCUSSION

Québec has seen a rapid rise in immigration over the past several years. The increase in this segment of the population changes the characteristics of the labour force, which could have repercussions on occupational health and safety. To further a safe and sound integration of immigrants into the workforce, it is essential to study their occupational situation and the characteristics of their workplaces, and to determine the risk factors specific to them in terms of occupational health and safety. The absence of probative data to document risks related to OHS and immigrants makes it difficult to make decisions regarding the direction that research on this population of workers should take. This study therefore endeavours to shed light on the statistical information available, both in the literature and in population surveys, to better inform and direct the research. A portrait of the immigrant labour force was first drawn up, based on studies using analyses from statistical data. The results of this review of the literature were divided into five major topics: (1) the context and the characteristics of the immigrant population; (2) immigrants in the labour market; (3) working and employment conditions of immigrants; (4) occupational health and safety of immigrants; (5) temporary residents.

The analysis of the context of immigration and the sociodemographic characteristics of immigrants made it possible to identify several differences between them and native-born Canadians. Immigrants are younger, and, in the case of economic immigrants, there are proportionately more men than women. They also have a higher level of education and their health status is initially better. The studies used showed that these sociodemographic differences are due in part to immigrant selection criteria. As these criteria are defined by immigration policies, studies of the immigrant population make it necessary to put statistical data into context with a description of past and/or current policies.

The situation of immigrants in the labour market has been the subject of many studies because it is a key indicator of their integration into the host country. In order to describe it, studies frequently use classic indicators such as unemployment rates, labour market participation and employment rates. The analysis of these indicators shows that it is more difficult for immigrants to integrate into the labour market than native-born Canadians. However, the situation of immigrants in the labour market tends to converge with that of the host population the longer they remain in the country. The studies analyzed make it possible to determine several factors that explain the difficulties experienced by immigrants in entering the labour market. The lack of Canadian job experience, the lack of recognition of working experience and credentials or diplomas earned outside of Canada, in addition to linguistic barriers, are among the main difficulties they encounter. The challenges of integration also vary according to age upon admission, gender, educational level, where certification was earned and qualifications. The immigrant category (economic, family reunification, refugees) is another variable associated with the labour market situation; however, there is little data that would enable this association to be analyzed.

Some studies have made it possible to describe how employment characteristics (occupation, work pattern, employment status, seniority, remuneration, work time, etc.), workplace (sector of economic activity, union coverage, business size, etc.), and on-the-job training distinguish

immigrants from native-born Canadians. These factors are significant because they can influence the risks related to OHS.

With respect to on-the-job training, multiple job holding, and business size, there are few or no differences between immigrants and people born in Canada, but the results may differ, depending on the variables considered in the statistical models and the source of data used. For example, the differences between immigrants and native-born Canadians tend to diminish with the amount of time the immigrant has been in the country. However, the proportion of self-employed workers is higher among immigrants, but only among immigrants who have been in the country for more than ten years. The occupation and sector of economic activity can also influence the risk of employment injuries. The studies analyzed revealed differences in distribution between the immigrant and Canadian-born labour force, but it was not possible to draw up a detailed portrait of the situation. In fact, because the results are only broken down into broad groupings of occupation or sectors, and other important factors such as duration of residence are not considered, the information provided is limited. More detailed results could provide information on certain sectors of activity that present challenges in terms of OHS, such as job placement agencies that employ a certain number of immigrant workers. From the information that has been published, it is difficult to determine avenues of research or action in terms of sectors of activity or specific occupations. However, it can be seen that there is a greater proportion of immigrants in riskier occupations and industries (Premji et al., 2010). In addition, there has been little discussion in the literature about schedules and hours worked by immigrants.

While there are many immigrants in the labour market, few quantitative studies have looked into the specific risks they face. This can be explained by the fact that national surveys rarely include information on employment injuries and working conditions and, when they do, the sample size limits the analyses. However, some strategies, such as grouping together data from several years of data collection, are introduced in studies to increase the sample size. With the literature search we were able to find a few studies that did that. Most of them used multivariate analyses that include variables related to the characteristics of the respondents, the job and the workplace. Smith and Mustard's 2010 study showed that immigrants are exposed more to OHS risk factors than native-born Canadians. Furthermore, other factors that have an influence on employment injury risk indicators among immigrants, such as lack of awareness of legal protection in OHS matters, difficulties in expressing concerns about risks in the workplace or training needs, are mentioned in the studies.

The final aspect dealt with in the review of the literature concerns temporary immigrants. This population is difficult to estimate because it can vary considerably from month to month due to entries to and exits from the country. Despite this, the studies show that the temporary immigrant workforce increased steadily between 2008 and 2013. The numbers of foreign workers within this group of temporary immigrants has also risen, both in terms of presence and in terms of entries into the country. Temporary foreign workers are relatively young, there are proportionately more men than women, and their jobs appear to correspond to their qualification levels. While temporary immigrants represent a small proportion of the working population, in certain occupations their numbers are significant. For example, in Canada in 2006, 20% of the labour force working as full-time family caregivers were temporary immigrants. Temporary foreign workers are also concentrated in other occupations related to agriculture, natural and

applied sciences and sales and services. Among the studies selected, none presented statistics on temporary immigrants and OHS. However, Preibisch and Hennebry (2001) made some interesting findings that merit attention. The increase in the number of temporary foreign workers, particularly those in low-skilled jobs, poses certain challenges with respect to occupational health and safety. In fact, these jobs can place foreign workers in vulnerable situations, which could have effects on their health.

In the second part of this study, an inventory of pan-Canadian and Québec-based population surveys was assembled to document the databases available and to assess the analysis potential for the immigrant population and OHS issues. In total, 12 databases were analyzed using two tools, the *Worker, Employment and Effects on Health* grid and the information sheet. The information gathered through the review of the literature and the inventory of data sources was divided into three main categories: worker characteristics, work organization and situations, and effects on health and their consequences. Table 4.1 in section 4.13 sums up the content of 12 data sources and identifies certain aspects to be considered, as well as key information on work-related effects and consequences.

Overall, workers' characteristics are well documented in the literature and the databases (e.g., SLID, LFS, LISA). Subjects such as over-qualification, employment quality, and type of employment or occupation can be well documented by these sources. Unlike the major groups of occupations and sectors of economic activity found in published studies, some data sources (e.g., NHS) offer the possibility of providing more details on the results in order to better target action and intervention. Moreover, almost all the databases considered in the study hold the potential for comparative analyses to be made between immigrants and native-born Canadians. Some of them, such as the SLID, the EQCOTESST, the QPHS and the CCHS, even make it possible to analyze associations between workers' characteristics and OHS.

Work organization and work situations are also factors that could be associated with OHS-related risks. The variables related to the organization of work are usually presented in the surveys, but they mainly concern work time (work schedules and hours worked) and not psychosocial aspects. The absence of information on training or the information provided in the workplace about work-associated risks also constitute limitations in the surveys. Moreover, we note significant information gaps in the variables related to work situations. Only two sources of data (EQCOTESST and QPHS) out of the 12 examined contain information on certain physical demands (e.g., handling, effort, repetitive movements) and on exposure to certain physical stressors (e.g., noise, vibrations, chemical substances). These two sources enable associations to be made between the organization, work situations and the risk of employment injuries.

To conclude, the literature and the databases make it possible to document effects on health and the consequences, but the more specific subject of work-related effects is often neglected. However, some data sources analyzed gathered information related to that subject: disabilities and limitations to activities, workplace accidents and occupational diseases, musculoskeletal pain, psychological distress and stress. It is therefore possible to compare immigrants and native-born Canadians in terms of effects on general health and those related to work by controlling for certain variables such as industry, occupation and work contexts. The studies selected highlight the absence of information on the origin of workers in the CSST databases, which made it

impossible to estimate how many injuries sustained by immigrants were compensated and their description. Nevertheless, the data source inventory made it possible to see that some of them contain information on immigrants who had received workers' compensation benefits (e.g., IMDB). The sample size of several surveys (e.g., LISA, CSD, EQCOTESST) can be restrictive, which limits the analyses possible. The seriousness of employment injuries and their description are barely discussed in the studies and data sources. The use of one data source instead of another thus induces variations with respect to several criteria, such as the questions and hypotheses covered by the studies, the scope and limits of data and the type of information available.

CONCLUSION

The objective of this study was to take stock of statistical studies on immigrant workers and OHS in Québec, and to draw up an inventory of sources of statistical data available on the subject.

The review of the literature shows that most of the studies describe workers' characteristics and some also deal with workplace characteristics and the general health status of immigrants. However, very few statistical studies have analyzed data about the occupational health and safety of immigrant workers in Canada and even less so in Québec. Despite that, the analysis of the literature enabled us to determine certain key variables (e.g., duration of residence, immigrant status, occupation, sector of economic activity, factors related to training and integration into the workforce) that could help orient prevention activities in workplaces. In fact, it would be possible to carry out Québec-wide studies to better understand the distribution of the immigrant labour force according to occupation and sector of economic activity by controlling for certain key variables such as duration of residence. It would also be useful to document the risk or protective factors related to OHS and the compensation of immigrant workers in Québec from the inventory of sources.

It is clear from the inventory of the 12 most relevant sources of statistical data that none of them make it possible to draw up a complete and detailed portrait of immigrant workers and OHS in Québec, because none deal specifically with that subject. While the data sources have their limitations, several of them could be used to learn more about or to monitor the situation of immigrants in the labour market, with respect to certain aspects of OHS, or to compare their situation with that of native-born Canadians. Using multiple sources of data could help find answers to certain research questions on the subject without, however, providing a complete portrait of the situation. In that context, the use of mixed methods is an option worth exploring. In fact, as Premji (2008) notes, that process combined with quantitative and qualitative methods would increase understanding of the phenomenon being studied. The quantitative analyses provide a more general picture while the qualitative analysis details the findings. For example, the exploratory studies and the case studies listed in Appendix 1 explored aspects not measured in surveys, such as difficulties in accessing compensation benefits, the compensation process, participation of immigrants in OHS measures, training and initiation to employment, etc. The complementarity of these two approaches provides a more complete picture of the situation, and makes it possible to determine which groups are at risk and to suggest some avenues for action.

Organizations such as Statistics Canada and the CSST, which collect data, also play a role in terms of the availability of information concerning immigrants and OHS. In fact, the analysis of compensated employment injuries among immigrant workers in Québec is made more complicated by the fact that the CSST's administrative files do not contain any information on country of birth and duration of residence. To understand the characteristics of the employment injuries sustained by immigrants, it would be useful for the CSST to add a few variables that would make it possible to identify immigrants in the same way as other sociodemographic variables, such as age and gender. In addition, Statistics Canada could integrate more variables into its surveys in order to better document occupational health.

To conclude, it should be remembered that statistical data are useful for determining which groups of workers have problems, or are exposed to work situations that could have repercussions on their health, and to understand the associated factors. That information could then be used in prevention and research planning.

