

ProPAN

Process for the Promotion of Child Feeding



**Pan American
Health
Organization**

Regional Office of the
World Health Organization

unicef 

**Software User's Guide
Version 2.0**

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Pan American Health Organization. United Nations Children's Fund.

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I. Introduction

ProPAN is a set of research tools designed for ministries of health (MoHs), nongovernmental organizations (NGOs), and bilateral and international organizations working to improve the diets and feeding practices of children under 24 months old to prevent early childhood malnutrition. It guides users through a step-by-step process for identifying problems related to young child nutrition, breastfeeding, and complementary feeding within a specific target population; defining the context in which these problems occur, including barriers to and facilitators of improved or “ideal” practices; formulating, testing, and selecting behavior-change recommendations and nutritional recipes; developing the interventions to promote them; and designing a monitoring and evaluation system to measure progress toward intervention goals.

ProPAN materials include a multi-module Field Manual with detailed instructions on how to collect, analyze, and integrate the quantitative and qualitative data required to design and evaluate interventions, an Epi Info™-based software program developed specifically for quantitative analysis of household demographic and socio-economic characteristics and infant and young child diets, but which can also be used as an analytical tool for identifying locally available foods that provide the greatest amount of energy and nutrients at the lowest cost, and a Software User’s Guide developed to provide instructions for data entry, cleaning, and analysis of **ProPAN** data.

Epi Info™ is a public domain software package designed and developed for public health practitioners and researchers worldwide by the U.S. Centers for Disease Control and Prevention (CDC) and the World Health Organization (WHO). The **ProPAN 2.0** software program, which is compatible with Epi Info™ version 3.5.4 (but not with version 7), allows for easy questionnaire and database construction, data entry, and standardized output of diet and feeding practices. Its data analysis tools can help identify key nutrient gaps, and determine the relative nutritional importance and cost of local foods available to fill them. They can also be used to analyze the anthropometric data and the energy and nutrient profile of recipes, and to determine the frequency of consumption of certain foods—one of the required inputs for the WHO *Optifood*¹ program.

All the **ProPAN** tools, including this Software User’s Guide can be freely downloaded in English, French, and Spanish at www.paho.org/ProPAN.

Because Epi Info™ Windows Version 3.5.4 is a Microsoft Windows-based program, **ProPAN 2.0** must be run using the Windows operating system. In general, it would be useful if the individual responsible for data entry and analysis is familiar with Epi Info™ and with the Windows operating system. The level of Epi Info™ experience depends on how the research instruments are applied. If the instruments are

¹ A software program developed by WHO and its partners as a research tool for 1) formulating and testing food-based recommendations, 2) selecting the lowest-cost nutritionally optimal diet for a target population, and 3) identifying nutrient requirements that may be difficult to meet through diets based on locally available foods.

applied using the suggested forms and data entry systems, then relatively little Epi Info™ experience will be needed. If the instruments are to be modified, and therefore the data entry systems and analyses modified, there will be a need to customize the **ProPAN** modules, which will require extensive knowledge of Epi Info™. Support available from the **ProPAN** team for customizing data entry and analysis systems will be very limited and available only to those with extensive knowledge of Epi Info™. Training resources are available on the use of Epi Info™ at the CDC Epi Info™ website which can be found at www.cdc.gov/epiinfo.

The **ProPAN 2.0** software was thoroughly tested for accuracy and consistency. The technical specifications used to calculate the **ProPAN 2.0** software outputs for **ProPAN**'s three quantitative instruments (*Caregiver Survey*, *24-hour Dietary Recall and Anthropometry* and *Market Survey*) were also coded in SAS 9.3 (SAS 2012). All **ProPAN 2.0** software outputs were checked against these SAS outputs. In addition, manual calculations using Microsoft Excel were completed and cross-checked with **ProPAN 2.0** software outputs for the more elaborate coding contained in the *24-hour Dietary Recall and Anthropometry* technical specifications. Anthropometric calculations were entered into the WHO Anthro software 3.2.2 to confirm their accuracy (WHO Anthro 2011). Any discrepancies were examined and revisions were made accordingly. The datasets used for testing of the **ProPAN 2.0** software were from field application of the *Caregiver Survey*, *24-hour Dietary Recall and Anthropometry* and *Market Survey*.

ProPAN 2.0 includes a multi-region Food Composition Table (FCT) that contains values for energy, protein, carbohydrates, iron, zinc, vitamin A, vitamin C, calcium, other vitamins and minerals, and phytate of approximately 2000 foods to use in the software for analysis of the *24 hour Dietary Recall and Anthropometry* and *Market Survey*.

The FCT was initially compiled by the Instituto Nacional de Salud Pública (Mexico) and has been updated by adding foods from 12 additional sources with foods from other global regions. These sources include the USDA National Nutrient Database for Standard Reference 23, FCTs of six WORLDFOOD countries, three FCTs from African countries, the World Food Programme's (WFP) Food Quality website, and the Institute of Nutrition of Central America and Panama (INCAP) FCT. The updated **ProPAN 2.0** FCT contains foods from several countries, largely from Latin and Central America and Africa, and provides several widely used preparations as well as fortified blended flours and biscuits; lipid based nutrient spreads and multi-micronutrient powders used in many countries.

II. Installing the software . . .

To install **ProPAN 2.0**, you must first install on the computer Epi Info™ 3.5.4 (not Version 7). Epi Info™ can be installed via the internet. Installing Epi Info™ may require administrative rights on the computer if your computer belongs to an institution that does not permit software to be downloaded.

Before installing Epi Info™ 3.5.4 you will need to:

- Install “Windows XP Service Pack 3”, if you have Windows XP
- Remove any Epi Info™ version prior to 3.3, if you are upgrading a version of Epi Info™ for Windows 98, NT 4.0, 2000 or XP. However, if you have Epi Info™ 3.3 or later, version 3.5.4 can be installed over it
- Remove any pre-existing version of Epi Info™ that may be installed, if you have Windows Vista

Should there be any problems with installing Epi Info™, please contact CDC at the number or address below.

- Epi Info™ Help Desk

Centers for Disease Control and Prevention

1600 Clifton Rd

Mail Stop E-91

Atlanta, GA 30333, USA

- 404-498-6190

Monday-Friday, 8:30 a.m. - 4:30 p.m. (Eastern Standard Time)

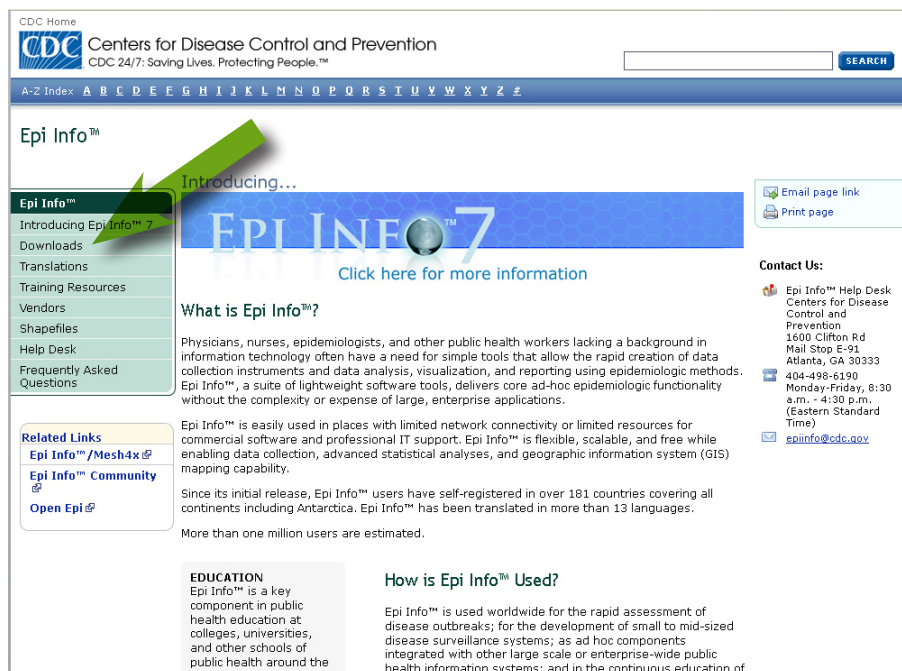
- epiinfo@cdc.gov

Installing Epi Info™

Epi Info™ can be downloaded from: www.cdc.gov/epiinfo

At the time of this writing, the web page looks as presented next and focuses on Epi Info™ Version 7.

On the left side of the screen is a link labeled Downloads; click on this to go to the screen where Epi Info™ can be downloaded. On the Download site, beneath “Epi Info™ 3.5.4”, click on “Download Epi Info™” and follow the instructions.

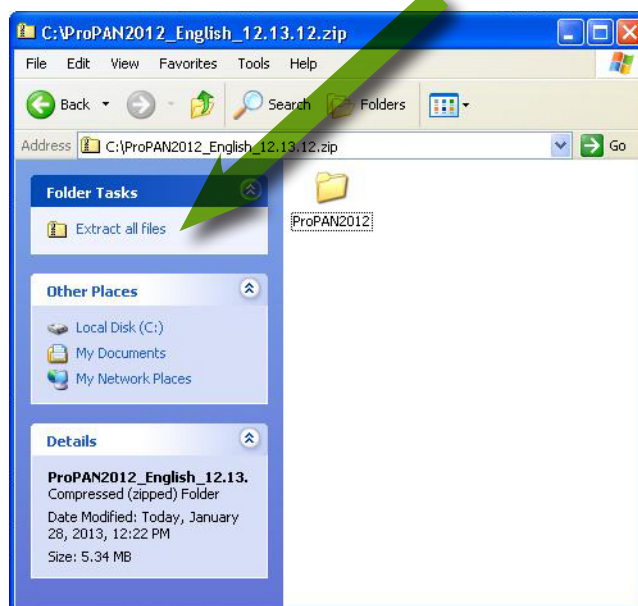


Installing ProPAN 2.0

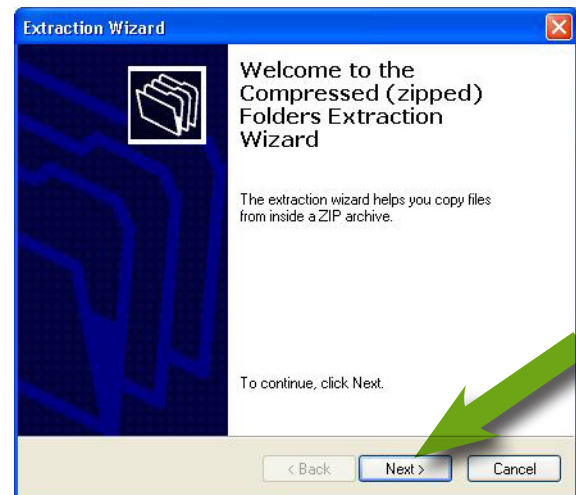
Once Epi Info™ has been installed, download the **ProPAN 2.0** software files from www.PAHO.org/ProPAN.

You should not need administrative rights to the computer to copy the **ProPAN 2.0** software.

The name of the file of the English version of the software is ProPAN2012_English.zip (Note: the year in the file name may be more recent than that shown above if the software has been updated). Save it in the root directory (C:\). Different versions of Windows and internet browsers may have different default folders for saving downloaded files. Note where the file is saved and then either copy or move it to C:\. Once the file has been copied to C:\, double click on the file and the following dialog box will be presented. Click on the left under “Folder Tasks” where it says “Extract all files”.

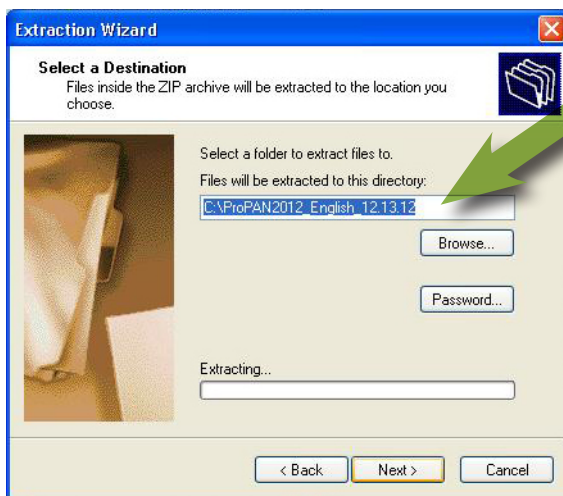


After clicking on “Extract all files”, the following dialog box will be presented:

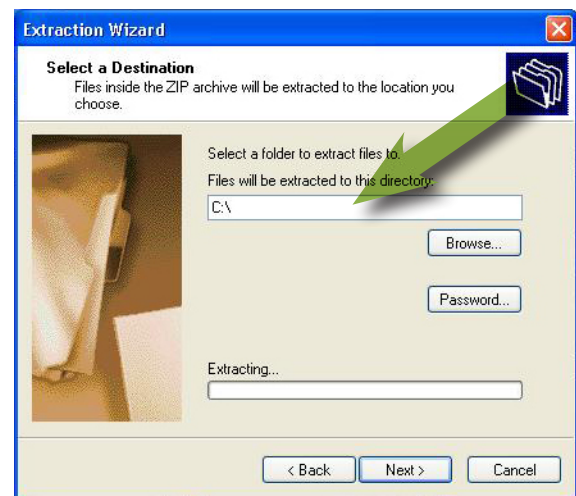


Click on “Next” and the screen shown below, to the left, will be presented. THE NEXT IS AN EXTREMELY IMPORTANT STEP! Beneath where it says “Files will be extracted to this directory”, change the directory to C:\

Change directory from this:



To this:



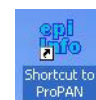
Click on “Next”. The files will be extracted and the final dialog box presented:

Click on “Finish” to complete the installation process. There will be a new folder added to your computer with the following name:

C:\ProPAN2012_English



The process should have also created a shortcut on the Desktop that looks like this:



If the shortcut was not added to your desktop, go to the folder “C:\ C:\ProPAN2012_English” and double click on “Create a Shortcut on Desktop.vbs”. You may be presented with the following dialog box:

Click “Open” to have the shortcut added to the desktop.

If clicking “Create a Shortcut on Desktop.vbs” does not work, copy the file “Shortcut to ProPAN 2.0” and paste on the desktop.



Note: you can install the English, Spanish, and French versions of the **ProPAN 2.0** software on the same computer.

Installing Adobe Reader

The **ProPAN** Field Manual and Software User’s Guide are .pdf files and require use of Adobe software to open. Most computers already have Adobe installed, but if your computer does not, you can download Adobe Reader free of charge at <http://get.adobe.com/reader>

File locations

Under the ProPAN2012_English folder in your C: drive, there are several subfolders that allow **ProPAN 2.0** to appropriately function. The Database subfolder contains sample datasets as well as new datasets created by the user. The Database_Template folder contains Microsoft Access (.mdb format) templates for each of the instruments (*Caregiver Survey*, *24-hour Dietary Recall and Anthropometry* and *Market Survey*) as well as a template file to calculate sample sizes and proportions. This folder also contains the FCT in Microsoft Access format, which may be viewed and used as a template for modifications.



Name	Size	Type	Date Modified
Database		File Folder	12/10/2012 12:05 PM
Database_Template		File Folder	12/10/2012 12:05 PM
FeedForward		File Folder	12/10/2012 12:05 PM
Help		File Folder	12/10/2012 12:05 PM
Images		File Folder	12/10/2012 12:15 PM
Output		File Folder	12/10/2012 12:05 PM
PGM		File Folder	12/10/2012 5:05 PM
Presentation		File Folder	12/10/2012 12:05 PM
Reports		File Folder	12/10/2012 12:05 PM
Setup		File Folder	12/10/2012 12:05 PM
Software Manual		File Folder	12/10/2012 12:05 PM
SOURCE		File Folder	12/10/2012 12:05 PM
Technical Specification		File Folder	12/10/2012 12:05 PM
Templates		File Folder	12/10/2012 12:05 PM
Create a Shortcut on Desktop	1 KB	VBScript Script File	12/10/2012 12:05 PM
Menu_Bat	1 KB	M5-DOS Batch File	12/10/2012 12:05 PM
ProPAN_GUI	216 KB	MNU File	12/10/2012 12:05 PM
Shortcut to ProPAN	2 KB	Shortcut	12/10/2012 12:05 PM

An important folder is the Database folder where all the survey files² created when using the **ProPAN 2.0** software will be stored.

Backing-up computer files

We recommend that you regularly back up files from your computer as a safeguard in case of hardware failure and/or theft.

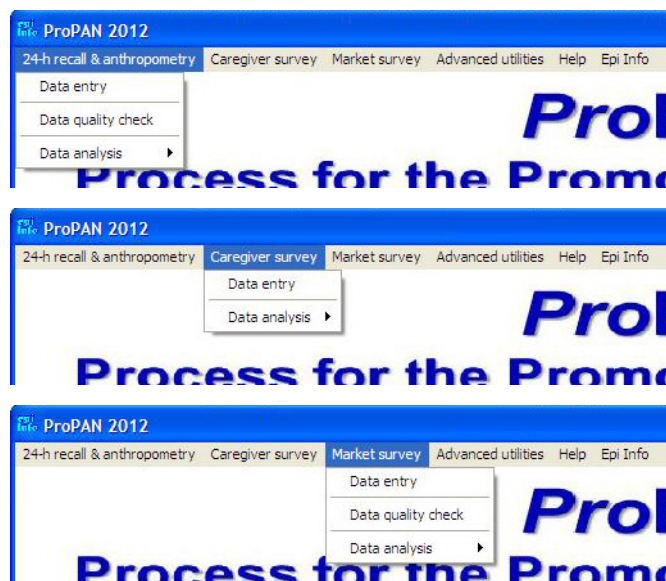
² In Epi Info™, survey files are all software files used for data entry.

