eSTEPS User Manual

The WHO STEPwise approach to chronic disease risk factor surveillance (STEPS)

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Part 1: Overview

Introduction

Introduction

eSTEPS is a suite of software that allows for the preparation and implementation of data collection using Personal Digital Assistants (PDAs). This User Manual provides instructions for use of all components of the eSTEPS software suite.

Why eSTEPS?

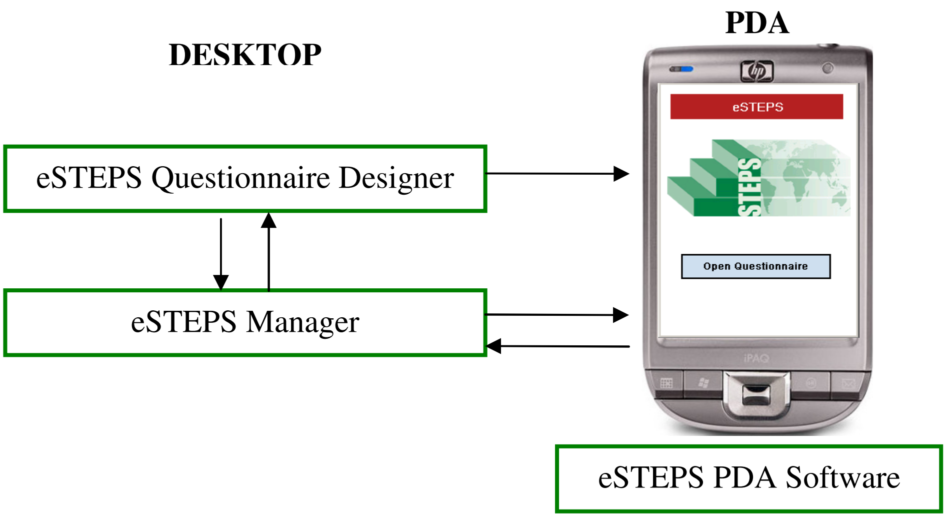
As a PDA-based data collection tool, eSTEPS provides the following benefits:

- Immediate error-checking during data collection (e.g. inadvertently skipped questions or out-of-range responses)
- Marked reduction of materials to be carried by data collectors (one PDA vs. hundreds of paper instruments)
- No data entry needed
    - No cost for data entry
    - Fewer errors arising from data entry
    - Final dataset can be created quickly following completion of data collection.

While eSTEPS does require the use of several PDAs (at least one per data collector), this additional cost is partially offset by the savings in data entry expenses. If resources do not exist to purchase PDAs, consider pooling resources with other teams in your organization. The PDAs can be used for other surveys and therefore they can be made available in your organization as a shared resource. Alternatively, contact your WHO Regional Office to enquire about the possibility of borrowing WHO-owned PDAs for your survey.

eSTEPS overview

eSTEPS is comprised of 3 parts, which are illustrated in the figure below. The succeeding table gives a brief description of each component.



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Introduction, Continued

eSTEPS overview, cont.

Component	Description
eSTEPS Questionnaire Designer	Allows questionnaires to be designed and developed for use within the eSTEPS environment.
eSTEPS Manager	Provides resources to manage questionnaires and records (captured on the PDA), such as copying questionnaires to and from the PDA, copying records to and from the PDA, and exporting records to EpiData.
eSTEPS PDA Software	Presents a graphical user interface on the PDA through which the collection of record data can be administered.

Installation

Hardware and Software Requirements

While the entire eSTEPS software suite and all prerequisite software is freely available from the STEPS team or Microsoft, the installation of the software cannot proceed if the following hardware requirements are not met:

- For the PDA (Pocket PC):
  - Operating System: Microsoft Windows Mobile 5.0 or later
  - Disk Space (ROM): at least 128MB
  - Memory (RAM): at least 64MB
  - Processor: preferably 520MHz range or greater
  - Buttons: preferably as few as possible
  - Screen Resolution: 240 x 320 pixels;
- For the desktop (or laptop) computer:
  - Operating System: Windows 2000 (Service Pack 3), Windows XP (Service Pack 2), or Windows Vista.
  - Available disk space (ROM): at least 500MB.

If you are unsure of the compatibility of your hardware with the eSTEPS software suite, please contact the STEPS team (steps@who.int).

Installation Guide

The eSTEPS Installation Guide, which is available on the STEPS CD and the STEPS website (http://www.who.int/chp/steps/esteps/en/), provides detailed instructions on the installation of the eSTEPS software suite on your computer and PDA, including the installation of all prerequisite software needed to use eSTEPS. Please read through this guide carefully before attempting to install eSTEPS.

eSTEPS File Types

Introduction

This section is intended to familiarize you with the different types of files used with the eSTEPS software. These are:

- .qml (eSTEPS questionnaire)
- .rml (eSTEPS records)
- .qes (EpiData questionnaire)
- .rec (EpiData records).

.qml files

eSTEPS questionnaires are stored in .qml files that are generated and modified in the eSTEPS Questionnaire Designer.

The .qml files are uploaded to the PDA where they provide the interface used during data collection.

.rml files

During data collection, the .rml are used to store the data recorded. Thus the .qml files simply provide the interface, while the actual records are stored in the corresponding .rml file. The .rml files are automatically generated by eSTEPS when you open a .qml file on your PDA and start collecting data.

.qes files

.qes files are EpiData questionnaire files. EpiData is a data entry program that is normally used for data entry. With eSTEPS, EpiData is simply used to assist in managing the records downloaded from the PDAs. The .qes file corresponding to your eSTEPS questionnaire (.qml) file can be generated using the eSTEPS Questionnaire Designer. This .qes file can then be used to make the EpiData .rec file (see next paragraph).

.rec files

.rec files are EpiData records files. The .rec file for your questionnaire can be easily generated in EpiData from the .qes file containing your questionnaire template. This empty .rec file will then be filled with the data from the eSTEPS record (.rml) files from the PDAs.

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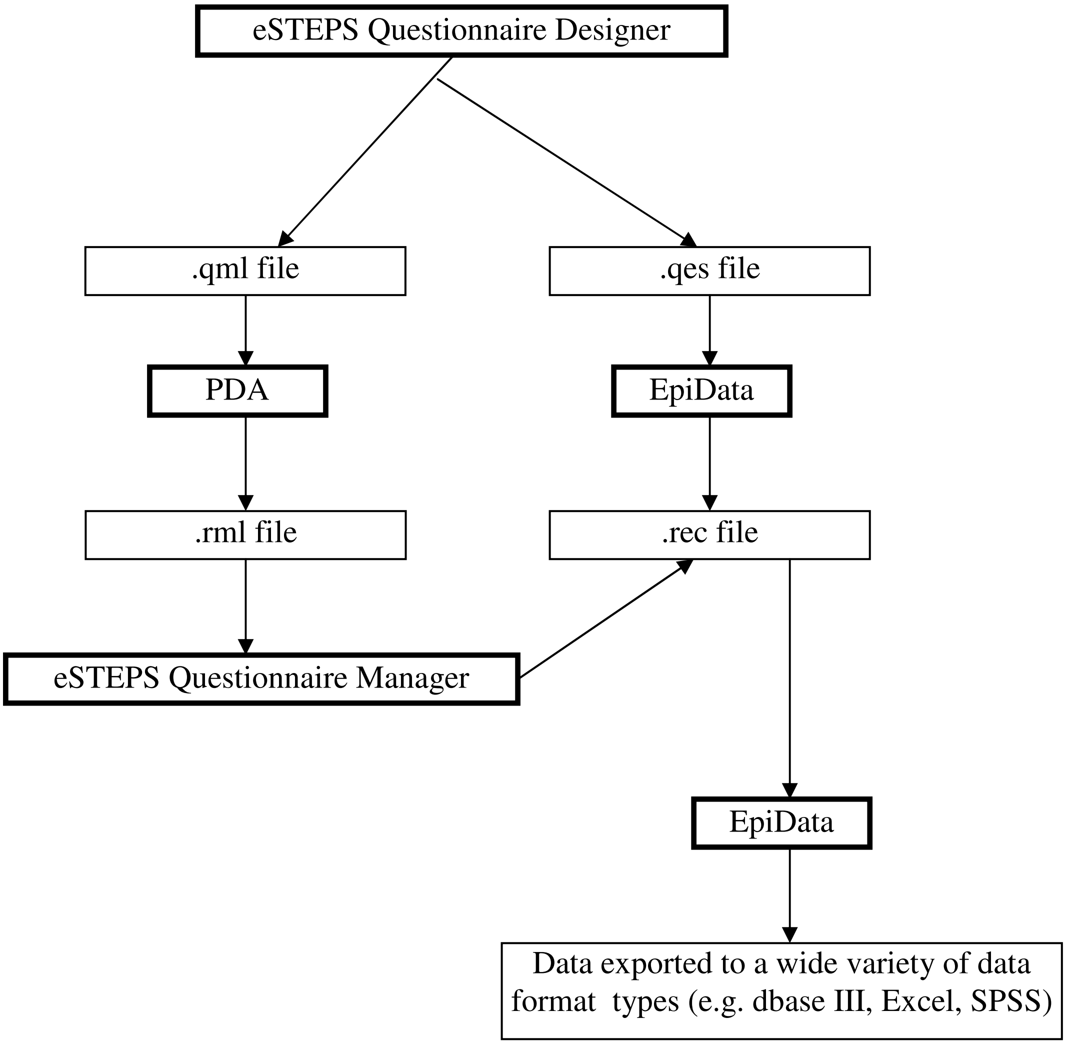
File Diagram

The figure below provides a graphical representation of how the 4 different types of files are used and generated.



Part 2: eSTEPS Questionnaire Designer

Introduction

Introduction

The eSTEPS Questionnaire Designer allows you to create new eSTEPS questionnaires and modify existing ones.

Opening the Questionnaire Designer

To open the Questionnaire Designer, click on your Start menu and select eSTEPS>eSTEPS Questionnaire Designer from your list of Programs.

Exiting the Questionnaire Designer

To exit the Questionnaire Designer, select File>Exit at the top of the Questionnaire Designer window.

Starting a new questionnaire

To start a new questionnaire, click on the "Create a new Questionnaire" button on the pop-up window that appears automatically when you launch the Questionnaire Designer.

Alternatively, you can start a new questionnaire by selecting File>New at the top of the Questionnaire Designer window.

Before editing your new questionnaire, you must answer the question " Do you want to use landscape format for your questionnaire?" by clicking "Yes" or "No" in the pop-up window. The generic STEPS questionnaire is **not** designed in landscape format.

Opening an existing questionnaire

To open an existing questionnaire, click on the "Open an existing Questionnaire" button on the pop-up window that appears automatically when you launch the Questionnaire Designer.

Alternatively, you can open an existing questionnaire by selecting File>Open at the top of the Questionnaire Designer window.

Saving a questionnaire

To save a questionnaire, select File>Save at the top of the Questionnaire Designer window.

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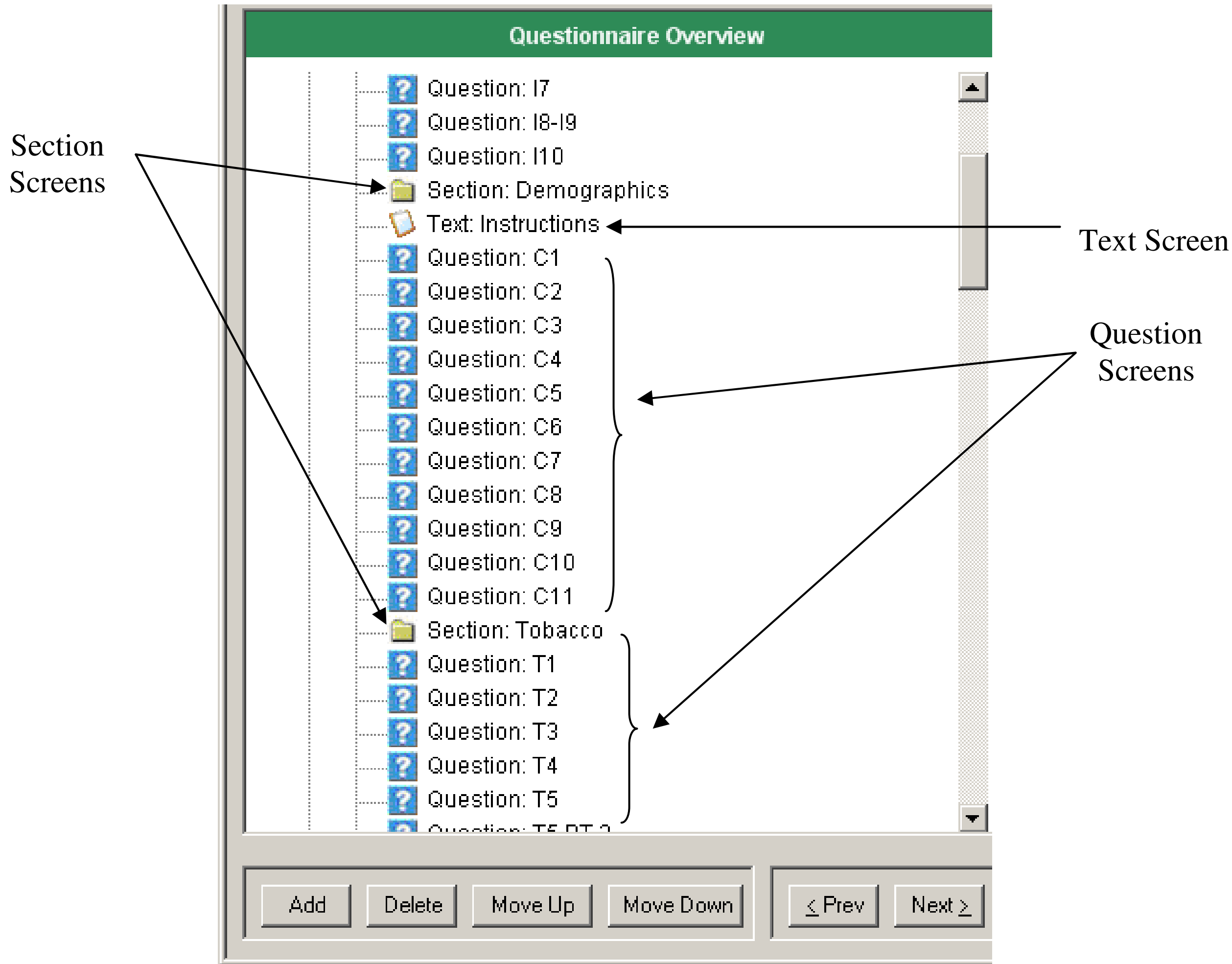
Questionnaire Structure

An eSTEPS questionnaire is comprised of 3 types of PDA screens:

- Question - contains question text and question fields
- Text - contains explanatory text
- Section - contains section heading text and allows you to group related question and text screens.