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APPENDIX 1: REFERENCES RELATED TO IMMIGRANT WORKERS AND OHS IN QUÉBEC

References of interest related to immigrant workers and OHS in Québec

Authors	Title	Research objectives/questions	Methodology/targeted population	Principal findings
Sylvie Gravel, Louis Patry (2007)	*L'accès à l'indemnisation pour les travailleurs immigrants est-il plus difficile?*	"What are the conditions specific to each step of the compensation process that make it more difficult for immigrant workers to access them compared to other workers?"	Exploratory study N = 104 workers (immigrants and non-immigrants) from the greater Montréal region	"The immigrant workers in the sample had a more difficult time gaining access to compensation than other workers. Their problems began right from the first steps and continued throughout the claim process. Immigrant workers were laid off more often than other workers after their injury."
Daniel Côté (2012)	*La notion d'appartenance ethnoculturelle dans la recherche etl'intervention en réadaptation*	"An assessment of knowledge that aims to identify and describe the themes that emerge from research that has explored issues regarding the influence of cultural affiliation on the process of rehabilitation and return to work."	Review of the literature by key words	"The studies reviewed dealt mainly with the clinical dimension of the rehabilitation process (therapist-patient relationship). The role and experience of other partners (compensation system, employer, etc.) have been little studied. Research proposal for avenues of investigation."
Sylvie Gravel, Gabrielle Legendre and Jacques Rhéaume (2012)	*Faible participation des travailleurs immigrants aux mesures de santé et sécurité au travail dans les petites entreprises*	"How can small businesses, the main employers of immigrant workers in all categories, be assisted in adapting their OHS practices?"	Case study, sample of 28 small businesses (10-50 workers). Sample divided into 2 groups for comparative purposes. The first consisted of businesses with an immigrant labour force of 25% or more workers, the second with fewer than 25% immigrant workers.	"Compared to Canadian-born workers, immigrant workers get less OHS training, and were less likely to identify risks, to declare their injury when they were injured and to participate in accident investigations. In general, immigrant workers are unaware of their rights and obligations with respect to OHS."

Authors	Title	Research objectives/questions	Methodology/targeted population	Principal findings
Sylvie Gravel et al. (2006)	*Critères pour apprécier les difficultés d'accès à l'indemnisation des travailleurs immigrants victimes de lésions professionnelles*	"What criteria make it possible to assess all the difficulties that vulnerable workers, including immigrant workers, will encounter through their compensation claim process?"	Retrospective and comparative study. Sample of 104 workers, immigrants (n=53) and non-immigrants (n=51), who have sustained musculoskeletal injuries.	"The results of this study indicate that immigrant workers experience more difficulties during the compensation process. The legal and medical steps are particularly difficult for immigrant workers."
Sylvie Gravel et al. (2001)	*Santé et sécurité au travail: la situation des travailleuses et travailleurs immigrants à Montréal: rapport synthèse sur l'état des connaissances*	"The project will attempt to determine the obstacles encountered by immigrant workers in gaining access to compensation, rehabilitation and job re-entry programs."	Literature review, survey with key informants, administrative file survey	"A list of recommendations, such as improving access to compensation by increasing the reporting rate for employment injuries and by supporting, through community involvement, the claimants in their procedures to receive compensation, to better document the determinants that undermine immigrant workers, etc."

Authors	Title	Research objectives/questions	Methodology/targeted population	Principal findings
Sylvie Gravel et al. (2011)	*Formation et initiation à la tâche: éléments de ritualisation favorisant le développement d'une culture de santé et sécurité au travail auprès des travailleurs immigrants*	"How important are training and initiation upon hiring considered as structuring and ritualized moments in a culture of accident prevention and OHS?"	Case study, sample of 28 small businesses (10-50 workers). Divided into 2 groups for comparative purposes. The first group (n=19) is made up of businesses with a labour force composed of 25% or more of immigrant workers, in the other group (n=9) the labour force are composed of fewer than 25% 0f immigrant workers.	"Show how leaders' skills in matters pertaining to OHS and the training they received in their country of origin guide the adoption of prevention rituals as soon as new workers are hired."
Sylvie Gravel et al. (2003)	*La santé et la sécurité au travail des travailleurs immigrants à Montréal: résultats d'une enquête exploratoire*	"Assess existing data in Québec that will make it possible to document the extent and seriousness of employment injuries in immigrants. Specify whether the seriousness and extent were associated with specific employment sectors."	Literature review, semi-structured interviews and CSST compensation files	"It is vital to produce data to support the stated arguments regarding the vulnerability of immigrant workers. Three strategies could be envisaged: including variables on the migration status of workers, documenting under-reporting and documenting support for reporting."
Louis Patry et al. (2005)	*Accès à l'indemnisation des travailleuses et travailleurs immigrant(e)s victimes de lésions musculo-squelettiques d'origine professionnelle*	"Do immigrant and non-immigrant workers who have suffered employment injuries have fair access to the compensation system? Which factors facilitate or limit access to compensation benefits? At which steps in the compensation process do these limiting or facilitating factors appear?"	Retrospective and comparative study. Sample of 104 workers, immigrants (n=53) and non-immigrants (n=51) who have sustained musculoskeletal injuries.	"It is not unreasonable for the community of practice that defends workers who have suffered employment injuries to doubt the fairness of treatment of immigrant workers compared to non-immigrant workers. This doubt concerns the various actors (the business, the health system, the compensation system, the workers' support network, the organizations dedicated to integrating immigrants) who step in at different stages along the way."

Authors	Title	Research objectives/questions	Methodology/targeted population	Principal findings
Sylvie Gravel et al. (2009)	*Ethics and the compensation of immigrant workers for work-related injuries and illnesses*	"Examine the workplace accident compensation process by assessing the employment pathways of immigrant and non-immigrant workers in Montréal."	Exploratory study N = 104 workers (immigrants and non-immigrants) from the greater Montréal region	"Immigrant workers faced greater difficulties with medical, legal, and administrative issues than non-immigrants. While immigrant workers' claim forms tended to be written more often by employers or friends, the claims were still contested more often by employers. Immigrant workers were less likely to obtain a precise diagnosis and upon returning to work were more likely to face sub-optimal conditions."
Luin Goldring and Patricia Landolt (2012)	*The Impact of Precarious Legal Status on Immigrants' Economic Outcomes*	"This study calls for a reframing of the study of immigrant economic incorporation to pay closer attention to the relationship between migration status, legal status trajectories and employment outcomes, measured by job quality and not just by employment rates and earnings."	Qualitative and quantitative study. Sample of 300 Latin American and Caribbean immigrant workers from the Greater Toronto Region	"Based on their quantitative analysis, the authors find that initial job quality and legal status upon entry are significant predictors of current job quality. Transitioning from precarious to secure forms of legal status did not protect respondents from remaining in jobs that were significantly more precarious than those of people who entered with the relatively secure status of permanent residence. The qualitative research shows how early precarious legal status can contribute to migrants settling for precarious work and getting stuck in low-paying jobs for a long time, even after a change to secure legal status."
Peter Smith et al. (2009)	*An examination of the working conditions and risk factors for work-related injuries among immigrants workers in Canada*	"Describe the labour market experiences of immigrants to Canada, examine the risks of work-related injuries among immigrants compared to the Canadian-born population, examine compensation, examine changes in physical work demands before and after arrival."	PowerPoint presentation that contains the results of several studies for which the analyses are based on population studies such as the census, the SLID, the CCHS, the LSIC.	"Immigrants to Canada are exposed to numerous occupational health and safety risks, Immigrant men are at higher risk of work injuries that require medical attention (although true risk must be higher). Immigrants may be at higher risk of not receiving compensation after a week-long work-related absence, Immigrants with low language proficiency, those with low education, and those coming to Canada as refugees are the most likely to be in occupations with higher physical demands than worked before arrival in Canada."

APPENDIX 2: INFORMATION SHEETS AND *WORKER, EMPLOYMENT AND EFFECT ON HEALTH* GRIDS

Survey of Labour and Income Dynamics (SLID)

English/French title	Survey of Labour and Income Dynamics/Enquête sur la dynamique du travail et du revenu
English/French abbreviations	SLID/EDTR
Country/Region	Canada/Québec
Survey objective	"At the heart of the survey's objectives is the understanding of the economic well-being of Canadians: what economic shifts do individuals and families live through, and how does it vary with changes in their paid work, family make-up, receipt of government transfers or other factors?" (http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=3889#a1)
Access to raw data	Access is limited and is gained through Statistics Canada's Research Data Centres, such as the Ciqss (Centre interuniversitaire québécois de statistiques sociales) in Montréal.
Access to compiled data	Public data (Public Use Microdata File)
Questionnaire language	English and French
Years of data collection	1993–2011
Number of follow-up years	19 years
Partner organizations	---
Responsible institution	Statistics Canada
Website	www.statcan.gc.ca
Geographic coverage	Data representative of each of the 10 provinces
Frequency	Annual
Source type	Longitudinal survey (2011, the final year, is uniquely cross-sectional)
Collection type	Computer-assisted interviewing (CAI) by telephone
Target population	All individuals in Canada, excluding residents of the Yukon, the Northwest Territories and Nunavut, residents of institutions and persons living on Indian reserves. Overall, these exclusions amount to less than 3 percent of the population.
Sample size	The SLID sample is composed of two panels. Each panel consists of two LFS rotation groups and includes roughly 17,000 households. During data collection for reference year 2011, panel 6 was in its fourth year and panel 7 was in its first year. The two panels include approximately 35,000 households and 81,500 individuals. However, these figures correspond to the targeted sample, in that they do not take into account non-responses (more than 30%) and the number of individuals includes people younger than 16. Moreover, approximately 10% of individuals responded in previous years and gave their permission for access to their income tax files, but could not be reached that year (we therefore have data on their income but not on their activities). In 2011, in Canada, 45,000 individuals aged 16 years and over responded to the work component in the SLID.
Response rate	The cross-sectional response rate was 67.3% in 2011.
Source status	Survey ended in 2011

Questions/variables pertaining to immigrants	Year the person immigrated to Canada; Age when the person immigrated; Number of years since the person immigrated to Canada; Country of birth; Indicator showing that the person signified being of visible ethnic origin; Indicator showing that a person is from a visible minority; Visible minority group; Indicator showing whether the father of the respondent was born in Canada (Information available for respondents who joined the study since 1996); Indicator showing whether the mother of the respondent was born in Canada (Information available for respondents who joined the study since 1996); Maternal language.