III. Overview of the software . . .

The **ProPAN 2.0** software is designed to analyze quantitative data on infant and young child nutrition and feeding practices resulting from the application of three different data collection instruments, as described in the **ProPAN** Field Manual: *24-hour Dietary Recall and Anthropometry*, *Caregiver Survey* and *Market Survey*. The **ProPAN 2.0** menu items include links to these three instruments as well as tools for the advanced user and a link to useful Epi Info™ features, as shown below.



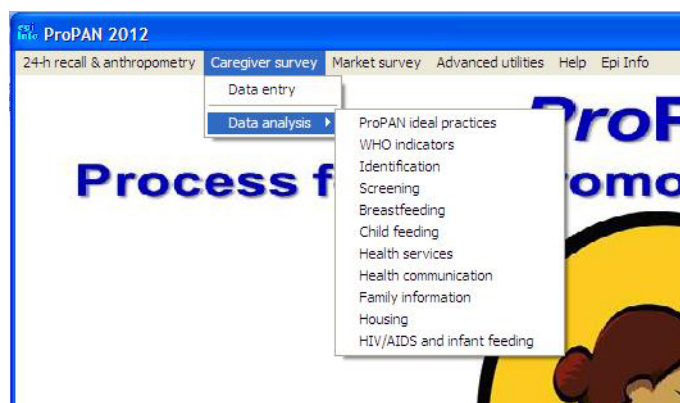
The three instruments have similar drop down options, including data entry and data analysis sub-menu items, as shown below. In addition, the *24-hour Dietary Recall and Anthropometry* and *Market Survey* include a data quality check feature designed to alert the user to extreme or missing values for relevant variables prior to analyzing the data, allowing for efficient data cleaning.



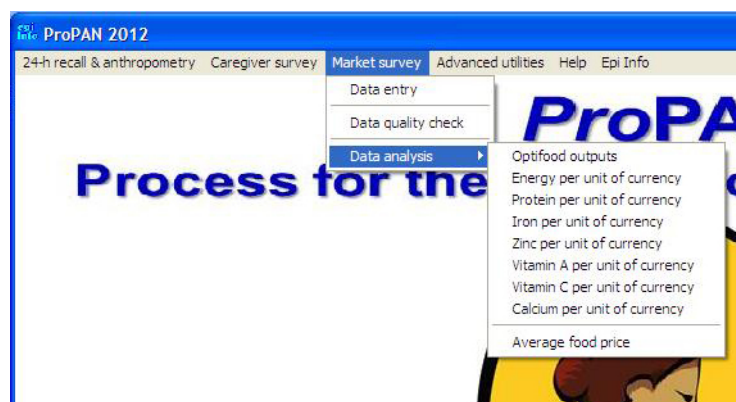
The data entry screens reflect the template of each instrument for easy entry of data (described in detail in the Data Entry section under IV. Main Menu Options).

The analysis menus include the sub-menu items broken down by the sections of each instrument. The *24-hour Dietary Recall and Anthropometry* and *Caregiver Survey* include **ProPAN** Ideal Practices (listed on Table 1 of the Field Manual's Introduction) as well as WHO/UNICEF *Indicators for Assessing Infant and*

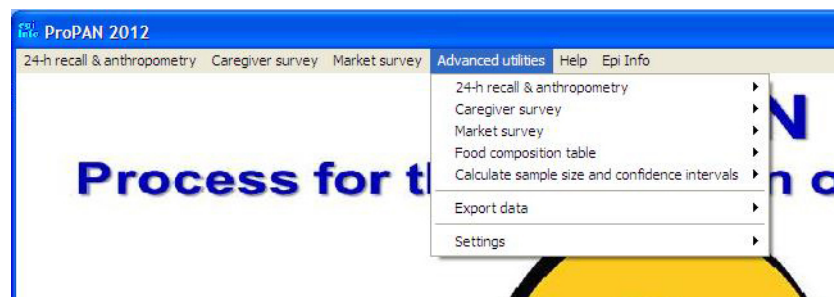
Young Child Feeding Practices (WHO and partners, 2008), which help contextualize the current status of infant and young child nutrition in a given community using standardized analysis.



The *Market Survey* analyses provide a summary of amount of energy and nutrients per unit of currency as well as the average price per gram for each food. The *24-hour Dietary Recall and Anthropometry* and *Market Survey* also include a feature to run analyses required for *Optifood*.



The Advanced Utilities menu item allows advanced users to create and modify surveys for each of the data collection instruments, edit the **ProPAN** FCT, calculate sample sizes and confidence intervals, export data and adjust **ProPAN** settings.



The Help menu item links the user to help contents for both **ProPAN** (which includes a link to this Software User's Guide and the Field Manual) and Epi Info™.

The Epi Info™ menu item provides the user access to the main Epi Info™ utilities.



IV. Main menu options . . .

Data Entry

Under each main menu item, you will find a data entry screen and options for analysis. Once a survey (database) is created, the user is guided through the data entry process. When you select the Data Entry option under each instrument, you will be prompted to choose a database that has been previously created. On this screen, you will be able to enter the data collected for each child.

Note: Please see the Advanced Utilities section (VI) to learn how to create a new survey.

Note that there are some fields that must be entered in order to exit this entry screen—these are noted as “must enter” at the bottom of the screen when the cursor is on that field. Section V contains examples of completed data collection instruments.

Data Quality Checks

Data quality checks are available for the *24-hour Dietary Recall and Anthropometry and Market Survey*. This feature of **ProPAN 2.0** allows users to check for any errors and facilitates the data cleaning process. During data entry, there are some fields that allow only a specific range of values, so that the user is limited to entering reasonable values for that particular field. For example, when entering the date, **ProPAN 2.0** will display an error message if an inappropriate or incomplete date has been entered. These limits are placed only on select fields.

Data quality checks provide the user with descriptive statistics, including the minimum and maximum values as well as ± 4 standard deviations from the mean, for ease of identifying extreme values for key fields used in the analysis. If there are noticeable extreme values, the database should be checked against the original data collection instrument in case there was an error in data entry. If the values match the original, the user may decide whether or not to keep or eliminate that particular value or record. Data quality checking and cleaning are important steps to ensuring that outputs are sensible and accurate.

Data Analysis

Under the Data Analysis item there are various sub-menu items, which generate HTML reports containing descriptive statistics and specialized analyses. In general, these are standard Epi Info™ outputs, such as key statistics. The **ProPAN 2.0** software also includes several more complex analyses with customized outputs.

An example of a customized output is the Data Quality Check analysis under the *Market Survey* and *24-hour Dietary Recall and Anthropometry*. These outputs display descriptive statistics, including values for ± 4 standard deviations from the mean to potentially alert the user to extreme values.

All of these reports may be saved in HTML format or copied and pasted into a Microsoft Word or Excel file. If you right click anywhere on the HTML page, you will be given several options. Choose the “Save As...” option and you can save the HTML page. To copy and paste, highlight or select all by pressing CTRL+A and then right click to copy or hit CTRL+C and paste it into a Microsoft Word or Excel file, where you can edit the outputs.

The software takes the following into account:

- Z scores are constructed from the weight and length values (weight-for-age, length-for-age and weight-for-length) using the World Health Organization’s Child Growth Standards (WHO, 2006). Children with severe acute malnutrition can be identified by using mid-upper arm circumference per WHO and UNICEF recommendations (WHO and UNICEF, 2009). If children’s anthropometric measures were not entered into the database, these analyses cannot be completed.
- Extreme Z scores are excluded from the analysis as per the following cut-offs:
 - Length-for-age Z-score < -6.0 or $> +6.0$
 - Weight-for-age Z-score < -6.0 or $> +5.0$
 - Weight-for-length Z-score < -5.0 or $> +5.0$
- Calculated age is used, when available, for age-dependent analyses. If the calculated age is missing, the stated age is used. If both ages are missing, these analyses cannot be completed.
- Because **ProPAN** is for children under 2 years of age, it is assumed that recumbent length has been measured.
- Many **ProPAN** analyses depend on age cut-offs. For example, when an output presents an age group as 6-11 months, it translates to children 6.0 months of age up to (but not including) 12.0 months of age. i.e., 6.000-11.999 months.
- **ProPan** assumes data were collected using simple random sampling. If a different sampling design was used, users will need to add new fields to perform their desired analysis as **ProPAN** does not have built-in analyses accounting for complex sample designs.

ProPAN 2.0 also creates and stores temporary databases for the *24 hour Dietary Recall and Anthropometry*. These databases contain variables that are created while certain analyses are run, which users may further explore. Temporary databases are created for:

- Anthropometry
- WHO Indicators for Assessing Infant and Young Child Feeding Practices 5 and 6
- WHO Indicator for Assessing Infant and Young Child Feeding Practices 7
- WHO Indicator for Assessing Infant and Young Child Feeding Practices 8

- Energy
- Energy Intake
- Nutrient Intake
- Energy Consumed
- Energy Density
- Protein Density
- Zinc Density
- Vitamin A Density
- Vitamin C Density
- Calcium Density
- Energy and Nutrient Density
- Mealtimes

V. Data entry guidelines . . .

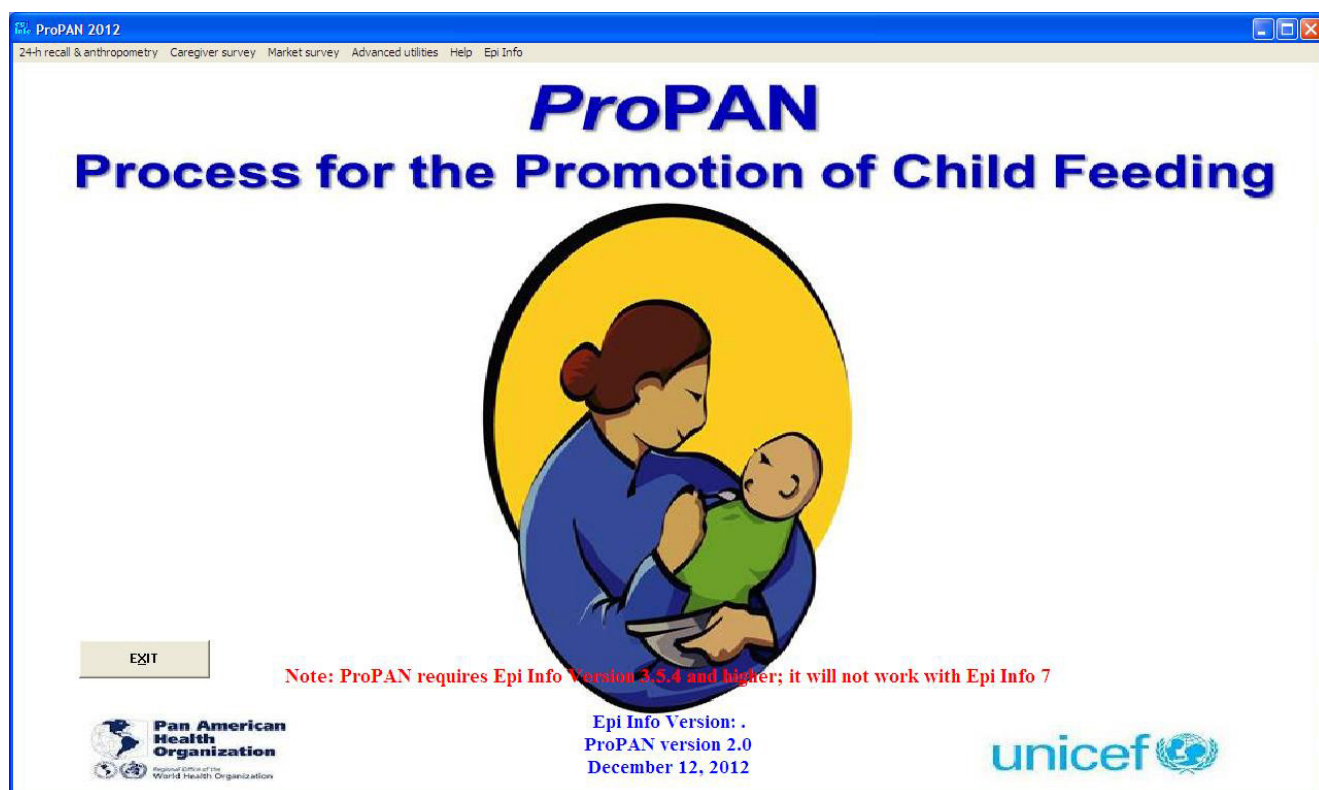
Data entry guidelines for the 24-hour Dietary Recall and Anthropometry

Overview

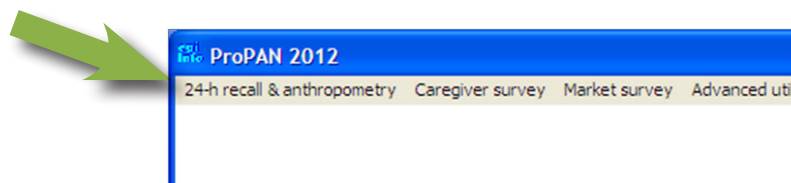
To start **ProPAN 2.0**, click on the **ProPAN 2.0** icon, which looks like



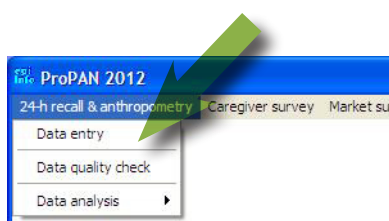
The main **ProPAN 2.0** screen will appear:



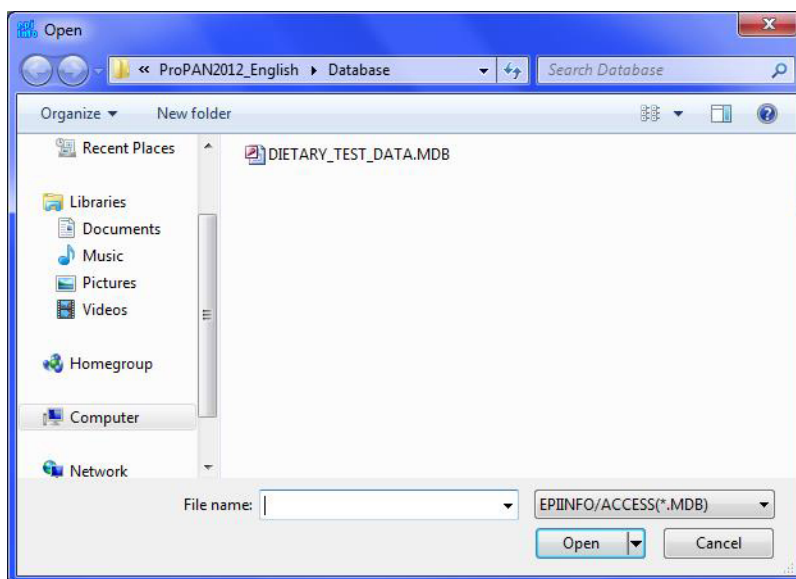
The three data entry systems are on the menu line at the top of the **ProPAN 2.0** main screen. The sample screen below shows the “24-hour Dietary Recall and Anthropometry”. Click on this to see the pull down menu.



As shown, there are three menu items: Data entry, Data quality check, and Data analysis. This section will present only “Data entry”.



For this section, we will use a sample data file that comes with the **ProPAN 2.0** software to demonstrate how to enter data for the *24-hour Dietary Recall and Anthropometry*. Click on “Data entry” and a dialog box will open requesting the name of the file. At this point, the survey (database) will have been created³ and given a name. Below is the dialog box for the sample survey included in the software for instructional purposes.



³ How to create a survey (database) is described in section VI.

Survey data are saved as Microsoft Access files (saved as .mdb files in the 2002-2003 version). The name of the sample data file used in this section is “DIETARY_TEST_DATA”. Double click on this file name (or alternatively, click once and the file name will have a shaded background, and then click the “Open” button). The data entry screen for the “Registration Form for the 24-hour Dietary Recall and Anthropometry” is presented.

The screenshot shows the ProPAN data entry interface. The **Left window** is a sidebar with navigation and action buttons: 'Save data', 'Mark record as deleted', 'Find', 'New', and 'Record'. The **Right window** is the main data entry form titled 'REGISTRATION FORM FOR THE 24-HOUR DIETARY RECALL AND ANTHROPOMETRY (FORM I-4.1)'. It is divided into sections: 'Survey Information' (Country, Other geographic information, Name of investigator, Email, Institution, Notes), a consent/introduction paragraph, a series of numbered fields (1-14) for child and interview details, a section for anthropometric measurements (12-14), and a section for 'Anthropometric Z-scores' (HAZ, WAZ, WHZ). At the bottom of the right window is a 'Foods Served & Consumed' button. A 'Record' panel at the bottom right of the right window shows the current record number '102' and a 'New Record' button. Two large green arrows point from the labels 'Left window' and 'Right window' to their respective sections.