The text and response fields/options for each question in your survey will be contained **within a Question Screen**. If there is enough room on the PDA screen, one Question Screen can contain 2 or more related questions.

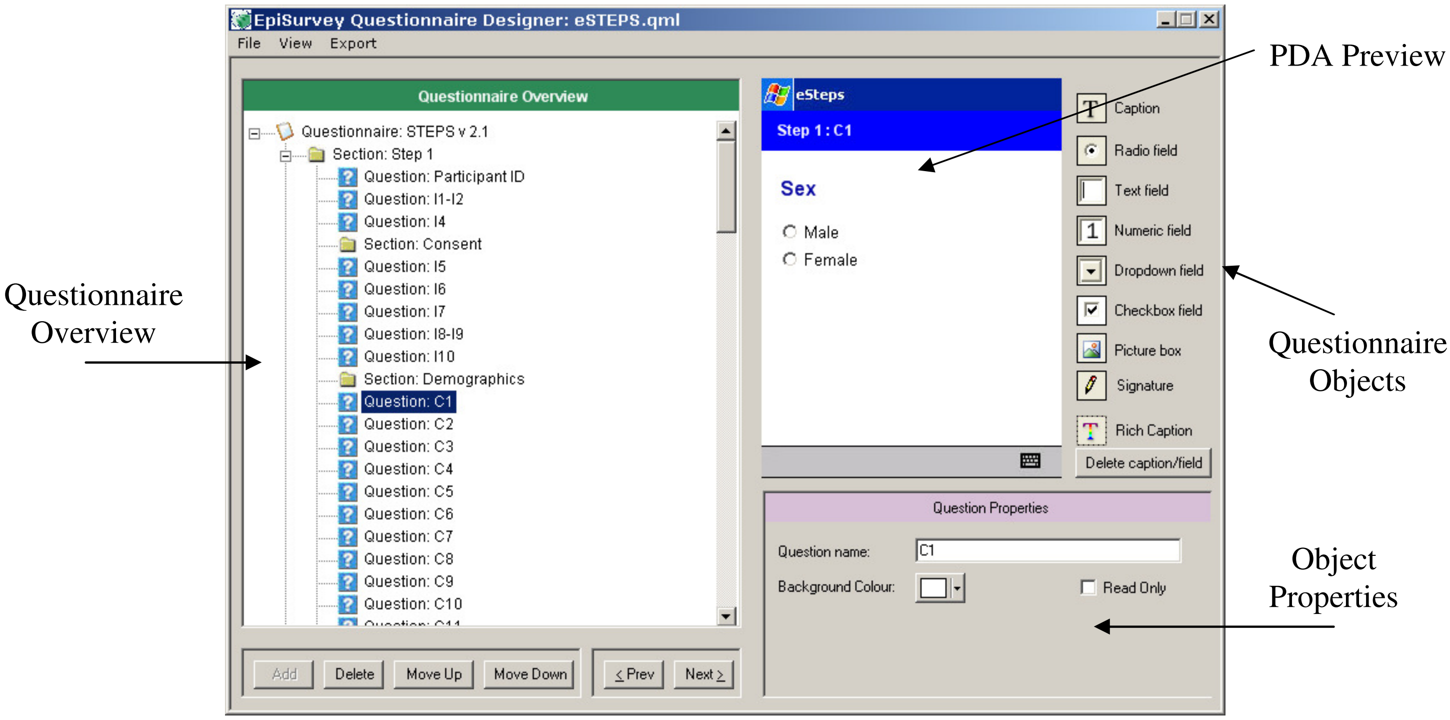
The image below shows part of an eSTEPS questionnaire in the Questionnaire Designer that uses Sections and has a number of Question and Text Screens.



Questionnaire Designer screen components

Introduction

This section will familiarize you with the basic components of the Questionnaire Designer screen. There are 4 main parts to the screen, which are labeled in the figure below and explained in more detail in the succeeding paragraphs.



Questionnaire Overview

The questionnaire overview comprises the left half of the Questionnaire Designer screen. It shows the overall structure of the current questionnaire. The order that Sections, Text, and Question Screens are listed here is how they will appear on the PDA.

Beneath this overview are a series of buttons that allow you to modify the questionnaire structure and move through the questions in the questionnaire. The table below explains the function of each of these buttons in more detail.

Button	Function
Add/Delete	Allows you to add or delete a Section, Text, or Question Screen from your questionnaire.
Move Up/Move Down	Changes the order of your questionnaire by moving the selected Section, Text, or Question Screen up or down in the order.
Prev/Next	Selects the previous or next Section, Text, or Question Screen in your questionnaire so you can view it and modify if necessary.

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Questionnaire Overview (cont.)

You can modify the level of detail shown in the overview by using the View menu at the top of the Questionnaire Designer. This menu provides the following 3 functions:

View Menu Item	Function
Show Fields in Overview	Allows you to hide or show question fields in the questionnaire overview.
Expand All Items in Overview	Allows you to expand all sections of the questionnaire so all screens are visible in the overview.
Contract All Items in Overview	Allows you to collapse all sections of the questionnaire so the minimal number of screens is visible in the overview.

PDA Preview

The majority of the upper right-hand side of the Questionnaire Designer shows a preview of what the current Text or Question Screen would look like on the questionnaire.

The PDA Preview is modifiable. You can click on the objects in the preview (e.g. text, response fields) to move them around and resize them. Additionally you can click on the small keyboard icon in the lower-right hand corner of the preview to check if the PDA keyboard (needed for typing in numeric and text values) will cover any captions or data entry fields on the screen.

For assistance in aligning objects in the preview, a grid of dots can be made visible on the PDA Preview by selecting "Show Guides on Items" from the View menu at the top of the Questionnaire Designer.

Questionnaire Objects

At the far right-hand side of the Questionnaire Designer screen is a list of questionnaire objects that can be added to the current screen of your questionnaire. This list will automatically change depending on the type of screen you are currently working on.

For Section and Text Screens, the Questionnaire Objects list simply contains Caption and Rich Caption.

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Questionnaire Objects (cont.)

For Question screens, the Questionnaire Objects list contains the following:

- Caption
- Radio field
- Text field
- Numeric field
- Dropdown field
- Checkbox field
- Picture box
- Signature
- Rich Caption

How to add these objects to your questionnaire and modify them as needed is covered in the following section.

Object Properties

The lower right-hand corner of the Questionnaire Designer contains the Object Properties subscreen. The content of this subscreen shows the properties of the currently selected Questionnaire Object. If no objects are selected, this subscreen will show the properties of the currently selected Section, Text, or Question Screen.

Modifying a new or existing questionnaire

Overview

This section provides instructions for a variety of basic tasks to modify a new or existing questionnaire. These tasks include:

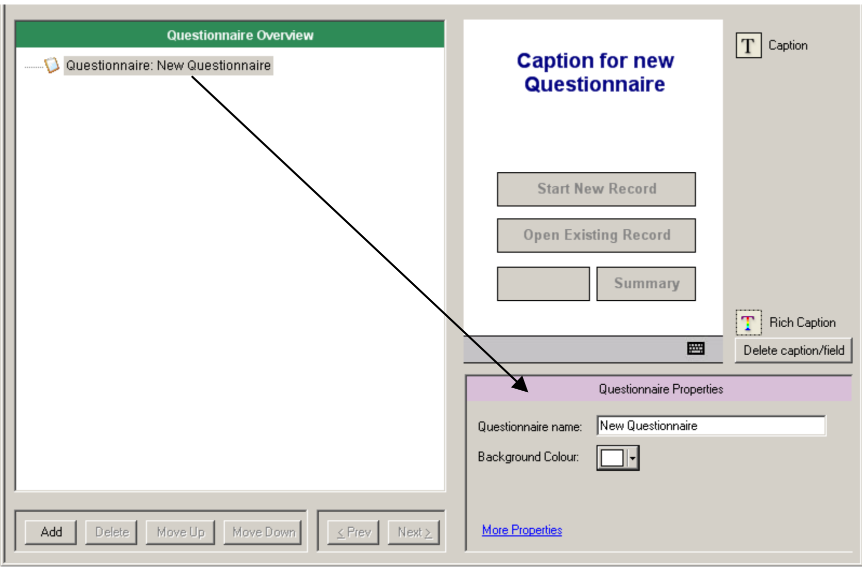
- editing the questionnaire title screen
- creating a new screen
- editing screen properties
- creating, editing and deleting captions, images, and question fields
- saving and exporting your questionnaire.

Editing the questionnaire title screen

Follow the steps below to modify the title screen of your questionnaire.

Step	Action
1	Click on the icon next to the very first item listed in the Questionnaire Overview. The properties for the questionnaire will then be listed in the Object Properties section of the Questionnaire Designer.
2	Change the name of the questionnaire by typing in the "Questionnaire name" field in the Object Properties section.
3	Change the background color of the title screen by clicking on the colored square next to "Background Colour". A colour palette will pop up. Pick the desired colour and click "Ok."

Step 1



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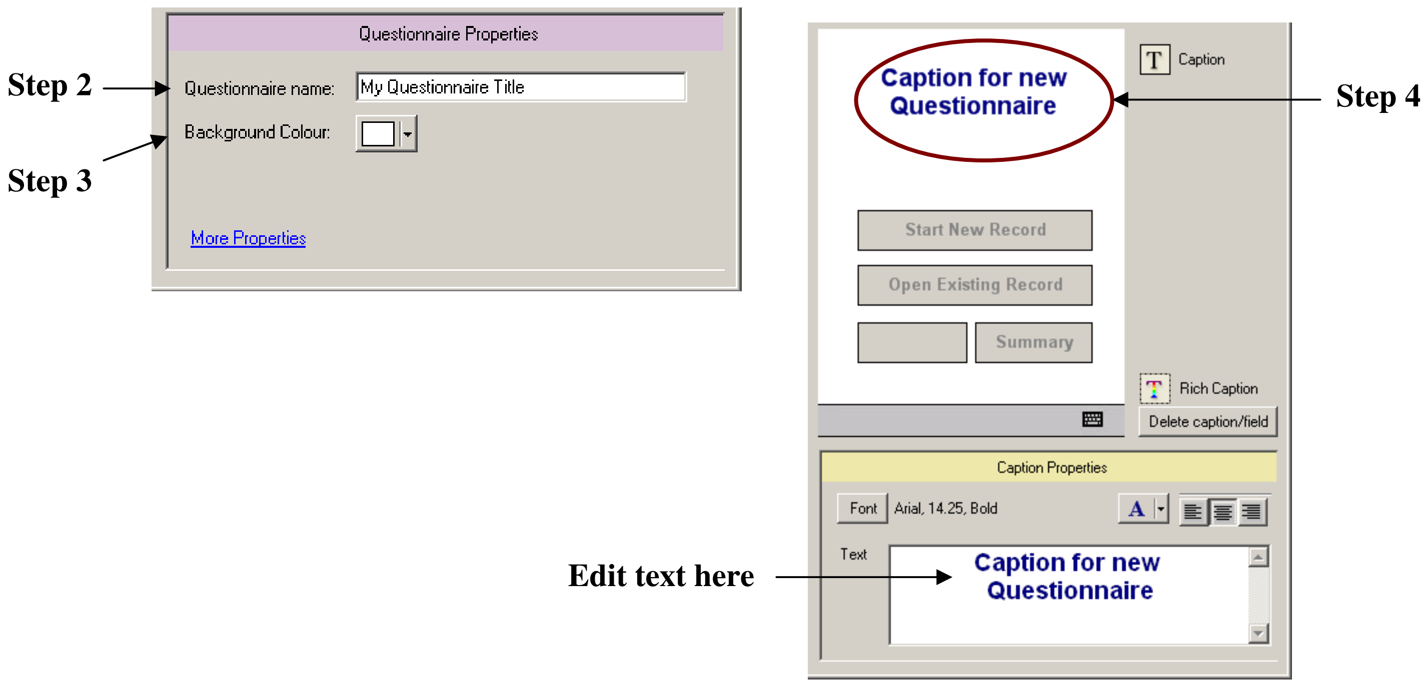
Editing the questionnaire title screen (cont.)