SLID

WORKER		WORK CONDITIONS											
		Organization of work						Work situation					
		Human					Technical	Limits to the work activity			Environment		
Characte-ristics	Employment status	Working time		Psychosocial aspects		Other aspects	Techno. / others	Physical	Postural	Articular	Environ-mental conditions	Exposure to physical risks	Other risks
		Work schedules	Work pace	Demands of the task	Interaction (team-public)								
Age	Job type Wage earner, self -employed	Shift work, work shifts	Dependant on the automatic speed of a machine	Independence, control of the work	Relationships with co-workers	Regular rotation of position or according to needs	Use of new technologies and micro-computers	Manual handling of heavy loads	Difficult or tiring postures	Repetitive movements using hands and arms	Work outdoors, bad weather	Dust or fumes	Chemical risk
Gender	Employment status: regular, contractual	Irregular schedule	Rate	Psychological demands of work	Support of co-workers	Payment mode	Machine tools and robots	Movements with physical effort (lifting, bending, stretching)	Working in standing, sitting position	Repetitive work at a rapid pace	Cold, hot, humid weather conditions	Vibrations from the ground, machines, tools or vehicles	Biological risk
Job seniority	Job type, trade, profession	On-call work	Assembly line work	Variety of tasks	Availability of necessary resources	Information or training on risks a ssociated with work (discussions)	Numerically controlled machines	Efforts on tools and machines	Working in crouched position	Repetitive twisting, extension, muscular contraction	Light, lighting	Noise	Risk of electrocution
More than one job	Activity sector (of the business)	Evening or night work	Daily production standards	Precision required (concentration)	Relationships with the hierarchy (supervisor, foreman)	Working at home (telework)	Technological changes		Working on one's knees	Forced position of one or more joints	Ventilation		Risk of burns
Educational Level (nature and level)	Union	Weekend work	Dependant on co-workers	Frequent interruptions to tasks	Direct contact with customers	Prevention activities	Individual or collective protective equipment				Unpleasant odours		Risk of radiation
Numbers of years of experience	Tasks and duties	Overtime	Immediate response to a request	Workload; work Intensification	Violence, harassment, intimidation, aggression	Business size	Tools and material available to do the work						Other physical or environmental risks
Is an immigrant	Primary activity	Number of hours of work per day or week	Subject to tight deadlines	Decisional leeway	Team work	Satisfaction at work or with work	Work procedures						
Immigration status	Full or part time	Flexible hours	Direct supervision by team leader	Skills to do the job	Management of diversity	Presence of an OHS committee	Paid training provided by the employer						
Country of birth			Rest time	Complexity of tasks		Assessment of working conditions by the employer							
Duration of residency				Consequences of errors		Organizational changes							
Languages spoken													

EFFECTS			
Health status linked to work		General health status	
Psychological health	Physical health	Psycho-logical health	Physical health
Measurement of psychological stress	Has had one or more industrial accidents	Measurement of psychological stress	
Depression	Has had one or more occupational diseases	Depression	
Stress	List of health (including chronic) problems	Stress	List of health (including chronic) problems
Social support	Musculoskeletal pain	Social support	Musculoskeletal pain
Mental health	Disabilities, limitations to activities	Mental health (in general)	Disabilities, limitations to activities
	Limitations to movement		Limitations to movement
	General conditions		General conditions

Work-related consequences		Consequences	
Compensation	Use of health services		Use of health services
Absence from work	Medication use	Absence from work	Medication use
Disability management		Disability management	

National Household Survey (NHS)

English/French title	*National Household Survey/Enquête nationale auprès des ménage*
English/French abbreviation	NHS/ENM
Country/Region	Canada/Québec
Survey objective	The NHS is designed to collect social and economic data about the Canadian population. Its objective is to provide data for small geographic areas and small population groups.
Access to raw data	Restricted access
Access to compiled data	Numerous data tables are available by subject, but are fairly inflexible. And, above all, there is a Public Use Microdata File.
Questionnaire language	French, English and 31 other languages, including 11 indigenous languages (http://www12.statcan.gc.ca/nhs-enm/2011/ref/guides/99-010-x/99-010-x2011006-eng.cfm)
Year of data collection	2011
Number of follow-up years	2011 is the first follow-up year for the NHS.
Partner organizations	---
Responsible institution	Statistics Canada
Website	www.statcan.gc.ca
Geographic coverage	Québec has 1285 census subdivisions. However, 183 among them (14%) were suppressed in standard products because of a global nonresponse rate of >= 50% and 123 others (10%) were excluded, mainly for reasons related to their size.
Frequency	Every five years
Source type	Cross-sectional survey
Collection type	Online/paper self-administered questionnaire; Interview with an enumerator in remote areas, Indian reserves, for non-response follow-up or for respondents who wanted to complete their questionnaire by telephone by calling the survey's telephone help line.
Target population	All persons who usually live in Canada, in the provinces and the territories. It includes persons who live on Indian reserves and in other Indian settlements, permanent residents, non-permanent residents such as refugee claimants, holders of work or study permits, and members of their families living with them. Foreign residents, such as representatives of a foreign government assigned to an embassy, high commission or other diplomatic mission in Canada, members of the armed forces of another country stationed in Canada, and residents of another country who are visiting Canada temporarily, are not covered by the NHS. The survey also excludes persons living in institutional collective dwellings such as hospitals, nursing homes and penitentiaries; Canadian citizens living in other countries; and full-time members of the Canadian Forces stationed outside Canada. Also excluded are persons living in non-institutional collective dwellings such as work camps, hotels and motels, and student residences.
Sample size	4.5 million dwellings, representing slightly less than one third of all private dwellings in Canada in 2011 (30%).

Response rate	68.6% in Canada and 71.9% for Québec (these are unweighted response rates)
Source status	Active
Questions/variables pertaining to immigrants	Country of birth; Citizenship (to which country?); Landed immigrant status; Year of immigration to Canada; Sufficient knowledge of English and/or French to carry on a conversation; Another language spoken well enough to carry on a conversation; Language spoken most often at home; Other languages spoken regularly at home; First language learned at home in childhood and still understood; Visible minority status, and which minority; Father's country of birth; Mother's country of birth.

NHS

WORKER		WORK CONDITIONS											
		Organization of work						Work situation					
		Human					Technical	Limits to the work activity			Environment		
Characte-ristics	Employment status	Working time		Psychosocial aspects		Other aspects	Techno./ others	Physical	Postural	Articular	Environ-mental conditions	Exposure to physical risks	Other risks
		Work schedules	Work pace	Demands of the task	Interaction (team-public)								
Age	Job type Wage earner, self-employed	Shift work, work shifts	Dependant on the automatic speed of a machine	Independence, control of the work	Relationships with co-workers	Regular rotation of position or according to needs	Use of new technologies and micro-computers	Manual handling of heavy loads	Difficult or tiring postures	Repetitive movements using hands and arms	Work outdoors, bad weather	Dust or fumes	Chemical risk
Gender	Employment status: regular, contractual	Irregular schedule	Rate	Psychological demands of work	Support of co-workers	Payment mode	Machine tools and robots	Movements with physical effort (lifting, bending, stretching)	Working in standing, sitting position	Repetitive work at a rapid pace	Cold, hot, humid weather conditions	Vibrations from the ground, machines, tools or vehicles	Biological risk
Job seniority	Job type, trade, profession	On-call work	Assembly line work	Variety of tasks	Availability of necessary resources	Information or training on Risks associated with work (discussions)	Numerically controlled machines	Efforts on tools and machines	Working in crouched position	Repetitive twisting, extension, muscular contraction	Light, lighting	Noise	Risk of electrocution
More than one job	Activity sector (of the business)	Evening or night work	Daily production standards	Precision required (concentration)	Relationships with the hierarchy (supervisor, foreman)	Working at home (telework)	Technological changes		Working on one's knees	Forced position of one or more joints	Ventilation		Risk of burns
Educational level (nature and level)	Union	Weekend work	Dependant on co-workers	Frequent interruptions to tasks	Direct contact with customers	Prevention activities	Individual or collective protective equipment				Unpleasant odours		Risk of r adiation
Numbers of years of experience	Tasks and duties	Overtime	Immediate response to a request	Workload; work Intensification	Violence, harassment, intimidation, aggression	Business size	Tools and material available to do the work						Other physical or environmental risks
Is an immigrant	Primary activity	Number of hours of work per day or week	Subject to tight deadlines	Decisional leeway	Team work	Satisfaction at work or with work	Work procedures						
Immigration status	Full or part time	Flexible hours	Direct supervision by team leader	Skills to do the job	Management of diversity	Presence of an OHS committee	Paid training provided by the employer						
Country of birth			Rest time	Complexity of tasks		Assessment of working conditions by the employer							
Duration of residency				Consequences of errors		Organizational changes							
Languages spoken													

EFFECTS			
Health status linked to work		General health status	
Psychological health	Physical health	Psycho-logical health	Physical health
Measurement of psychological stress	Has had one or more industrial accidents	Measurement of psychological stress	
Depression	Has had one or more occupational diseases	Depression	
Stress	List of health (including chronic) problems	Stress	List of health (including chronic) problems
Social support	Musculoskeletal pain	Social support	Musculoskeletal pain
Mental health	Disabilities, limitations to activities	Mental health (in general)	Disabilities, limitations to activities
	Limitations to movement		Limitations to movement
	General conditions		General conditions

Work-related consequences		Consequences	
Compensation	Use of health services		Use of health services
Absence from work	Medication use	Absence from work	Medication use
Disability management		Disability management	

Canadian Community Health Survey (CCHS)

English/French title	*Canadian Community Health Survey/Enquête sur la santé dans les collectivités canadiennes*
English/French abbreviations	CCHS/ESCC
Country/Region	Canada/Québec
Survey objective	The CCHS is a cross-sectional survey that collects information related to health status, health care utilization and health determinants for the Canadian population. It relies on a large sample of respondents and is designed to provide reliable estimates at the health region level. The survey has the following objectives: – Support health surveillance programs by providing health data at the national, provincial and intra-provincial levels; – Provide a single data source for health research on small populations and rare characteristics; – Timely release of information easily accessible to a diverse community of users; – Create a flexible survey instrument that includes a rapid response option to address emerging issues related to the health of the population. (http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SurvId=144171&InstaId=164081&SDDS=3226)
Access to raw data	Access is limited and is gained through Statistics Canada's Research Data Centres such as the Ciqss (Centre interuniversitaire québécois de statistiques sociales) in Montréal.
Access to compiled data	CANSIM tables and various publications made up of descriptive analyses of data available from the Statistics Canada website. Public Use Microdata Files are also available.
Questionnaire language	To address language problems that could adversely affect interviews, all the regional offices of Statistics Canada hired interviewers who spoke many languages. If necessary, cases were transferred to an interviewer who could fill out the questionnaire in the appropriate language.
Years of data collection	2014 (every two years in 2001, 2003 and 2005 and yearly since 2007)
Number of follow-up years	11 years of data collection
Partner organizations	Several partners participated in the questionnaire design, including Health Canada, the Public Health Agency of Canada and researchers working in highly specialized fields.
Responsible institution	Statistics Canada
Website	www.statcan.gc.ca
Geographic coverage	Representative data from each of the ten provinces and the three territories
Frequency	Annual (every two years before 2007)
Source type	Sample survey with a cross-sectional design
Collection type	Computer-assisted telephone interviews (CATI) and computer-assisted personal interviews (CAPI).

