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## Reference Guide

# Labour Reference Guide



**National Household Survey, 2011**



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### Standard symbols

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The following symbols are used in Statistics Canada publications:

- . not available for any reference period
- .. not available for a specific reference period
- ... not applicable
- 0 true zero or a value rounded to zero
- 0<sup>s</sup> value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
- P preliminary
- r revised
- X suppressed to meet the confidentiality requirements of the *Statistics Act*
- E use with caution
- F too unreliable to be published
- \* significantly different from reference category (p < 0.05)

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### Definitions and concepts

The 2011 National Household Survey (NHS) provides information on the labour market activities of the Canadian population aged 15 and over living in private households. The survey 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.

Labour data from the NHS can be divided into three groups:

- Labour force status data for the 'reference week' of Sunday May 1 to Saturday May 7, 2011 (for example, persons who were employed, unemployed, not in the labour force, [unemployment rate](#), [participation rate](#) and [employment rate](#)).
- Job characteristics describing a person's current position or the position of the longest duration since January 1, 2010 (for example, industry, occupation and class of worker).
- Data relating to work activity in the 2010 calendar year (for example, number of weeks worked and whether mostly full-time or mostly part-time).

The following variables, as defined in the *National Household Survey Dictionary*, Catalogue no. 99-000-X, have been created from the labour questions asked in the NHS:

- [Labour force status](#)
- [Labour force status \(based on 1971 concepts\)](#)
- [Hours worked for pay or in self-employment](#)
- [On temporary lay-off or absent from job or business](#)
- [New job to start in four weeks or less from reference week](#)
- [Looked for paid work in past four weeks \(full- or part-time work\)](#)
- [Reasons unable to start a job](#)
- [When last worked for pay or in self-employment](#)
- [Industry \(based on the \*North American Industry Classification System \[NAICS\] 2007\*\)](#)
- [Occupation \(based on the \*National Occupational Classification \[NOC\] 2011\*\)](#)
- [Occupation \(based on the \*National Occupational Classification for Statistics \[NOC-S\] 2006\*\)](#)
- [Class of worker](#)
- [Work activity in 2010](#)
- [Weeks worked in 2010](#)
- [Full-time or part-time weeks worked in 2010](#)

Users should be careful when comparing these data with other sources as there may be differences in the definitions used and how the data are collected. Please see the section 'Comparability with other data sources' for additional information.

## Classifications

The Labour force status variable classifies the population into the following three mutually exclusive categories: [Employed](#), [Unemployed](#), or [Not in the labour force](#). The [Labour force](#) includes the employed and the unemployed.

Within the labour force category, a distinction can also be made between the [Experienced labour force](#) and [Inexperienced labour force](#).

Industry data from the 2011 NHS are classified according to the *North American Industry Classification System (NAICS) 2007*. Please refer to the tables included in the '[Data quality](#)' section of this document to view the specific levels of aggregation (sector, subsector or industry group) available for industry data from the 2011 NHS. The NAICS 2007 is a minor revision of the *North American Industry Classification System (NAICS) 2002*. The revision mainly affects the comparability of Sector 51 Information and Cultural Industries between the two classifications.

For information on NAICS, please see [North American Industry Classification System, Canada](#), Catalogue no. 12-501-X.

Occupation data from the 2011 NHS are classified according to the *National Occupational Classification (NOC) 2011*. For occupation data from the 2011 NHS please refer to [Table 1](#) in the 'Data quality' section of this document for the data available at various levels of geography and specific levels of aggregation (such as broad occupational category, major group, minor group, unit group, variant for highly aggregated data). For information on the NOC 2011, please see the [National Occupational Classification \(NOC\) 2011](#), Catalogue no. 12-583-X.

Finally, due to larger changes between the 2006 and 2011 classifications, an empirical NOC-S 2006-NOC 2011 concordance table has been produced to allow for the conversion of occupation data from one classification to the other. For more information, please see [Appendix 2.5](#) in the *National Household Survey Dictionary*, Catalogue no. 99-000-X.

## Questions

The 2011 NHS data on labour were obtained from Questions 34 to 45 and Questions 50 and 51 on the [2011 National Household Survey N1 questionnaire](#). For persons living on Indian reserves and in northern and remote areas of the country, data were collected using the [2011 National Household Survey N2 questionnaire](#).

