

## Section 5: Preparing the Data Analysis Environment

### Overview

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**Introduction** This section covers all the tasks that need to be conducted to setup and prepare for the analysis of the STEPS survey data.

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**Intended audience** This section is designed for use by people who have been assigned the following roles:

- data analyst
  - statistical adviser
  - STEPS Site Coordinator.
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**Timeframe** The set up of the data analysis environment can be done within one day. However, analysis of the survey data cannot proceed until data entry has been completed and the data entry supervisor has provided a finalized data set to the data analyst.

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**In this section** This section covers the following topics:

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# Epi Info

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## Introduction

To check and analyse the STEPS surveillance data, the STEPS team recommends and supports using Epi Info. Epi Info is a purpose-built, free, public-domain software package that allows users to:

- check the survey data for outliers and inconsistent data
  - conduct a descriptive analysis of survey data
  - easily generate output files from the analysis (94).
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## Rationale

The decision for choosing Epi Info was made in light of its advantages, including:

- Windows-based
  - supported by developers
  - has data analysis capability in line with STEPS requirements
  - can appropriately adjust for complex sample designs.
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## Accessing Epi Info

The current release of Epi Info is available on the STEPS CD as well as on the STEPS website. Additionally, Epi Info can be downloaded and installed directly from the Epi Info website (<http://cdc.gov/epiinfo/>).

The table below provides instructions on how to get the Epi Info installation file onto your computer.

| Source        | Instructions  |  |
|---------------|---|--|
| STEPS website | <b>Step</b>   | <b>Action</b>  |
|               | 1   | Connect to the internet and go to:<br><a href="http://www.who.int/chp/steps/resources/EpiInfo">http://www.who.int/chp/steps/resources/EpiInfo</a> .  |
|               | 2   | Click on the link labeled "Epi Info 3.4.3".  |
|               | 3   | Save the installation file, "setup_epiinfo.exe", to your desktop.  |
| STEPS CD      | <b>Step</b>   | <b>Action</b>  |
|               | 1   | Insert the CD into the CD-ROM drive and wait for the CD to launch in your internet browser. If the CD does not launch automatically, go to the list of all files on the CD and open the file "start.html". |
|               | 2   | Click on the link labeled "Data Analysis Tools and Software" in the left-hand column of the screen.  |
|               | 3   | Click on the link labeled "Epi Info Software".   |
|               | 4   | Click on the link labeled "Download Epi Info 3.4.3".   |
| 5             | Save the installation file, "setup_epiinfo.exe", to your desktop. |  |

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## Epi Info, Continued

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### Installing Epi Info

Once the Epi Info installation file (setup\_epiinfo.exe) is on your desktop, follow the instructions below to install Epi Info on your machine.

| Step | Action  |
|------|---|
| 1    | Double click on the Epi Info installation file on your desktop.   |
| 2    | Click "Next" on the Welcome to Epi Info 3.4.3 screen.   |
| 3    | Click "Next" on the Destination folder screen, you should use the default C:\Epi_Info.                                |
| 4    | Click "Next" on the selected features screen.   |
| 5    | Click "Next" on the ready to install screen.  |
| 6    | After ensuring the installation is successful, it is safe to delete the Epi Info installation file from your desktop. |

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### Learning Epi Info

The table below lists several resources available to help you learn to use Epi Info.

| Resource   | Content   | Location   |
|--|---|--|
| Data Analysis Guide                              | A brief summary of useful commands in the Analysis module of Epi Info.                      | STEPS Manual, Part 3, Section 6  |
| Epi Info Training Guide and supporting materials | An in-depth Epi Info training manual with numerous examples and related training materials. | STEPS CD and STEPS website:<br><a href="http://www.who.int/chp/steps/resources/EpiInfoTraining/en/index.html">http://www.who.int/chp/steps/resources/EpiInfoTraining/en/index.html</a> |
| Epi Info Tutorials                               | Tutorials provided by CDC and links to other learning resources.                            | CDC website:<br><a href="http://cdc.gov/epiinfo/tutorials.htm">http://cdc.gov/epiinfo/tutorials.htm</a>  |

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### Software support

WHO provides some support for Epi Info and can provide assistance and training as needed. If you use software other than Epi Info, WHO will only be able to provide little, if any, support.