Step	Action
4	To change the title of the questionnaire, click on the caption in the PDA Preview. You can change the text, font, alignment and text color in the Object Properties section.

Note: The buttons on the lower half of the title screen are **not** modifiable.



Creating a new screen

To add a new Section, Title, or Question Screen to the questionnaire follow the steps in the table below.

Step	Action
1	In the Questionnaire Overview, click on the Questionnaire or Section Screen to which you wish to add a new screen.
2	Click the "Add" button in the lower left-hand corner of the screen, just below the Questionnaire Overview.
3	In the "Add New Item" pop-up window, select the type of screen you would like to add and click "Ok". For each type of screen this window provides a brief description and an image of a sample screen.

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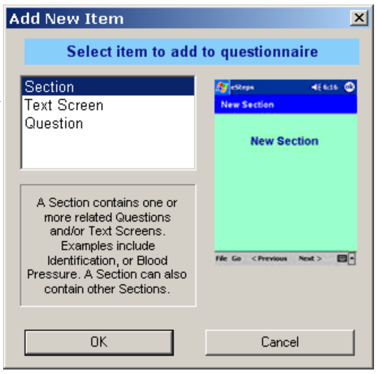
Modifying a new or existing questionnaire, Continued

Creating a new screen (cont.)

Select screen type



Description

Sample screen

Editing Screen Properties

After adding a new screen, you can change the properties of the screen (the name of the screen shown in the Questionnaire Overview, as well as the background colour) by following the steps in the following table. These instructions are similar to those for editing the title screen of the questionnaire for which there are accompanying images (see page 11).

Step	Action
1	Click on the icon next to the Section, Text, or Question Screen you wish to modify in the Questionnaire Overview. The properties for this screen will then be listed in the Object Properties section of the Questionnaire Designer.
2	Change the name of the screen by typing in the name field in the Object Properties section of the screen.
3	Change the background color of the screen by clicking on the colored square next to "Background Colour". A colour palette will pop up. Pick the desired colour and click "Ok."

Adding and Editing a Caption

Captions are text that appear on your PDA screen providing instructions, question wording, or the title of the questionnaire or questionnaire section. A "Rich Caption" is the same as a "Caption" with the added feature of having multiple display colours and font types within one caption.

Follow the instructions below to add a new caption to your Section, Text, or Question Screen and edit a new or existing caption.

Step	Action
1	Click on "Caption" or "Rich Caption" in the list of Questionnaire Objects.
2	In the "Add New Caption" pop-up window, type in the desired text in the "Text" field and modify the font as needed by clicking on the "Font" button. When finished making changes, click "Ok".
3	To edit an existing caption, click on the caption in the PDA Preview.

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Adding and Editing a Caption (cont.)

Step	Action
4	After clicking on the caption, you can use the mouse to move and resize it. Additionally, the text and caption properties (e.g. font type and size) can be modified in the Object Properties section while the caption is selected.

Note: For Rich Captions, the font type and colour can be changed for each word or set of words by highlighting the word(s) and modifying the font as desired.

Adding and Editing an Image

To add an image to a Question Screen, follow the instructions below.

Step	Action
1	Click on "Picture box" in the list of Questionnaire Objects.
2	In the "Add New Picture box" pop-up window, enter a unique Field ID and click on the "Browse" button to locate the desired image file.
3	Adjust the size, border style, and size mode of your picture and click the "Preview" button for a preview of the image.
4	When modifications are complete, click "Ok".
5	Click on the image in the PDA Preview to move its location or resize as needed.

Adding and Editing a Signature Field

To add a signature field to a Question Screen, follow the instructions below.

Step	Action
1	Click on "Signature" in the list of Questionnaire Objects.
2	In the "Add New Signature box" pop-up window, enter a unique Field ID, set the desired width and height of the field, and click "Ok".
3	Click on the field in the PDA Preview to move its location or resize as needed.

Question Fields

The following five Questionnaire Objects are all different types of question fields that allow you to store numeric or text responses during data collection. Once data collection is complete and data from the PDAs are compiled into a final dataset, each field will correspond to one variable in your dataset. More information on each type of field is provided throughout the rest of this section.

All of these question fields have a Field ID and Field Length property which are described in the following table*.

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Question Fields (cont.)

Property	Description
Field ID	• The ID used to label the variable in your questionnaire and in the dataset generated during data collection (e.g. C1). • Must be unique.
Field Length	• For numeric fields, the number of digits that can be entered. • For radio or dropdown fields, the maximum number of digits that any option can use (e.g. 88 for a "Refused" option requires 2 digits). • For text fields, the size of the text field (text can be entered that is longer than the size of field).

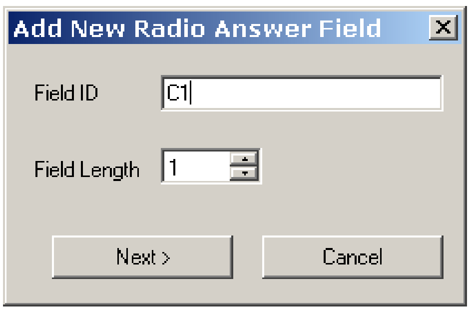
*__Note:__ Check box fields are an exception, they do not have a Field Length property.

Adding and Editing a Radio Field

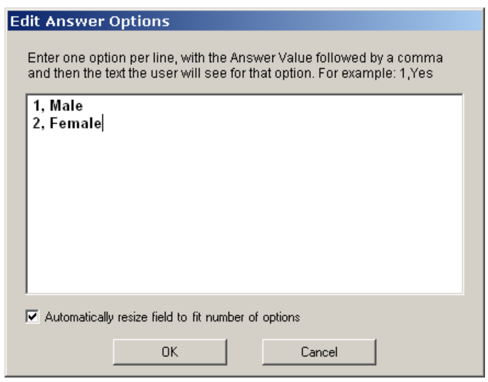
A radio field is a type of response field in which several response options are listed, each with a small circle next to it. During data collection, only one response option can be selected by clicking on the small circle next to the desired response.

Follow the instructions below to add a new radio field to a Question Screen and edit a new or existing radio field.

Step	Action
1	Click on the "Radio Field" button in the list of Questionnaire Objects.
2	In the "Add New Radio Answer Field" pop-up window, type in the Field ID and Field Length and click "Next".
3	In the "Edit Answer Options" pop-up window, type in the response options. Use one line per option. Each line should be written in the following order: Response value (e.g. 1), comma, Response label (e.g. Male)
4	Click "Ok" when you have finished typing all the response options.



Step 2



Step 3

Continued on next page

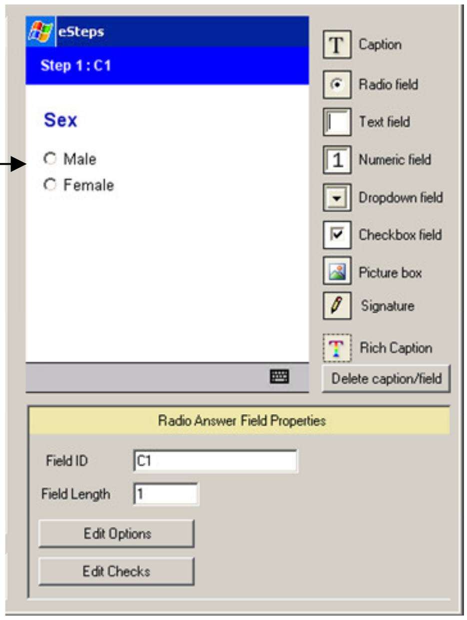
Adding and Editing a Radio Field (cont.)

Step	Action
5	To modify an existing radio field, click on the radio field to make its properties appear in the Object Properties section.
6	You can modify the Field ID and Field Length by editing the values of the corresponding fields in the Object Properties section.
7	To edit the response options, click on "Edit Options" in the Object Properties section.
8	To reposition the radio field on the PDA screen, click on the radio field in the PDA preview and use the mouse to drag it to the desired location.

Steps 5-8

Click on the radio field to select it.

Edit properties here



Adding and Editing a Text Field

A text field allows you to capture text responses, such as the type of "other" tobacco smoked.

Follow the instructions below to add a new text field to a Question Screen and edit a new or existing text field.

Step	Action
1	Click on the "Text Field" button in the list of Questionnaire Objects.
2	In the "Add New TextField Answer Field" pop-up window, type in the Field ID and Field Length and click "Ok".
3	To modify, resize or reposition the text field, click on the text field in the PDA Preview. Its properties will then appear in the Object Properties section of the screen where they can be modified as needed.

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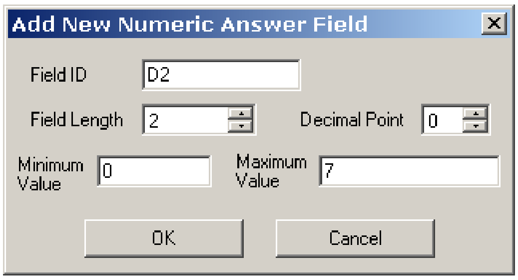
Adding and Editing a Numeric Field

A numeric field allows you to capture numeric responses, such as the number of servings of fruit consumed.

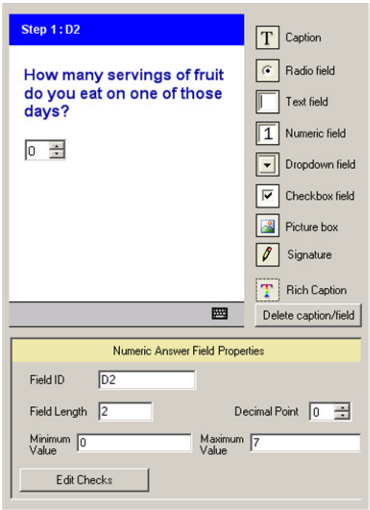
Follow the instructions below to add a new numeric field to a Question Screen and edit a new or existing text field.

Step	Action
1	Click on the "Numeric Field" button in the list of Questionnaire Objects.
2	In the "Add New Numeric Answer Field" pop-up window, type in the Field ID, Field Length, number of decimal points, and minimum and maximum values for the field and click "Ok".
3	To modify, resize or reposition the numeric field, click on the field in the PDA Preview. Its properties will then appear in the Object Properties section of the screen where they can be modified as needed.

Step 2



Step 3



Adding and Editing a Dropdown Field

A dropdown field is a type of response field in which several response options are listed in a dropdown list. During data collection, only one response option can be selected from the list by clicking on the field and scrolling through the list to the desired response option. Dropdown fields are ideal to use for questions with too many response options to fit easily on the PDA screen.

Follow the instructions below to add a new dropdown field to a Question Screen and edit a new or existing radio field.

Step	Action
1	Click on the "Dropdown Field" button in the list of Questionnaire Objects.
2	In the "Add New Dropdown Answer Field" pop-up window, type in the Field ID and Field Length and click "Next".

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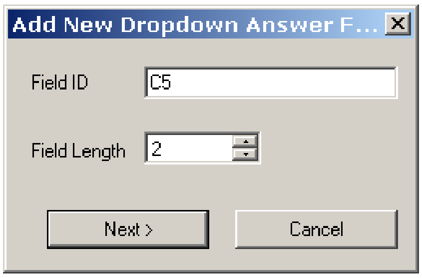
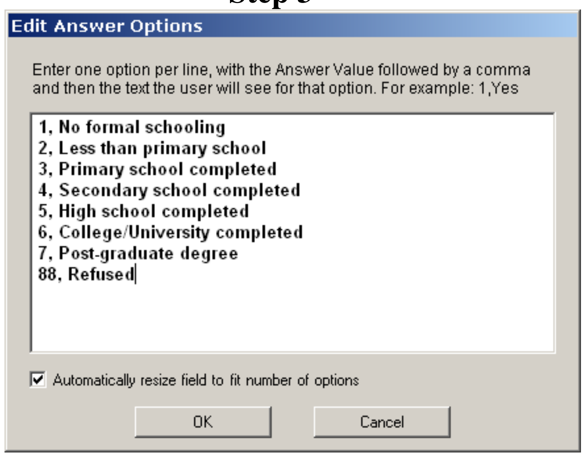
Adding and Editing a Dropdown Field (cont.)

