

Comparability of Injury Related Questions From National Population-Based Surveys

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Introduction

In 1983, the Office of International Statistics, National Center for Health Statistics developed and published the first International Health Data Reference Guide which, on a biennial basis, has been updated six times. This guide provides information from 40 nations on the availability of selected national vital, hospital, health personnel resources and population-based survey statistics. The information is obtained from the government and the official agencies of the represented countries.

The latest edition of the Guide was published in March of this year, and expanded upon the information previously provided on national population-based health surveys. From a profile of each survey, information was obtained on the objective, scope, collection method, data content, frequency of the survey, and availability of the data. Copies of the questionnaires were also obtained from which we were able to extract the data variables from the surveys and present them in matrix format. For the countries that did not have questionnaires to provide to us, we asked that they complete the matrix indicating the data variables in their surveys.

Of the 40 nations that provided information about their population-based surveys, 23 indicated that they collected some injury related data on one or more surveys of their country.

It is from these 23 countries that some comparability issues will be described in this paper..

Objectives of the Surveys

Most of the surveys that contain injury related data have similar objectives. Basically they provide national baseline and trend data on:

- the population's status of health,
- the prevalence of acute illnesses and chronic diseases, and;
- the use and need of health services and facilities.

These data are used to:

- provide measures of the prevalence and incidences of illness,
- measure level of activity restriction due to short-term illness or injury (missed work or school days, days of reduced activity),
- measure consequences of injuries, and;
- develop health and use indicators.

Methodology

Typically, the implementing agency for the surveys is a national statistics office or a government ministry. The surveys are national in scope, mostly probability samples, with the sampling activities carried out by highly experienced and trained staff.

The target population is usually the civilian noninstitutionalized population residing in the country, although the countries of Italy and Switzerland sample the total resident population. All of the surveys are administered face-to-face by a well trained personal interviewer in the home with the exception of the Czech Republic. The Czech survey is of treated morbidity and therefore, the data are gathered by the general practitioner who has treated the patient. In most cases, all family members of the household 15 years of age, or in some countries 16, 17 or 18 years of age and older are interviewed. A few countries have upper age limits such as Iceland, age 75, Sweden, age

84, and the National Nutrition and Health Examination Survey of the United States, age 74. An adult family member usually provides data for persons not at home and for children. A few countries such as Canada, the Netherlands and New Zealand interview only one member of the household who is randomly selected.

Frequency of Data Collection

Surveys differ in timing and frequency. There are two distinct patterns: those surveys that are continuous or annual, and those surveys carried out at 4 to 5 yearly or longer intervals. Overall, about 1/4 of the surveys are conducted on an annual or continuous basis. These are from the countries of Korea, the Netherlands, Sweden, Ukraine, United Kingdom, and the United States.

The countries of Australia, Canada, Czech Republic, Denmark, Germany, Israel, Japan, and Switzerland collect injury related data on surveys conducted every 2 to 5 years; and Hungary collects injury related data on a survey conducted every 7 years. France and Norway collect injury related data on a survey conducted every 10 years, while Austria conducts a special accident survey every 10 years. The countries of Iceland, New Zealand, Poland, Spain and Switzerland have conducted only one survey each that contains injury related data.

Lack of Standardized Terms and Definitions of Terms

A review of the questionnaires clearly showed that there is no consensus on the wording and phrasing of questions about injuries and accidents. The term "illness and injury" is used interchangeably on many surveys while "injury and accident" is used interchangeably on others.

In the National Health Interview Survey of the U.S., an injury is defined as a condition as classified in the *International Classification of Diseases (ICD) code numbers (800–999)*. In addition to fractures, lacerations, contusions, burns, and so forth, which are commonly thought of as injuries, this group of codes includes effects of exposure, such as sunburn, adverse reactions to immunization and other medical procedures; and poisonings. Unless otherwise specified, the term "injury" is used to cover all of these. Statistics of acute injury conditions include only those injuries that involved at least one-half day restricted activity or medical attendance.