Target population	The CCHS covers the population 12 years of age and over living in the ten provinces and the three territories. Excluded from the survey's coverage are: persons living on reserves and other Aboriginal settlements in the provinces; full-time members of the Canadian Forces; the institutionalized population and persons living in the Quebec health regions of Région du Nunavik and Région des Terres-Cries-de-la-Baie-James. Altogether, these exclusions represent less than 3% of the target population.
Sample size	Approximately 65,000 for Canada as a whole (there were approximately 130,000 respondents in 2001, 2003 and 2005, but the numbers were cut in half when the collection became annual). For Québec only, the sample size is approximately 12,000. Note that the CCHS produces an annual microdata file and a file combining two years of data. The CCHS collection years can also be combined by users to examine populations or rare characteristics.
Response rate	Response rate in 2010: 71.1% in Québec and 71.5% in Canada as a whole.
Source status	Active
Questions/variables pertaining to immigrants	Country of birth; The year that the individual first came to Canada to live; What were the ethnic or cultural origins of your ancestors? Racial or cultural group of the individual (white, South Asian, black, etc.); First language spoken at home and still understood; Language spoken most often at home; Do you speak English well enough to conduct a conversation? Do you speak French well enough to conduct a conversation?

CCHS

WORKER		WORK CONDITIONS											
		Organization of work						Work situation					
		Human					Technical	Limits to the work activity			Environment		
Characte-ristics	Employment status	Working time		Psychosocial aspects		Other aspects	Techno./ others	Physical	Postural	Articular	Environ-mental conditions	Exposure to physical risks	Other risks
		Work schedules	Work pace	Demands of the task	Interaction (team-public)								
Age	Job type Wage earner, self-employed	Shift work, work shifts	Dependant on the automatic speed of a machine	Indepen-dence, control of the work	Relationships with co-workers	Regular rotation of position or according to needs	Use of new technologies and micro-computers	Manual handling of heavy loads	Difficult or tiring postures	Repetitive movements using hands and arms	Work outdoors, bad weather	Dust or fumes	Chemical risk
Gender	Employment status: regular, contractual	Irregular schedule	Rate	Psychological demands of work	Support of co-workers	Payment mode	Machine tools and robots	Movements with physical effort (lifting, bending, stretching)	Working in standing, sitting position	Repetitive work at a rapid pace	Cold, hot, humid weather conditions	Vibrations from the ground, machines, tools or vehicles	Biological risk
Job seniority	Job type, trade, profession	On-call work	Assembly line work	Variety of tasks	Availability of necessary resources	Information or training on risks associated with work (discussions)	Numerically controlled machines	Efforts on tools and machines	Working in crouched position	Repetitive twisting, extension, muscular contraction	Light, lighting	Noise	Risk of electrocution
More than one job	Activity sector (of the business)	Evening or night work	Daily production standards	Precision required (concentration)	Relationships with the hierarchy (supervisor, foreman)	Working at home (telework)	Technological changes		Working on one's knees	Forced position of one or more joints	Ventilation		Risk of burns
Educational level (nature and level)	Union	Weekend work	Dependant on co-workers	Frequent interruptions to tasks	Direct contact with customers	Prevention activities	Individual or collective protective equipment				Unpleasant odours		Risk of radiation
Numbers of years of experience	Tasks and duties	Overtime	Immediate response to a request	Workload; work Intensification	Violence, harassment, intimidation, aggression	Business size	Tools and material available to do the work						Other physical or environmental risks
Is an immigrant	Primary activity	Number of hours of work per day or week	Subject to tight deadlines	Decisional leeway	Team work	Satisfaction at work or with work	Work procedures						
Immigration status	Full or part time	Flexible hours	Direct supervision by team leader	Skills to do the job	Management of diversity	Presence of an OHS committee	Paid training provided by the employer						
Country of birth			Rest time	Complexity of tasks		Assessment of working conditions by the employer							
Duration of residency				Conse-quences of errors		Organizational changes							
Languages spoken													

EFFECTS			
Health status linked to work		General health status	
Psychological health	Physical health	Psycho-logical health	Physical health
Measurement of psychological stress	Has had one or more industrial accidents	Measurement of psychological stress	
Depression	Has had one or more occupational diseases	Depression	
Stress	List of health (including chronic) problems	Stress	List of health (including chronic) problems
Social support	Musculoskeletal pain	Social support	Musculoskeletal pain
Mental health	Disabilities, limitations to activities	Mental health (in general)	Disabilities, limitations to activities
	Limitations to movement		Limitations to movement
	General conditions		General conditions

Work-related consequences		Consequences	
Compensation	Use of health services		Use of health services
Absence from work	Medication use	Absence from work	Medication use
Disability management		Disability management	

Variables available only in the CCHS – Healthy Aging 2008-2009 (Target population = 45 years and over, only).

Longitudinal Immigration Database (IMBD)

English/French title	Longitudinal Immigration Database/Base de données longitudinales sur les immigrants
English/French abbreviations	IMBD/BDIM
Country/Region	Canada/Québec
Survey objective	The IMDB was created to respond to the need for detailed and reliable data on the performance and impact of the Immigration Program. It allows the analysis of relative labour market behaviour of different categories of immigrants over a period long enough to assess the impact of immigrant characteristics, such as education and knowledge of French or English, to their settlement success. It also allows the measurement and analysis of secondary inter-provincial and inter-urban migration. http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=5057&lang=en&db=imdb&adm=8&dis=2
Access to raw data	Restricted access
Access to compiled data	A few CANSIM tables are available; Custom tabulation is available for a fee upon request at Statistics Canada.
Questionnaire language	N/A
Years of data collection	1980–…
Number of follow-up years	32 years (1980–2011, as of March 2014)
Partner organizations	
Responsible institution	Statistics Canada manages the database on behalf of a federal-provincial consortium led by Citizenship and Immigration Canada.
Website	www.statcan.gc.ca
Geographic coverage	The data from the IMBD bank include various geographic levels. They include Canada, the provinces and territories, and regions such as census divisions (CD), census metropolitan areas and census agglomerations (CMA/CA), census subdivisions (CSD) and census tracts (CT).
Frequency	Annual
Source type	It is a census with a longitudinal design (longitudinal administrative data).
Collection type	Data are extracted from administrative files. The IMDB brings together information from the Field Operations Support System (FOSS) landing information with taxation data (mainly from the T1 Family File). These files are combined through exact matching record linkage techniques.
Target population	All those who have received landed immigrant status since 1980 and filed at least one tax return since becoming landed immigrants.
Sample size	No sampling is done; the data is collected for all units of the target population.
Response rate	There is no real response rate because it is a census. The overall linkage rate is approximately 80%.
Source status	Active
Questions/variables pertaining to immigrants	Year the person immigrated to Canada; Age at the time of immigration; Country of birth;

Country of citizenship when Canadian residence was obtained;

Last country of permanent residence before residence in Canada;

Detailed immigration admission category;

Knowledge of the official languages;

Family status (principal applicant, spouse, dependent, etc.).

IMBD

WORKER		WORK CONDITIONS											
		Organization of work						Work situation					
		Human					Technical	Limits to the work activity			Environment		
Characte-ristics	Employment status	Working time		Psychosocial aspects		Other aspects	Techno./ others	Physical	Postural	Articular	Environ-mental conditions	Exposure to physical risks	Other risks
		Work schedules	Work pace	Demands of the task	Interaction (team-public)								
Age	Job type Wage earner, self-employed	Shift work, work shifts	Dependant on the automatic speed of a machine	Independence, control of the work	Relationships with co-workers	Regular rotation of position or according to needs	Use of new technologies and micro -computers	Manual handling of heavy loads	Difficult or tiring postures	Repetitive movements using hands and arms	Work outdoors, bad weather	Dust or fumes	Chemical risk
Gender	Employment status: regular, contractual	Irregular schedule	Rate	Psychological demands of work	Support of co-workers	Payment mode	Machine tools and robots	Movements with physical effort (lifting, bending, stretching)	Working in standing, sitting position	Repetitive work at a rapid pace	Cold, hot, humid weather conditions	Vibrations from the ground, machines, tools or vehicles	Biological risk
Job seniority	Job type, trade, profession	On-call work	Assembly line work	Variety of tasks	Availability of necessary resources	Information or training on risks associated with work (discussions)	Numerically controlled machines	Efforts on tools and machines	Working in crouched position	Repetitive twisting, extension, muscular contraction	Light, lighting	Noise	Risk of electrocution
More than one job	Activity sector (of the business)	Evening or night work	Daily production standards	Precision required (concentration)	Relationships with the hierarchy (supervisor, foreman)	Working at home (telework)	Technological changes		Working on one's knees	Forced position of one or more joints	Ventilation		Risk of burns
Educational level (nature and level)	Union	Weekend work	Dependant on co-workers	Frequent interruptions to tasks	Direct contact with customers	Prevention activities	Individual or collective protective equipment				Unpleasant odours		Risk of radiation
Numbers of years of experience	Tasks and duties	Overtime	Immediate response to a request	Workload; work Intensification	Violence, harassment, intimidation, aggression	Business size	Tools and material available to do the work						Other physical Or environmental risks
Is an immigrant	Primary activity	Number of hours of work per day or week	Subject to tight deadlines	Decisional leeway	Team work	Satisfaction at work or with work	Work procedures						
Immigration status	Full or part time	Flexible hours	Direct supervision by team eader	Skills to do the job	Management of diversity	Presence of an OHS committee	Paid training provided by the employer						
Country of birth			Rest time	Complexity of tasks		Assessment of working conditions by the employer							
Duration of residency				Consequences of errors		Organizational changes							
Languages spoken													

EFFECTS			
Health status linked to work		General health status	
Psychological health	Physical health	Psycho-logical health	Physical health
Measurement of psychological stress	Has had one or more industrial accidents	Measurement of psychological stress	
Depression	Has had one or more occupational diseases	Depression	
Stress	List of health (including chronic) problems	Stress	List of health (including chronic) problems
Social support	Musculoskeletal pain	Social support	Musculoskeletal pain
Mental health	Disabilities, limitations to activities	Mental health (in general)	Disabilities, limitations to activities
	Limitations to movement		Limitations to movement
	General conditions		General conditions

Work-related consequences		Consequences	
Compensation	Use of health services		Use of health services
Absence from work	Medication use	Absence from work	Medication use
Disability management		Disability management	

Longitudinal and International Study of Adults (LISA)

