Section 3: Reporting and Disseminating Results

Overview

Introduction

This section covers the tasks that are needed to prepare reports and disseminate the results of your STEPS survey.

Requirement

The reports need to be produced in a timely manner after the completion of your survey. The results should be presented in a clear, concise and usable way to help:

- raise awareness about preventing NCDs and their risk factors
- guide public health policy and interventions to address NCDs
- assist and inform future health research.

Intended audience

This section is primarily designed to be used by those fulfilling the following roles:

- STEPS Survey Coordinator
- data analyst
- STEPS Coordinating Committee.

Useful resources

Some sections of the manual that may be useful in compiling and disseminating the results include:

- Part 1, Section 1 : "Introduction";
- Part 2, Section 2 : "Preparing the Sample";
- Part 4, Section 2: “Data Analysis”
- Part 6, Section 3A-D: "Report Templates" (includes Fact Sheet, Data Book, Country Report Template);
- Part 7, Section 1: "Glossary".

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Reporting process

The table below shows each of the key stages in the reporting process once data have been checked, cleaned, weighted and analyzed.

Stage	Description
1	Preparing and distributing the Fact Sheet to cover the essential results.
2	Preparing the Data Book.
3	Extracting specific tables from the Data Book that are suitably weighted and needed for the main country report.
4	Drafting the main country report, section by section, based on the content guidelines (see Part 6, Section 3D) and Data Book.
5	Circulating drafts of the country report to members of the coordinating committee, WHO and other interested parties for comment, discussion and review.
6	Reviewing and finalizing the country report in light of comments and discussions.
7	Preparing circulation lists, preparing press releases and promotion fliers to announce results of the STEPS Survey.
8	Presenting results, through slide presentations and meetings with organizations and groups that have an interest and impact on population health including relevant government departments, sponsors, tertiary institutions and health conferences in order to widen awareness of the STEPS findings.

In this section

This section covers the following topics.

Summarizing and Displaying Data

Introduction

STEPS data on NCD risk factors that have been collected from individuals need to be summarized in a meaningful way in order to give relevant information on levels of risk factors in a population.

Summary statistics that are used for summarizing STEPS data include:
- mean
- median
- prevalence.

When using the STEPS EpiInfo Programs, your output tables will display these summary statistics. The three summary statistics are described in more detail below.

Mean

The mean is a measure of central tendency and is computed by adding all the individual values in the group and dividing by the number of values in the group. It gives information on a population's average of a specified variable, such as waist circumference or blood sugar level.

Median

The median is another measure of central tendency that is often used for non-normally distributed variables. It is the simplest division of a set of sorted measurements into two halves - the lower and the upper half.
The median is often reported along with the 25^{th} and 75^{th} percentiles, which are the values that separate the lowest 25% and highest 75% of values, respectively, in the set of measurements.

Prevalence

Prevalence is defined as the number of persons with a disease or an attribute in a given population at a designated time, e.g. % daily smoker in a country in 2015.

Standard error and Confidence Interval (CI)

All results from your STEPS survey, as in all sample-based surveys, are estimates of true values, since they derive from a sample and not from the target population (for more on sampling, see Part 2, Section 2). In order to give information on how uncertain estimated values are, confidence intervals are computed around the estimate.

A standard error is usually calculated to show the amount of uncertainty, or error, in an estimated value. It takes into consideration the sample size and distribution (standard deviation) of your sample. The larger the standard error the larger the uncertainty in your estimate and the larger your confidence intervals.

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Standard error and Confidence Interval (CI) (cont.)

A confidence interval shows the range of estimates that would be obtained were all possible samples used. A 95% CI suggests that if 100 samples were drawn, the estimate obtained from each (a mean or prevalence value) would fall within that interval 95 of 100 times.

It is strongly recommended to always include the confidence interval alongside any estimates when presenting your data.