Step	Action
3	In the "Edit Answer Options" pop-up window, type in the response options. Use one line per option. Each line should be written in the following order: Response value (e.g. 88), comma, Response label (e.g. Refused)
4	Click "Ok" when you have finished typing all the response options.
5	To modify, resize or reposition the dropdown field, click on the field in the PDA Preview. Its properties will then appear in the Object Properties section of the screen where they can be modified as needed.
6	To edit the response options, click on "Edit Options" in the Object Properties section.

Step 2



Step 3



Adding and Editing a Checkbox Field

A checkbox field is a type of response field that allows you to indicate whether or not a certain condition applies. In the generic STEPS questionnaire, checkbox fields are only used to provide "Don't know" and "Refused" options for some questions.

Follow the instructions below to add a new checkbox field to a Question Screen and edit a new or existing radio field.

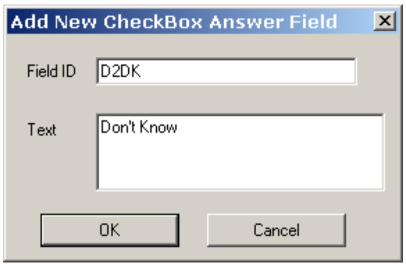
Step	Action
1	Click on the "Checkbox Field" button in the list of Questionnaire Objects.
2	In the "Add New Checkbox Answer Field" pop-up window, type in the Field ID and Text (the label that will appear next to the check box) and click "Next".

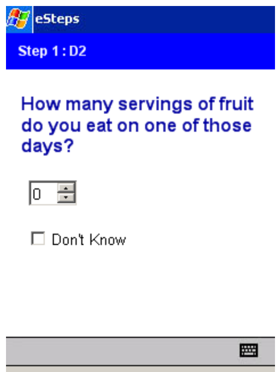
Continued on next page

Adding and Editing a Checkbox Field (cont.)

Step	Action
3	To modify, resize or reposition the checkbox field, click on the field in the PDA Preview. Its properties will then appear in the Object Properties section of the screen where they can be modified as needed.

Step 2





Deleting a Caption, Image, or Field

To delete a caption, image or response field from a screen, click on the object and click "Delete" on your keyboard or click the "Delete caption/field" at the bottom of the Questionnaire Objects list.

Review

To summarize some of the tasks explained in this section. The following table provides an overview of the entire process of adding a new Question Screen to a questionnaire and placing 3 related response fields on this screen.

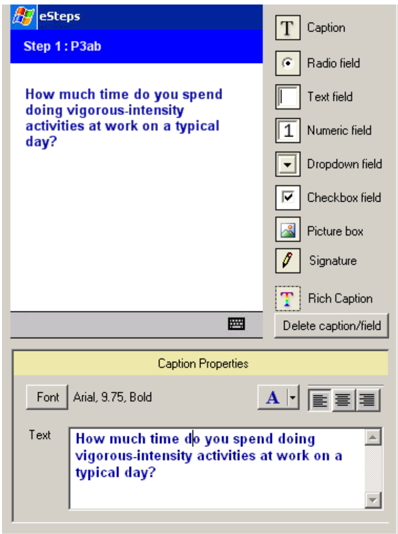
Step	Action
1	To add a new Question Screen to the questionnaire, click on the icon next to the questionnaire in the Questionnaire Overview and click "Add".
2	Type the name of the Question Screen (this example will use"P3ab") and modify the background color if desired.
3	Click on the caption that automatically appears on a new Question Screen and type in the text of the question. In this example, the font size had to be changed to allow all the text to easily fit on the screen (see figure next page).
4	Add a new numeric field to the Question Screen with the Field ID of P3a, a Field Length of 2, and min and max values of 0 and 16.
5	Add another new numeric field to the Question Screen with the Field ID of P3b, a Field Length of 2, and min and max values of 0 and 59.
6	Add a caption field with the text ":" and place it between the two numeric fields.

Continued on next page

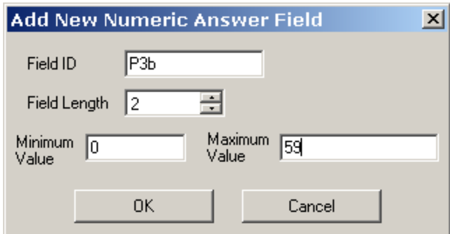
Review (cont.)

Step	Action
7	Add two more caption fields: one with the text "hrs" and another with the text "mins". Move "hrs" so that it is located underneath the numeric field P3a. Move "mins" so that it is beneath P3b.
8	Add a checkbox field with the label "Don't know" and place this beneath the "hrs" and "mins" captions.
9	The Question Screen is now complete. There are more advanced features that can now be added to this group of response fields. These more advanced features are discussed in the next section.

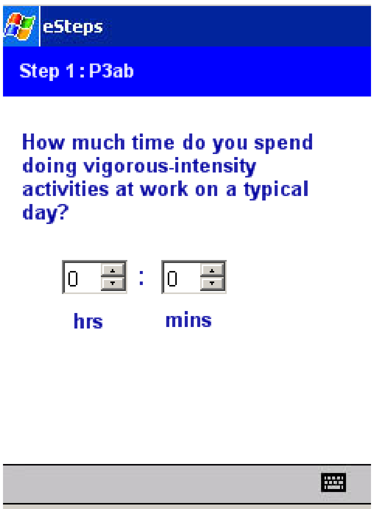
Step 3



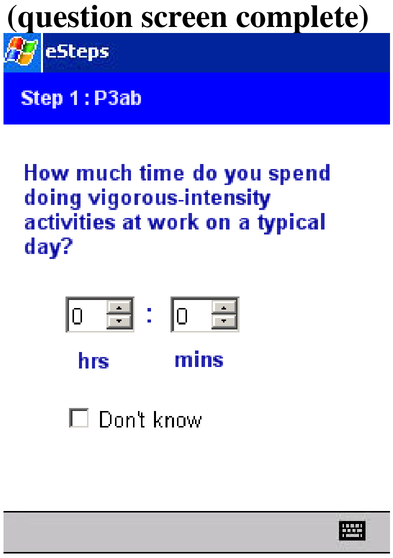
Step 5



Step 7



Step 8
(question screen complete)



Advanced Question Editing

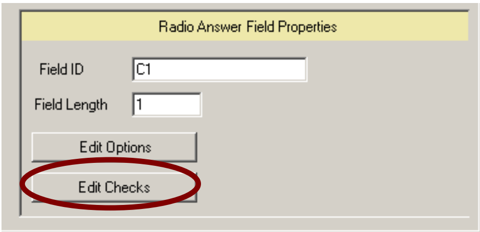
Introduction

This section will provide a short introduction to the advanced question editing features of the Questionnaire Designer. These features allow you to:

- make the field mandatory or optional;
- set checks to be run on the field to ensure valid data is entered and, if appropriate, jump over non-applicable questions.

Accessing the Advanced Question Editing Features

To access the advanced editing options for a particular field, click on the field in the PDA preview and click on the "Edit Checks" button in the Object Properties section of the screen.



Mandatory vs. Optional Fields

The Questionnaire Designer allows you to make any response field mandatory or optional.

Mandatory fields must have a response entered before proceeding to the next question. If a response is not entered in a mandatory field, the interviewer will not be able to proceed to the next screen of the questionnaire.

Optional fields can be left empty. In the Questionnaire Designer, there are two types of optional fields:

- Alert user if field is empty (unless hidden), but allow them to proceed
- Field can be empty.

Both types of optional fields will allow the interviewer to proceed to the next screen if the field is blank, but only the 1st type listed above will alert the interviewer that the field has been left blank.

Making a field mandatory or optional

By default, all fields in the questionnaire are mandatory. If you wish to make a question field optional or make an optional field mandatory again, follow the steps in the table below.

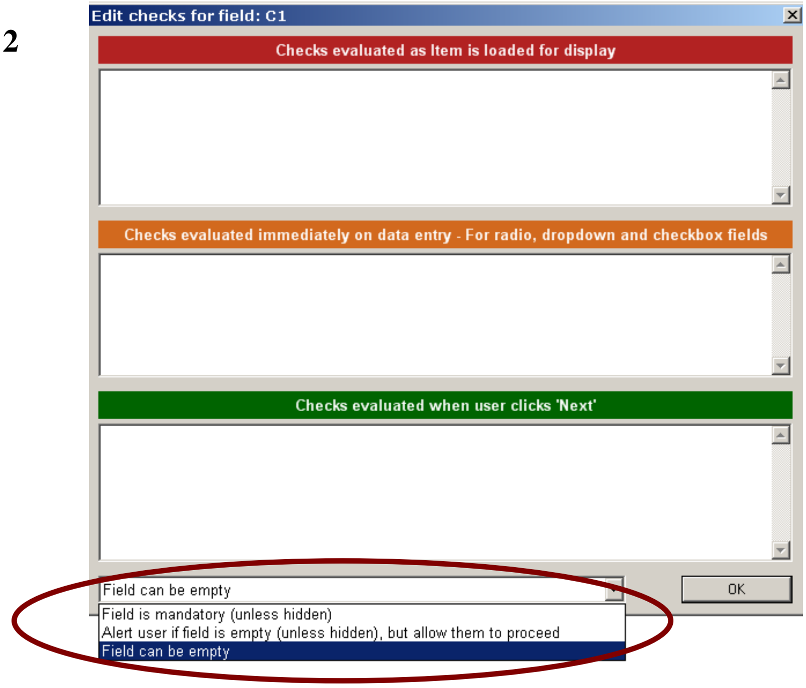
Step	Action
1	Click on the question field in the PDA preview and click on the "Edit Checks" button in the Object Properties section of the screen.
2	Click on the drop down of the Edit Checks pop-up window and select the appropriate option.

Continued on next page

Making a field mandatory or optional

Step	Action
3	After making your selection, click "OK".

Step 2



Field Checks

There are 3 types of checks that can be run on a question field. These are:

- checks evaluated as field is loaded for display
- checks evaluated immediately on data entry (not available for text or numeric fields)
- checks evaluated when user clicks "Next".

The first type of checks are not used in the generic STEPS questionnaire and will not be covered in detail in this manual.

The second type of checks are used in the generic STEPS questionnaire to ensure the proper functioning of "Don't know" and "Refused" check boxes.

Finally, the last type of checks are used to ensure that the field has a valid response and, if applicable, to jump over non-applicable questions.

Example Check Code

Two examples of check code are provided here with detailed explanations. In these examples, line numbers have been added to the left-hand side of each line of code. These line numbers are **not** part of the original code but have simply been added to aid in the explanation of the code.

Continued on next page

Example Check Code 1

This is an example of check code that is run immediately upon data entry. This example is taken from the "Don't know" checkbox of question C4 (years of education) from the generic STEPS questionnaire.

Check Code:

```
1   IF (C4DK=1 AND (C4<>.) AND (C4<>77)) THEN
2   HELP "You cannot select Don't know and have a value entered."
3   C4DK=2
4   ENDIF
5   IF (C4DK=1 AND C4=.) THEN
6   C4=@77
7   EXIT
8   ENDIF
9   IF (C4DK=0 AND C4=77) THEN
10  C4=.
11  ENDIF
```

Explanation:

There are the 3 sections in the above code, each is comprised of one IF statement. In the first section, lines 1 through 4, the code checks to see if the user is trying to make the "Don't know" checkbox checked (C4DK=1) when there is a value other than 77 for C4. If this condition is true, it prints the text in quotes from line 2 in a pop-up window and unchecks the "Don't know" checkbox.

In the next section, lines 5 through 8, the code checks to see if the user is trying to make the "Don't know" checkbox checked when C4 is empty. If this condition is true, C4 is set to the "Don't know" value of @77.

In the last section, lines 9 through 11, the code checks to see if the user is trying to make the "Don't know" checkbox unchecked (C4DK=0) when C4 is 77. If this condition is true, it will clear the C4 field.

Note: The @ sign is used in the check code when setting a field to a value outside of its accepted range. This is required by the eSTEPS PDA software. In the above example 77 is outside the accepted range of values for field C4 and therefore in line 6 C4 is set to "@77" and not simply "77".

Continued on next page

Advanced Question Editing, Continued

Example Check Code 2

This is an example of check code that is run when the interviewer hits "Next". This example is taken from the question D1 (number of days fruit consumed) from the generic STEPS questionnaire.

Example Check Code 2

Check Code:

```
1   IF (D1<>. AND D1<>77 AND D1DK=1) THEN
2   HELP "You cannot have Don't know selected and have a value entered."
3   GOTO D1
4   EXIT
5   ENDIF
6   IF (D1=0 OR D1=77) THEN
7   GOTO D3
8   ENDIF
```

Explanation:

There are the 2 sections in the above code, each is comprised of one IF statement. In the first section, lines 1 through 5, the code checks to see if the user has the "Don't know" check box checked (D1DK=1) and has a value in D1 other than 77. If this condition is true, it prints the text in quotes from line 7 and does not allow the program to proceed to the next screen.

In the 2nd section, lines 6 through 8, the code checks to see if the user has entered 0 or 77 ("Don't know") for D1. If this condition is true, the program will jump to question D3 (GOTO D3), effectively skipping question D2.

Further help

Writing check code is the most difficult part of designing a questionnaire. If you need assistance or do not feel comfortable writing check code, contact the STEPS team (steps@who.int) for help.