The questions asked on the N2 questionnaire were the same as on the N1 questionnaire, but the examples, where provided for write-in responses, included industries or occupations more commonly found in the north. It should also be noted that persons living in remote, isolated parts of the provinces and territories were enumerated in February, March and April, 2011. When enumeration has taken place before May, 2011, the reference week used to determine labour force status is the week, Saturday to Sunday, preceding the date on which the household was enumerated.

While some labour variables were created directly from questions on the NHS questionnaire, others were derived from information collected for two or more questions. Specifically:

- [Labour force status](#): derived from questions on [hours worked for pay or in self-employment](#) (Question 34), [on temporary lay-off or absent from a job or business](#) (Question 35), [new job to start in four weeks or less](#) (Question 36), [looked for paid work in past four weeks](#) (Question 37), [reason unable to start a job](#) (Question 38) and [when last worked for pay or in self-employment](#) (Question 39).

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- [Class of worker](#): derived from questions on [class of worker](#) (Question 44) and [incorporation status](#) (Question 45).
- [Work activity in 2010](#): derived from questions on [weeks worked in 2010](#) (Question 50) and [full-time or part-time weeks worked in 2010](#) (Question 51).

Two variables, industry and occupation, are coded variables. NHS coders assigned an industry or occupation code from the write-in responses to the following questions:

- [Industry](#): coded from questions on for whom did this person work (Question 40) and kind of business (Question 41).
- [Occupation](#): coded from questions on work or occupation (Question 42) and main activities (Question 43).

### Data and other products

Data for the 2011 National Household Survey labour variables were released on June 26, 2013.

The products published using 2011 NHS labour data include:

- [Data products](#)
  - NHS Profile
  - NHS Data Tables
- [Analytical products](#)
- [Reference products](#)

For more information on and access to 2011 NHS data, please refer to the [2011 National Household Survey \(NHS\)](#) website.

### Data quality

National Household Survey (NHS) data underwent a series of evaluations using several quality indicators. There are three key steps in evaluating data quality:

1. **Verification of data during collection and processing:** this involves analysis of the quality indicators of the responses provided and the rate of non-response to questions.
2. **Verification of data after edit and imputation:** this involves evaluating the quality of the imputed data.
3. **Certification of final estimates:** after data processing and imputation are completed, the data are weighted to represent the total Canadian population. These weighted data (the final estimates) are certified to ensure that they are coherent and reliable. At this stage, the final estimates are compared to those of different data sources. This is the final stage of data validation when data are recommended for release, by geographical level and area of interest. The main highlights of the analysis conducted at this stage are presented below.

Of all the quality measurements produced and analysed during the evaluation, two measurements are presented to users: the global non-response rate and the imputation rate by question.

- Information on the global non-response rate is available in the [National Household Survey User Guide](#). The global non-response rate combines the non-response at the household level and the non-response at the question level. It is calculated and presented for each region. The global non-response rate is also the key release criterion linked to the quality of NHS estimates.
- The imputation rate by question is a quality measurement specific to each question in the NHS. It measures the proportion of respondents who did not answer the question or whose response is deemed invalid and for which a value was imputed. Imputation can improve data quality by reducing the gaps caused by non-response. The imputation rates by question are presented in this section.

The evaluation of the labour variables consisted of the following:

- Examination of total imputation rates by question
- Comparison of the distribution of unedited and edited data to determine if any data bias is introduced by imputation
- Comparison with data from the 2006 Census
- Comparison with other sources of data, as applicable

### **Coding of industry and occupation**

Both automated and interactive (coder) coding methods were used to code the industry and occupation responses. About 50% of industry responses and 52% of occupation responses were automatically coded. The remaining responses were coded by coders using computerized applications designed specifically for industry and occupation coding.

In addition to non-response and inconsistent response errors, coding errors can also affect the quality of industry and occupation data. Coding errors can result from vague, ambiguous or incomplete responses, as well as, misinterpretation of coding rules on the part of the coders. Users are advised to refer to table notes accompanying NHS data products for further information on the data quality of specific industry and occupation codes.

### **Imputation for non-response and inconsistent responses**

During data processing of the labour variables, inconsistent or missing responses are replaced with acceptable values. This is done by identifying persons in the same geographical area that have similar characteristics to the 'failed' record and then copying their values to fill in the missing or erroneous data. Analysis of the unedited and edited data did not reveal any significant alteration to the labour data due to imputation. [Table 1](#) shows the imputation rates for the labour questions. These rates are, on average, twice as high when compared to the 2006 long form (2B) Census labour imputation rates.