The data entry screen has two windows: the left window provides information and options for entering data and the right window is where data are entered. In the sample data file, the number of records is in the lower left corner:

A close-up of the 'Record' panel from the screenshot. It shows a box containing the number '102' and a button labeled 'New Record'. Below the box are navigation arrows: '<<', '<', '>', and '>>'.

In this example, 101 records have already been entered, and the data being entered corresponds to record 102. To move from field to field you can use the Tab or Enter key. Upon entering a value in a field containing a drop down arrow, the cursor will automatically move to the next appropriate field (taking skip patterns into account). Manually clicking on another field may not save the entry made in the previous field.. Manually clicking on another field may not save the entry made in the previous field. Note that the number of records in the data file may differ from this example if others have practiced entering data into this file. Once information is entered on this screen, click on the Foods Served & Consumed button and the screen for the “Foods Served & Consumed” form will appear, which allows for entry of each food. Note that the first food for a child will be presented in Record 1, and subsequent foods will be sequentially numbered. Since most children eat several foods per day, after entering one food, click on the New button on the left side of the screen to allow for data on another food to be entered.

Figure 1 shows a sample form with dietary information that has been filled out. Since this form has five foods, it will create five records on this screen. If a dish is not found in the FCT, enter the components individually. For example, if the vegetarian lasagna is not listed, enter each of the five ingredients or components separately. This would result in nine records for foods eaten by this child. Once all of the foods have been entered for a child, click on the “Home” (in the gray portion of the screen) button to return to the previous screen.

Foods Served & Consumed Child's code: 0333

15. Meal time: -- ☐ **Main meals:** 10 - morning (breakfast), 20 - midday (lunch), 30 - evening (dinner)

Snacks: 01, 02, 03...09 - morning (before breakfast)
11, 12, 13...19 - morning (after breakfast)
21, 22, 23...29 - afternoon
31, 32, 33...39 - evening

16. Code of food or preparation:

16a. Name of food or preparation:

17. Days consumed in past week: ☐

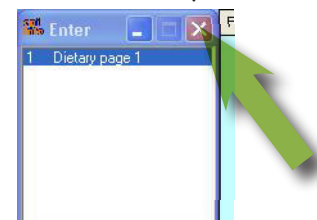
18. Net grams served:

19. Net grams consumed:

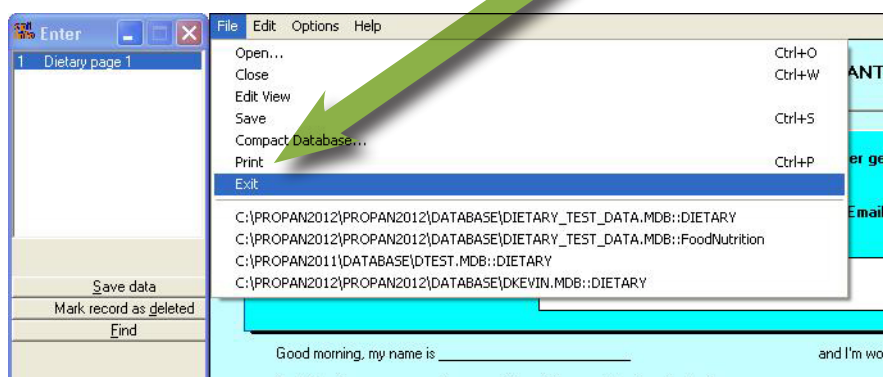
Record: 1 New Record

When you exit the data entry session, your file will automatically save the data you have entered. If you want to end the data entry session, there are two options:

1. Click on the red “X” in the upper left window:



2. Click “Exit”, under the File sub-item, to leave the data entry screen and return to the main menu.



Some information requested on the data entry screen is not on the form, but will be provided by the Supervisor. These fields (shown below), which are at the top of the first data screen, are “repeat” fields so that when the information is entered on one record it will be automatically repeated on every new record entered thereafter. This saves the data entry person from entering the same information for every record.

Survey Information			
Country:	<input type="text"/>	Other geographic information:	<input type="text"/>
Name of investigator:	<input type="text"/>	Email:	<input type="text"/>
		Institution:	<input type="text"/>
Notes:	<input type="text"/>		

Not all information on the forms is entered. For example, on the form the interviewer writes her name but this is not entered into the database.

You must enter the “Child’s code” otherwise you will not be able to advance to any other fields. Furthermore, if you enter a child code that has already been entered, you will be notified with a message, which will direct you to the record with that child code. If you would like to see this record, click “OK”. Otherwise, click Cancel to return to your screen to enter a new code.

On the data entry screen, some fields will have a drop-down arrow to the right of the data entry field. Clicking on this arrow will present the response options. For example, for “5. Child’s sex” the form will have the options “1 - Male” and “2 - Female”.

09-06-2009
2 - Female
1 - Male
2 - Female

In general you would just enter the code (in this example, 1 for males and 2 for females) and not use the down arrow. Note also that this field will allow only three possible values: 1, 2, or blank. If you try to enter the number 3 you will get an error message.



There are some fields on the screen that are not on the form. For example, field “7a. Calculated age (months)” is calculated based on the date of interview and the date of birth that are entered.

REGISTRATION FORM FOR THE 24-HOUR DIETARY RECALL AND ANTHROPOMETRY (FORM I-4.1)

Survey Information

Country: _____ Other geographic information: _____

Name of investigator: _____ Email: _____ Institution: _____

Notes: _____

Good morning, my name is _____ and I'm working on a child feeding project for the _____.

Could I ask you some questions regarding what the child you care for ate yesterday? The information that you provide will remain confidential.

1. Child's code: --- [0247] 2. Date of interview (dd/mm/yyyy): [12-02-2011] 3. Location: _____ [0001]

4. Field worker's code: [04] 5. Child's sex: _____ [2] 6. Date of birth (dd/mm/yyyy): [15-03-2009]

7. Age (months): --- [23] 7a. Calculated age (months): --- [22]

If there is a discrepancy between the entered age, “7. Age (months),” which is the age recorded in the Caregiver Survey Form, and the calculated age, “7a. Calculated age (months),” a dialog box will appear with a suggestion to double check the accuracy of the dates (date of interview and birth).

Good morning, my name is _____ and I'm working on a child feeding project for the _____.

Could I ask you some questions regarding what the child you care for ate yesterday? The information that you provide will remain confidential.

1. Child's code: --- [0247] 2. Date of interview (dd/mm/yyyy): _____ 3. Location: _____ [0001]

4. Field worker's code: [04] 5. Child's sex: _____ 6. Date of birth (dd/mm/yyyy): [15-03-2009]

7. Age (months): --- [14] 7a. Calculated age (months): _____

(IF THE CHILD IS YOUNGER THAN 4 YEARS OF AGE, ANSWER THE FOLLOWING QUESTIONS)

8. Was (child) breastfed yesterday? _____

9. Yesterday, was it a holiday in the community? _____

10. Yesterday, was there a celebration in the family? _____

11. Yesterday, was the child sick with fever, cough or diarrhea? _____

Invalid age

Please double check the dates and/or the stated age - calculated age and entered age are different

OK

Note that date fields are in the day/month/year format and will not allow partial dates, e.g., month and year, and also check the accuracy of the date. For example, the date 30/02/212 cannot be entered because there are not 30 days in February. Also February 29th can only be entered for leap years.

To move from field to field you can use the “Tab” key or “Enter” key. When a field is entered, the cursor will automatically move to the next field. Upon entering a value in a field containing a drop down arrow, the cursor will automatically move to the next appropriate field (taking skip patterns into account). Manually clicking on another field may not save the entry made in the previous field.

Generating anthropometric Z scores

For **ProPAN 2.0** to automatically calculate anthropometric Z scores, you must enter the date of the interview, the child's date of birth, gender, length, and weight. The example below uses the information from the sample form in Figure 2.

Good morning, my name is _____ and I'm working on a child feeding project for the _____.

Could I ask you some questions regarding what the child you care for ate yesterday? The information that you provide will remain confidential.

1. Child's code: --- 0247 2. Date of interview (dd/mm/yyyy): 12-02-2011 3. Location: ----- 0001

4. Field worker's code: 04 5. Child's sex: ----- 2 6. Date of birth (dd/mm/yyyy): 15-03-2009

7. Age (months): --- 23 7a. Calculated age (months): --- 22

(IF THE CHILD IS YOUNGER THAN 6 MONTHS OR 24 MONTHS OR OLDER, DO NOT APPLY THE FORM)

8. Was (child) breastfed yesterday? ----- 1

9. Yesterday, was it a holiday in the community? ----- 0

10. Yesterday, was there a celebration in the family? ----- 0

11. Yesterday, was the child sick with fever, cough or diarrhea? ----- 0

If anthropometric measurements were taken:

12. Child weight in kilograms: -- 013.3

13. Child height in centimeters: 080.7

14. Child MUAC in millimeters: - 116.5

Foods Served & Consumed

Anthropometric Z-scores

HAZ (Height-for-Age Z-score)	-01.51	WAZ (Weight-for-Age Z-score)	001.31	WHZ (Weight-for-Height Z-score)	002.79
---------------------------------	--------	---------------------------------	--------	------------------------------------	--------

If you need to adjust any of the entries needed to calculate Z scores, correct the data, then place your cursor on the value for the child's length and hit the "Enter" key. This is an important step for generating accurate Z scores.

Changing or correcting data

If you find a discrepancy between the data collected on the original instrument and the data that has been entered, you can correct the entry(ies) by returning to that record. You may search for the record using the child code (or food code if using the *Market Survey*) by using the "Find" feature (see the Using the Food Composition Table section under VI).

Important: After you change values on the data entry screen, you must press "Enter" or "Tab" to ensure that the change is made in the Access database file.

Deleting and undeleting data

To delete a record, click on "Mark record as deleted." This can be done for all types of records, whether the entry is for a child or a food. Though these deleted entries will remain in the database, they will not be included in the analyses.

You can click "Undelete" to undo the deletion.

Analyzing data and generating outputs

Please see Data Analysis section under IV. Main Menu Options for details on generating outputs. Figure 3 in this section provides an example of an output from the *24-hour Dietary Recall and Anthropometry*.

Figure 1: Sample completed Form for the 24-hour Dietary Recall and Anthropometry (Section C)

Child's Code

[illegible]

Mealtimes:

10 morning (breakfast); 20 midday (lunch); 30 evening (dinner)

01, 02, 03 ... 09 morning (before breakfast); 11, 12, 13 ... 19 morning (after breakfast); 21, 22, 23 ... 29 afternoon; 31, 32, 33 ... 39 evening

Figure 2: Sample completed Form for the 24-hour Dietary Recall and Anthropometry (Section A)

24-hour Dietary Recall and Anthropometry Form (Form I-4.1)

Registration Form

Good morning, my name is Sarah and I'm working on a child feeding project for the community.

Could I ask you some questions regarding what the child you care for ate yesterday? The information that you provide will remain confidential.

1. Child's code: <input type="text" value="0"/> <input type="text" value="2"/> <input type="text" value="4"/> <input type="text" value="7"/>	2. Date of interview Day <input type="text" value="0"/> <input type="text" value="1"/> Month <input type="text" value="0"/> <input type="text" value="2"/> Year <input type="text" value="1"/> <input type="text" value="2"/>	3. Location <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="1"/>	4. Field worker's code: <input type="text" value="0"/> <input type="text" value="4"/>
Child's name: <u>Kabila</u> Paternal last name <u>Inoni</u> Maternal last name <u>Inoni</u> First name <u>Soadou</u>			
Caregiver's name: <u>Inoni</u> Paternal last name <u>Suleiman</u> Maternal last name <u>Fatima</u>			
5. Child's sex (1 = M, 2 = F) <input type="text" value="2"/>	6. Date of birth: Day <input type="text" value="1"/> <input type="text" value="5"/> Month <input type="text" value="0"/> <input type="text" value="3"/> Year <input type="text" value="0"/> <input type="text" value="9"/>		
7. Age (months): <input type="text" value="2"/> <input type="text" value="3"/> NOTE: IF THE CHILD IS YOUNGER THAN 6.0 MONTHS OR 24.0 MONTHS OLD OR OLDER, DO NOT APPLY THE SURVEY			
8. Was (child) breastfed yesterday? (0 = No, 1 = Yes) <input type="text" value="1"/>		9. Yesterday, was it a holiday in the community? (0 = No, 1 = Yes) <input type="text" value="0"/>	
10. Yesterday, was there a celebration in the family? (0 = No, 1 = Yes) <input type="text" value="0"/>		11. Yesterday, was the child sick with fever, cough or diarrhea? (0 = No, 1 = Yes) <input type="text" value="0"/>	
If anthropometric measurements were taken:			
12. Child weight in kilograms <input type="text" value="1"/> <input type="text" value="3"/> <input type="text" value="0"/>		13. Child length in centimeters <input type="text" value="0"/> <input type="text" value="8"/> <input type="text" value="0"/> <input type="text" value="0"/>	
14. Child mid-upper arm circumference (MUAC) in millimeters <input type="text" value="1"/> <input type="text" value="1"/> <input type="text" value="6"/> <input type="text" value="0"/>			

Explain the questionnaire to the caregiver before beginning.

Help her recall (remember) the previous day, based on the times when the child woke up, the activities the child had, etc. Go slowly.

Figure 3: Sample output for the 24-hour Dietary Recall and Anthropometry**WHO IYCF indicators 5 and 6*^ ◆**

Percent of children in survey who followed WHO IYCF indicators 5 and 6 (percent and 95% confidence interval (95% CI))

Description	Numerator	Denominator	Percent	95% CI (Lower, Upper)
5. Consumed 4 or more food groups	62	99	62.6	(53.1, 72.1)
6. Met minimum meal frequency	60	99	60.6	(51.0, 70.2)

*Numerator:

WHO IYCF indicator 5: Children 6-23 months of age who received foods from 4 or more food groups during the previous day. The denominator is children 6-23 months in the sample. Note that the maximum number of foods groups a child can consume is 7. Also note that foods used as condiments should not be counted as a food group.

WHO IYCF indicator 6: The numerator and denominator for this indicator are as follows:

Calculation 1: Breastfed children 6-23 months of age who received solid, semi-solid or soft foods the minimum number of times or more during the previous day [numerator] / Breastfed children 6-23 months [denominator].

Calculation 2: Nonbreastfed children 6-23 months of age who received solid, semi-solid or soft foods or milk feeds the minimum number of times or more during the previous day [numerator] / Nonbreastfed children 6-23 months [denominator].

Where minimum is defined as

--2 times for breastfed infants 6-8 months

--3 times for breastfed children 9-23 months

--4 times for non-breastfed children 6-23 months

And, "meals" include both meals and snacks (other than trivial amounts).

*Denominator: all children 6-23 months whose mothers were interviewed.

^ProPAN's ideal practice 10 and WHO's IYCF indicator 6 are calculated in the exact same manner in ProPAN.

◆ WHO IYCF indicators are drawn from the following sources:

WHO, USAID, AED, FANTA, UC Davis, IFPRI, UNICEF. Indicators for assessing infant and young child feeding practices: Part 1 Definitions. Geneva, 2008.

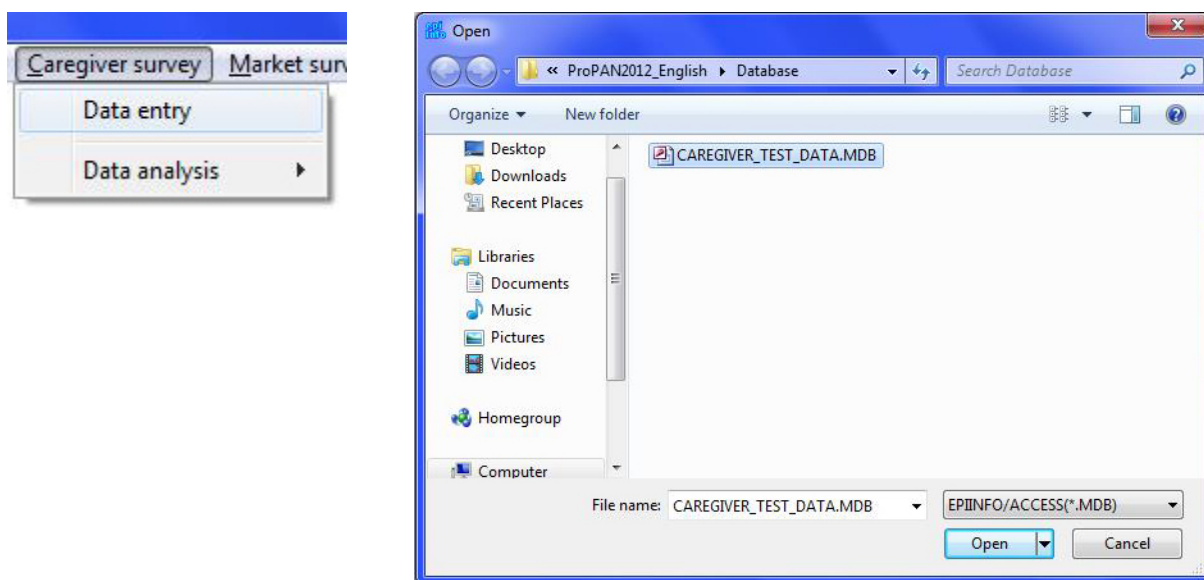
WHO, USAID, AED, FANTA 2, UC Davis, IFPRI, UNICEF. Indicators for assessing infant and young child feeding practices: Part 2 Measurement. Geneva, 2010.