Exporting your questionnaire

Introduction

When you have finished editing your questionnaire, you will need to export it to the PDA as well as to an EpiData .qes file. Both of these tasks can easily be accomplished from within the eSTEPS Questionnaire Designer.

Exporting to PDA

To export the questionnaire to the PDA, follow the instructions in the table below.

Step	Action
1	Make sure the questionnaire is open in the Questionnaire Designer and the PDA is connected and synced to your computer.
2	Select "Send to PDA" from the File menu at the top of the Questionnaire Designer window.
3	If your PDA is properly synced with your computer, you should see "\My Documents\eSTEPS" in the "Select PDA directory" window. This is the default directory on the PDA where the questionnaire file is saved. If you do not see this text, check again that your PDA is properly connected and hit the "Connect" button.
4	Click "Send to PDA". If the questionnaire has already been uploaded before on the same PDA, it will ask if you wish to overwrite it. Click "OK" if you wish to overwrite the version already on the PDA.
5	If the transfer is successful, you will get the following message in a pop-up window: "Questionnaire successfully transferred to the PDA." Click "OK" on this window and then click "Close" on the "Select PDA directory" window.

Note: The eSTEPS Manager, which is covered in detail in the next section, can also be used to upload the questionnaire to the PDA.

Exporting to EpiData .qes file

The questionnaire must be exported to an EpiData .qes file before any records can be downloaded from the PDA. Therefore this step need only be completed once you are ready to download data from the PDA(s).

To export the questionnaire to a .qes file, follow the instructions in the table below.

Step	Action
1	Make sure the questionnaire is open in the Questionnaire Designer.
2	Select "To EpiData .qes file …" from the Export menu at the top of the Questionnaire Designer window.
3	Locate the folder on your computer in which you wish to save the .qes file and click "OK". If the creation was successful you will receive a message saying "Export successful to file: [file name]". Click "OK" to finish.

Part 3: eSTEPS Manager

Overview

Introduction

The eSTEPS Manager enables you to perform basic file management tasks including:

- uploading/downloading questionnaires to/from PDA
- renaming and deleting questionnaires on the PDA
- downloading record files from the PDA to the computer
- downloading Kish Method data to the computer
- managing records files on the computer.

Opening the eSTEPS Manager

To open the eSTEPS Manager, click on your Start menu and select eSTEPS>eSTEPS Manager from your list of Programs.

Exiting the eSTEPS Manager

To exit the eSTEPS Manager, simply click on the close button in the upper right-hand corner of the window.

Managing Questionnaires

Introduction

Questionnaire (.qml) files can be uploaded to the PDA, deleted from the PDA, and renamed on the PDA by using features in the "Manage Questionnaires" tab in the eSTEPS Manager.

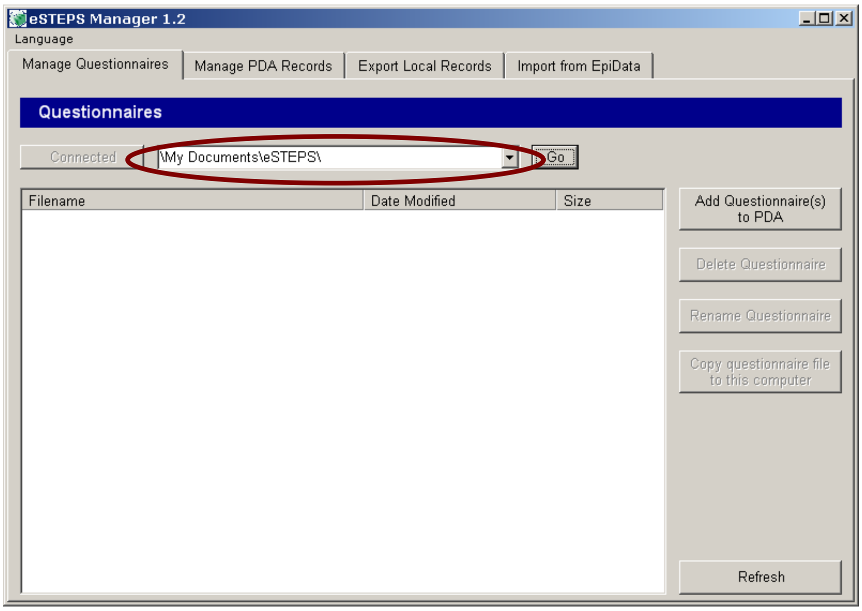
It is important to note that, in order to be used by the eSTEPS PDA software, a questionnaire (.qml file) **must** be named "eSTEPS".

Adding a Questionnaire to the PDA

To add a questionnaire to the PDA, follow the steps in the table below.

Step	Action
1	Click on the "Manage Questionnaires" tab in the eSTEPS Manager.
2	Make sure the PDA is connected and synced to your computer.
3	The location of the questionnaire(s) on the PDA should automatically appear in the upper field on the eSTEPS Manager screen. If it does not appear, double-check the connection between your PDA and computer and click the "Connect" button.
4	Click on the button "Add Questionnaire(s) to PDA".
5	Locate the questionnaire you wish to add to the PDA and click "Open" in the pop-up window. If you already have a questionnaire on the PDA with the same name, a pop-up window will appear asking if you wish to overwrite the questionnaire on the PDA. Click "OK" to continue.
6	The uploading may take a few seconds. Once it is complete, the questionnaire should be listed in the list of files on the eSTEPS Manager screen.

Step 3



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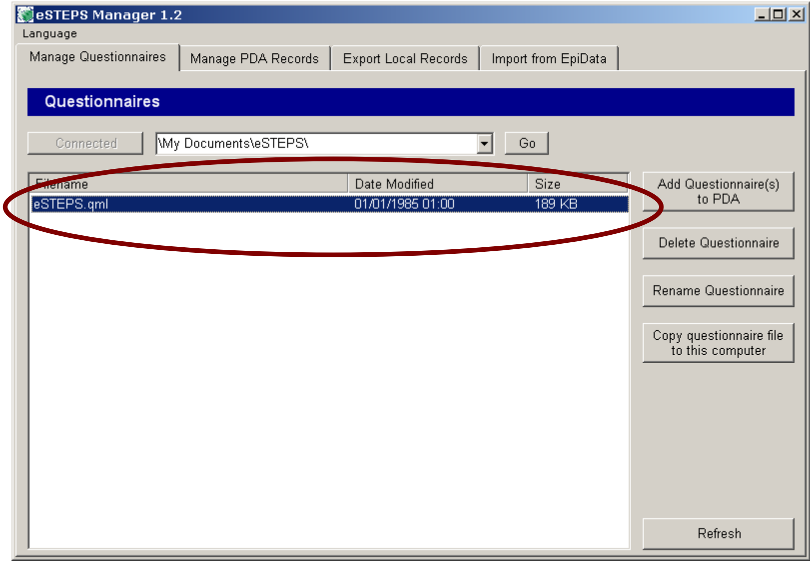
Adding a Questionnaire to the PDA (cont.)



Step 6

Deleting a Questionnaire from the PDA

To delete a questionnaire from the PDA, follow the steps in the table below.

Step	Action
1	Click on the "Manage Questionnaires" tab in the eSTEPS Manager.
2	Make sure the PDA is connected and synced to your computer.
3	The location of the questionnaire(s) on the PDA should automatically appear in the upper field on the eSTEPS Manager screen. If it does not appear, double-check the connection between your PDA and computer and click the "Connect to PDA" button.
4	All the questionnaire (.qml) files that are on the PDA should be listed in the list of files in the eSTEPS Manager screen. Select the questionnaire file you wish to delete by clicking on it once.
5	Click on the button "Delete Questionnaire" to delete the selected questionnaire. Once it is deleted, the questionnaire should no longer be listed in the list of files.

Renaming a Questionnaire on the PDA

To rename a questionnaire on the PDA, follow the steps in the table below.

Step	Action
1	Click on the "Manage Questionnaires" tab in the eSTEPS Manager.
2	Make sure the PDA is connected and synced to your computer.
3	The location of the questionnaire(s) on the PDA should automatically appear in the first field on the eSTEPS Manager screen. If it does not appear, double-check the connection between your PDA and computer and click the "Connect to PDA" button.

Continued on next page

Renaming a Questionnaire on the PDA (cont.)

Step	Action
4	All the questionnaire (.qml) files that are on the PDA should be listed in the list of files in the eSTEPS Manager screen. Select the questionnaire file you wish to rename by clicking on it once.
5	Click on the button "Rename Questionnaire" to make the name of the questionnaire modifiable. Type the new name of the questionnaire and then click in the white space on the eSTEPS Manager screen to finish.

Downloading a questionnaire from the PDA to the computer

You may need to download a questionnaire file from the PDA onto your computer if the questionnaire file was created on a different computer. Downloading the questionnaire file to your computer **does not** copy any records onto your computer. See the next section to learn how to download records from the PDA to the computer.

To download a questionnaire from the PDA, follow the steps in the table below.

Step	Action
1	Click on the "Manage Questionnaires" tab in the eSTEPS Manager.
2	Make sure the PDA is connected and synced to your computer.
3	The location of the questionnaire(s) on the PDA should automatically appear in the first field on the eSTEPS Manager screen. If it does not appear, double-check the connection between your PDA and computer and click the "Connect to PDA" button.
4	All the questionnaire (.qml) files that are on the PDA should be listed in the list of files in the eSTEPS Manager screen. Select the questionnaire file you wish to copy by clicking on it once.
5	Click on the button "Copy questionnaire file to this computer" and then locate the folder on your computer where you wish to save it. Click "Save" once you have located where you wish to save the questionnaire file on your computer.

Managing PDA Records

Introduction

Records (.rml) files can be downloaded from the PDA, deleted from the PDA, and renamed on the PDA by using features in the "Manage PDA Records" tab in the eSTEPS Manager. Additionally, the information from the Kish Method can be downloaded from the PDA to your computer using the eSTEPS Manager.

Both the records file and Kish Method data file are automatically generated during data collection on the PDA. These files will have the same name as the corresponding questionnaire file. Thus, since your questionnaire file is called "eSTEPS.qml", the records file will be called "eSTEPS.rml" and the Kish Method data will be called "eSTEPS.kish".

Preparing for exporting records from the PDA

Before exporting records from the PDA, you must create a .rec file for your questionnaire using the software program EpiData. The data stored in the eSTEPS records (.rml) file will be saved into the .rec file on your computer. From this .rec file, you can then export the data to a wide variety of formats for data analysis.

The .rec file can be easily generated from an EpiData .qes file. Upon completing the editing of your questionnaire in the Questionnaire Designer, you can generate the .qes file for your questionnaire by following the instructions on page 25 of this manual.

To generate the .rec file from the .qes file, follow the instructions in the table below.

Step	Action
1	Ensure that the EpiData settings are correct: Go to File > Options in the upper left-hand corner of the EpiData screen. Select the "Create data file" tab Options pop-up window. Make sure that "First word in question is field name" and "Upper-case" are selected.
2	Click on the button "2. Make Data File" at the top of the screen.
3	Find the .qes file of your questionnaire (created using the Questionnaire Designer) so that it appears in the first field in the pop-up window. Type in the location and name of the .rec file in the 2nd field in the pop-up window. (e.g. for a .qes file called "eSTEPS.qes" you can type the name "eSTEPS.rec" for the .rec file)
4	Click "OK" and close EpiData.

Exporting records from the PDA

To export records from the PDA, follow the steps in the table below.

Step	Action
1	Click on the "Manage PDA Records" tab in the eSTEPS Manager.
2	Make sure the PDA is connected and synced to your computer.

Continued on next page

Exporting records from the PDA (cont.)

Step	Action
3	The location of the records (.rml) file on the PDA should automatically appear in the upper field on the eSTEPS Manager screen. If it does not appear, double-check the connection between your PDA and computer and click the "Connect to PDA" button.
4	The records file (.qml) and Kish Method data file (.kish) that are on the PDA should be listed in the list of files in the eSTEPS Manager screen. Select the records file by clicking on it once.
5	Click on the button "Export records to EpiData .REC file" to download the records from the PDA into the EpiData .rec file. If there are any unfinished records in the records file, a pop-up window will appear asking if you would like to include these records or not. Click "Yes" or "No" to continue.
6	Once the process has successfully completed, a pop-up window will appear stating "Records successfully exported." Click "OK". Finally, you will be asked if you wish to delete the records from the PDA. Click "Yes" or "No" to finish.

Exporting Kish Method data from the PDA

To export Kish Method data from the PDA, follow the steps in the table below.

Step	Action
1	Click on the "Manage PDA Records" tab in the eSTEPS Manager.
2	Make sure the PDA is connected and synced to your computer.
3	The location of the Kish Method data file (.kish) on the PDA should automatically appear in the upper field on the eSTEPS Manager screen. If it does not appear, double-check the connection between your PDA and computer and click the "Connect to PDA" button.
4	The records file (.qml) and Kish Method data file (.kish) that are on the PDA should be listed in the list of files in the eSTEPS Manager screen. Select the Kish Method data file by clicking on it once.
5	Click on the button "Export .kish to .csv" to download the Kish Method data from the PDA to a .csv file (comma-delimited file). Select the location you wish to save the .csv file and click "Save". The file will automatically receive the same name as your questionnaire (e.g. eSTEPS.csv if your questionnaire was named eSTEPS.qml).
6	A pop-up window should appear informing you that the export was successful. Click "OK" to finish.