**Table 1 Imputation rates**

Questions	Canada	British Columbia	Alberta	Saskatchewan	Manitoba	Ontario	Quebec
Q.34 Hours worked	6.7	7.0	6.9	6.2	6.5	7.3	5.9
Q.35 On lay off or absent	10.5	10.2	10.7	11.0	10.3	10.9	10.3
Q.36 New job to start	8.0	7.8	7.7	7.4	7.6	8.4	8.0
Q.37 Look for work	7.8	7.6	7.7	7.4	7.4	8.3	7.4
Q.38 Reason unavailable for work	10.3	10.3	10.2	11.5	9.6	11.0	8.7
Q.39 When last worked	8.7	8.8	8.6	8.5	8.4	9.2	8.0
Q.40 Industry	13.6	14.3	14.9	12.3	11.5	14.6	11.7
Q.42 Occupation	13.6	14.0	13.6	11.8	12.0	15.3	11.3
Q.44 Class of worker	12.2	12.7	12.2	10.8	11.0	13.3	11.0
Q.45 Incorporation status	8.1	7.1	8.2	9.9	7.8	8.2	8.4
Q.49 Weeks worked in 2010	15.1	16.0	15.3	13.2	14.2	16.3	13.3
Q.50 Full-time or part-time work	14.6	15.4	14.8	12.7	13.6	15.7	12.9

Questions	Nova Scotia	New Brunswick	Prince Edward Island	Newfoundland and Labrador	Yukon	North West Territories	Nunavut
Q.34 Hours worked	5.6	6.1	6.5	6.5	6.3	1.7	2.8
Q.35 On lay off or absent	10.0	9.9	10.3	10.5	9.6	4.5	4.3
Q.36 New job to start	7.6	7.5	7.6	8.3	7.0	3.1	3.7
Q.37 Look for work	7.4	7.2	7.5	8.3	6.5	3.7	4.2
Q.38 Reason unavailable for work	10.4	9.8	10.7	12.3	8.0	8.8	7.5
Q.39 When last worked	7.9	8.1	8.7	8.9	8.0	2.4	3.9
Q.40 Industry	11.4	11.7	12.7	14.0	13.1	6.3	8.4
Q.42 Occupation	11.8	11.9	13.2	14.5	12.2	5.2	7.4
Q.44 Class of worker	10.8	10.8	12.1	13.3	9.9	3.1	4.4
Q.45 Incorporation status	8.0	5.7	9.4	8.6	3.5	19.3	17.1
Q.49 Weeks worked in 2010	13.9	14.2	15.6	16.7	13.4	3.4	5.3
Q.50 Full-time or part-time work	12.9	13.5	14.8	15.1	12.8	4.0	5.2



### Cross-classification of labour variables

Labour variables are often crossed with other variables in a table to analyse a subject in more depth. Data users should be aware that when examining small populations, either by selecting small geographical areas or by crossing multiple variables, the NHS estimates will tend to have greater variability due to sampling error.

### Additional references related to data quality

For general information on the overall content, collection, design, processing and data quality for the NHS as well as factors that may impact the quality of the NHS data, such as response errors and processing errors, please refer to the [National Household Survey User Guide](#), Catalogue no. 99-001-X.

### Comparability with other data sources

The quality of the 2011 NHS labour data was evaluated internally prior to publication. Where possible, the data were compared with alternative data sources. The main source for comparison was the Labour Force Survey.

For the most part, labour force status estimates from the NHS are similar to those from the monthly Labour Force Survey at the national and provincial levels. However, there are a number of conceptual differences between the two surveys. Users should take into account factors, such as population coverage, collection methodology, sample size and questionnaire content. For more information on the comparability of the National Household Survey and the Labour Force Survey refer to the *National Household Survey Dictionary*, catalogue no. 99-000-X, [Appendix 2.1](#).

In addition to the information provided in Appendix 2.1, data users should be aware that in May 2011, the reference periods between the two surveys had a gap of two weeks whereas in the past the gap between the reference periods of the two surveys was usually one week.

This gap in reference periods occurred during a strategic time of the year for youth as the academic year was at, or near, its end; job searching and hiring for the summer began. Most noticeably, employment and participation rates for individuals aged 15 to 24 years, particularly 15 to 19 years, show a larger discrepancy between the two surveys for May 2011 than for previous cycles.