Data entry guidelines for the Caregiver Survey

Overview

For a general overview on data entry, see Data entry guidelines for the *24-hour Recall and Anthropometry*.

On the main menu screen, find the *Caregiver survey* menu item and click on “Data entry.” A dialog box will open requesting the name of the file. At this point, the survey will have been created and given a name⁴. In this section, we will use a sample data file that comes with **ProPAN**. Choose your file from the dialog box; the name of the sample data file used here is “CAREGIVER_TEST_DATA”.



Entering data

The *Caregiver Survey* contains “repeat” fields so that when entered on one record, this information will be automatically repeated on every new record entered thereon. This saves the data entry person from entering the same information for every record.

The screenshot shows the 'Caregiver Survey Form (Form I-3.1)' with a menu on the left and a form area on the right. The menu includes options like 'Next', 'Save data', 'Mark record as deleted', and 'Find'. The form area has a title bar 'Survey Information' and contains the following fields:

Country: --	Other geographic information:		
Name of investigator:	Email:	Institution:	
Notes: ----			

You must enter the data for the fields “Date survey is applied” and “Child’s code”. You will not be able to advance to the next page until these fields are completed. As in the *24-hour Recall and Anthropometry*, if you enter a child code that has already been entered, you will be notified with a message, which will direct you to the record with that child code. If you would like to see this record, click “OK”. Otherwise, click “Cancel” to return to your screen to enter a new code.

⁴ How to create a survey (database) is described in section VI.

On the data entry screen, some fields will have a drop-down arrow to the right of the data entry field. Clicking on this arrow will present the response options. For example, for “3. Survey results”, the form will have the options “01 – Complete” and “02 – Incomplete”.

3. Survey results -----

Dates of follow up visits Visit 1:

01 - Complete
02 - Incomplete

There are some questions with multiple responses that appear later in the *Caregiver Survey*. More than one response may be selected for these questions. These will be filled out using multiple-response option buttons as shown in the example below, which was based on a the sample completed form shown in Figure 4.

Now I would like to ask some questions about how CHILD'S NAME was fed yesterday during the main meal.

60. Yesterday, at the main meal, did CHILD'S NAME eat all the food you thought he/she should? [02]

61. Yesterday, during the main meal, did you do anything to encourage CHILD'S NAME to eat? [01]

62. What did you do?
(Write down the caregiver's answer and code it later. Multiple responses are acceptable. Circle all codes that apply)

<input type="checkbox"/> 01 - Offered another food or liquid	<input checked="" type="checkbox"/> 02 - Encouraged verbally
<input checked="" type="checkbox"/> 03 - Eating (with or without toy)	<input type="checkbox"/> 04 - Ordered strongly or forced the child to eat
<input checked="" type="checkbox"/> 05 - Another person helped feed child	<input type="checkbox"/> 06 - Another form of encouragement
<input type="checkbox"/> 99 - Does not know	

Registro 33 de 33

<< < > >>

Note that date fields are in the day/month/year format and will not allow partial dates, e.g., month and year. In addition, the software will check the accuracy of the date. For example, the date 30/02/2012 cannot be entered because there are not 30 days in February. Also, February 29th can only be entered for leap years.

To move from field to field you can use the “Tab” key or “Enter” key. When a field is entered, the cursor will automatically move to the next field. Upon entering a value in a field containing a drop down arrow, the cursor will automatically move to the next appropriate field (taking skip patterns into account). Manually clicking on another field may not save the entry made in the previous field.

Figure 4. Sample completed form for the Caregiver Survey

Now I would like to ask some questions about how [child's name] was fed yesterday during the main meal.		
60. Yesterday, at the main meal, did [child's name] eat all the food you thought he/she should?	Yes01 No02 Does not know99	
61. Yesterday, during the main meal, did you do anything to encourage [child's name] to eat?	Yes01 No02	02-> 63
62. What did you do? (Write down the caregiver's answer and code it later. Multiple responses are acceptable. Circle all codes that apply.)	Offered another food or liquid01 Encouraged verbally.....02 Modeled eating (with or without toy).....03 Ordered strongly or forced the child to eat04 Another person helped feed child.....05 Another form of encouragement06 Does not know99	
63. Yesterday, during the main meal while feeding [child's name], did you talk to her/ him?	Yes01 No02 Does not know99	02-> 65 99-> 65
64. What did you say? (Write down the caregiver's answer and code it later. Multiple responses are acceptable. Circle all codes that apply.) - Commented on amount eaten, praised - gave toy when child finished - food was tasty	Ordered child to eat01 Praised child.....02 Asked child questions03 Talked about the food04 Threatened the child05 Told child that she liked the food.....06 Rewarded the child.....07 Talked about other things08 Does not know99	
65. Yesterday, during the main meal, did [child's name] self-feed (eat by him/herself, using hands or utensil) at any moment during the meal?	Yes01 No02 Does not know99	02-> 67 99->67
66. Yesterday, during the main meal, did [child's name] self-feed the whole time, half of the time, or for a little time?	All of the time01 Half of the time02 Little bit of time03 Does not know99	
Now we are going to talk about the breast milk, liquids and foods you gave to [child's name] during the last time he/she was sick.		
67. The last time [child's name] was sick, did you offer less, more or the same amount of breast milk as when [child's name] is healthy? (If response is "less", ask additional questions to determine why.)	Less, because the child did not want it01 Less, because mother's decision.....02 More03 The same04 Child never breastfed or child breastfeeding before last illness05 Child has never been sick.....88 Does not know99	88->80

Analyzing data and generating outputs

Please see the Data Analysis section under IV. Main Menu Options for details on generating outputs. Figure 5 provides an example of an output from the *Caregiver Survey*.

Figure 5. Sample output for the *Caregiver Survey*

Percent of children in survey who followed the ideal practice

(percent and 95% confidence interval (95% CI))* ^

Description	Numerator	Denominator	Percent	95% CI (Lower, Upper)
1. Breastfed within first hour	19	32	59.4	(42.4, 76.4)
2. Not fed anything other than breastmilk	10	23	43.5	(23.2, 63.8)
3. Fed colostrum	27	32	84.4	(71.8, 97.0)
4. Breastfed on demand	3	5	60.0	(17.1, 100.0)
5. Exclusively breastfed	1	3	33.3	(00.0, 86.6)
6. Breastfed at least 2 years	3	3	100.0	(100.0, 100.0)
7. Initiated CF at 6 months	5	19	25.0	(06.0, 44.0)
11. Responsively fed	5	15	33.3	(09.4, 57.2)
12. Fed as recommended during and after illness	1	28	03.6	(00.0, 10.5)

* Numerator

Practice 1: Children 0 to 23.9 months whose mothers reported breastfeeding the infant for the first time within the first hour after birth.

Practice 2: Children 0 to 23.9 months whose mothers reported not feeding them anything other than breast milk in the first 3 days of life.

Practice 3: Children 0 to 23.9 months whose mothers reported feeding them colostrum.

Practice 4: Children 0 to 23.9 months whose mothers reported breastfeeding them "when the child wants."

Practice 5: Children 0 to 5.9 months who were breastfed and did not receive any water, other liquids or foods the previous day.

Practice 6: Children 20.0 to 23.9 months whose mothers reported breastfeeding the previous day.

Practice 7: Children 9.0 to 23.9 months whose mothers reported initiating complementary feeding between 6.0 and 8.9 months of age with semi-solid foods.

Practice 11: Children 6.0 to 23.9 months whose mothers reported engaging in at least 3 of the 4 responsive feeding dimensions, which are reported below.

Practice 12: Children 6.0 to 23.9 months whose mothers reported feeding the same or more during and after illness.

Denominator:

Practices 1, 2, and 3: All children 0-23.9 months whose mothers were interviewed, excluding missing values for relevant survey question(s).

Practice 4: All children 0 to 23.9 months who were breastfeeding at the time of the survey and whose mothers were interviewed excluding missing values for relevant survey question(s).

Practice 5: All children 0 to 5.9 months whose mothers were interviewed excluding missing values for relevant survey question(s).

Practice 6: All children 20.0 to 23.9 months whose mothers were interviewed excluding missing values for relevant survey question(s).

Practice 7: All children 9.0 to 23.9 months whose mothers were interviewed excluding missing values for relevant survey question(s).

Practice 11: All children 6.0 to 23.9 months whose mothers were interviewed excluding missing values for relevant survey question(s).

Practice 12: All children 6.0 to 23.9 months who were sick at least once prior to the interview and whose mothers were interviewed excluding missing values for relevant survey question(s).

^ *ProPAN*'s ideal practice 1 and WHO's IYCF indicator 1 are calculated in the exact same manner in *ProPAN*.

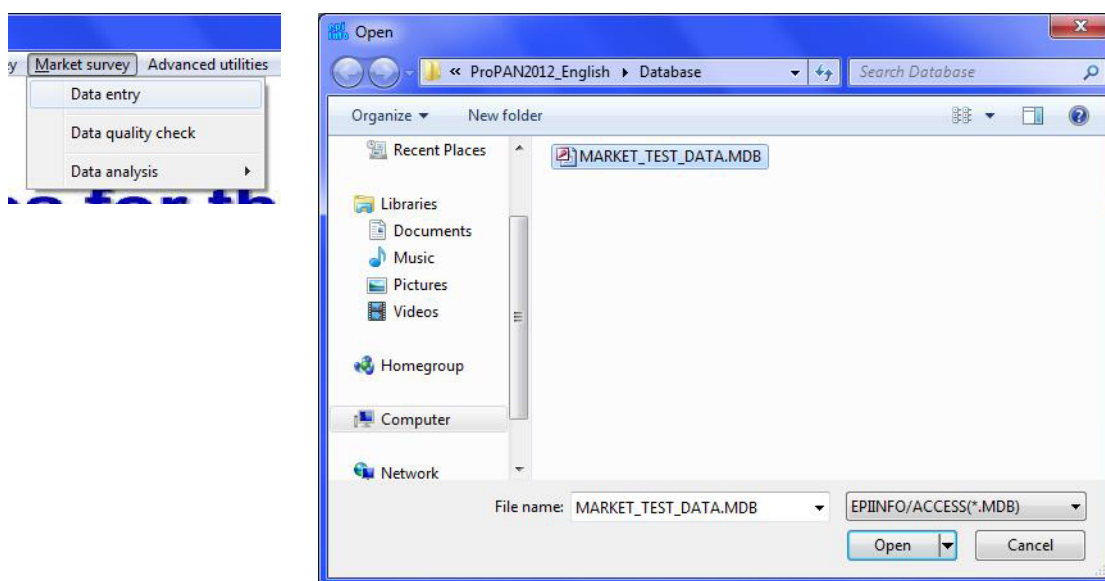
^ *ProPAN*'s ideal practice 5 and WHO's IYCF indicator 2 are calculated in the exact same manner in *ProPAN*.

Data entry guidelines for the *Market Survey*

Overview

For a general overview on data entry, see the section on Data entry guidelines for the *24-hour Recall* and *Anthropometry*.

On the main menu screen, find the *Market Survey* menu item and click on “Data entry.” A dialog box will open requesting the name of the file. At this point, the survey will have been created and given a name⁵. In this section, we will use a sample data file that comes with **ProPAN 2.0**. Choose your file from the dialog box; the name of the example data file that is used here is “MARKET_TEST_DATA”



The *Market Survey* also contains “repeat” fields so that when entered on one record, this information will be automatically repeated on every new record entered thereafter. This saves the data entry person from entering the same information for every record.

⁵ How to create a survey (database) is described in section VI.

On the first page of the data entry screen, enter the general information for the first location. Below is an example from a sample form with the first page completed (shown in Figure 6).

REGISTRATION FORM FOR THE MARKET SURVEY (FORM I-5.1)

Survey Information

Country: [] Other geographic information: []

Name of investigator: [] Institution: []

Email: []

Notes: []

1. Name of the retail location: [] Harris Teeter Supermarket

2. Address/location (street, avenue, kilometer, neighborhood or section): [] Corner of Clifton Road and Briarcliff Road, Atlanta

3. Field Worker's code: [000005] 4. Survey date (dd/mm/yyyy): [03-04-2011]

5. Supervisor's code: [000001] 6. Date of supervision (dd/mm/yyyy): [04-04-2011]

Food Price & Availability

On the Food Price and Availability page, enter all of the information for each food surveyed at that market. See below for a sample data entry using the first food recorded on the sample *Market Survey* form (Figure 6).

REGISTRATION FORM FOR THE MARKET SURVEY (FORM I-5.1)

7. Food code: [10365] 7a. Food Name: [Rice, white, medium-grain, boiled]

8. Retail unit: [1lb]

9. Net weight (g): [0454]

Food prices

10. Price 1: [001.25] 11. Price 2: [001.30] 12. Price 3: [001.25]

☒ 13. All year

Months available

<input checked="" type="checkbox"/> 14. January	<input checked="" type="checkbox"/> 15. February	<input checked="" type="checkbox"/> 16. March	<input checked="" type="checkbox"/> 17. April	<input checked="" type="checkbox"/> 18. May	<input checked="" type="checkbox"/> 19. June
<input checked="" type="checkbox"/> 20. July	<input checked="" type="checkbox"/> 21. August	<input checked="" type="checkbox"/> 22. September	<input checked="" type="checkbox"/> 23. October	<input checked="" type="checkbox"/> 24. November	<input checked="" type="checkbox"/> 25. December

CREATE NEW RECORD

Record 1 New Record

The “7. Food code” field has a drop-down arrow to the right of the data entry field – clicking on this arrow will present all of the codes for the foods contained in the FCT. To search for specific foods, please see the FCT section under VI. Advanced Utilities.

Fill in the multi-response option buttons for each month of the year the food is available at that market. If it is available year-round, check the “All year” button and hit “Enter”.

To enter a new food, click on the “Create a new record”.

Analyzing data and generating outputs

Please see the Data analysis section under IV. Main Menu Options for details on generating outputs. Figure 7 provides an example of an output from the *Market Survey*.

Market Survey Form (Form I-5.1)

Market Survey

1. Name of retail location: Harris Teeter Supermarket
2. Address/location: corner of Clifton Rd. and Briarcliff Rd., Atlanta, GA.

Field Worker name: Cristina 3. Field Worker's code: 05 4. Survey date: 03 / 04 / 2012

Supervisor name: Enid 5. Supervisor's code: 01 6. Supervision date: 04 / 01 / 2012

[illegible]

Figure 7: Sample Output for the Market Survey**Price per gram of the edible portion of each food**

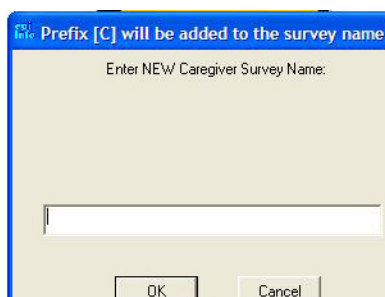
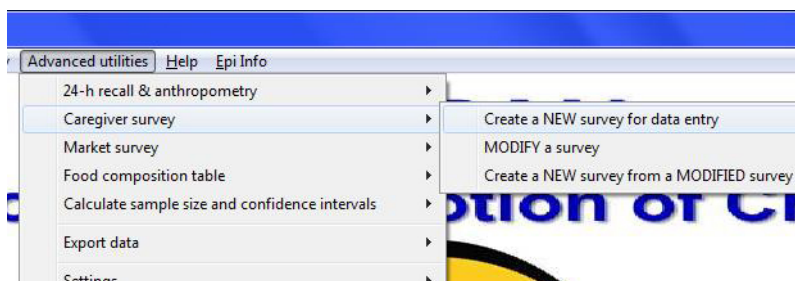
Food code	Food name	Mean	Standard deviation
120106	Mango nectar, canned	0.43	Missing
80592	Onion sauce, w/vegetable oil, fried	0.38	0.50
10021	Fonio, black, whole-grain, raw	0.35	Missing
60207	Lamb, leg, 1/8" fat, fresh, raw	0.29	Missing
63005	Fish relish, smelt, whole, fresh fish, simmered	0.28	Missing
10104	Maize flour, white variety, whole-grain, raw	0.15	Missing
70308	Banana, ripe, fresh, boiled, drained	0.14	0.16
100300	Honey	0.14	Missing
100103	Sugarcane, whole, raw	0.13	0.12
80323	Kohlrabi, fresh, boiled, drained	0.10	0.09
80092	Spinach, fresh, boiled, drained	0.09	0.05
60206	Lamb, composite of cuts, trimmed to 1/4" fat, fresh, raw	0.09	Missing
100101	Sugar, white	0.08	0.11
80665	Yambean (jicama), fresh, boiled, drained	0.07	0.09
70380	Raisins, seedless, dried	0.06	0.07
80322	Green leaves, other, fresh, raw	0.04	0.03
54022	Cheese, goat, hard type, fresh	0.04	Missing
51006	Milk goat, fluid, w/vitamin D added (USA)	0.03	Missing
80019	Beet greens, fresh, raw	0.03	Missing
80593	Onion, fresh, boiled, drained	0.03	Missing
32206	Plantain, fresh, steamed (Matooke, Kivuvu, Gonja, Kisubi, Bogoya, Ndiizi)	0.03	Missing
30019	Sweet potato, yellow, dried chips/chunks, raw	0.02	Missing
62007	Fish, bayad catfish, fresh, boiled, drained	0.02	Missing
10064	Rice, brown, medium-grain, boiled	0.02	Missing
70113	Grapefruit, all types, fresh, raw	0.02	Missing
53003	Yogurt, milk, skim, plain	0.02	Missing
10203	Wheat grain, hard white, dried, raw	0.01	Missing
62006	Fish, barracuda, fresh, raw	0.00	Missing