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Managing PDA Records, Continued

Renaming or deleting records files on the PDA

To rename or delete a records file or Kish Method data file on the PDA, follow the steps in the table below.

Step	Action
1	Click on the "Manage PDA Records" tab in the eSTEPS Manager.
2	Make sure the PDA is connected and synced to your computer.
3	The location of the records and Kish Method data files on the PDA should automatically appear in the upper field on the eSTEPS Manager screen. If it does not appear, double-check the connection between your PDA and computer and click the "Connect to PDA" button.
4	The records file (.qml) and Kish Method data file (.kish) that are on the PDA should be listed in the list of files in the eSTEPS Manager screen. Select the file you wish to rename or delete by clicking on it once.
5	To delete a file, click on the "Delete" button. To rename a file, click on the "Rename" button.

Additional Functions of the eSTEPS Manager

Introduction

There are some additional functions available in the eSTEPS Manager that will be covered in full detail in this manual. This section will just provide an overview of these functions. Please contact the STEPS team for further help with any of these functions (steps@who.int).

Exporting Local Records

While it is recommended to use the eSTEPS Manager to export from the .rml file on your PDA directly to the EpiData .rec file on your computer, the capability exists to save the .rml file on the PDA to an encrypted .rml file (.encrml) on your computer and then move the data from the encrypted .rml file to the .rec file. Use the "Export Local Records" tab of the eSTEPS Manager to perform this function.

Importing records from EpiData

The eSTEPS Manager also allows you to export data from an EpiData .rec file into an eSTEPS records file. You will need to have the original eSTEPS questionnaire file (.qml) with which the data in the .rec file was collected. If the .qml file and .rec file do not have identical fields, the data import will not work. Use the "Import from EpiData" tab of the eSTEPS Manager to perform this function.

Part 4: eSTEPS PDA Software

Overview

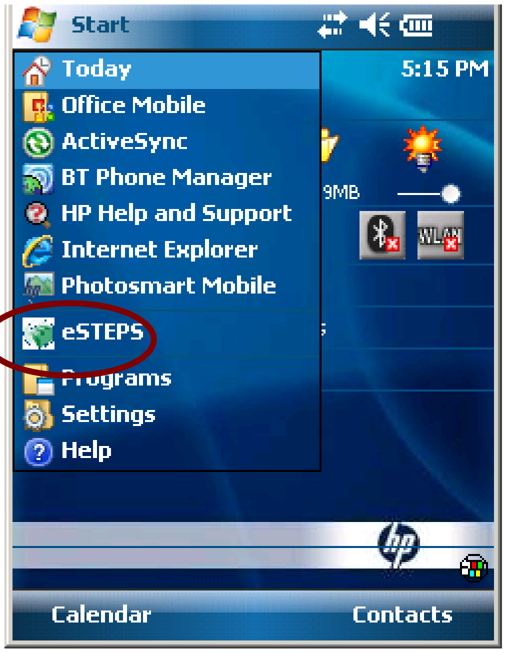
Introduction

The eSTEPS PDA Software is used during the actual collection of data. It enables the data collectors to perform the Kish Method in the field and provides the text and response fields for the interview.

Opening the eSTEPS PDA Software

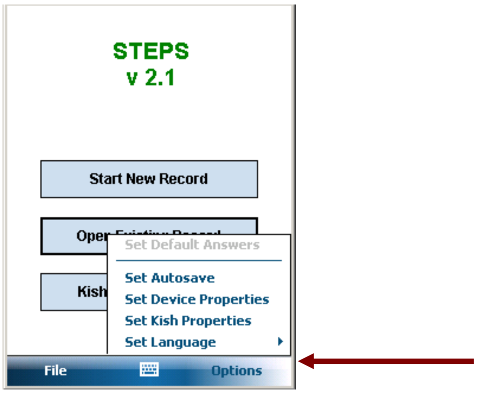
Before opening the eSTEPS PDA Software, you should already have your questionnaire file (.qml) uploaded to the PDA.

To open the eSTEPS PDA Software, select eSTEPS from the Start menu on the PDA.



Settings

Before beginning any data collection, there are a variety of settings that should be checked and adjusted as needed. These can be found in the "Options" menu in the lower-left hand corner of the eSTEPS home screen.



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Setting the Autosave Function	eSTEPS will automatically save the current record to the PDA every set number of minutes. The default is 2 minutes. It is not recommended to modify this option, but it can be modified by selecting "Set Autosave" from the "Options" menu.
Setting Device Properties	Each PDA should receive a unique Device ID. This can be set by selecting "Set Device Properties" from the "Options" menu.
Setting Kish Properties	The minimum and maximum age allowable for an eligible household member can be set by selecting "Set Kish Properties" from the "Options" menu. When using the Kish Method to select the participant from a household, the program will not allow the user to enter a person outside of this age range.
Language Setting	The other languages in which eSTEPS is currently available can be selected from the "Set Language" drop down list in the "Options" menu. The change of language will take effect immediately. Please note that this language change will only effect the text of the eSTEPS PDA software, not the text of the questionnaire itself. If you wish to have a questionnaire in your local language, it must be built in your local language using the eSTEPS Questionnaire Designer.
Exiting eSTEPS	To exit from eSTEPS, go to File > Exit eSTEPS in the lower left-hand corner of the eSTEPS home screen. A password is required to exit the program in order to prevent the use of the PDA for purposes other than eSTEPS. Please contact the STEPS team (steps@who.int) for the password.

The Kish Method

Introduction

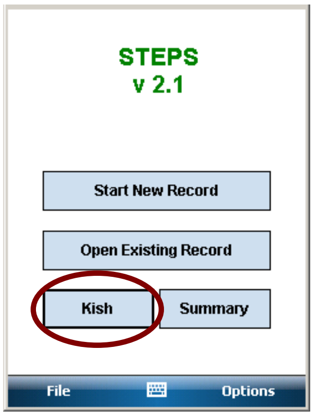
The Kish Method is a technique that allows for the random selection of one individual from a household. For more information about the Kish Method, see Part 2, Section 2 of the STEPS Manual. The paper-based version, on which the eSTEPS PDA version is based, is provided there.

The Kish Method should be performed once for each household upon making first contact with a household member. There are 3 parts to the Kish Method:

1. Enter Household ID.
2. Enter all eligible household members and select one using the Kish Method.
3. Enter Participant ID for selected household member.

Accessing the Kish Method

Click on the "Kish" button in the lower left-hand part of the screen to start the Kish Method for a given household.



Part 1: Add a new Household

On the first screen of the Kish Method, the Household ID must be entered the selected Household before continuing onto the next part of the process. Follow the instructions below to complete this part of the Kish Method process.

Step	Action
1	Click in the field at the top of the screen labeled "HhID." and use the PDA's keyboard to fill in the Household ID (maximum of 12 digits). When finished typing in the number click the "Add" button in the top right-hand corner of the screen.
2	The Household ID just entered should now be listed in the box below along with the number 0, indicating 0 eligible members have been entered for this household.
3	Click on the Household ID you have just entered as it appears in the list and click on the "Select" button at the bottom left-hand corner of the screen to proceed to the next stage of the process.

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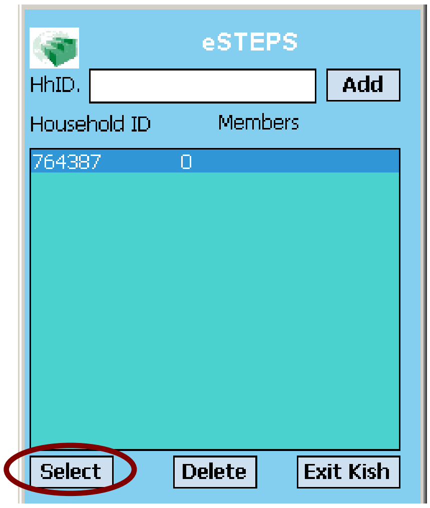
Part 1: Add a new Household, cont.

Step 1: Type in HhID and click "Add".

Step 3: Select Hh in list and click "Select".



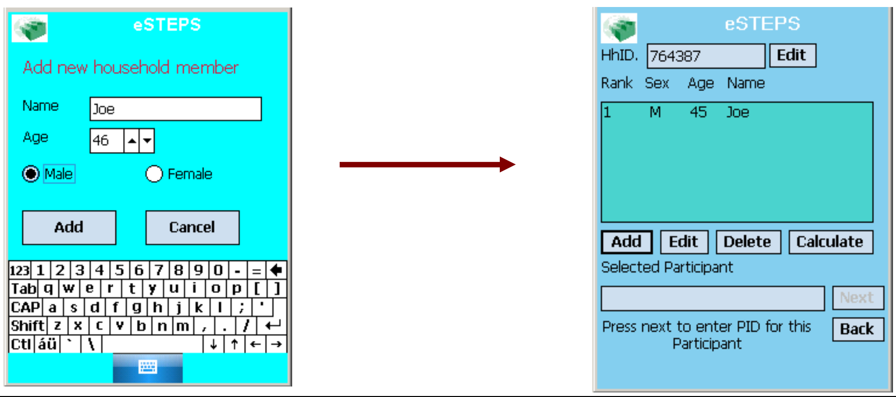
Part 2: Enter Household Members and Select Participant

On the next screen you will see the HhID at the top of the screen. You may modify it if needed by clicking on the "Edit" button next to the HhID field.

To complete the list of eligible household members for this household, follow the steps below.

Step	Action
1	Click on the "Add" button in the lower half of the screen.
2	On the "Add new household member" screen, complete the name and age of the participant using the PDA keyboard and select the sex of this person by clicking on the round circle next to "Male" or "Female". When you have finished entering this information for one household member, click on the "Add" button to return to the previous screen.
3	To add another person to the list of household members, click on "Add" again and repeat Step 2.

Step 2: Complete Name, Age, and Sex of household member and click "Add".



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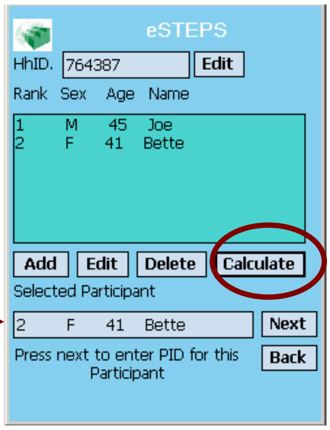
Part 2: Enter Household Members and Select Participant, cont.

Step	Action
4	If the information for any members of the household needs to be modified, select that household member in the list and click "Edit". If any members need to be removed from the list, select the household member in the list and click "Delete".

Once all household members have been entered, click on the "Calculate" button to apply the Kish Method. The selected household member will appear in the field at the bottom of the screen.

Selected person is listed here.



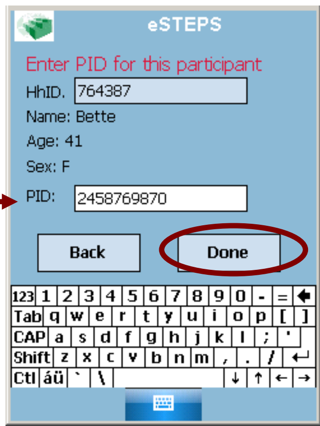
Click on the "Next" button to continue to the final part.

Part 3: Enter PID and Exit Kish

In the final screen of the Kish Method, you must enter the Participant ID (PID) for the selected person. The PID should be entered immediately, regardless of whether the interview will take place immediately or at a later time.

Use the PDA keyboard to enter the PID, then click "Done".

Complete PID here:



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Part 3: Enter PID and Exit Kish, cont.

After clicking "Done" you will be asked whether or not you would like to conduct the interview immediately or not. If you wish to do the interview at the present time, click "Yes", otherwise click "No".

By clicking "No", a record is automatically generated for this interview. When you are ready to conduct this interview at a later time, you will need to search and find this record on the PDA (see instructions on p. 40). You will NOT need to return to the Kish Method for this household again.

Records Management on the PDA

Introduction

Within the eSTEPS PDA software, one can create new records, open existing records, and obtain a summary of all records currently on the PDA. Each of these functions corresponds to one of the buttons on the eSTEPS home screen.