English/French title	*Longitudinal and International Study of Adults/Étude longitudinale et internationale des adultes*
English/French abbreviations	LISA/ELIA
Country/Region	Canada/Québec
Survey objective	The goal of this survey is to improve education, employment and social services in Canada. The Longitudinal and International Study of Adults aims to help us understand what is happening in the lives of Canadians in order to see what services are adapted to their needs and what kinds of information they need to support the decisions they make today and in the future. The questions asked in this survey are as follows: - What skills are necessary to be able to effectively participate in today's society and economy? - How do Canadians use information and technology at work and in their daily lives? - What are the long-term benefits of postsecondary education? - What services help workers overcome difficulties, such as losing a job because of health problems or economic slowdowns? - How do standards of living change when people obtain or lose a job, when they enter a conjugal relationship or leave one, when they become parents, or when they retire? (http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SurvId=119194&InstaId=119195&SDDS=5144)
Access to raw data	Access is limited to Statistics Canada's Research Data Centres
Access to compiled data	Special tabulations are available for a fee (Statistics Canada, Income Statistics Division)
Questionnaire language	English and French (possibility for a respondent who speaks neither English or French to participate in the interview through someone who will translate each question into the respondent's language).
Years of data collection	2012, 2014, …
Number of follow-up years	
Partner organizations	---
Responsible institution	Statistics Canada
Website	www.statcan.gc.ca
Geographic coverage	Data representative of each of the 10 provinces
Frequency	Every two years
Source type	This is a sample survey with a longitudinal design.
Collection type	The survey is conducted by a Statistics Canada interviewer via a Computer Assisted Personal Interview.
Target population	The Longitudinal and International Study of Adults covers the population living in the ten provinces as of the first wave of the survey (2011/11/01–2012/06/27), plus their future children. Excluded from the survey's coverage are those who at the time of wave 1 were: living on reserves and other Aboriginal settlements in the provinces; official representatives of foreign countries living in Canada and their families; members of religious and other communal colonies; members of the Canadian Armed Forces stationed outside of Canada; persons living full-time in institutions, for example, inmates of correctional facilities and chronic care patients living in hospitals and nursing homes; persons living in other collective dwellings. Altogether these exclusions represent approximately 2% of the population. (http://www23.statcan.gc.ca/imdb/p2SV_f.pl?Function=getSurvey&SDDS=5144)
Sample size	23,926 respondents in Canada as a whole, with 4745 in Québec
Response rate	The overall household-level response rate was 72.0% for the 2012 LISA. Within responding households, the overall person-level response rate was 89.0%.
Source status	Active

Questions/variables pertaining to immigrants

Country of birth (DGII_Q01)
Landed immigrant (DGII_Q05)?
Program under which the immigrant status was obtained (DGII_Q10)
Year in which immigrant status was obtained (DGII_Q15)
Age/year of arrival to Canada (DGII_Q25)
First language learned at home and still understood (DGMT_Q05)
Second language learned at home and still understood (DGMT_Q10)
Language(s) spoken at home (DGLL_XX)
Language used most often at work (LMLG_Q10)
Have you taken/do you plan to take English/French language training? (DGLI_Q05/Q10)
Indicator showing whether the respondent's mother was born in Canada (FOMB_Q05)
Indicator showing whether the respondent's father was born in Canada (FOFB_Q05)

LISA

WORKER		WORK CONDITIONS											
		Organization of work						Work situation					
		Human					Technical	Limits to the work activity			Environment		
Characteristics	Employment status	Working time		Psychosocial aspects		Other aspects	Techno./ others	Physical	Postural	Articular	Environ-mental conditions	Exposure to physical risks	Other risks
		Work schedules	Work pace	Demands of the task	Interaction (team-public)								
Age	Job type Wage earner, self-mployed	Shift work, work shifts	Dependant on the automatic speed of a machine	Independence, control of the work	Relationships with co-workers	Regular rotation of position or according to needs	Use of new technologies and micro-computers	Manual handling of heavy loads	Difficult or tiring postures	Repetitive movements using hands and arms	Work outdoors, bad weather	Dust or fumes	Chemical risk
Gender	Employment status: regular, contractual	Irregular schedule	Rate	Psychological demands of work	Support of co-workers	Payment mode	Machine tools and robots	Movements with physical effort (lifting, bending, stretching)	Working in standing, sitting position	Repetitive work at a rapid pace	Cold, hot, humid weather conditions	Vibrations from the ground, machines, tools or vehicles	Biological risk
Job seniority	Job type, trade, profession	On-call work	Assembly line work	Variety of tasks	Availability of necessary resources	Information or training on risks associated with work (discussions)	Numerically controlled machines	Efforts on tools and machines	Working in crouched position	Repetitive twisting, extension, muscular contraction	Light, lighting	Noise	Risk of electrocution
More than one job	Activity sector (of the business)	Evening or night work	Daily production standards	Precision required (concentration)	Relationships with the hierarchy (supervisor, foreman)	Working at home (telework)	Technological changes		Working on one's knees	Forced position of one or more joints	Ventilation		Risk of burns
Educational level (nature and level)	Union	Weekend work	Dependant on co-workers	Frequent interruptions to tasks	Direct contact with customers	Prevention activities	Individual or collective protective equipment				Unpleasant odours		Risk of radiation
Numbers of years of experience	Tasks and duties	Overtime	Immediate response to a request	Workload; work Intensification	Violence, harassment, intimidation, aggression	Business size	Tools and material available to do the work						Other physical or environmental risks
Is an immigrant	Primary activity	Number of hours of work per day or week	Subject to tight deadlines	Decisional leeway	Team work	Satisfaction at work or with work	Work procedures						
Immigration status	Full or part time	Flexible hours	Direct Supervision by team leader	Skills to do the job	Management of diversity	Presence of an OHS committee	Paid training provided by the employer						
Country of birth			Rest time	Complexity of tasks		Assessment of working conditions by the employer							
Duration of residency				Consequences of errors		Organizational changes							
Languages spoken													

EFFECTS			
Health status linked to work		General health status	
Psychological health	Physical health	Psycho-logical health	Physical health
Measurement of psychological stress	Has had one or more industrial accidents	Measurement of psychological stress	
Depression	Has had one or more occupational diseases	Depression	
Stress	List of health (including chronic) problems	Stress	List of health (including chronic) problems
Social support	Musculoskeletal pain	Social support	Musculoskeletal pain
Mental health	Disabilities, limitations to activities	Mental health (in general)	Disabilities, limitations to activities
	Limitations to movement		Limitations to movement
	General conditions		General conditions

Work-related consequences		Consequences	
Compensation	Use of health services		Use of health services
Absence from work	Medication use	Absence from work	Medication use
Disability management		Disability management	

Canadian Survey on Disability (CSD)

English/French title	*Canadian Survey on Disability/Enquête Canadienne sur l'incapacité*
English/French abbreviations	CSD/ECI
Country/Region	Canada/Québec
Survey objective	The purpose of the CSD is to provide information about Canadian adults whose daily activities are limited because of a long-term condition or health-related problem. This information will be used to plan and evaluate services, programs and policies for adults with disabilities to help enable their full participation in Canadian society. The survey collects information on: type and severity of disability, use of aids and assistive devices, help received or required, educational attainment, labour force status, experiences and accommodations at school or work, and ability to get around the community. (http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=3251&lang=en&db=imdb&adm=8&dis=2)
Access to raw data	Access is limited and was carried out through Statistics Canada's Research Data Centres such as the Ciqss (Centre interuniversitaire québécois de statistiques sociales) in Montréal.
Access to compiled data	CANSIM tables and various publications made up of descriptive analyses of data are available on the Statistics Canada website.
Questionnaire language	English/French
Years of data collection	2012 (PALS: 2001 and 2006; HALS: 1986 and 1991)
Number of follow-up years	A single year in the current form (CSD)
Partner organizations	The questionnaire was developed by Statistics Canada in collaboration with Employment and Social Development Canada (ESDC).
Responsible institution	Statistics Canada
Website	www.statcan.gc.ca
Geographic coverage	Data representative of each of the ten provinces and three territories
Frequency	Every five years
Source type	This is a sample survey with a cross-sectional design.
Collection type	Computer-assisted telephone interviews (CATI) + in-person interviews for certain respondents in the Northwest Territories who did not have a telephone.

Target population	The population covered by the CSD includes all adults aged 15 and over (as of Census/NHS day, May 10, 2011) who had an activity limitation or a participation restriction associated with a physical or mental condition or health problem and were living in Canada at the time of the Census/NHS. This includes persons living in private dwellings in the ten provinces and three territories. The population living on First Nations reserves is excluded, as are people living in collective dwellings. Since the population living in collective dwellings is excluded, the data, particularly for the older age groups, should be interpreted accordingly. The target population of the CSD is a subset of the covered population, which consists of persons who were identified as a person with a disability (based on the social model of disability) during the CSD interview.
Sample size	45,443 people in Canada In addition, a sample of approximately 124,000 NHS respondents was selected and added to the analytical file. These were respondents who answered no to both of the 2011 NHS filter questions and they are considered to not have a disability. They were not contacted to participate in the 2012 CSD. The extra sample was needed to compute disability rates and to allow comparisons to be made between persons with and without a disability using NHS variables. Survey weights are available for this stratified sample, which takes the NHS sample design into account.
Response rate	Overall response rate (Canada) of 74.6%
Source status	Active
Questions/variables pertaining to immigrants	The CSD does not gather any information about immigrants directly. However, the data from the CSD are combined with those of the NHS (this enables the country of birth, year of immigration, knowledge of English and/or French, etc. to be known). See the NHS sheet for more information about variables related to immigrants).

(Variables from the NHS: age, gender, is an immigrant, migration status, country of birth, duration of residence, languages, part-time/full-time, evening/night shifts).

CSD

WORKER		WORK CONDITIONS											
		Organization of work						Work situation					
		Human					Technical	Limits to the work activity			Environment		
Characte-ristics	Employment status	Working time		Psychosocial aspects		Other aspects	Techno./ others	Physical	Postural	Articular	Environ-mental conditions	Exposure to physical risks	Other risks
		Work schedules	Work pace	Demands of the task	Interaction (team-public)								
Age	Job type Wage earner, self-employed	Shift work, work shifts	Dependant on the automatic speed of a machine	Indepen-dence, control of the work	Relationships with co-workers	Regular rotation of position or according to needs	Use of new technologies and micro-computers	Manual handling of heavy loads	Difficult or tiring postures	Repetitive movements using hands and arms	Work outdoors, bad weather	Dust or fumes	Chemical risk
Gender	Employment status: regular, contractual	Irregular schedule	Rate	Psychological demands of work	Support of co-workers	Payment mode	Machine tools and robots	Movements with physical effort (lifting, bending, stretching)	Working in standing, sitting position	Repetitive work at a rapid pace	Cold, hot, humid weather conditions	Vibrations from the ground, machines, tools or vehicles	Biological risk
Job seniority	Job type, trade, profession	On-call work	Assembly line work	Variety of tasks	Availability of necessary resources	Information or training on risks associated with work (discussions)	Numerically controlled machines	Efforts on tools and machines	Working in crouched position	Repetitive twisting, extension, muscular contraction	Light, lighting	Noise	Risk of electrocution
More than one job	Activity sector (of the business)	Evening or night work	Daily production standards	Precision required (concentration)	Relationships with the hierarchy (supervisor, foreman)	Working at home (telework)	Technological changes		Working on one's knees	Forced position of one or more joints	Ventilation		Risk of burns
Educational level (nature and level)	Union	Weekend work	Dependant on co-workers	Frequent interruptions to tasks	Direct contact with customers	Prevention activities	Individual or collective protective equipment				Unpleasant odours		Risk of radiation
Numbers of years of experience	Tasks and duties	Overtime	Immediate response to a request	Workload; work Intensification	Violence, harassment, intimidation, aggression	Business size	Tools and material available to do the work						Other physical or environmental risks
Is an immigrant	Primary activity	Number of hours of work per day or week	Subject to tight deadlines	Decisional leeway	Team work	Satisfaction at work or with work	Work procedures						
Immigration status	Full or part time	Flexible hours	Direct supervision by team leader	Skills to do the job	Management of diversity	Presence of an OHS committee	Paid training provided by the employer						
Country of birth			Rest time	Complexity of tasks		Assessment of working conditions by the employer							
Duration of residency				Conse-quences of errors		Organizational changes							
Languages spoken													