VI. Advanced utilities

Creating a new survey for data entry

To create a new survey using an existing template, you can choose the option under the Advanced Utilities menu item for any of the three instruments. A prompt will ask for a name for the new survey and a blank data entry screen will appear for the newly created database. The program will automatically assign a prefix to each database name, depending on the research instrument being used:

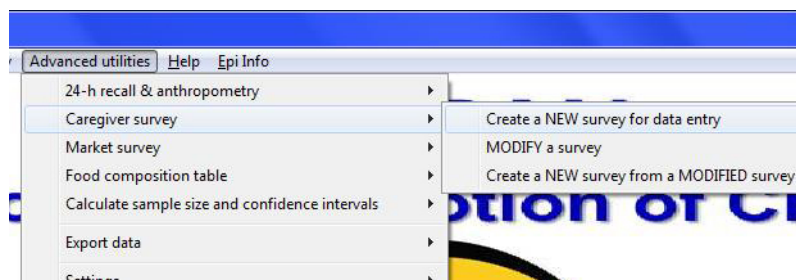
- “D” (for dietary) for the *24-hour Dietary Recall and Anthropometry*
- “C” for the *Caregiver Survey*
- “M” for the *Market Survey*



Modifying a survey

If you have modified questions on a specific data collection instrument for use in the local context and want the changes to be reflected on the software data entry screen, you will have to edit the survey using the Epi Info™ MakeView feature. It is important to note that modifying existing questions and adding or deleting questions may throw off skip patterns in the survey, which in turn may affect your results. Modifying existing questions, along with adding or deleting questions, will require an advanced Epi info™ user familiar with the MakeView feature. Users may refer to the Epi Info™ Contents under the “Help” menu, which contains extensive information on all MakeView procedures, including adding, removing, hiding, and editing questions and pages, as well as detailed information on skip patterns. Note: questions that are added will not be included in the built-in analyses provided by the software.

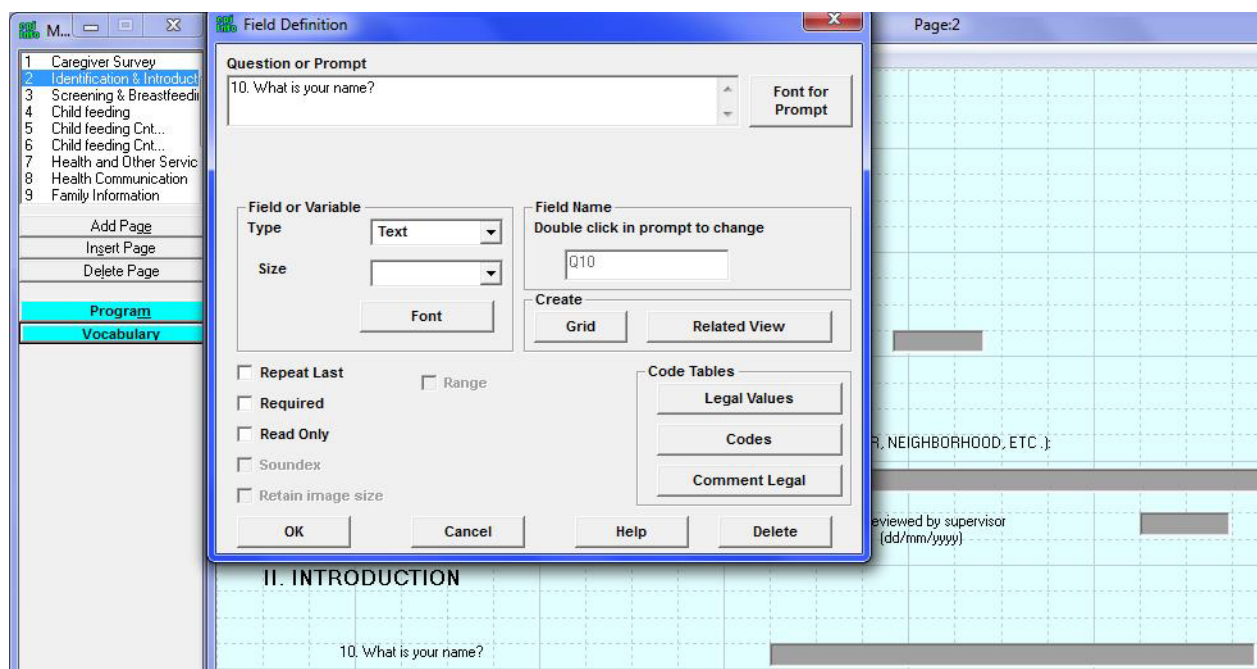
To modify a survey in **ProPAN 2.0**, start by creating a new survey for that instrument (see previous section on how to create a new survey). Then, under the “Advanced utilities menu,” find your instrument, select “MODIFY a survey” and choose the file you want to modify.



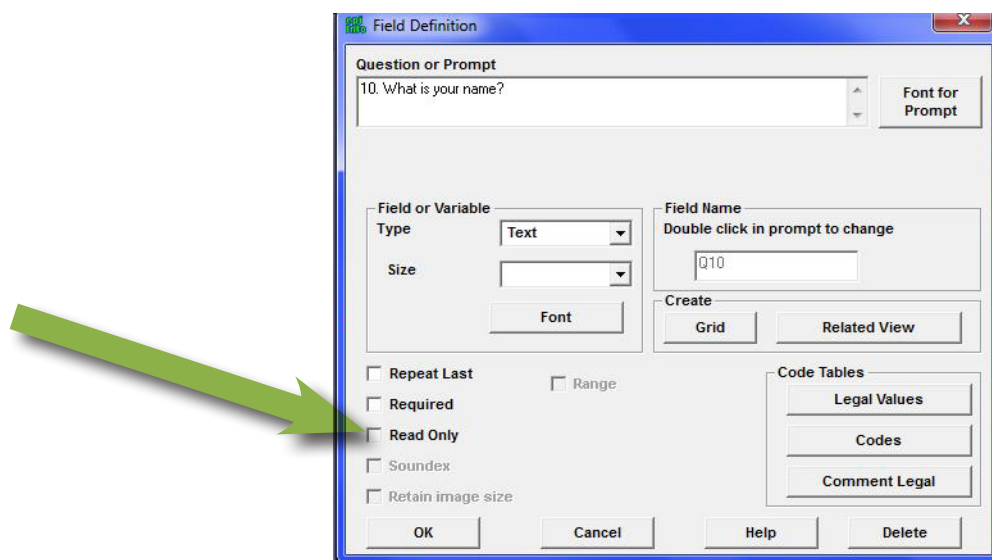
The Epi Info™ MakeView screen will appear as shown below.

A screenshot of the Epi Info MakeView screen for the 'Caregiver Survey Form (Form I-3.1)'. The window title is 'Make/Edit View: c:\propan2012_english\database\caregiver_test_data.mdb:caregiver'. The interface includes a menu bar (File, Edit, View, Insert, Format, Tools, Help) and a toolbar with buttons for 'Add Page', 'Insert Page', and 'Delete Page'. A left-hand pane shows a list of survey sections: '1 Caregiver Survey', '2 Identification & Introduction', '3 Screening & Breastfeeding', '4 Child feeding', '5 Child feeding Cnt...', '6 Child feeding Cnt...', '7 Health and Other Services', '8 Health Communication', and '9 Family Information'. Below this list are buttons for 'Add Page', 'Insert Page', and 'Delete Page'. The main area displays the survey form on a grid background. At the top, it says 'Caregiver Survey Form (Form I-3.1)' and 'Unique ID:'. Below this is a section for 'Survey Information' with fields for 'Country:', 'Other geographic information:', 'Name of investigator:', 'Email:', 'Institution:', and 'Notes:'. The form content includes the title 'CAREGIVER SURVEY' and several paragraphs of text for the interviewer to read and fill in. The text includes instructions for the interviewer to introduce themselves, ask about children under 2 years of age, confirm the caregiver's identity, and obtain consent. The bottom of the screen shows the text 'Editing a View caregiver'.

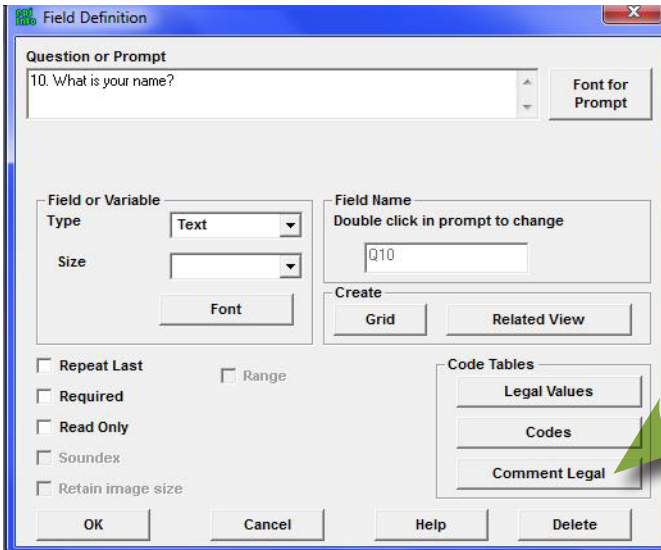
To modify a question, right click on it and a window with different options will appear. Here, users may edit the field name, field type, text, drop-down menu options and more.



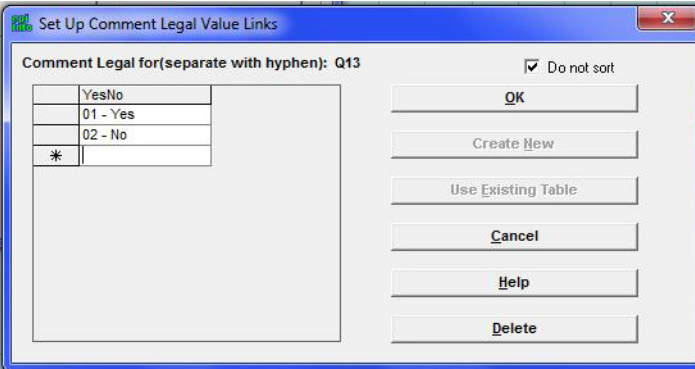
Even if you have removed a question from your survey, that question may still be visible in the Data Entry screen but the field cannot be entered with values. For example, if you do not want the name of the child entered into your database, find the question in the survey and right click on it. A window will pop up with several options. Check the box that says “Read-Only.” Note that the “Read Only” option is permanent and you will have to reinsert the question to bring it back. After you save the file, you can check to see if the entry screen reflects your changes.



Modifying a question involves a similar process. On the MakeView screen, right click on the question you wish to modify and edit the text to reflect your modified question. If the field has multiple response options on a pull-down menu that you would also like to modify or add on to, click on “Comment Legal” and you will be able to do so. Make sure you add a hyphen between the field code and the text. Remember that modifying, adding or deleting questions may throw off skip patterns in the survey, which may affect your results.



The "Field Definition" dialog box is shown. It has a title bar with a green icon and a close button. The main area contains several sections: "Question or Prompt" with a text box containing "10. What is your name?" and a "Font for Prompt" button; "Field or Variable" with a "Type" dropdown set to "Text" and a "Size" dropdown; "Field Name" with a text box containing "Q10" and a note "Double click in prompt to change"; "Create" with "Grid" and "Related View" buttons; a list of checkboxes including "Repeat Last", "Required", "Read Only", "Soundex", and "Retain image size"; and a "Code Tables" section with buttons for "Legal Values", "Codes", and "Comment Legal". A green arrow points to the "Comment Legal" button. At the bottom are "OK", "Cancel", "Help", and "Delete" buttons.

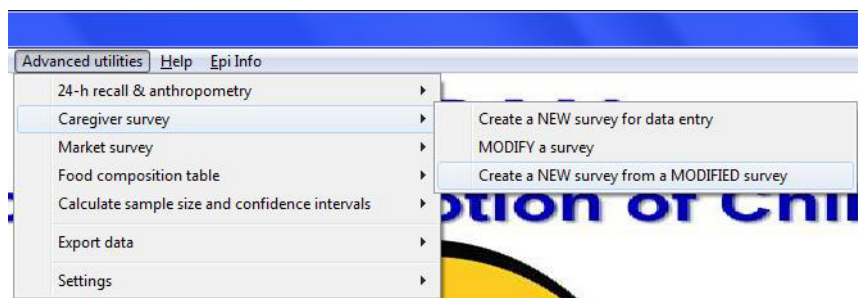


The "Set Up Comment Legal Value Links" dialog box is shown. It has a title bar with a green icon and a close button. The main area contains: "Comment Legal for(separate with hyphen): Q13"; a checkbox "Do not sort" which is checked; a table with three rows: "YesNo", "01 - Yes", and "02 - No", with a fourth row starting with an asterisk; and buttons for "OK", "Create New", "Use Existing Table", "Cancel", "Help", and "Delete".

YesNo
01 - Yes
02 - No
*

Creating a new survey from a modified survey

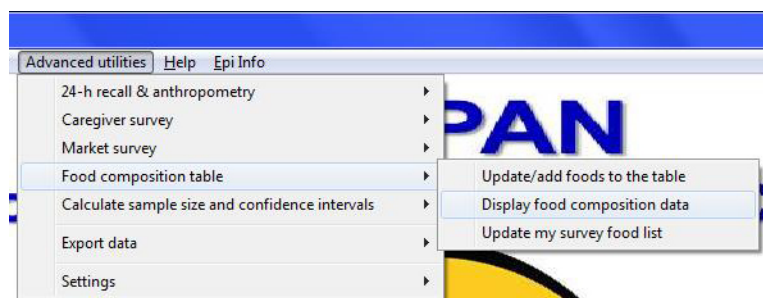
To create a new database from a survey you have modified earlier, click on “Create a NEW survey from a MODIFIED survey” to choose the file you want to use as your template.



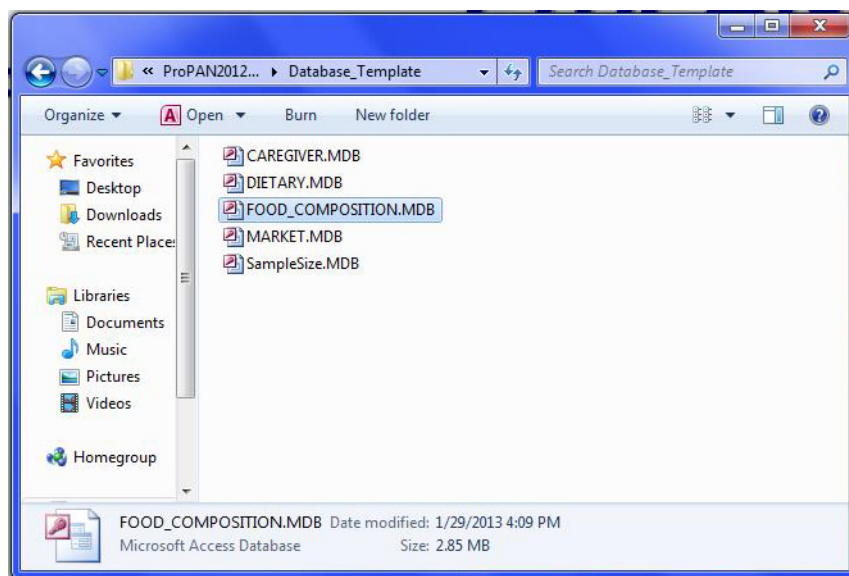
Using the Food Composition Table

Displaying the Food Composition Table

To see what the current FCT looks like, you can click on “Display food composition data.”

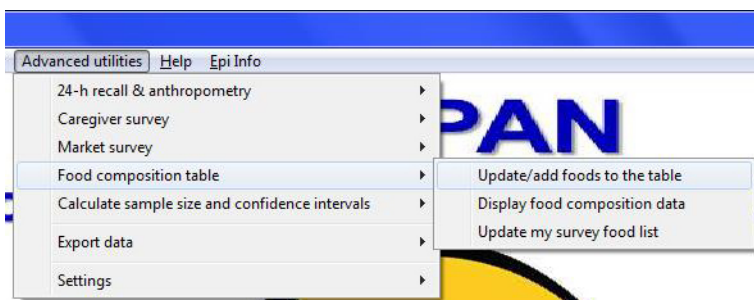


You can also open the Microsoft Access file, “FOOD_COMPOSITION,” from the **ProPAN 2.0** folder on your C drive under the Database_Template folder.