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# Setting Up the Computer Environment

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## Introduction

It is critical to properly set up your computer environment prior to attempting any analysis of your STEPS data in Epi Info.

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## Preparing Folders

The following folders must be created on the computer used for data analysis. The names listed for these folders in the table below are not optional. The folders **must** be named using the following naming conventions in order to use the analysis code provided by the STEPS team.

| Step | Action   | Required Folder Name   |
|------|--|--|
| 1    | Create a primary folder (directory) for all your STEPS files, including: <ul style="list-style-type: none"><li>• data</li><li>• analysis output.</li></ul> | C:\STEPS   |
| 2    | Create a backup folder in a <b>different</b> location than the primary folder to store a backup copy of your STEPS dataset.                                | <ul style="list-style-type: none"><li>• D:\STEPS (or similar, if you have multiple drives or your disk is partitioned)</li><li>• C:\BackupSTEPS (if you only have access to one drive)</li></ul> |
| 3    | Create a sub-folder under the STEPS primary folder to contain your STEPS dataset ready for analysis in Epi Info.   | C:\STEPS\EpiInfo   |
| 4    | Create a sub-folder under STEPS\EpiInfo to contain analysis output.  | C:\STEPS\EpiInfo\<br>Output Tables   |
| 5    | Create a folder under the STEPS primary folder for any additional data files (e.g. interview_tracking_form.xls).   | C:\STEPS\data  |

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## Preparing the STEPS Data for Analysis

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### Introduction

Upon completion of the data entry process, the data entry supervisor should have a single data file containing all STEPS survey data as well as a completed interview\_tracking\_form.xls file containing all interview tracking information. Both of these files must be prepared for analysis by the data analyst.

**Note:** The instructions that follow assume that EpiData was used for data entry and that the final version of the complete STEPS survey data was exported from EpiData into a .dbf file. If this was not the case for your data, please contact the STEPS team for assistance.

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### Overview

In order to analyse your STEPS data in Epi Info using the generic programs available from the STEPS team, the data must be transported to a Microsoft Access database containing your survey data and the generic programs, each in a separate table. The instructions below describe one means to move your data into the Access database.

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### Preparing the STEPS survey data

Follow the steps below to prepare your STEPS data for analysis in Epi Info.

| Step | Action  |
|------|---|
| 1    | Rename the .dbf file containing your survey data to "STEPS.dbf" (right-click on the file and select "Rename" to edit the file name).                                    |
| 2    | Open the .dbf file in Access. Note that your dataset is listed in the Database window as a linked table (indicated by a blue arrow followed by the letters dB).         |
| 3    | Copy the dataset to a local table by right-clicking on the dataset and selecting "Copy". Then right-click on any white space in the Database window and select "Paste". |
| 4    | In the Paste Table As dialog window, type "MasterDataSet" in the space for Table Name and select "Structure and Data (Local Table)" from the Paste Options.             |
| 5    | After ensuring the name is spelt correctly and the correct option is selected, click "OK".  |
| 6    | You will now see the local data table, MasterDataSet, listed in your Database window. You may open it to have a look at your data.                                      |
| 7    | Exit from Access. You will see that you now have a STEPS.mdb file listed along with your STEPS.dbf file.  |
| 8    | Move the STEPS.mdb file to the C:\STEPS\EpiInfo folder.   |

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## Preparing the STEPS Data for Analysis, Continued

### Preparing the interview tracking form Excel file

Follow the steps below to prepare the completed interview\_tracking\_form.xls for analysis in Epi Info.