Standard cut-offs for prevalence

In order to determine the prevalence of those persons in a specified population that are at risk to develop an NCD, cut-off points have been set for continuous variables to distinguish between "at risk" and "not at risk". STEPS uses cut-offs that are evidence-based, widely used and therefore recommended by the WHO. Refer to the STEPS Fact Sheet (Part 6, Section 3A) and STEPS Data Book (Part 6, Section 3C) to see the cut-offs used in the standard STEPS analysis.

Guidelines for making good tables and graphs

The general guidelines below may help when preparing tables and graphs.

- Each table or graph should contain enough information so that it can be interpreted without reference to the text.
- Titles of tables and graphs should specifically describe the numbers included.
- Decide on the point you wish to present, then choose the appropriate method.
- Specify the units being used clearly.
- Include the total number of respondents included in the analysis (i.e. the denominator or the “n”).
- Include confidence intervals, if available.

PowerPoint Presentation

There is a useful PowerPoint presentation available on the STEPS website that provides further information on summarizing and displaying your data. It also includes examples of poorly-designed and well-designed graphs.

Interpretation of Results

Introduction

In order to deliver a meaningful message, results need to be interpreted carefully. A variety of factors such as response rates, season of data collection or potential biases need to be thought through and taken into account when interpreting results. Below are a few points to consider when interpreting the results of your survey.

Representativeness of results

Results should only be applied to the surveyed target population, and not be generalized to a broader population. In addition to taking into consideration the coverage of the survey (both geographically and demographically), it is important to look at the response rate of your survey and ask if there is any pattern in the non-response, i.e. do certain regions have very low response rates?, is there a particular age-sex group severely under-represented in the sample?

Uncertainty of results

Confidence intervals help to determine the uncertainty of the estimates. The smaller the interval, the better. Large intervals are generally due to small sample size (either overall or for particular age-sex groups) or poor sampling design (e.g. highly clustered sample).

Influence on results

Think through carefully what could have influenced the results when interpreting them. Potential influence factors include:

- sample sizes (Are they high enough to have produced robust results for all subgroups?);
- response rates (Are they high or low? Are they the same for all subgroups, or have some subgroups lower response rates than others? If so, why?);
- social pressure (May people have answered in a specific way to certain questions because of social desirability?);
- survey methodology (Could flaws/problems in survey methods have influenced results, e.g. problems in reaching working population during data collection?);
- participant comprehension (Are there specific questions in the questionnaire that seemed not to be understood by respondents?);
- season of data collection (Do certain behaviors, such as diet or physical activity patterns, vary with the season?).

Results in a context

When interpreting results, it is useful to put results in a context. As an example, you may want to find out about the amount of cigarettes being sold when looking into results for prevalence of cigarette smokers in a country. Additionally, you should seek out comparable results from other surveys of the same population.

Preparing and Distributing the Country Report

Introduction

The country report is the main comprehensive report for the whole STEPS NCD risk factor survey and must be produced at the end of the STEPS survey. The STEPS Fact Sheet and STEPS Data Book should be completed prior to beginning work on the country report. Use these documents to guide the development of the country report. Additionally, be sure to have the latest copy of the implementation plan for your survey as much of the plan can re-used in the country report.

A template that helps preparing the STEPS country report is in Part 6, Section 3D.

Purpose

Use the country report to present the following information:

- the overall rationale;
- scope of the survey;
- the sampling design used;
- detailed methods of data collection;
- detailed results of the survey;
- implications for future health and planning;
- appendices including the country-specific instrument, show cards and data book.

Intended audience

It is recommended that you distribute the country report widely. Consider sending copies to:

- relevant government bodies and sponsoring organizations;
- agencies and organizations that are likely to use the information to promote NCD prevention and control;
- public, governmental and institutional (university) libraries;
- press and other media (newspapers, radio and television);
- websites of any sponsoring bodies;
- WHO STEPS Regional Office and the WHO Geneva STEPS team.