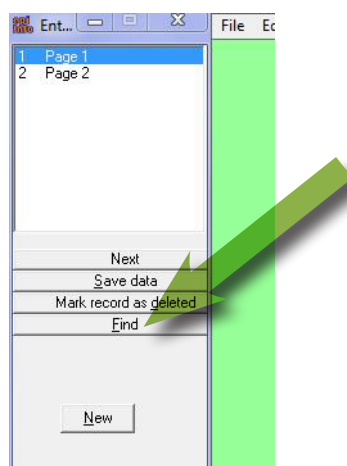


Adding foods to the Food Composition Table and editing existing ones

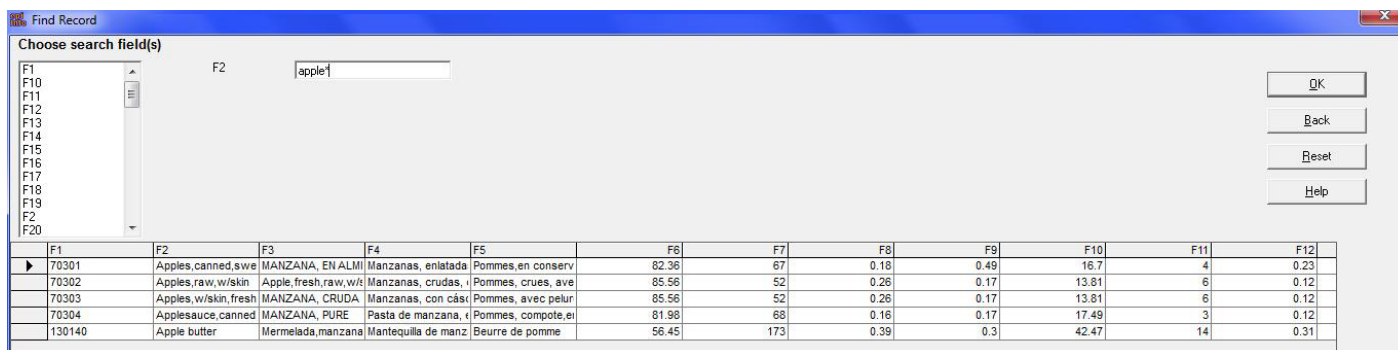
To edit existing foods or to add foods not contained in the table, find the “Food composition table” menu item under “Advanced utilities” and click on “Update/add foods to the table.”



For example, if a local variety of bananas has different nutrient content than the one listed in the table, the existing record for banana could be found by searching for the food name through the “Find” feature in the software. You can either go to the “Find” option under the “Edit” menu, or press CTRL+F to enter the search page.



Click on the field you would like to search, in this case F2. Enter the food name followed by an asterisk (example: apple*) and click “OK” or hit “Enter”. You will see all of the foods that start with “apple.” If you are looking for a food with the term “apple” anywhere in its name, surround the search term with asterisks (example: *apple*).



Modifying existing foods in the Food Composition Table

Once you've searched for your food, you can view the list and double click on the record you are trying to locate. Now, you can modify the fields for this food.

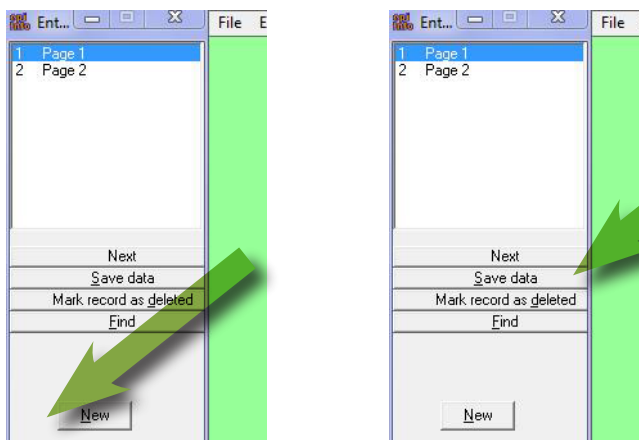
The screenshot shows the 'Food Composition Table' window. On the left is a sidebar with a list of pages (Page 1, Page 2) and buttons: 'Next', 'Save data', 'Mark record as deleted', 'End', and 'New'. The main area contains a form with the following fields:

F1. Food code	70302	F2. Food name	Apples,raw,w/skin
		F3. Food name (local)	Apple,fresh,raw,w/skin
		F4. Spanish food name	Manzanas, crudas, con cáscara
		F5. French food name	Pommes, crues, avec pelure
F6. Water (g/100 g)	0085.560	F7. Food energy (kcal/100 g)	0052.000
F8. Protein (g/100 g)	0000.260	F9. Total lipid (fat) (g/100 g)	0000.170
F10. Carbohydrate (g/100 g)	0013.810	F11. Calcium (mg/100 g)	0006.000
F12. Iron (mg/100 g)	0000.120	F13. Zinc (mg/100 g)	0000.040
F14. Vitamin C (mg/100 g)	0004.600	F15. Thiamin (mg/100 g)	0000.017
F16. Riboflavin (mg/100 g)	0000.026	F17. Niacin (mg/100 g)	0000.091
F18. Vitamin B-6 (mg/100 g)	0000.041	F19. Folate (µg Dietary Folate Equivalents/100g)	0003.000
F20. Vitamin B-12 (µg/100 g)	0000.000	F21. Vitamin A (µg Retinol Equivalents/100 g)	0005.417
F22. Vitamin A (µg Retinol Activity Equivalents/100 g)	0003.000	F23. Country or region of origin	Zambia
F24. Optifood food group code	007	F25. Optifood food group name	Fruits
F26. Optifood food subgroup code	0703	F27. Optifood food subgroup name	Other fruit

At the bottom left, it says 'Record 1253 of 1948'.

Adding foods to the Food Composition Table

To add a new food into the database, click on "New" and begin entering the nutrient information for the food being added. The existing table has no missing values for key fields. If there is missing information in a new entry, it may affect values when an analysis is run. Once you are done, click on "Save data" to save the new entry. You can view the table again to ensure it was updated.



Using/modifying food codes (F1)

The first one or two digits in the food code identify the *Optifood* food groups (the group codes are located in field F24 and the group descriptions in field F25, see Table 1 in Annex V):

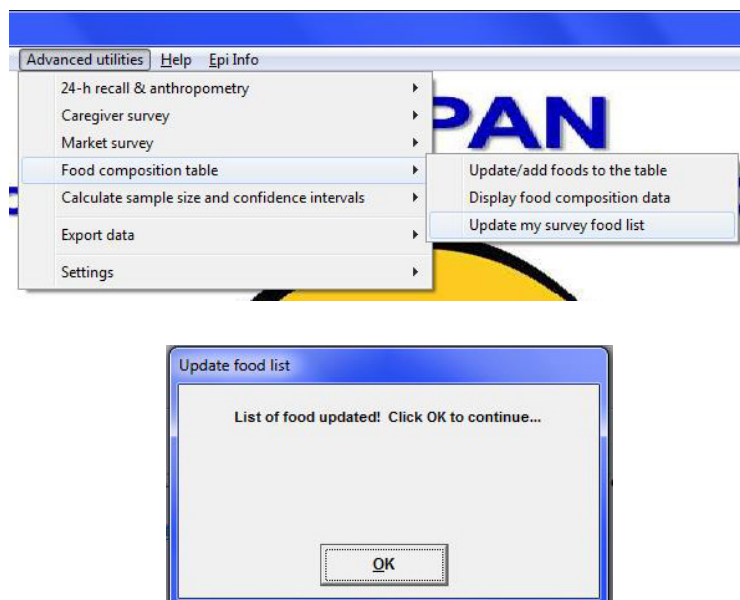
- (1) Grains and grain products
- (2) Bakery and breakfast cereals
- (3) Roots
- (4) Legumes
- (5) Dairy
- (6) Meat
- (7) Fruits
- (8) Vegetables
- (9) Fats
- (10) Sugars
- (11) Sweets
- (12) Beverages
- (13) Miscellaneous
- (14) Composites
- (15) Fortified
- (16) Human milk
- (17) Savory snacks

Each food's unique code (field F1) is based on the *Optifood* food group code (field F24) in the FCT code-book (see Table 2 in Annex V). For example, food codes 40000 (instant bean flour) and 40001 (black bean relish) are categorized as food group “4” in field F24 (and “legumes” in field F25). In comparison, food codes 30000 (resisto sweet potato) and 30001 (orange sweet potato) are categorized as “3” in field F24 (and “roots” in field F25). There are a few exceptions. For example, breastmilk (food code 50303) was moved from the dairy category (food group “5”) to the human milk category (food group “16”), and its unique code in the **ProPAN** FCT no longer corresponds with its *Optifood* food group code.

Fundamentally, users may devise any coding scheme to assign food codes to new foods. However, if new codes are assigned, the existing food codes may not be used. If you would like to update an existing food, please refer to the previous section. To assign a food code to a new food, use the *Optifood* food subgroup code (F26) as the first three (or sometimes four) digits (see Table 2 in Annex V). Then use the existing FCT to find the last food listed under that subgroup. The last two digits of that food will serve as the number immediately prior to the two digit number you will use for your new food. For example, if the food is a type of banana, you will see that the existing entries for banana are under the subgroup 703 or, “Other fruit.” The last entry under this subgroup is 70396. Therefore, your new food would be coded as 70397 (even though a fresh, raw, ripe banana is 70309). If the last two digits are “99,” you may simply continue with a three digit ending, creating a six digit food code (for example, 703100).

Updating your survey with your modified Food Composition Table

Newly created surveys will automatically reflect the modifications to the FCT. To ensure that the changes apply to existing surveys, click on “Update my survey food list” and choose the file you would like to update. This updated survey will now allow you to enter the foods you added or modified in the FCT.



Using a different Food Composition Table (not recommended for basic users)

ProPAN 2.0 software can only use one FCT at a time. If you would like to replace the **ProPAN** FCT with your own, the first step is to save the original FCT with a different name or in another folder. Create a new file in the Microsoft Access 2002-2003 file format (.mdb), name it “Food_comp_table.mdb” and save it in the Data_Template folder under the main **ProPAN 2.0** folder. This will be your FCT. Then open the original **ProPAN** FCT, find the “Export” option under the “File” menu and export the view table “view Food_comp_table,” making sure to include both definitions (field names) and data. In the same way, export the actual FCT “Food_comp_table” but only include the definitions, not the data. This new file should now contain two tables, the view table, which should not be modified, and the template for the FCT. The field names on this template should not be modified. For the definition of each field name, refer to the codebook in Annex V. There are two field names not included in this codebook, UniqueKey and RECSTATUS. These fields are necessary for proper analysis and must contain values. UniqueKey automatically assigns a unique numeric identifier for each food (not the same as the food code). The user does not need to enter any values for this field. RECSTATUS must be entered with a numeric value of “1” for each food/record. When this file is named “Food_comp_table” and is placed in the Data_Template folder under the main **ProPAN 2.0** folder, it will replace of the original FCT.

VII. Other *ProPAN* utilities . . .

Double data entry

Entering all questions twice, called “double data entry”, is commonly performed to identify data entry errors. Epi Info™ allows for double data entry and can compare two files to find differences. It is beyond the scope of this Guide to provide details on this issue. Please refer to the on-link help in Epi Info™ at the CDC website for help on the use of the module “Data Compare”.

Ad hoc analyses

To perform ad hoc analyses you will need to be familiar with the “Analyze data” module of Epi Info™ and will need to know the variable names in the dataset (please see Annex V).

You can go directly to the Epi Info™ “Analyze data” module from the **ProPAN 2.0** menu.



It is beyond the scope of this document to describe how to use the “Analyze data module” in Epi Info™. Please refer to the on-link help in Epi Info™ at the CDC website, and the following book:

Dean AG, Sullivan KM, Soe MM. Epi Info™ and OpenEpi in Epidemiology and Clinical Medicine: Health Applications of Free Software. Create Space Publishing, 2010.

This book is available as a pdf at: www.epiinformatics.com/DownloadFiles/EpiBook.pdf

Exporting data

If you would like to analyze *ProPAN 2.0* data using other programs, such as SAS or SPSS, you will need to import the Epi Info™ files into those programs. Because Epi Info™ uses the Microsoft Access data base format (.MDB), most programs can directly import the MDB into their own file format. Another option is to export the data into another data file format. This can be performed using the “Write (Export)” feature of Epi Info™ in the “Analyze data” module. The two most common file types you can export to are an Excel spreadsheet and a dBase file.

A decorative dotted line in a light green color, starting from the top left corner and extending horizontally across the top of the page, then turning vertically down the right side to frame the section header.

VIII. Acknowledgements . . .

The **ProPAN** Software User's Guide Version 2.0 was developed by Kevin Sullivan, Emory University Rollins School of Public Health, Anita Panjwani, Pan American Health Organization, and Cintia Lombardi, Pan American Health Organization. Their work was supported by the rest of the **ProPAN** Technical Team: Chessa Lutter, Pan American Health Organization, Roger Mir, US Centers for Disease Control and Prevention, Helena Pachón, Emory University Rollins School of Public Health, and Edith Cheung, UNICEF.



IX. References . . .

SAS version 9.3, copyright © 2012. SAS Institute Inc. SAS and all other SAS Institute Inc. product or service names are registered trademarks or trademarks of SAS Institute Inc., Cary, NC, USA.

WHO (2006). WHO Child Growth Standards methods and development: Length/height-for-age, weight-for-age, weight-for-length, weight-for-height and body mass index-for-age. Geneva, World Health Organization.

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WHO and UNICEF (2009) WHO child growth standards and the identification of severe acute malnutrition in infants and children. A Joint Statement by the World Health Organization and UNICEF.

WHO (2011) Anthro for personal computers, version 3.2.2, 2011: Software for assessing growth and development of the world's children. Geneva, World Health Organization. <http://www.who.int/childgrowth/software/en>.

Additional information on calculating sample size and confidence intervals

Under the menu item “Advanced utilities”, the pull-down menu includes the option “Calculate sample size and confidence intervals”, with submenus for “Calculate sample size” and “Calculate confidence intervals”, as shown below.



These two utilities were devised for situations where the number of eligible children in the target population is small. As discussed in the *ProPAN* Field Manual, many sample size and confidence interval calculations assume an infinitely large target population size. In general, once there are 10,000 or more children in the target population, this would give similar sample size estimates and confidence intervals as an infinitely large target population. If the size of the target population is substantially smaller than 10,000, then when calculating a sample size or the confidence limits, it may be useful to take advantage of a statistical correction for smaller populations called the finite population correction (*fpc*) factor.

The formulae to calculate sample size and confidence intervals are presented in this Annex to provide the user with an understanding of how the software performs the calculations. The sample size calculator is discussed next, followed by the confidence interval calculator.

Calculating sample size

This section will show how to calculate a sample size with the use of this software utility and illustrate it with data. For example, assuming an infinitely large target population, a prevalence of 50%, and precision of +5%, the calculated sample size is 385. However, if the size of the target population is 500, should the sample size still be 385? If you take into account the *fpc*, the calculated sample size would be 218, substantially smaller than 385.

The screen for “Calculate Sample Size” is presented below. Using the example above, for “Estimated percentage” you would type in 50, for “Desired Precision” you would enter 5, and for “Total target population size” you would enter 500, and then click the “Calculate” button. The lower part of the yellow box would then show the sample size accounting for the target population size, which is 218. The sample size ignoring the target population size is also presented for comparison purposes and, in this example, is 384.

Sample Size Calculation for a percentage taking into account the Population Size

Enter Data Here

Estimated percentage If percentage unknown, use the value 50.0

Desired precision +/- % Usually around +/- 5% to 10%

Total target population size

Calculate

Calculated Value

Sample Size taking into account the target population size <- Use this sample size

Sample size ignoring the target population size

Exit

This sample size calculation assumes that a 95% confidence interval is desired

Sample size accounting for population size = $N \cdot p \cdot q / ((d^2 / (1.96^2)) \cdot (N - 1) \cdot p \cdot q)$

Sample size ignoring population size = $(1.96^2) \cdot p \cdot q / (d^2)$

Where: N=target population size; p=estimated proportion with event; q=1-p; d=precision as a proportion

Record 6 New Record Range: 0.9 - 99.9

To summarize, if the target population is large (around 10,000 or more), standard sample size calculators can be used to estimate the sample size for your survey. However, if the target population is substantially smaller than 10,000, the sample size calculator provided in the **ProPAN** software should be used in order to allow for the *fpc* to reduce your sample size. Note that this sample size calculator does not take into account complex sample designs.

Additional information on the sample size calculator: The formula for calculating a sample size with simple random sampling using the “specified absolute precision” approach is presented below. This formula assumes that the investigator desires to have a 95% confidence interval (the 1.96 value in the formula). The Z-value of 1.96 is used under the assumption that a relatively large sample size will be selected. In addition, while it might be more correct to use a t-value, the t-value requires the degrees of freedom based on the sample size. The sample size formula also incorporates the *fpc*.