| Step                               | Action  |        |          |                            |             |                                    |   |
|------------------------------------|---|--------|----------|----------------------------|-------------|------------------------------------|---|
| 1                                  | Save the interview_tracking_form.xls file to the C:\STEPS\EpiInfo\data folder.  |        |          |                            |             |                                    |   |
| 2                                  | Open the interview_tracking_form.xls file and click on the worksheet entitled "enter information". Check to see that this table has been filled in. If not, <b>stop</b> and contact the data entry supervisor.  |        |          |                            |             |                                    |   |
| 3                                  | After ensuring that the "enter information" worksheet has been completed, check to see if the worksheet "EpiInfo" exists. Refer to the table below to decide how to proceed: <table border="1"> <thead> <tr> <th>If ...</th> <th>Then ...</th> </tr> </thead> <tbody> <tr> <td>"EpiInfo" worksheet exists</td> <td>Exit Excel.</td> </tr> <tr> <td>"EpiInfo" worksheet does not exist</td> <td>Go to the "Instructions" worksheet in the file and click on the button labeled "Format for Epi Info". After doing so, an "EpiInfo" worksheet should appear. You can now exit Excel.</td> </tr> </tbody> </table> | If ... | Then ... | "EpiInfo" worksheet exists | Exit Excel. | "EpiInfo" worksheet does not exist | Go to the "Instructions" worksheet in the file and click on the button labeled "Format for Epi Info". After doing so, an "EpiInfo" worksheet should appear. You can now exit Excel. |
| If ...                             | Then ...  |        |          |                            |             |                                    |   |
| "EpiInfo" worksheet exists         | Exit Excel.   |        |          |                            |             |                                    |   |
| "EpiInfo" worksheet does not exist | Go to the "Instructions" worksheet in the file and click on the button labeled "Format for Epi Info". After doing so, an "EpiInfo" worksheet should appear. You can now exit Excel.   |        |          |                            |             |                                    |   |

# Data Analysis Programs

## Introduction

Generic data analysis programs have been prepared by the STEPS team to complete basic descriptive analyses of STEPS survey data in Epi Info. These programs can be used to create all the output needed to complete the Fact Sheet and Data Book.

## Accessing the Data Analysis Programs

The data analysis programs are available on the STEPS CD as well as on the STEPS website. As these are occasionally updated to meet country needs, it is best to check the updates page on the STEPS website (<http://www.who.int/chp/steps/resources/updates/en/index.html>) to see if a more recent version is available.

The table below provides instructions on how to get the analysis programs onto your computer.

| Source        | Instructions |  |
|---------------|--------------|--|
| STEPS website | <b>Step</b>  | <b>Action</b>  |
|               | 1            | Connect to the internet and go to:<br><a href="http://www.who.int/chp/steps/resources/database/en/index.html">http://www.who.int/chp/steps/resources/database/en/index.html</a> .                          |
|               | 2            | Click on the link labeled "Epi Info Analysis Programs".  |
|               | 3            | Save the zip file, "Epi_Info_Analysis_Programs.zip", to your desktop.  |
|               | 4            | Open the zip file by double-clicking on it. Copy the Access file, Epi_Info_Analysis_Programs.mdb, to your desktop.   |
| STEPS CD      | <b>Step</b>  | <b>Action</b>  |
|               | 1            | Insert the CD into the CD-ROM drive and wait for the CD to launch in your internet browser. If the CD does not launch automatically, go to the list of all files on the CD and open the file "start.html". |
|               | 2            | Click on the link labeled "Data Analysis Tools and Software" in the left-hand column of the screen.  |
|               | 3            | Click on the link labeled "Epi Info Analysis Programs".  |
|               | 4            | Save the Access file, Epi_Info_Analysis_Programs.mdb to your desktop.  |

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## Data Analysis Programs, Continued

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### Attaching the Data Analysis Programs to your Data

Once the analysis programs have been downloaded to your desktop, you will need to attach the programs to your STEPS.mdb file containing your STEPS data.

| Step | Action  |
|------|---|
| 1    | Open the Epi_Info_Analysis_Programs.mdb file and right click on the table "Programs".   |
| 2    | Select "Export" and in the "Export Table 'Programs' To" window type "C:\STEPS\EpiInfo\STEPS.mdb" in the "File Name" field and click "Export".                               |
| 3    | Select the "Definition and Data" option in the dialogue window and click "OK".  |
| 4    | If you are updating an older version of the programs, a dialogue window will pop up that asks if you want to replace the "Programs" table that already exists. Click "Yes". |

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