Starting a new record

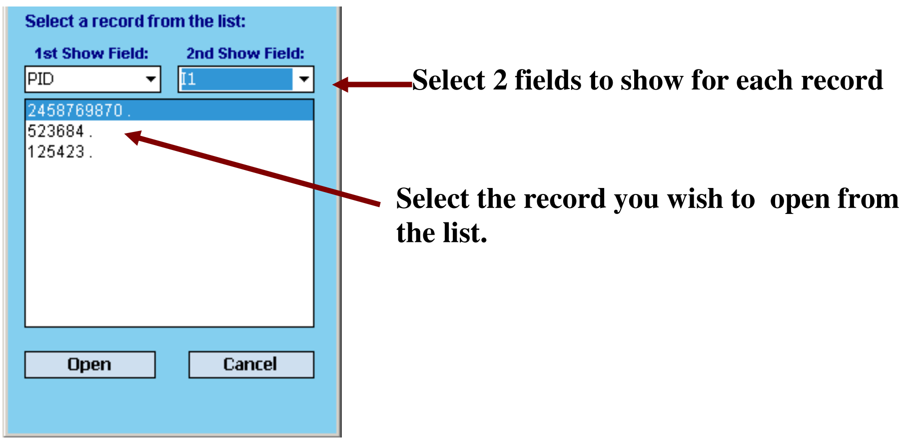
To start a new record, click on the "Start New Record" button on the eSTEPS home screen.

Note: It is recommended you create new records using the Kish Method. The last part of the Kish Method process asks for the Participant ID of the selected person and automatically generates a record for this person.

Opening an existing record

To open an existing record, follow the instructions in the table below.

Step	Action
1	Click on the "Open Existing Record" button on the eSTEPS home screen.
2	Select the fields by which you would like to see all records listed. There is the possibility to pick 2 different fields. It is recommended to select Participant ID (PID) as the first of these fields.
3	Find the record you wish to open in the list of all records and click "Open" at the bottom of the screen.

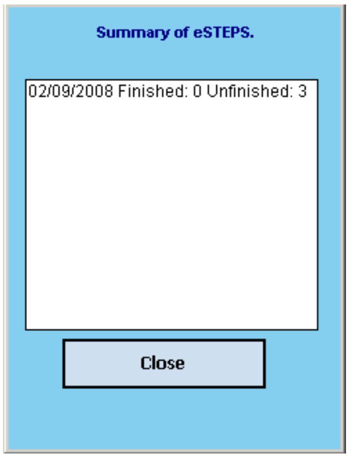


Note: In the event that a record is created unintentionally, the record can be deleted by holding the PDA stylus for a few seconds on the unwanted record in this list. You will then have a pop-up "Delete" button appear which you can click on to delete the unwanted record.

Continued on next page

Viewing a summary of records

Click on the "Summary" button on the eSTEPS home screen to view a summary of all the records on the PDA. The summary will indicate the total number of finished and unfinished records on the PDA.



Saving a backup copy of the survey data

It is possible to save a back-up copy of all survey data to an SD external memory card at any time. An example of an SD external memory card is shown below.

To save a back-up copy of all survey data to a memory card, follow the instructions in the table below.

Step	Action
1	Insert the SD card into the slot on the PDA.
2	On the eSTEPS home screen, select "Backup to Memory Card" from the File menu in the lower left-hand corner of the screen.
3	Tap "Yes" in the pop-up window asking if you would like to save a back-up copy to a memory card.

Example of SD memory card

Step 2

Entering Interview Data

Introduction

The section will review the variety of tasks the interviewer will need to perform during the course of an interview using the eSTEPS PDA software. These tasks include:

- moving from one question to another
- entering data in all types of data fields (e.g. text fields, radio buttons)
- exiting the questionnaire
- resuming an interrupted interview.

Previous/Next buttons

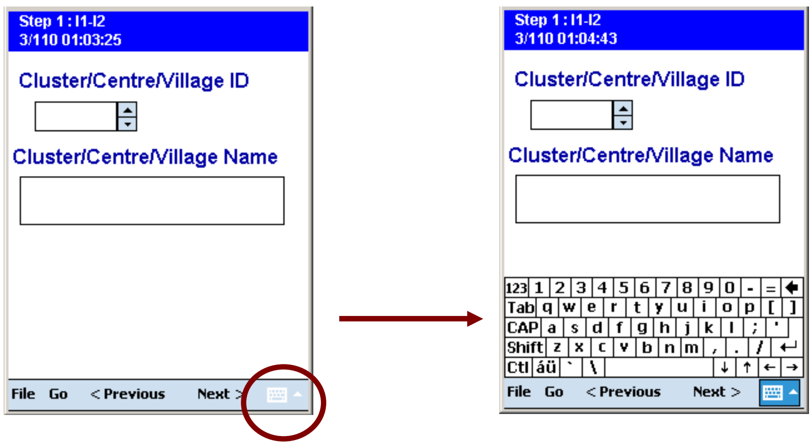
The "Previous" and "Next" buttons are located at the bottom of the questionnaire screen. These buttons allow you to move to the next or previous screen in your questionnaire.

"Previous" should be used rarely and only when it is necessary to return to a previously answered question if the participant requests to change their response.

"Next" should be used after completing the mandatory questions on each screen. If you tap "Next" before completing all mandatory questions on the current screen, you will receive a warning in a pop-up window and the questionnaire will not proceed to the next question.

PDA keyboard

The PDA keyboard will be needed to enter data in text fields. If the keyboard does not appear automatically when you select the field with the PDA stylus, you can make it appear by tapping on the keyboard icon in the bottom right-hand corner of the screen (see image below).



Entering data in a text field

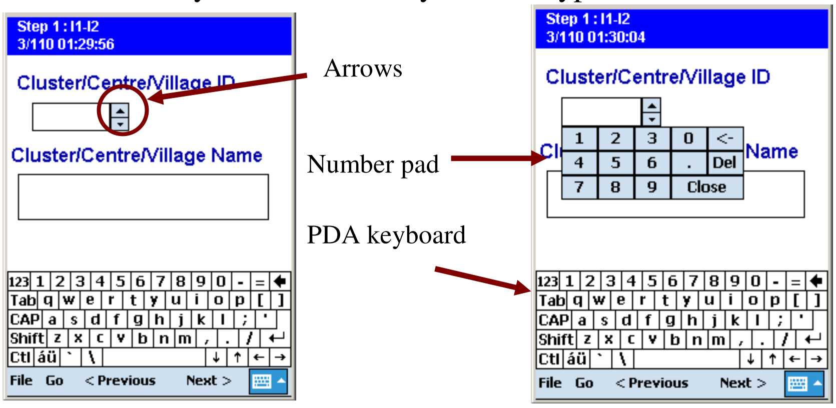
To enter data in a text field, tap on the text field with the PDA stylus. Type the text you wish to write using the PDA keyboard (tap on each letter with the stylus; capital letters can be made using the Shift and CAP keys, just as on a normal keyboard). If needed, the delete key is the black arrow in the upper right-hand corner of the keyboard.

Continued on next page

Entering data in a numeric field

To enter data in a numeric field, you can do one of the following:

- use the arrows at the right-hand side of the field to scroll up or down to the desired figure;
- use the number pad to type in the desired number (the number pad will automatically appear when you select the number field);
- use the number keys on the PDA keyboard to type in the desired number.

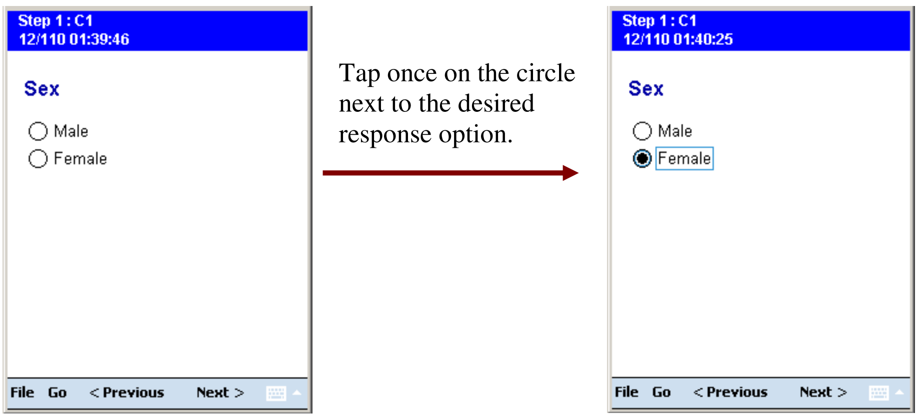


Clearing data in a numeric or text field

To erase all or part of a value in a text or numeric field, use the back arrow key at the upper right-hand corner of either the PDA keyboard or Number pad.

Entering data in a radio field

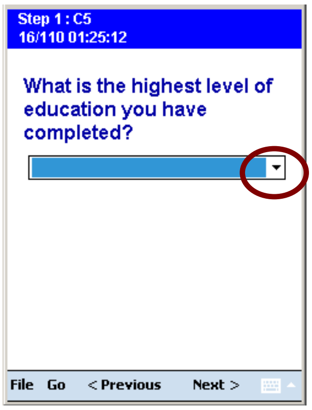
To enter data in a radio button field, simply tap on the small circle next to the chosen response option. If another option is picked, the first option will automatically be deselected as only one option can be picked at a time for a given question.



Continued on next page

Entering data in a dropdown field

To select an item in a dropdown field, tap once on the small down arrow at the right-hand side of the field. The list of options will then appear. After reading the options to the participant, tap once on the option to select it.



Entering data in a checkbox field

Checkbox fields are used in eSTEPS for Don't know and Refused responses. These may only be selected if the associated data field is blank, eSTEPS will not let you proceed if you have entered a valid response and also selected Don't know or Refused.

To select Don't know or Refused, simply tap on the square next to the desired response. Tap on the square again to unselect Don't know or Refused.

For most questions with Don't know and Refused checkbox fields, checking on one of these options will automatically fill in the associated data field with the Don't know (77) or Refused (88) values, as in the example below.

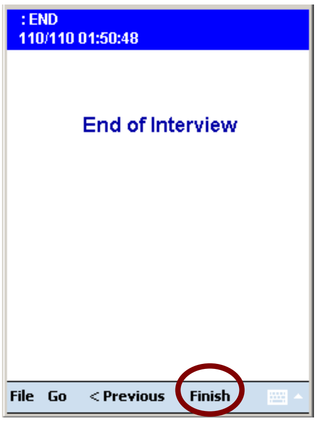
Tap once on the square next to the response option.

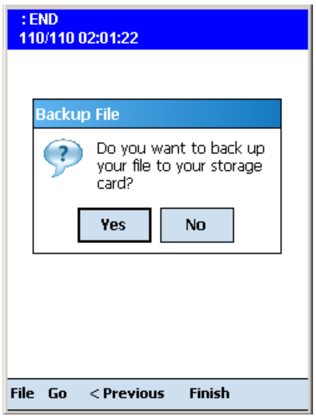
Continued on next page

Entering Interview Data, Continued

Exiting a completed questionnaire

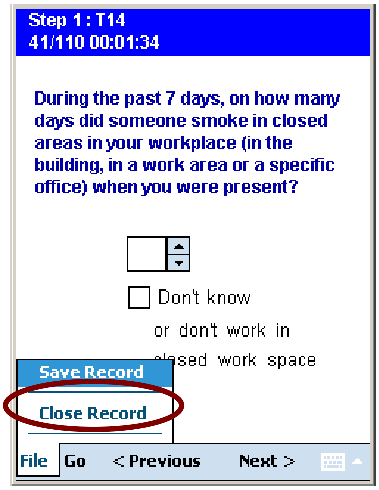
When you reach the end of the questionnaire, the eSTEPS PDA software will show the final screen of the questionnaire, which reads "End of Interview". Tap on the "Finish" button at the bottom of the screen to finish the record and close the questionnaire. Before returning to the eSTEPS home screen, you will be asked if you would like to save a backup copy to a storage card. Click "Yes" only if you currently have a storage card inserted in your PDA.





Exiting an unfinished questionnaire

If you must end an interview before reaching the end of the questionnaire, either because the participant no longer wishes to participate or because the interview must be temporarily stopped (and resumed at a later time), select "Close Questionnaire" from the File menu at the bottom left-hand corner of the screen.



Upon closing the current record, the record will be automatically saved and eSTEPS will return to the eSTEPS home screen.

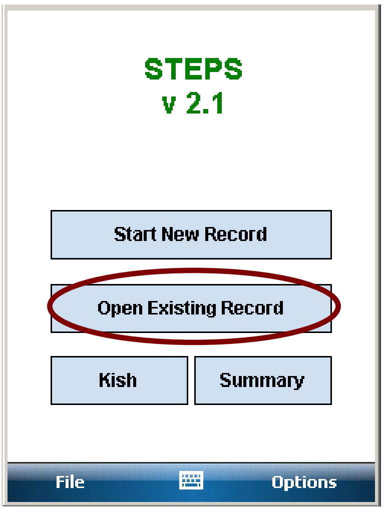
Note: If at all possible, it is recommended that you finish the current section (e.g. Diet) before stopping an interview you plan to resume at a later time.

Continued on next page

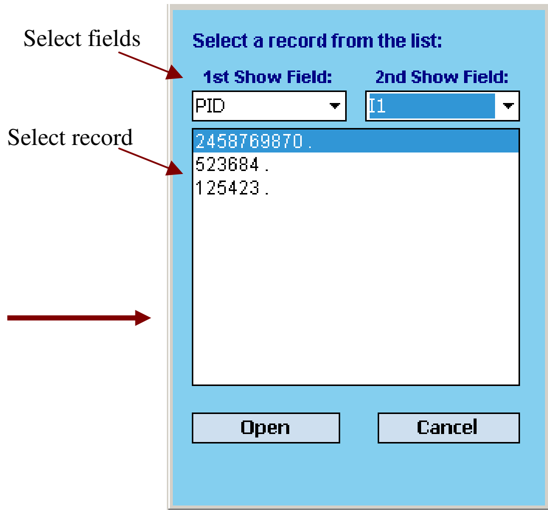
Resuming an interrupted interview

To resume an interview that has been interrupted, follow the instructions in the table below.