Sample size formula for simple random sampling with the finite population correction factor (fpc)

$$n_{srs} = \frac{N\hat{p}_{srs}\hat{q}_{srs}}{\frac{d^2}{1.96^2}(N-1) + \hat{p}_{srs}\hat{q}_{srs}}$$

where

n_{srs} = sample size

N = population size

\hat{p}_{srs} = the estimated proportion

$\hat{q}_{srs} = 1 - \hat{p}_{srs}$

d = desired absolute precision

If a very small proportion of the population is to be sampled, the fpc could be dropped from the formula and simplified as shown below:

Sample size formula for simple random sampling without the finite population correction factor (fpc)

$$n_{srs} = \frac{1.96^2 \hat{p}_{srs} \hat{q}_{srs}}{d^2}$$

For both of the above sample size formulae (with or without the *fpc*), the investigator must come up with an estimate or educated guess for the proportion p of the population that will have the factor under investigation and the desired level of absolute precision d . If the investigator is unsure of the proportion, usually a value of .5 or 50% is used. The reason for selecting .5 is that, for a given level of precision, a p of .5 has the largest sample size. To see this, in the numerator of the sample size formula is pq . The larger the value of pq , the larger will be the sample size. When $p=.5$ and $q=.5$, then $pq = .25$. When $p=.6$, $pq = .24$. Finally, as one more example, when $p=.9$, $pq = .09$.

The other value the investigator must provide is the level of desired absolute precision d . The level of precision is how far (in absolute terms) the lower and upper bound of the confidence limits should be from the point estimate. For “common” events (where the prevalence ranges from 10% to 90%), the d value is usually set around .05. For example, say the investigator has decided that the proportion p is 50% and the level of precision d is 5%. If the investigator’s estimate of p was correct, then the 95% confidence limits would be from 45% to 55% (i.e., $\pm 5\%$). The sample size formula approach presented above is based on the absolute precision approach.

Calculating confidence intervals

A related issue to the use of the *fpc* is the calculation of confidence limits. Most programs that calculate confidence intervals for a proportion assume an infinitely large population size, including Epi Info, the program upon which **ProPAN** has been based. In the standard output in Epi Info’s Analyze Data module,

confidence limits for a proportion are calculated using the Wilson method with large numbers and the Fisher exact method with sparse data, and both methods assume an infinitely large target population size. In general, the Wilson method is preferred. In some of the custom output presented by **ProPAN**, the Wald confidence interval method is used for proportions, again assuming an infinitely large target population size. If the size of the target population is small, then you should use this option to calculate more precise (i.e., narrower) confidence intervals that take into account the target population size. Some programs, such as SAS and SPSS, can account for the *fpc* with the addition of certain information in their commands. If you would like to calculate confidence intervals taking into account the *fpc*, you can use the “Calculate confidence intervals” option under the advanced utilities. The screen for this option is presented below:

The screenshot shows the ProPAN software interface. The main window is titled "Enter" and has a menu bar with "File", "Edit", "Options", and "Help". On the left side, there is a sidebar with buttons: "Save data", "Mark record as deleted", "Find", and "New". The main area displays a dialog box titled "Calculation of 95% confidence interval for a percentage taking into account the population size".

Inside the dialog box, there is a section titled "Enter data here" with the following input fields:

- Numerator: 0000109.0
- Denominator: 0000218.0
- Total target population size: 000000500

Below these fields is a "Calculate" button. Below the "Calculate" button is a section titled "Calculated values" with the following output:

Confidence limits taking into account the population size - Use these confidence limits -

Percent	Lower 95% confidence limit	Upper 95% confidence limit
50.00	45.02	54.98

Confidence limits ignoring population size

Percent	Lower 95% confidence limit	Upper 95% confidence limit
50.00	43.36	56.64

Below the "Calculated values" section is an "Exit" button. At the bottom of the dialog box, there is a text box containing the following information:

The confidence interval method is the normal approximation to the binomial (Wald method); one takes into account the target population size and the other does not.

95% confidence interval accounting for target population size = $p \pm 1.96 \sqrt{[pq/n] \cdot fpc}$

95% confidence interval ignoring target population size = $p \pm 1.96 \sqrt{pq/n}$

Where a=numerator, n=denominator, N=target population size, $p=a/n$, $q=1-p$, $fpc=(N-n)/N$

For example, if the sample size calculated previously was 218 (based on the target population size of 500) and the prevalence of stunting was 50% (i.e., 109 children stunted out of the 218), the 95% confidence limits for 109/218 taking into account the target population size would be:

45.02, 54.98

These confidence limits are $\pm 5.0\%$ around the point estimate of 50%. If the size of the target population is ignored, the 95% confidence interval, also presented for comparison purposes, is:

43.36, 56.64

The above confidence limits are $+6.64\%$ around the point estimate of 50%, i.e., wider than the confidence limits taking into account the target population size. Note that the customized output in **ProPAN** presents the Wald confidence limits assuming an infinitely large target population size. In general, it is desirable to have narrower confidence limits.

Epi Info's Analyze Data module would provide the 95% confidence interval for 109/218, using the Fisher exact method assuming an infinitely large target population size, as:

43.2, 56.8

The above confidence limits are $+6.8$ around the point estimate of 50%, again, much wider than the confidence interval taking into account the target population size.

Additional information about the confidence interval calculation

The formula for calculating a proportion, variance, and confidence interval assuming simple random sampling (SRS) are presented next.

Point estimate for simple random sampling

$$\hat{p}_{srs} = a / n$$

where

\hat{p}_{srs} = the estimated proportion with the attribute assuming Simple random sample

a = the number of individuals with the attribute of interest (numerator)

n = the number of individuals sampled (denominator)

In **ProPAN** the point estimate is presented as a percent (i.e., $100 \times$ the proportion).

Approximate variance estimate for simple random sampling with the fpc

$$\hat{v}ar(\hat{p}_{srs}) = \frac{\hat{p}_{srs} \hat{q}_{srs}}{n-1} \left(\frac{N-n}{N} \right)$$

where

$$\hat{q}_{srs} = 1 - \hat{p}_{srs}$$

N = population size

The $(N-n)/N$ term is called the “finite population correction” or fpc . If the size of the population N is large relative to the number sampled n , then this term will have little effect on the variance estimate. For example, say the population size (N) is 1,000,000 and 900 individuals are sampled (n), the fpc would be:

$$fpc = (1,000,000 - 900) / 1,000,000 = .9991 \approx 1$$

In this example the fpc will have little influence on the variance estimate. When the proportion of the population sampled is relatively high, the use of the fpc will decrease the size of the variance estimate, which will in turn reduce the width of the confidence interval. The formula for a two-sided confidence interval is presented below. The value 1.96 is based on the normal distribution for a 95% confidence interval. The confidence interval approach presented below is commonly referred to as the Wald or normal approximation to the binomial.

Approximate two-sided confidence interval for the point estimate

$$\hat{p}_{srs} \pm 1.96 \sqrt{\text{var}(\hat{p}_{srs})}$$

Note that this confidence interval method does not account for complex sample designs.

Frequently asked questions about *ProPAN* 2.0

Q: Does Epi Info™ work on Macintosh/Apple, or Linux computers/operating systems?

A: No. Only the Microsoft Windows operating systems (98, NT, XP, Vista, etc.) are supported.

Q: Does *ProPAN* work on Macintosh/Apple, or Linux computers/operating systems?

A: No. Only the Microsoft Windows operating systems (98, NT, XP, Vista, etc.) are supported. Currently, Epi Info™ does not support Macintosh or Linux and therefore *ProPAN* only works under Microsoft Windows.

Q: I am having problems installing Epi Info™ on my computer – who do I contact?

A: Please contact CDC. They have support staff to help with problems in installing Epi Info™ and the contact information is provided in the section of this Guide titled “Installing Epi Info”.

Q: How do I check to see which version(s) of Epi Info™ I have on my computer?

A: When you open Epi Info™, the first main window will display the version number. *ProPAN* will only work with Epi Info™ version 3.5.4, not version 7.

Q: Is an Internet connection required to use *ProPAN*?

A: An Internet connection is not required to use *ProPAN* after both *ProPAN* and Epi Info™ are installed or copied onto the computer. The Internet is only required to download the setup programs or to run the web install processes.

Q: Can *ProPAN* analyze data taking into account complex sample designs?

A: No. *ProPAN* analyzes data assuming simple random sampling. To account for a complex survey design there are two options: 1) Perform ad hoc analyses using Epi Info’s Analyze Data module (Epi Info has some commands for complex survey designs); 2) Import the data into a statistical program than can analyze survey data, such as SAS and SPSS.

Q: How do I export data from the Access format into another file format?

A: If you would like to analyze the data using other programs, such as SAS or SPSS, you will need to import the Epi Info™ files into those programs. Because Epi Info™ uses the Microsoft Access data base format (.mdb), most programs can directly import the data base into their own file format. Another option is to export the data into another data file format. This can be performed using the Export feature of Epi Info™ in the “Analyze data” module. This can also be done using the Export feature in Microsoft Access. To create an Excel spreadsheet of the Access database, find the Excel option under the “Export” area under the “External Data” tab (when using Access 2010). Name the new file, specify where you want it saved, choose the file type and click “OK”.

Data structures and dictionaries

This Annex provides the data dictionaries for all of the **ProPAN** instruments. These dictionaries will be useful in analyzing data in **ProPAN** and may be used with other software programs as well.

24-hour Dietary Recall and Anthropometry data dictionary

Field name	Type	Width	Description
D1	Numeric	4	Child's code (must-enter field)
D2	Date (dd/mm/yyyy)	8	Date of interview
D3	Numeric	4	Location
D4	Numeric	2	Field Worker's code
D5	Numeric	1	Child's sex (1=M, 2=F)
D6	Date (dd/mm/yyyy)	8	Child's date of birth
D7	Numeric	2	Child's age in months
D8	Numeric	1	Child breastfed (0=No, 1=Yes)
D9	Numeric	1	Community holiday (0=No, 1=Yes)
D10	Numeric	1	Family celebration (0=No, 1=Yes)
D11	Numeric	1	Child sick (0=No, 1=Yes)
D12	Numeric	3.1	Child's weight in kg
D13	Numeric	4.1	Child's length in cm
D14	Numeric	3	Child's mid-upper arm circumference in mm
D15	Numeric	2	Mealtime code*
D16	Numeric	12	Food code
D17	Numeric	1	Days consumed in past week (7=maximum)
D18	Numeric	4	Grams served
D19	Numeric	4	Grams consumed

*The mealtime codes are as follows:

Main meals: **10** morning (breakfast); **20** midday (lunch); **30** evening (dinner)

Snacks: **01, 02, 03...09**: morning (before breakfast); **11, 12, 13...19**: morning (after breakfast); **21, 22, 23...29**: afternoon; **31, 32, 33...39**: evening

Caregiver survey data dictionary

Prompt	Field Name	Type	Format	Special Info
Unique ID:	CDCUNIQUEID	TEXTBOX		Read Only
Country:	Country	TEXTBOX		Repeat Last
Email:	Email	TEXTBOX		Repeat Last
Survey Information	Country OtherGEO NameInvestigator Email Institution	GROUP		
Institution:	Institution	TEXTBOX		Repeat Last
Name of investigator:	NameInvestigator	TEXTBOX		Repeat Last
Notes:	Notes	MULTI-LINE		Repeat Last
Other geographic information:	OtherGEO	TEXTBOX		Repeat Last
1. Date survey is applied (dd/mm/yyyy)	Q1	DATE	DD-MM-YYYY	Required
2. Field worker's code	Q2	NUMBER	##	
3. Survey results _____	Q3	COMBO	Not Sorted	Comment Legal
Dates of follow up visits Visit 1:	Q3a	DATE	DD-MM-YYYY	
Visit 2:	Q3b	DATE	DD-MM-YYYY	
4. Child's code _____	Q4	NUMBER	####	Required
5. Address:	Q5	TEXTBOX		
6. Supervisor's code _____	Q6	NUMBER	##	
7. Date reviewed by supervisor (dd/mm/yyyy)	Q7	DATE	DD-MM-YYYY	
10. What is your name?	Q10	TEXTBOX		
11. What is the child's name?	Q11	TEXTBOX		
12. What is your relation to CHILD'S NAME?	Q12	COMBO	Not Sorted	Comment Legal
If other, please specify:	Q12Sp	TEXTBOX		
13. Are you the primary caregiver of CHILD'S NAME?	Q13	COMBO	Not Sorted	Comment Legal
20. Could you please show me an immunization record or birth certificate with CHILD'S NAME's birthdate?	Q20	COMBO	Not Sorted	Comment Legal
21. What is CHILD'S NAME's birth date? (dd/mm/yyyy)	Q21	DATE	DD-MM-YYYY	
Calculated age in month:	Q21a	NUMBER	##	Read Only
22. How many months old is CHILD'S NAME?	Q22	NUMBER	##	
23. Is CHILD'S NAME a boy or a girl?	Q23	COMBO	Not Sorted	Comment Legal
30. During the pregnancy with CHILD'S NAME, how many times did you visit a health care center for a prenatal visit?	Q30	NUMBER	##	Range [00,99]
31. Where was CHILD'S NAME born? _____	Q31	COMBO	Not Sorted	Comment Legal
If other, please specify:	Q31Sp	TEXTBOX		
32. Was CHILD'S NAME ever breastfed?	Q32	COMBO	Not Sorted	Comment Legal
33. How many hours after birth was CHILD'S NAME breastfed for the first time?	Q33	COMBO	Not Sorted	Comment Legal
34. Was CHILD'S NAME fed colostrum?	Q34	COMBO	Not Sorted	Comment Legal
35. During the first 3 days after birth, was CHILD'S NAME given anything other than breast milk?	Q35	COMBO	Not Sorted	Comment Legal
36. What was CHILD'S NAME given? (READ ALL OPTIONS)	Q36	COMBO	Not Sorted	Comment Legal

Prompt	Field Name	Type	Format	Special Info
If other, please specify:	Q36Sp	TEXTBOX		
37. During the first 3 days after birth, were you offered any practical support or advice to help you start breastfeeding CHILD'S NAME?	Q37	COMBO	Not Sorted	Comment Legal
38. Yesterday, was CHILD'S NAME breastfed?	Q38	COMBO	Not Sorted	Comment Legal
39. Yesterday, did CHILD'S NAME drink breastmilk from a cup or a bottle?	Q39	COMBO	Not Sorted	Comment Legal
40. Yesterday, was CHILD'S NAME breastfed whenever he/she wanted or on a fixed schedule?	Q40	COMBO	Not Sorted	Comment Legal
50. Who mainly decides what CHILD'S NAME should and should not eat?	Q50	COMBO	Not Sorted	Comment Legal
If other, please specify:	Q50Sp	TEXTBOX		
51. Generally speaking, how is CHILD'S NAME's appetite when she/he is healthy?	Q51	COMBO	Not Sorted	Comment Legal
52. At what age was CHILD'S NAME fed his/her first solid/ semi-solid food?	Q52	NUMBER	##	
53. Are you the person who fed CHILD'S NAME yesterday?	Q53	COMBO	Not Sorted	Comment Legal
54. Yesterday, what liquids other than breastmilk was CHILD'S NAME given? (READ ALL OPTIONS)	Q54	COMBO	Not Sorted	Comment Legal
If other, please specify:	Q54Sp	TEXTBOX		
55. Yesterday, did CHILD'S NAME have anything to drink from a bottle with a nipple?	Q55	COMBO	Not Sorted	Comment Legal
56. Yesterday, did CHILD'S NAME eat any solid or semi-solid foods?	Q56	COMBO	Not Sorted	Comment Legal
60. Yesterday, at the main meal, did CHILD'S NAME eat all the food you thought he/she should?	Q60	COMBO	Not Sorted	Comment Legal
61. Yesterday, during the main meal, did you do anything to encourage CHILD'S NAME to eat?	Q61	COMBO	Not Sorted	Comment Legal
62. What did you do?		GROUP		
01 - Offered another food or liquid	Q62_01	CHECK-BOX		
02 - Encouraged verbally	Q62_02	CHECK-BOX		
03 - Modeled eating (with or without toy)	Q62_03	CHECK-BOX		
04 - Ordered strongly or forced the child to eat	Q62_04	CHECK-BOX		
05 - Another person helped feed child	Q62_05	CHECK-BOX		
06 - Another form of encouragement	Q62_06	CHECK-BOX		
99 - Does not know	Q62_99	CHECK-BOX		
63. Yesterday, during the main meal while feeding CHILD'S NAME, did you talk to her/ him?	Q63	COMBO	Not Sorted	Comment Legal
64. What did you say?		GROUP		
01 - Ordered child to eat	Q64_01	CHECK-BOX		
02 - Praised child	Q64_02	CHECK-BOX		