EFFECTS			
Health status linked to work		General health status	
Psychological health	Physical health	Psycho-logical health	Physical health
Measurement of psychological stress	Has had one or more industrial accidents	Measurement of psychological stress	
Depression	Has had one or more occupational diseases	Depression	
Stress	List of health (including chronic) problems	Stress	List of health (including chronic) problems
Social support	Musculoskeletal pain	Social support	Musculoskeletal pain
Mental health	Disabilities, limitations to activities	Mental health (in general)	Disabilities, limitations to activities
	Limitations to movement		Limitations to movement
	General conditions		General conditions

Work-related consequences		Consequences	
Compensation	Use of health services		Use of health services
Absence from work	Medication use	Absence from work	Medication use
Disability management		Disability management	

General Social Survey (GSS)

English/French title	*General Social Survey/Enquête sociale générale*
English/French abbreviations	GSS/ESG
Country/Region	Canada/Québec
Survey objective	The General Social Survey (GSS) has the primary objectives of gathering data on social trends in order to monitor changes in the living conditions and well-being of Canadians over time; and to provide information on specific social policy issues of current or emerging interest. Each survey contains a core topic (social networks, victimization, work schedule, family, care given and received), focus or exploratory questions and a standard set of socio-demographic questions used for classification. More recent cycles have also included some qualitative questions, which explore intentions and perceptions.
Access to raw data	Access is limited and was gained through Statistics Canada's Research Data Centres, such as the Ciqss (Centre interuniversitaire québécois de statistiques sociales) in Montréal.
Access to compiled data	Summary tables, CANSIM and others available on Statistics Canada's website
Questionnaire language	English and French only
Years of data collection	1985-…
Number of follow-up years	28 years
Partner organizations	---
Responsible institution	Statistics Canada
Website	www.statcan.gc.ca
Geographic coverage	Canada/Québec
Frequency	Annual survey; since 1999, the core topics for each cycle occur every five years.
Source type	This is a sample survey with a cross-sectional design.
Collection type	Computer-assisted telephone interviews (CATI)
Target population	The target population for the main GSS is all non-institutionalized persons 15 years of age or older, living in the ten provinces of Canada. In the GSS, all respondents are contacted and interviewed by telephone. Thus, persons in households without telephones cannot be interviewed. However, people living in such households represent less than 2% of the target population.
Sample size	For Canada as a whole, until 1998, the target sample size was approximately 10,000 persons. The target sample was changed to 25,000 in 1999. That sample contains generally slightly fewer than 5000 persons in Québec.
Response rate	66% in 2012
Source status	Active
Questions/variables pertaining to immigrants	- Country of birth - The year the individual first came to Canada to live - Are you now or have you ever been a landed immigrant in Canada? - In what year did you first become a landed immigrant to Canada? - What were the ethnic or cultural origins of your ancestors? - First language spoken - First language spoken that is still understood - Language spoken most often at home - Do you speak English well enough to conduct a conversation? - Do you speak French well enough to conduct a conversation?

GSS

WORKER		WORK CONDITIONS												EFFECTS			
		Organization of work						Work situation						Health status linked to work		General health status	
		Human					Technical	Limits to the work activity			Environment						
Characte-ristics	Employment status	Working time		Psychosocial aspects		Other aspects	Techno./ others	Physical	Postural	Articular	Environ-mental conditions	Exposure to physical risks	Other risks	Psychological health	Physical health	Psycho-logical health	Physical health
		Work schedules	Work pace	Demands of the task	Interaction (team-public)												
Age	Job type Wage earner, self-employed	Shift work, work shifts	Dependant on the automatic speed of a machine	Independence, control of the work	Relationships with co-workers	Regular rotation of position or according to needs	Use of new technologies and micro-computers	Manual handling of heavy loads	Difficult or tiring postures	Repetitive movements using hands and arms	Work outdoors, bad weather	Dust or fumes	Chemical risk	Measurement of psychological stress	Has had one or more industrial accidents	Measurement of psychological stress	
Gender	Employment status: regular, contractual	Irregular schedule	Rate	Psychological demands of work	Support of co-workers	Payment mode	Machine tools and robots	Movements with physical effort (lifting, bending, stretching)	Working in standing, sitting position	Repetitive work at a rapid pace	Cold, hot, humid weather conditions	Vibrations from the ground, machines, tools or vehicles	Biological risk	Depression	Has had one or more occupational diseases	Depression	
Job seniority	Job type, trade, profession	On-call work	Assembly line work	Variety of tasks	Availability of necessary resources	Information or training on risks associated with work (discussions)	Numerically controlled machines	Efforts on tools and machines	Working in crouched position	Repetitive twisting, extension, muscular contraction	Light, lighting	Noise	Risk of electrocution	Stress (Cycle 24)	List of health (including chronic) problems	Stress (Cycle 22, 23, 24, 25)	List of health (including chronic) problems (Cycle 22, 26)
More than one job	Activity sector (of the business)	Evening or night work	Daily production standards	Precision required (concentration)	Relationships with the hierarchy (supervisor, foreman)	Working at home (telework)	Technological changes		Working on one's knees	Forced position of one or more joints	Ventilation		Risk of burns	Social support	Musculoskeletal pain	Social support (Cycle 22, 26)	Musculoskeletal pain
Educational level (nature and level)	Union	Weekend work	Dependant on co-workers	Frequent interruptions to tasks	Direct contact with customers	Prevention activities	Individual or collective protective equipment				Unpleasant odours		Risk of radiation	Mental health	Disabilities, limitations to activities	Mental health (in general)	Disabilities, limitations to activities (Cycle 22, 23, 25, 26)
Numbers of years of experience	Tasks and duties	Overtime	Immediate response to a request	Workload; work Intensification	Violence, harassment, intimidation, aggression	Business size	Tools and material available to do the work						Other physical or environmental risks		Limitations to movement		Limitations to movement
Is an immigrant	Primary activity	Number of hours of work per day or week	Subject to tight deadlines	Decisional leeway	Team work	Satisfaction at work or with work	Work procedures								General conditions		General conditions
Immigration status	Full or part time	Flexible hours	Direct supervision by team leader	Skills to do the job	Management of diversity	Presence of an OHS committee	Paid training provided by the employer										
Country of birth			Rest time	Complexity of tasks		Assessment of working conditions by the employer											
Duration of residency				Consequences of errors		Organizational changes											
Languages spoken																	

Work-related consequences		Consequences	
Compensation	Use of health services		Use of health services
Absence from work	Medication use	Absence from work	Medication use
Disability management		Disability management	

Québec survey on working, employment and OHS conditions (EQCOTESST)

English/French title	*Québec survey on working, employment and OHS conditions/Enquête québécoise sur des conditions de travail, d'emploi et de santé et sécurité du travail*
English/French abbreviations	EQCOTESST
Country/Region	Québec
Survey objective	The EQCOTESST was the first study on working conditions in Québec to focus specifically on occupational health and safety issues. It had the following general objectives: • provide a snapshot of working conditions and the occupational demands that workers in Québec are exposed to; • draw a portrait of occupational health and safety (OHS) in Québec; • measure the associations between these working conditions and employment and OHS; • characterize the consequences of OHS problems in terms of workplace disabilities, medication use, and use of health services and compensation.
Access to raw data	The primary partner organizations hold the database. The data are also available through CADRISQ.
Access to compiled data	Statistical tables compiled in the research report are available on the IRSST website (see website section).
Questionnaire language	French and English
Years of data collection	November 1, 2007 to February 11, 2008
Number of follow-up years	1 year
Partner organizations	IRSST, INSPQ, ISQ
Responsible institution	IRSST, INSPQ, ISQ
Website	http://www.irsst.qc.ca/-projet-etude-quebecoise-des-conditions-de-travail-d-emploi-et-de-sst-eqcotesst-0099-5980.html
Geographic coverage	Québec and administrative regions
Frequency	Once
Source type	Cross-sectional survey
Collection type	Computer-assisted telephone interviews (CATI)
Target population	The survey looked at all workers in Québec aged 15 and over working at paid work as an employee (salaried) or as a self-employed worker, for at least eight weeks, and for 15 hours or more a week. This population includes people on vacation, parental or maternity leave, sick leave (which includes leave for workplace accidents), unpaid leaves of absence, and on strike or lockout, if it has been for less than 12 months.
Sample size	5071 interviews completed
Response rate	61.9%
Source status	Another year of data collection is not planned.
Questions/variables pertaining to immigrants	In which country were you born? How many years have you lived in Canada? Which language or languages do you speak most often at home?

EQCOTESST

WORKER		WORK CONDITIONS											
		Organization of work						Work situation					
		Human					Technical	Limits to the work activity			Environment		
Characte-ristics	Employment status	Working time		Psychosocial aspects		Other aspects	Techno./ others	Physical	Postural	Articular	Environ-mental conditions	Exposure to physical risks	Other risks
		Work schedules	Work pace	Demands of the task	Interaction (team-public)								
Age	Job type Wage earner, self-employed	Shift work, work shifts	Dependant on the automatic speed of a machine	Independence, control of the work	Relationships with co-workers	Regular rotation of position or according to needs	Use of new technologies and micro-computers	Manual handling of heavy loads	Difficult or tiring postures	Repetitive movements using hands and arms	Work outdoors, bad weather	Dust or fumes	Chemical risk
Gender	Employment status: regular, contractual	Irregular schedule	Rate	Psychological demands of work	Support of co-workers	Payment mode	Machine tools and robots	Movements with physical effort (lifting, bending, stretching)	Working in standing, sitting position	Repetitive work at a rapid pace	Cold, hot, humid weather conditions	Vibrations from the ground, machines, tools or vehicles	Biological risk
Job seniority	Job type, trade, profession	On-call work	Assembly line work	Variety of tasks	Availability of necessary resources	Information or training on risks associated with work (discussions)	Numerically controlled machines	Efforts on tools and machines	Working in crouched position	Repetitive twisting, extension, muscular contraction	Light, lighting	Noise	Risk of electrocution
More than one job	Activity sector (of the business)	Evening or night work	Daily production standards	Precision required (concentration)	Relationships with the hierarchy (supervisor, foreman)	Working at home (telework)	Technological changes		Working on one's knees	Forced position of one or more joints	Ventilation		Risk of burns
Educational level (nature and level)	Union	Weekend work	Dependant on co-workers	Frequent interruptions to tasks	Direct contact with customers	Prevention activities	Individual or collective protective equipment				Unpleasant odours		Risk of radiation
Numbers of years of experience	Tasks and duties	Overtime	Immediate response to a request	Workload; work Intensification	Violence, harassment, intimidation, aggression	Business size	Tools and material available to do the work						Other physical or environmental risks
Is an immigrant	Primary activity	Number of hours of work per day or week	Subject to tight deadlines	Decisional leeway	Team work	Satisfaction at work or with work	Work procedures						
Immigration status	Full or part time	Flexible hours	Direct supervision by team leader	Skills to do the job	Management of diversity	Presence of an OHS committee	Paid training provided by the employer						
Country of birth			Rest time	Complexity of tasks		Assessment of working conditions by the employer							
Duration of residency				Consequences of errors		Organizational changes							
Languages spoken													