In the U.S., accidents show up as injuries, injured persons, and resulting days of disability which are grouped according to the class of accident. Most of these events are accidents in the usual sense of the word, but some are other kinds of mishaps, such as overexposure to the sun or adverse reactions to medical procedures, and others are nonaccidental violence, such as attempted suicide. The classes of accident are:

1. moving motor-vehicle accidents;
2. accidents occurring while at work;
3. accidents occurring at home; and,
4. other accidents.

In the Australian surveys, data are collected using an "actions" based approach. Respondents are asked: During the two weeks prior to the interview, did they take certain actions in relation to their health?

These actions include consultations with doctors and other health professionals, use of medications, days away from work or school, and hospital episodes terminating in that two week period. For each action taken, additional questions are asked to determine the medical condition termed as an illness/injury.

In one Canadian Survey, injury data is captured when it has been caused by an accident during the year prior to the interview. In the Czech Republic survey, injury data is only captured when medical care is required.

Reference Period

In the majority of surveys, the reference period for an injury condition is the two weeks prior to the interview, whereas, the accident reference period is usually within the past year of the interview. However there are a few countries that use different time references or do not specify any timeframe for when the injury or accident occurred.

Injury Related Questions from Different Surveys

There is a great variation in the number of questions and the wording of the questions that are asked about injuries and related topics in the surveys. Some countries (U.S., Australia, Canada, Denmark, Japan, New Zealand, and Norway) asks a battery of questions regarding injuries:

1. During the past two weeks, did the respondent miss any time from work or school due to any illness or injury?
2. During the past two weeks, how many days did the respondent miss more than half of the day from his job or school because of illness or injury?
3. During the past two weeks, did the respondent stay in bed more than half of the day because of illness or injury?
4. During the past two weeks, how many days did the respondent stay in bed more than half of the day because of illness or injury?
5. What was the illness or injury?
6. What caused the illness or injury?
7. Was medical treatment sought due to the illness or injury?

Other countries, Israel, the Netherlands, and the United Kingdom ask a *minimum* set of questions

1. Did respondent have any restricted activities due to injury/illness?
2. What was the injury/illness?
3. Were there any bed days due to the injury?

Canada's newest health survey which is being conducted this year, prefaces the injury questions with this statement: The following questions refer to injuries, such as a broken bone, bad cut or burn, sore back or a sprained ankle, which occurred in the past 3 months and were serious enough to limit normal activities ... The questions that follow ask what type of injury, part of the body injured, how it happened, etc.

Accidents

Some countries (Australia, Austria, Canada, Hungary, Spain, U.S.) asks a battery of questions regarding accidents.

1. Did the respondent incur an injury from an accident in the past year?
2. What type of accident?
3. Where did the accident occur?
4. When did the accident occur?
5. How did it happened?

6. What part of body was injured?
7. Was medical care required including hospitalization?

Other countries such as Denmark only ask

1. If any accidents occurred in the past year?
2. What type of accident?

Violence

Sweden was the only country that asked a battery of questions specifically geared towards violence.

1. During the past 12 months was the respondent subjected to any violence that lead to some type of injury that required medical attention?
2. Did the respondent receive any visible scars or marks or bodily injury due to the violence that did not require medical attention?
3. Did the respondent receive any threat of violence that caused concern?
4. What type of threat e.g., knife, firearm, etc.?
5. Did this threat affect the daily living of the respondent?
6. Where did the violence occur?
7. Were the police notified?
8. Was the assailant know to the respondent?

Summary

In conclusion, it can be said that while there are injury related data being collected in many countries, there are sufficient differences in the national systems that may somewhat hamper international comparisons. These differences are the age old ones and are not unique to injury-related data.

Therefore, before comparability is considered, there are several methodological differences that must be addressed. Namely,

- there are base population differences, the non-institutionalized population versus the total resident population.
- there is a need for more standardization of questions and definition of terms.
- there is a need for a minimum core set of injury-related questions worded similarly.
- and there is a need for comparable periodicity of the surveys.