<table>
<tr><th>Step</th><th>Action</th></tr>
<tr><td>1</td><td>On the eSTEPS home screen, click on the "Open Existing Record" button.</td></tr>
<tr><td>2</td><td>At the top of the next screen, select the two variables by which you wish to search. It is recommended that you use Participant ID (PID) as your first variable.</td></tr>
<tr><td>3</td><td>In the list of records, search and find the record that corresponds to the person whose interview you would like to resume. Tap on this record to select it and tap "Open" at the bottom of the screen.</td></tr>
<tr><td>4</td><td>Once the record opens, it will automatically bring you to the first screen of the questionnaire. To move to the point in the questionnaire at which the interview was interrupted, you can either continually tap "Next" until you reach the interruption point or jump directly to the interruption point by following the steps below:
<table>
<tr><th>Step</th><th>Action</th></tr>
<tr><td>4.1</td><td>Tap "Select Item" from the Go menu at the bottom of the screen.</td></tr>
<tr><td>4.2</td><td>Search and find the next question to be answered in the interview. Tap on that question to select it and then tap "Go".</td></tr>
</table>
</td></tr>
</table>



Step 1



Step 2 and 3

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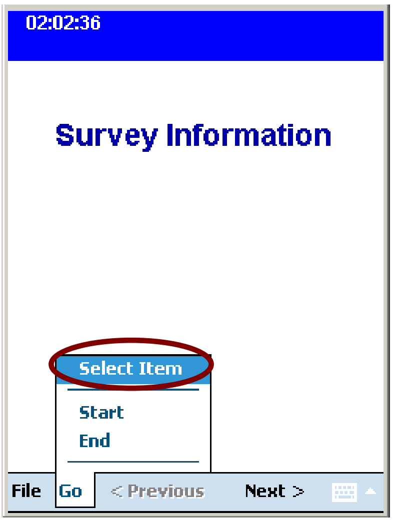
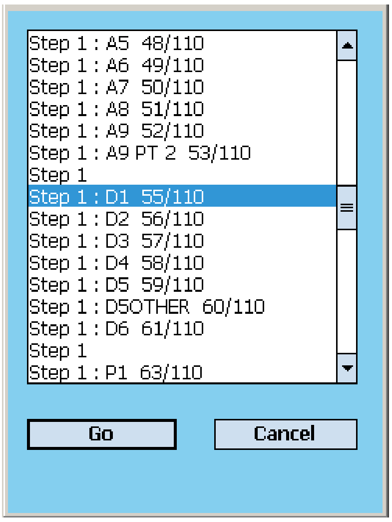
Resuming an interrupted interview, cont.



Step 4.1



Step 4.2

Part 5: Creating the Final Dataset

Overview

Introduction

Once data collection has been completed, one person should oversee the task of creating the final dataset. This task may be completed by the data analyst, but he/she may need assistance from the Survey Coordinator or Data Collection Supervisors to coordinate obtaining the data files from the PDAs used for data collection.

Process

The task of creating the final dataset entails the following steps:

Step	Action
1	Copy the records files from each PDA onto one computer.
2	Export the dataset from EpiData and import it into Microsoft Access.
3	Attach the Epi Info analysis programs.
4	Append the Kish Method data to the dataset.

Note: The instructions provided here assume that analysis will be done in Epi Info using the Epi Info analysis programs provided by the STEPS team. If you wish to complete your analysis using a different statistical software package, please contact the STEPS team for further assistance (steps@who.int).

Appending all records

Introduction

The records stored on each PDA can be appended together simply by saving each one consecutively into the EpiData .rec file on one computer. However, it is recommended that the data from each PDA also be saved in a separate file (one per PDA) as a backup in case there are any problems/questions later on during the data management/analysis work.

EpiData .rec file

Before any data can be copied from the PDAs to the computer, you must have a copy of the EpiData .rec file that corresponds to your questionnaire. All the records on each PDA will be copied into this one EpiData .rec file.

The original eSTEPS questionnaire (.qml) file for your site can be used to create an EpiData questionnaire (.qes) file in the eSTEPS Questionnaire Designer. Within EpiData, the .qes file can then be converted to an EpiData records (.rec) file. Step-by-step instructions of these two processes are provided on pages 25 and 30 .

Make copies of the .rec file

In addition to the .rec file that will contain all the PDA data, you should make a copies of this .rec file (1 per PDA) and rename them accordingly: PDA1.rec, PDA2. rec, etc.

Thus, you will have one master .rec file (e.g. MasterDataSet.rec) and one several individual PDA .rec files (PDA1.rec, PDA2.rec, etc.), all of which are blank at this stage.

Copying data to your computer

Follow the steps below to create your final dataset.

Step	Action
1	Organize and label all PDAs to ensure there will be no possibility of accidentally copying the data off the PDA twice.
2	Open the eSTEPS Manager program and click on the "Manage PDA Records" tab.
3	Connect the PDA to your computer. Make sure it is properly connected and synced to your computer.
4	If the records (.rml) file on the PDA does not automatically appear, double-check the connection between your PDA and computer and click the "Connect to PDA" button.
5	Select the records file by clicking on it once.

Continued on next page

Appending all records, Continued

Copying data to your computer, cont.

Step	Action
6	Click on the button "Export records to EpiData .REC file" to export the records from the PDA into the master EpiData .rec file. If there are any unfinished records in the records file, a pop-up window will appear asking if you would like to include these records or not. Click "Yes" to continue.
7	Once the process has successfully completed, a pop-up window will appear stating "Records successfully exported." Click "OK". Finally, you will be asked if you wish to delete the records from the PDA. Click "No."
8	Repeat steps 5-7 for the same PDA but save to the individual PDA's .rec file instead.
9	Repeat steps 3-8 for each PDA, being very careful not to download the data from the same PDA more than once.

Checking the total number of records

Once you have finished saving the data from all the PDAs into the EpiData .rec file, you should compare the total number of records in this file to the total number of records across all the individual PDA .rec files. If the two numbers do not match, you should delete the master .rec file and redo the entire process.

To check the total number of records of your EpiData .rec file, double-click on the file to open it. If it does not automatically open in EpiData, open EpiData and click on "4. Enter Data" at the top of the screen and locate and open your .rec file.

Once your .rec file is open, the total number of records will be shown in the small box at the bottom left-hand corner of the screen in between the small black arrows. The text in this box will read "New/xxxx" where xxxx is the total number of records in your file.

Exporting from EpiData

Introduction

After appending all records into one file within EpiData, you will then need to export the data from EpiData so that it can be analyzed in Epi Info or other statistical program of your choice.

Export the dataset for analysis

The first step in preparing your data for analysis in Epi Info is to export it from EpiData into an Excel file (.xls). Follow the steps below to export the dataset.

Step	Action
1	Open EpiData.
2	Click on "6. Export Data".
3	Select "Excel" from the list.
4	Select MasterDataSet.rec as the file to open.
5	In the "Export data file to Excel file" window simply click "OK". Do not change anything in the popup window.
6	Your data is now in the MasterDataSet.xls file in the same location as your MasterDataSet.rec file. The Excel file will need to be updated to a more recent version. To do so, simply open the file, save it, and close it. You will automatically be prompted to save it in a newer version.

Instructions for importing data from EpiData

The next step is to transform the Excel file into a Microsoft Access database file. To use the automated Epi Info analysis programs available from the STEPS team, the data must be named and located precisely as described here in order for these programs to work properly. The table below describes how to transform your data from the .dbf file to the Access database file.

Step	Action
1	Create a new Microsoft Access file and rename it "STEPS.mdb." (To create a new Access file, right click anywhere in the folder and select New > "Microsoft Office Access Application".)
2	Open the STEPS.mdb file and go to File>Get External Data>Import.
3	Change the file type to .xls and select your MasterDataSet.xls file and click "Import".
4	In the first popup window that follows, select "First Row Contains Column Headings". Then click "Next".
5	Click "Next" on the next two screens of the popup window.
6	On the 4th screen of the popup, select "No primary key", then click "Next".
7	On the 5th screen of the popup, click "Finish" and click "OK" on the confirmation popup.

Continued on next page

Instructions for importing data from EpiData, cont.

Step	Action
8	You will now see the data table "MasterDataSet" listed in your Database window. You may open it to have a look at your data.
9	Exit from Access.
10	If you have not already done so, create a folder "STEPS" on the C drive of your computer. Within this folder make another folder called "Epi Info".
11	Move the STEPS.mdb file to the C:\STEPS\Epi Info folder.

Epi Info 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 following table describes how to download the Epi Info analysis programs from the internet and attach them to your STEPS.mdb file containing your survey data.

Step	Action
1	Connect to the internet and go to: http://www.who.int/chp/steps/resources/database/en/index.html
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.
5	Open the Epi_Info_Analysis_Programs.mdb file and right click on the table "Programs".
6	Select "Export" and in the "Select Table to Export to" window select STEPS.mdb (this should be located in your C:\STEPS\Epi Info folder).
7	Select the "Definition and Data" option in the dialogue window and click "OK". If you are replacing an older version of the programs, a dialogue window will appear asking if you want to replace the old "Programs" table. Click "Yes".

Appending Kish Method Data

Introduction

The Kish Method data stored on each PDA needs to be saved onto one computer, appended together, and attached to the dataset.

Preparation

Before copying the Kish Method data files from all the PDAs onto your computer, it is important to first create the correct folder in which to save them. If you have not already done so, create the folder:

C:\STEPS\data\Kish data

The Kish Method data files must be saved in this exact location in order for the automated programs to work correctly.

Copying the Kish Method data files to your computer

The table below provides instructions on how to copy all the Kish Method data files to your computer. Since each of these files will automatically be named the same on each PDA, it is critical that you modify the name of each one as you save it to your computer. For example:
eSTEPS1.csv, eSTEPS2.csv, eSTEPS3.csv, etc.

Step	Action
1	Organize and label all PDAs to ensure there will be no possibility of accidentally copying the data off the PDA twice.
2	Open the eSTEPS Manager program and click on the "Manage PDA Records" tab.
3	Connect the first PDA to your computer. Make sure it is properly connected and synced to your computer.
4	The location of the Kish Method data file (.kish) on the PDA should automatically appear in the first field on the eSTEPS Manager screen. If it does not appear, double-check the connection between your PDA and computer and click the "Connect to PDA" button.
5	The records file (.qml) and Kish Method data file (.kish) that are on the PDA should be listed in the list of files in the eSTEPS Manager screen. Select the Kish Methods data file by clicking on it once.
6	Click on the button "Export .kish to .csv" to export the Kish Method data from the PDA to a .csv file (comma-delimited file).
7	Modify the name of the file to include a number (e.g. the unique number you have assigned to the PDA) and be sure to save the .csv file in the C:\STEPS\data\Kish data folder.

Continued on next page

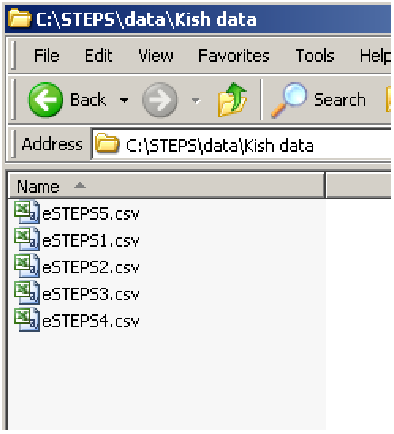
Appending Kish Method Data, Continued

Copying the Kish Method data files to your computer, cont.

Step	Action
8	A pop-up window should appear informing you that the export was successful. Click "OK" to finish.
9	Repeat steps 3-8 for each PDA, being very careful not to download the data from the same PDA more than once.

Appending the Kish Method data files

Once all the Kish Method data files, you should see all the files in your C:\STEPS\data\Kish data folder, as in the image below.



The Excel file Kish_Method_Data.xls has been created by the STEPS team to assist you in appending all the data in these files. The Kish_Method_Data.xls file is available on the STEPS CD as well as on the eSTEPS website: http://www.who.int/chp/steps/esteps

Download the Kish_Method_Data.xls file and save it to the C:\STEPS\data folder. Open the file and press "Ctrl + m" to automatically append all the Kish Method data files into this file.

Attaching the Kish Method data to the dataset

Once all the Kish Method Data has been appended together in the Kish_Method_Data.xls file, you may run the program AttachKishMethodData in Epi Info to attach the Kish Method data to your dataset **only if** you are certain that there are no duplicate Participant IDs in either your data set or in your Kish data.

Information on how to use Epi Info is provided in the STEPS Manual, Part 3 Section 6 and Part 4 Section 3, as well as the Epi Info Training Guide, which is available on the STEPS website and CD. For further assistance, please contact the STEPS team (steps@who.int).