EFFECTS			
Health status linked to work		General health status	
Psychological health	Physical health	Psycho-logical health	Physical health
Measurement of psychological stress	Has had one or more industrial accidents	Measurement of psychological stress	
Depression	Has had one or more occupational diseases	Depression	
Stress	List of health (including chronic) problems	Stress	List of health (including chronic) problems
Social support	Musculoskeletal pain	Social support	Musculoskeletal pain
Mental health	Disabilities, limitations to activities	Mental health (in general)	Disabilities, limitations to activities
	Limitations to movement		Limitations to movement
	General conditions		General conditions

Work-related consequences		Consequences	
Compensation	Use of health services		Use of health services
Absence from work	Medication use	Absence from work	Medication use
Disability management		Disability management	

Labour Force Survey (LFS)

English/French title	*Labour Force Survey/Enquête sur la population active*
English/French abbreviations	LFS/EPA
Country/Region	Canada/Québec
Survey objective	The LFS gathers information on major trends in the labour market (unemployment rate, employment rate, sectors of economic activity, occupation, hours worked, etc.). The LFS data also aims to describe the working age population according to various classifications, including being unemployed, not in the labour force, or employed.
Access to raw data	Access is limited and was carried out through Statistics Canada's Research Data Centres such as the Ciqss (Centre interuniversitaire québécois de statistiques sociales) in Montréal.
Access to compiled data	Summary tables, CANSIM and others are available on Statistics Canada's website. Public Use Microdata File also available.
Questionnaire language	Translated into the ten most popular languages in Canada.
Years of data collection	
Number of follow-up years	Survey carried out every month since 1952. Data collection takes place the week that follows the reference period (the 15th day of the month). For immigrants, the information has been available since January 2006.
Partner organizations	-
Responsible institution	Statistics Canada
Website	www.statcan.gc.ca
Geographic coverage	Data representative of the 10 provinces and 3 territories
Frequency	Monthly
Source type	This is a sample survey with a cross-sectional design.
Collection type	Computer-assisted telephone interviews (CATI)
Target population	The LFS covers the civilian, non-institutionalized population 15 years of age and over. It is conducted nationwide, in both the provinces and the territories.
Sample size	Since July 1995, the LFS sample has been approximately 54,000 households, which constitutes more or less 100,000 individuals. In Québec, about 10,000 households are included in the survey, or approximately 20,000 persons.
Response rate	The LFS non-response rate tends to average about 10% of eligible households.
Source status	Active
Questions/variables pertaining to immigrants	Since January 2006, questions to identify the immigrant population were added: - In which country… was he/she born? - … is he/she now, or has he/she ever been, a landed immigrant in Canada? - In which year… did he/she first become a landed immigrant? - Which month? - In which country…did he/she obtain his/her highest level of certificate or diploma?

LFS

WORKER		WORK CONDITIONS												EFFECTS			
		Organization of work						Work situation						Health status linked to work		General health status	
		Human					Technical	Limits to the work activity			Environment						
Characte-ristics	Employment status	Working time		Psychosocial aspects		Other aspects	Techno./ others	Physical	Postural	Articular	Environ-mental conditions	Exposure to physical risks	Other risks	Psychological health	Physical health	Psycho-logical health	Physical health
		Work schedules	Work pace	Demands of the task	Interaction (team-public)												
Age	Job type Wage earner, self-employed	Shift work, work shifts	Dependant on the automatic speed of a machine	Indepen-dence, control of the work	Relationships with co-workers	Regular rotation of position or according to needs	Use of new technologies and micro-computers	Manual handling of heavy loads	Difficult or tiring postures	Repetitive movements using hands and arms	Work outdoors, bad weather	Dust or fumes	Chemical risk	Measurement of psychological stress	Has had one or more industrial accidents	Measurement of psychological stress	
Gender	Employment status: regular, contractual	Irregular schedule	Rate	Psychological demands of work	Support of co-workers	Payment mode	Machine tools and robots	Movements with physical effort (lifting, bending, stretching)	Working in standing, sitting position	Repetitive work at a rapid pace	Cold, hot, humid weather conditions	Vibrations from the ground, machines, tools or vehicles	Biological risk	Depression	Has had one or more occupational diseases	Depression	
Job seniority	Job type, trade, profession	On-call work	Assembly line work	Variety of tasks	Availability of necessary resources	Information or training on risks associated with work (discussions)	Numerically controlled machines	Efforts on tools and machines	Working in crouched position	Repetitive twisting, extension, muscular contraction	Light, lighting	Noise	Risk of electrocution	Stress	List of health (including chronic) problems	Stress	List of health (including chronic) problems
More than one job	Activity sector (of the business)	Evening or night work	Daily production standards	Precision required (concentration)	Relationships with the hierarchy (supervisor, foreman)	Working at home (telework)	Technological changes		Working on one's knees	Forced position of one or more joints	Ventilation		Risk of burns	Social support	Musculoskeletal pain	Social support	Musculoskeletal pain
Educational level (nature and level)	Union	Weekend work	Dependant on co-workers	Frequent interruptions to tasks	Direct contact with customers	Prevention activities	Individual or collective protective equipment				Unpleasant odours		Risk of radiation	Mental health	Disabilities, limitations to activities	Mental health (in general)	Disabilities, limitations to activities
Numbers of years of experience	Tasks and duties	Overtime	Immediate response to a request	Workload; work Intensification	Violence, harassment, intimidation, aggression	Business size	Tools and material available to do the work						Other physical or environmental risks		Limitations to movement		Limitations to movement
Is an immigrant	Primary activity	Number of hours of work per day or week	Subject to tight deadlines	Decisional leeway	Team work	Satisfaction at work or with work	Work procedures								General conditions		General conditions
Immigration status	Full or part time	Flexible hours	Direct supervision by team leader	Skills to do the job	Management of diversity	Presence of an OHS committee	Paid training provided by the employer										
Country of birth			Rest time	Complexity of tasks		Assessment of working conditions by the employer											
Duration of residency				Consequences of errors		Organizational changes											
Languages spoken																	

Work-related consequences		Consequences	
Compensation	Use of health services		Use of health services
Absence from work	Medication use	Absence from work	Medication use
Disability management		Disability management	

Québec Population Health Survey (QPHS)

English/French title	*Québec Population Health Survey/Enquête québécoise sur la santé de la population*
English/French abbreviations	QPHS/QPHS
Country/Region	Québec
Survey objective	The general objective is to provide a portrait of the health of the population with regional representation in order to gather priority information and to ensure that it is regionally representative to gather certain priority information and to follow the evolution of certain specific health problems and their determinants. The survey also had the goal of gathering information on indicators that were either not covered or poorly documented at the regional level by existing data sources and to document the social-emotional development of children aged 3 to14 years old (for the province only).
Access to raw data	Microdata file available at the Centre d'accès aux données de recherche de l'Institut de la statistique du Québec (CADRISQ).
Access to compiled data	Infocentre de santé publique (public health information centre)
Questionnaire language	French/English
Years of data collection	February 2008 to March 2009
Number of follow-up years	First year in 2008
Partner organizations	MSSS, INSPQ, ISQ
Responsible institution	MSSS
Website	http://www.stat.gouv.qc.ca
Geographic coverage	All of Québec and representative on the regional scale (16 out of 18 health regions)
Frequency	Other cycles are planned.
Source type	Cross-sectional survey
Collection type	Telephone interviews
Target population	Persons aged 15 and over living in private households in Québec, excluding those in collective households, on Indian reserves and in health regions 17 (Nunavik) and 18 (Terres-Cries-de-la-Baie-James). The population targeted by the QPHS represents 6,326,523 Quebeckers aged 15 and over.
Sample size	38,154 respondents, including approximately 22,000 workers
Response rate	For all of Québec: 58.4%
Source status	Active
Questions/variables pertaining to immigrants	Country of birth Year of landing or duration of residence Language spoken at home

QPHS

WORKER		WORK CONDITIONS											
		Organization of work						Work situation					
		Human					Technical	Limits to the work activity			Environment		
Characte-ristics	Employment status	Working time		Psychosocial aspects		Other aspects	Techno./ others	Physical	Postural	Articular	Environ-mental conditions	Exposure to physical risks	Other risks
		Work schedules	Work pace	Demands of the task	Interaction (team-public)								
Age	Job type Wage earner, self-employed	Shift work, work shifts	Dependant on the automatic speed of a machine	Independence, control of the work	Relationships with co-workers	Regular rotation of position or according to needs	Use of new technologies and micro-computers	Manual handling of heavy loads	Difficult or tiring postures	Repetitive movements using hands and arms	Work outdoors, bad weather	Dust or fumes	Chemical risk
Gender	Employment status: regular, contractual	Irregular schedule	Rate	Psychological demands of work	Support of co-workers	Payment mode	Machine tools and robots	Movements with physical effort (lifting, bending, stretching)	Working in standing, sitting position	Repetitive work at a rapid pace	Cold, hot, humid weather conditions	Vibrations from the ground, machines, tools or vehicles	Biological risk
Job seniority	Job type, trade, profession	On-call work	Assembly line work	Variety of tasks	Availability of necessary resources	Information or training on risks associated with work (discussions)	Numerically controlled machines	Efforts on tools and machines	Working in crouched position	Repetitive twisting, extension, muscular contraction	Light, lighting	Noise	Risk of electrocution
More than one job	Activity sector (of the business)	Evening or night work	Daily production standards	Precision required (concentration)	Relationships with the hierarchy (supervisor, foreman)	Working at home (telework)	Technological changes		Working on one's knees	Forced position of one or more joints	Ventilation		Risk of burns
Educational level (nature and level)	Union	Weekend work	Dependant on co-workers	Frequent interruptions to tasks	Direct contact with customers	Prevention activities	Individual or collective protective equipment				Unpleasant odours		Risk of radiation
Numbers of years of experience	Tasks and duties	Overtime	Immediate response to a request	Workload; work Intensification	Violence, harassment, intimidation, aggression	Business size	Tools and material available to do the work						Other physical Or environmental risks
Is an immigrant	Primary activity	Number of hours of work per day or week	Subject to tight deadlines	Decisional leeway	Team work	Satisfaction at work or with work	Work procedures						
Immigration status	Full or part time	Flexible hours	Direct supervision by team leader	Skills to do the job	Management of diversity	Presence of an OHS committee	Paid training provided by the employer						
Country of birth			Rest time	Complexity of tasks		Assessment of working conditions by the employer							
Duration of residency				Consequences of errors		Organizational changes							
Languages spoken													

EFFECTS			
Health status linked to work		General health status	
Psychological health	Physical health	Psycho-logical health	Physical health
Measurement of psychological stress	Has had one or more industrial accidents	Measurement of psychological stress	
Depression	Has had one or more occupational diseases	Depression	
Stress	List of health (including chronic) problems	Stress	List of health (including chronic) problems
Social support	Musculoskeletal pain	Social support	Musculoskeletal pain
Mental health	Disabilities, limitations to activities	Mental health (in general)	Disabilities, limitations to activities
	Limitations to movement		Limitations to movement
	General conditions		General conditions

Work-related consequences		Consequences	
Compensation	Use of health services		Use of health services
Absence from work	Medication use	Absence from work	Medication use
Disability management		Disability management	

2010-2011 Québec Health Survey of High School Students (QHSHSS)

English/French title	*Québec health survey of high school students 2010-2011/Enquête québécoise sur la santé des jeunes du secondaire 2010-2011* QHSHSS/QHSHSS
Country/Region	Québec and health regions
Survey objective	The survey aims to address the need for priority information on the health and welfare of youth and their determinants. It provides information on the physical, mental and psychosocial health status of youth, and their lifestyles.
Access to raw data	The data file is available at the Centre d'accès aux données de recherche de l'ISQ (CADRISQ).
Access to compiled data	Regional data tables are available on the site de la Banque de données des statistiques officielles sur le Québec (BDSO)
Questionnaire language	English and French
Years of data collection	November 2010 to May 2011
Number of follow-up years	
Partner organizations	ISQ, MSSS
Responsible institution	ISQ
Website	http://www.eqsjs.stat.gouv.qc.ca/enquete.htm
Geographic coverage	Québec and 16 health regions
Frequency	Other cycles are planned (recurrence of the survey).
Source type	Cross-sectional survey
Collection type	Self-completed personal interview (ACASI). Self-administered questionnaire computerized on a netbook.
Target population	This survey, carried out in 16 health regions, targets students from grade 7 to 11 registered in public and private French and English schools in Québec. The QHSHSS covers approximately 98.4% of all students in Québec registered in high school, in the youth sector.
Sample size	63,196 young people in high school in 470 schools and 2651 classes
Response rate	The overall weighted response rate is 88.1%. However, the weighted response rate varies according to educational level.
Source status	Active
Questions/variables pertaining to immigrants	Where were you born? (country of birth) How long have you lived in Canada? Country of birth of biological father Country of birth of biological mother

QHSHSS

WORKER		WORK CONDITIONS												EFFECTS			
		Organization of work						Work situation						Health status linked to work		General health status	
		Human					Technical	Limits to the work activity			Environment						
		Working time		Psychosocial aspects		Other aspects											
Characte-ristics	Employment status	Work schedules	Work pace	Demands of the task	Interaction (team-public)		Techno./ others	Physical	Postural	Articular	Environ-mental conditions	Exposure to physical risks	Other risks	Psychological health	Physical health	Psycho-logical health	Physical health
Age	Job type Wage earner, self-employed	Shift work, work shifts	Dependant on the automatic speed of a machine	Independence, control of the work	Relationships with co-workers	Regular rotation of position or according to needs	Use of new technologies and micro-computers	Manual handling of heavy loads	Difficult or tiring postures	Repetitive movements using hands and arms	Work outdoors, bad weather	Dust or fumes	Chemical risk	Measurement of +psychological stress	Has had one or more industrial accidents	Measurement of psychological stress	
Gender	Employment status: regular, contractual	Irregular schedule	Rate	Psychological demands of work	Support of co-workers	Payment mode	Machine tools and robots	Movements with physical effort (lifting, bending, stretching)	Working in standing, sitting position	Repetitive work at a rapid pace	Cold, hot, humid weather conditions	Vibrations from the ground, machines, tools or vehicles	Biological risk	Depression	Has had one or more occupational diseases	Depression	
Job seniority	Job type, trade, profession	On-call work	Assembly line work	Variety of tasks	Availability of necessary resources	Information or training on risks associated with work (discussions)	Numerically controlled machines	Efforts on tools and machines	Working in crouched position	Repetitive twisting, extension, muscular contraction	Light, lighting	Noise	Risk of electrocution	Stress	List of health (including chronic) problems	Stress	List of health (including chronic) problems
More than one job	Activity sector (of the business)	Evening or night work	Daily production standards	Precision required (concentration)	Relationships with the hierarchy (supervisor, foreman)	Working at home (telework)	Technological changes		Working on one's knees	Forced position of one or more joints	Ventilation		Risk of burns	Social support	Musculoskeletal pain	Social support	Musculoskeletal pain
Educational level (nature and level)	Union	Weekend work	Dependant on co-workers	Frequent interruptions to tasks	Direct contact with customers	Prevention activities	Individual or collective protective equipment				Unpleasant odours		Risk of radiation	Mental health	Disabilities, limitations to activities	Mental health (in general)	Disabilities, limitations to activities
Numbers of years of experience	Tasks and duties	Overtime	Immediate response to a request	Workload; work Intensification	Violence, harassment, intimidation, aggression	Business size	Tools and material available to do the work						Other physical or environmental risks		Limitations to movement		Limitations to movement
Is an immigrant	Primary activity	Number of hours of work per day or week	Subject to tight deadlines	Decisional leeway	Team work	Satisfaction at work or with work	Work procedures								General conditions		General conditions
Immigration status	Full or part time	Flexible hours	Direct supervision by team leader	Skills to do the job	Management of diversity	Presence of an OHS committee	Paid training provided by the employer										
Country of birth			Rest time	Complexity of tasks		Assessment of working conditions by the employer											
Duration of residency				Consequences of errors		Organizational changes											
Languages spoken																	

Work-related consequences		Consequences	
Compensation	Use of health services		Use of health services
Absence from work	Medication use	Absence from work	Medication use
Disability management		Disability management	

Workplace and Employee Survey (WES)

English/French title	*Workplace and employee survey/Enquête sur le milieu de travail et les employés*
English/French abbreviations	WES/EMTE
Country/Region	Canada
Survey objective	The goal of this survey is to examine how employers and their employees respond to changes in the workplace. The survey was divided into two components, one related to the workplace and the other concerning the employee.
Access to raw data	Access was through Statistics Canada's Research Data Centres, such as the Ciqss (Centre interuniversitaire québécois de statistiques sociales) in Montréal.
Accès aux données compilées	Statistics available on the Statistics Canada website. There is no possibility of obtaining customized tables.
Questionnaire language	English/French
Year data collected	1999 to 2006 (the last year data collected only on the part related to the workplace)
Number of follow-up years	8 years, from 1999 to 2006
Partner organizations	-
Responsible institution	Statistics Canada
Website	http://www.statcan.gc.ca
Geographic coverage	Concerns Canada as a whole
Frequency	Annual
Source type	Longitudinal survey
Collection type	Computer-assisted telephone interviews (CATI)
Target population	- The workplace component includes all business locations operating in Canada that have paid employees in March, with certain exceptions. - The employee component includes all employees working or on paid leave in March in the selected workplaces and who receive a Canada Revenue Agency T-4 Supplementary form.
Sample size	This is a longitudinal survey that follows approximately 6000 businesses and approximately 20,000 employees. These figures vary from year to year. For the workplace component, the sample varies between 5818 (in 2002) and 6693 (in 2005). For the employees component, the sample size varies between 16,804 (in 2004) and 24,197 (in 2005). To conserve the representativeness of the survey, the sample was supplemented every two years.
Response level	Employer in 1999 = 90.8%, trending downward; was 74.9% in 2006 Stable employees: average of 85% over the 7 cycles
Source status	Inactive
Questions/variables pertaining to immigrants	Questions used to identify immigrants are found in the questionnaire addressed to employees. The information gathered dealt with the following subjects: Language spoken at work Language spoken at home Country of birth Year of immigration Ethnic, cultural and racial origins

WES (Employee and Employer Questionnaire)

WORKER		WORK CONDITIONS												EFFECTS			
		Organization of work						Work situation						Health status linked to work		General health status	
		Human					Technical	Limits to the work activity			Environment						
Charac-teristics	Employment status	Working time		Psychosocial aspects		Other aspects	Techno./ others	Physical	Postural	Articular	Environ-mental conditions	Exposure to physical risks	Other risks	Psychological health	Physical health	Psycho-logical health	Physical health
		Work schedules	Work pace	Demands of the task	Interaction (team-public)												
Age	Job type Wage earner, self-employed	Shift work, work shifts	Dependant on the automatic speed of a machine	Independence, control of the work	Relationships with co-workers	Regular rotation of position or according to needs	Use of new technologies and micro-computers	Manual handling of heavy loads	Difficult or tiring postures	Repetitive movements using hands and arms	Work outdoors, bad weather	Dust or fumes	Chemical risk	Measurement of psychological stress	Has had one or more industrial accidents	Measurement of psychological stress	
Gender	Employment status: regular, contractual	Irregular schedule	Rate	Psychological demands of work	Support of co-workers	Payment mode	Machine tools and robots	Movements with physical effort (lifting, bending, stretching)	Working in standing, sitting position	Repetitive work at a rapid pace	Cold, hot, humid weather conditions	Vibrations from the ground, machines, tools or vehicles	Biological risk	Depression	Has had one or more occupational diseases	Depression	
Job seniority	Job type, trade, profession	On-call work	Assembly line work	Variety of tasks	Availability of necessary resources	Information or training on risks associated with work (discussions)	Numerically controlled machines	Efforts on tools and machines	Working in crouched position	Repetitive twisting, extension, muscular contraction	Light, lighting	Noise	Risk of electrocution	Stress	List of health (including chronic) problems	Stress	List of health (including chronic) problems
More than one job	Activity sector (of the business)	Evening or night work	Daily production standards	Precision required (concentration)	Relationships with the hierarchy (supervisor, foreman)	Working at home (telework)	Techno-logical changes		Working on one's knees	Forced position of one or more joints	Ventilation		Risk of burns	Social support	Musculoskeletal pain	Social support	Musculoskeletal pain
Educational level (nature and level)	Union	Weekend work	Dependant on co-workers	Frequent interruptions to tasks	Direct contact with customers	Prevention activities	Individual or collective protective equipment				Unpleasant odours		Risk of radiation	Mental health	Disabilities, limitations to activities	Mental health (in general)	Disabilities, limitations to activities
Numbers of years of experience	Tasks and duties	Overtime	Immediate response to a request	Workload; work Intensification	Violence, harassment, intimidation, aggression	Business size	Tools and material available to do the work						Other physical or environmental risks		Limitations to movement		Limitations to movement
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Duration of residency				Consequences of errors		Organizational changes											
Languages spoken																	

Work-related consequences		Consequences	
Compensation	Use of health services		Use of health services
Absence from work	Medication use	Absence from work	Medication use
Disability management		Disability management	