Prompt	Field Name	Type	Format	Special Info
03 - Asked child questions	Q64_03	CHECK-BOX		
04 - Talked about the food	Q64_04	CHECK-BOX		
05 - Threatened the child	Q64_05	CHECK-BOX		
06 - Told child that she liked the food	Q64_06	CHECK-BOX		
07 - Rewarded the child	Q64_07	CHECK-BOX		
08 - Talked about other things	Q64_08	CHECK-BOX		
99 - Does not know	Q64_99	CHECK-BOX		
65. Yesterday, during the main meal, did CHILD'S NAME self-feed (eat by him/herself, using hands or utensil) at any moment during the meal?	Q65	COMBO	Not Sorted	Comment Legal
66. Yesterday, during the main meal, did CHILD'S NAME self-feed the whole time, half of the time, or for a little time?	Q66	COMBO	Not Sorted	Comment Legal
67. The last time CHILD'S NAME was sick, did you offer less, more or the same amount of breast milk as when CHILD'S NAME is healthy? (If response is "less", ask additional questions to determine why.)	Q67	COMBO	Not Sorted	Comment Legal
68. The last time CHILD'S NAME was sick, did you offer less, more or the same amount of non-breast milk LIQUIDS as when CHILD'S NAME is healthy? (If response is "less", ask additional questions to determine why.)	Q68	COMBO	Not Sorted	Comment Legal
69. The last time CHILD'S NAME was sick, did you offer less, more or the same amount of FOODS as when CHILD'S NAME is healthy? (If the response is "less", then probe "why"?)	Q69	COMBO	Not Sorted	Comment Legal
70. After the illness ended, did you offer less, more or the same amount of FOOD as when CHILD'S NAME is healthy? (If response is "less", ask additional questions to determine why.)	Q70	COMBO	Not Sorted	Comment Legal
80. In the past 3 months, since _____ (MONTH), have you taken CHILD'S NAME to a hospital, health center, mobile unit, or any other health service? (READ ALL OPTIONS)	Q80	COMBO	Not Sorted	Comment Legal
If other, please specify:	Q80Sp	TEXTBOX		
81. In the past 3 months, at any of these places (health facilities), was CHILD'S NAME measured for: (READ ALL OPTIONS)		GROUP		
Weight	Q81_01	COMBO	Not Sorted	Comment Legal
Length	Q81_02	COMBO	Not Sorted	Comment Legal
Upper arm	Q81_03	COMBO	Not Sorted	Comment Legal
82. During the past 3 months, since _____ (MONTH), did CHILD'S NAME ever take/receive any of the following?		GROUP		
Iron supplement or syrup? (For example, ferrous sulfate)	Q82_01	COMBO	Sorted	Comment Legal
A multi-vitamin and mineral supplement, syrup or powder (such as Sprinkles)?	Q82_02	COMBO	Sorted	Comment Legal
Lipid nutrient supplement, (such as Nutributter or Plumpydoz or [other local name/product])?	Q82_03	COMBO	Sorted	Comment Legal
Supplementary food, (such as Corn Soya Blend or [local name or local product])	Q82_04	COMBO	Sorted	Comment Legal
General food rations	Q82_05	COMBO	Sorted	Comment Legal
Vouchers for food	Q82_06	COMBO	Sorted	Comment Legal

Prompt	Field Name	Type	Format	Special Info
Cash assistance to help purchase food [USE LOCAL PROGRAM NAME]	Q82_07	COMBO	Sorted	Comment Legal
83. During the past 6 months, since _____ (month), did CHILD'S NAME ever take a vitamin A capsule, supplement or syrup?	Q83	COMBO	Sorted	Comment Legal
90. In the past 3 months, did you hear or receive any messages or information on child feeding?	Q90	COMBO	Sorted	Comment Legal
91. Where or from whom did you receive the messages?		GROUP		
01 - Health facility	Q91_01	CHECK-BOX		
02 - Community health worker	Q91_02	CHECK-BOX		
03 - Traditional health providers	Q91_03	CHECK-BOX		
04 - Family member	Q91_04	CHECK-BOX		
05 - Neighbor/friend	Q91_05	CHECK-BOX		
06 - Child who attends school	Q91_06	CHECK-BOX		
07 - Community gathering	Q91_07	CHECK-BOX		
08 - Radio	Q91_08	CHECK-BOX		
09 - Television	Q91_09	CHECK-BOX		
10 - Internet	Q91_10	CHECK-BOX		
11 - Mobile phone messaging	Q91_11	CHECK-BOX		
12 - Printed materials	Q91_12	CHECK-BOX		
13 - Religious institution	Q91_13	CHECK-BOX		
14 - Mother-to-mother group	Q91_14	CHECK-BOX		
77 - Other	Q91_77	CHECK-BOX		
99 - Does not know/remember	Q91_99	CHECK-BOX		
If other, please specify:	Q91Sp	TEXTBOX		
92. Do you remember what the message(s) said? (If the mother/caregiver answers no, ask her to try to remember, repeat the question and wait for a reasonable amount of time)	Q92	COMBO	Sorted	Comment Legal
If Yes, please describe: _____	Q92Sp	TEXTBOX		
93. How often do you listen to the radio?	Q93	COMBO	Not Sorted	Comment Legal
Other, specify:	Q93Sp	TEXTBOX		
94. Do you ever watch television?	Q94	COMBO	Not Sorted	Comment Legal
95. Do you participate in any community organizations or social programs? (Mention examples such as - community kitchens, parent associations, credit associations, health committees, etc.)	Q95	COMBO	Not Sorted	Comment Legal

Prompt	Field Name	Type	Format	Special Info
96. In which organizations or programs do you participate? (Write down any organizations and programs that are mentioned.)	Q96	TEXTBOX		
100. How many people live in the home, including you, young children and elderly? (Clarify that the respondent should include herself, any other adults, including the elderly, and all children. Record the number)	Q100	NUMBER	##	
101. How many of them are under five years of age? (Record the number)	Q101	NUMBER	##	
102. How old are you? _____	Q102	NUMBER	##	Range [00,99]
103. Are you (the mother/caregiver)? _____ (Read the first three options aloud)	Q103	COMBO	Not Sorted	Comment Legal
104. Do you know how to read and write? (If the respondent says "Yes", ask her to read a sentence in local/national language)	Q104	COMBO	Not Sorted	Comment Legal
105. What is the highest grade/form/year of school that you completed?	Q105	NUMBER	##	
106. In your household, who usually makes decisions about purchasing food or taking CHILD'S NAME to health services?	Q106	COMBO	Not Sorted	Comment Legal
If other, please specify:	Q106Sp	TEXTBOX		
107. In what store or markets do you buy food? (WRITE THE NAME AND APPROXIMATE LOCATION)	Q107	TEXTBOX		
108. Aside from your own housework, have you done any paid work in the last seven days?	Q108	COMBO	Not Sorted	Comment Legal
109. If yes, what is your occupation, that is, what kind of work do you mainly do?	Q109	COMBO	Not Sorted	Comment Legal
If other, please specify:	Q109Sp	TEXTBOX		
110. Does anyone in your household grow food?		GROUP		
01 - Yes (grains, roots, tubers)	Q110_01	CHECK-BOX		
02 - Yes (legumes, nuts)	Q110_02	CHECK-BOX		
03 - Yes (orange or yellow fruits & vegetables)	Q110_03	CHECK-BOX		
04 - Yes (green leafy vegetables)	Q110_04	CHECK-BOX		
05 - Yes (any other fruits & vegetables)	Q110_05	CHECK-BOX		
07 - No	Q110_07	CHECK-BOX		
77 - Yes (other)	Q110_77	CHECK-BOX		
99 - Does not know	Q110_99	CHECK-BOX		
If other, please specify:	Q110Sp	TEXTBOX		
111. Does this household own livestock, herds, other farm animals, poultry or fish?		GROUP		
01 - Yes (chickens, ducks, or other birds: for the meat)	Q111_01	CHECK-BOX		
02 - Yes (chickens, ducks, or other birds: for the eggs)	Q111_02	CHECK-BOX		

Prompt	Field Name	Type	Format	Special Info
03 - Yes (cows, goats, sheep, pigs, camels or other large mammals for the meat)	Q111_03	CHECK-BOX		
04 - Yes (cows, goats, sheep, or camels for the milk)	Q111_04	CHECK-BOX		
05 - Yes (rabbits, guinea pigs, or other small mammals)	Q111_05	CHECK-BOX		
06 - Yes (fish)	Q111_06	CHECK-BOX		
07 - No	Q111_07	CHECK-BOX		
99 - Does not know	Q111_99	CHECK-BOX		
120. What is the main source of drinking water for members of your household?	Q120	COMBO	Not Sorted	Comment Legal
If other, please specify:	Q120Sp	TEXTBOX		
121. How long does it take to go there, get water and come back? (Number of minutes)	Q121	NUMBER	##	Range [0,99]
122. Do you do anything to the water to make it safer to drink?	Q122	COMBO	Not Sorted	Comment Legal
123. What do you usually do to make the water safer to drink?		GROUP		
01 - Boil	Q123_01	CHECK-BOX		
02 - Add bleach / chlorine	Q123_02	CHECK-BOX		
03 - Strain it through a cloth	Q123_03	CHECK-BOX		
04 - Use water filter (ceramic, sand, composite, etc.)	Q123_04	CHECK-BOX		
05 - Solar disinfection	Q123_05	CHECK-BOX		
06 - Let it stand and settle	Q123_06	CHECK-BOX		
77 - Other	Q123_77	CHECK-BOX		
99 - Does not know	Q123_99	CHECK-BOX		
If other, please specify:	Q123Sp	TEXTBOX		
124. What kind of toilet facility do members of your household usually use?	Q124	COMBO	Not Sorted	Comment Legal
If other, please specify:	Q124Sp	TEXTBOX		
125. What type of fuel does your household mainly use for cooking?	Q125	COMBO	Not Sorted	Comment Legal
If other, please specify:	Q125Sp	TEXTBOX		
A) Electricity	Q126a	COMBO	Not Sorted	Comment Legal
B) Radio	Q126b	COMBO	Not Sorted	Comment Legal
C) Television	Q126c	COMBO	Not Sorted	Comment Legal
D) Phone (landline or mobile)	Q126d	COMBO	Not Sorted	Comment Legal
E) Refrigerator	Q126e	COMBO	Not Sorted	Comment Legal

Prompt	Field Name	Type	Format	Special Info
130. Have you ever heard of an illness called AIDS?	Q130	COMBO	Not Sorted	Comment Legal
During pregnancy?	Q131a	COMBO	Not Sorted	Comment Legal
During delivery?	Q131b	COMBO	Not Sorted	Comment Legal
By breastfeeding?	Q131c	COMBO	Not Sorted	Comment Legal
Other?	Q131d	COMBO	Not Sorted	Comment Legal
If other, please specify:	Q131Sp	TEXTBOX		
132. Are there any special drugs that a doctor or a nurse can give to a woman infected with the AIDS virus to reduce the risk of transmission to the baby?	Q132	COMBO	Not Sorted	Comment Legal
133. Have you learned about ways to prevent passing the AIDS virus from mother to child during breastfeeding?	Q133	COMBO	Not Sorted	Comment Legal
134. How did you learn about ways to prevent passing the AIDS virus from mother to child during breastfeeding?		GROUP		
01 - Health personnel (doctor, nurse, midwife)	Q134_01	CHECK-BOX		
02 - Community health worker, peer counselor	Q134_02	CHECK-BOX		
03 - Traditional health provider (healer, TBA)	Q134_03	CHECK-BOX		
04 - Family member	Q134_04	CHECK-BOX		
05 - Neighbor/friend	Q134_05	CHECK-BOX		
77 - Other	Q134_77	CHECK-BOX		
99 - Does not know	Q134_99	CHECK-BOX		
If other, please specify:	Q134Sp	TEXTBOX		
135. Were you tested for the AIDS virus during your pregnancy with CHILD'S NAME?	Q135	COMBO	Not Sorted	Comment Legal
170. Observations:	Q170	MULTI-LINE		

Market Survey data dictionary

Field name	Type	Width	Description
M1	Alphanumeric	50	Name of the retail location
M2	Alphanumeric	50	Address/location
M3	Numeric	2	Field Worker's code
M4	Date (dd/mm/yyyy)	8	Survey date (dd/mm/yyyy)
M5	Numeric	2	Supervisor's code
M6	Date (dd/mm/yyyy)	8	Date of supervision (dd/mm/yyyy)
M7	Numeric	12	Food code
M8	Alphanumeric	50	Retail unit
M9	Numeric	4	Net weight (g)
M10	Numeric	12	Price 1
M11	Numeric	12	Price 2
M12	Numeric	12	Price 3
M13	Alphanumeric	1	Available all year
M14	Alphanumeric	1	Available January
M15	Alphanumeric	1	Available February
M16	Alphanumeric	1	Available March
M17	Alphanumeric	1	Available April
M18	Alphanumeric	1	Available May
M19	Alphanumeric	1	Available June
M20	Alphanumeric	1	Available July
M21	Alphanumeric	1	Available August
M22	Alphanumeric	1	Available September
M23	Alphanumeric	1	Available October
M24	Alphanumeric	1	Available November
M25	Alphanumeric	1	Available December

Technical specifications for output

The methods of operationalization of two specific outputs are described below. Complete technical specifications for the software code are available upon request (Please contact propan@paho.org).

Algorithm for responsive feeding⁶

The four dimensions of responsive feeding are:

- 1) Encouraging appropriately a child who has not eaten enough;
- 2) Talking to the child (other than commanding or threatening) during meal time;
- 3) Providing opportunities for child to self-feed at least a little; and
- 4) Absence of inappropriate responses to a child (usually related to food refusal but not always).

The *Caregiver Survey* questions 60 – 66 (see the Field Manual) are designed to reflect, at a very simple level, these four dimensions.

The total score ranges from 3 (most responsive) to -1 (not responsive). The algorithm for coding these questions follows and the age ranges are indicated for each code.

1) Encourage the child to eat more if the caregiver feels that the child has not eaten enough (1 point)

Rationale: if the caregiver feels that the child has not eaten enough, but does not encourage, this is not responsive feeding. If the caregiver feels that the child has not eaten enough, he/she must demonstrate some encouragement but it should not be inappropriate, as in forcing the child to eat. Credit is given for positive encouragement only. However, if the caregiver feels that the child has eaten enough we give credit even if the caregiver does not encourage. This item should be coded the same for all age levels.

Give 1 point if Q60 = 01 (Yes). Stop here.

Give 1 point if Q60 = 02 (No) OR 99 (Does not know) AND Q61 = 01 (Yes) AND Q62 = 01 (Offered another food or liquid) OR 02 (Encouraged verbally) OR 03 (Modeled eating with or without toy) OR 05 (Another person helped feed child) OR 06 (Another form of encouragement). This coding excludes the negative response 04 (ordered strongly or forced child to eat).

⁶ Developed by Patrice Engle and Hilary Creed de Kanashiro, based on field work conducted in Peru.

2) Talk to the child during the meal (not order or threaten) (1 point)

This item should be coded the same for all age levels.

Give 1 point if Q63 = 01 (Yes) AND Q64 = 02 (Praised child) OR 03 (Asked child questions) OR 04 (Talked about the food) OR 06 (Told child she liked food) OR 07 (Rewarded the child) OR 08 (Talked about other things).

3) Self-feed (1 point)

Allowing a child some opportunity to self-feed or to touch the food, according to the child's developmental level is one dimension of responsive feeding. The rationale is that it indicates that the caregiver at some point permitted the child to self-feed, as appropriate to the child's age. For a very young child, this might be not at all or for a small amount of time. As the children get older, the relative amount of time in self-feeding should increase. Codes differ for 6-8 months, 9-12 months, and 13-18 months for this dimension.

6-8 months:

Give 1 point if Q65 = 02 (No) OR 01 (Yes) AND Q66 = 03 (Little bit of time).

9-12 months

Give 1 point if Q65 = 01 (Yes) AND Q66 = 02 (Half the time) OR = 03 (Little bit of time).

13-18 months

Give 1 point if Q65 = 01 (Yes) AND Q66 = 01 (All of the time) OR 02 (Half of the time).

4) Appropriate response to child refusal (1 negative point).

If the caregiver threatens the child, or forces the child to eat, these would be considered inappropriate, non-responsive responses. Presumably these would be more common when a child refuses or does not eat enough. A point should be deducted from the responsive feeding score if either of the behaviors above is reported (total of 1 point deduction, not 2). Note that both of these behaviors are in lists with multiple responses, so that the caregiver could exhibit both positive behaviors (e.g., encouraging a child to eat by modeling) and a coercive behavior ("ordered strongly or forced the child to eat"). Thus these items should be considered independent of the items in dimensions of talking to the child and encouraging the child.

This item should be coded the same for all age levels.

In order for a child to be considered as fed responsively, neither of the following should be observed: Q64 = 05 (Threatened the child) or Q62 = 04 (Ordered strongly or forced the child to eat). If either is observed, deduct 1.

Cut-off points for a responsive feeder

A child is coded as responsively fed if the score is 2 or greater.

Algorithm for the WHO Indicator for Assessing Infant and Young Child Feeding Practices 8. Consumption of iron-rich or iron-fortified foods

According to WHO IYCF Indicator 8 specifications, suitable iron-rich or iron-fortified foods include flesh foods, commercially fortified foods specially designed for infants and young children that contain iron, or foods fortified in the home with a micronutrient powder containing iron or a lipid-based nutrient supplement containing iron. The indicator is defined as the proportion of children 6–23 months of age who receive an iron-rich food or iron-fortified food that is specially designed for infants and young children, or that is fortified in the home.

All flesh foods (WHO IYCF food group 4) were coded as iron-rich or iron-fortified foods in the FCT. Eggs, which constitute their own WHO IYCF food group (food group 5), were not included in this selection. Special supplements, including micronutrient powders and lipid-based nutrient supplements containing iron, were also counted as iron-rich or iron-fortified foods upon verification from the producer's website. Additionally, foods fortified in iron and specifically designed for children were similarly verified and counted. Only foods and supplements with brand names were verifiable. Generic fortified foods, or those not specified to be iron-fortified, were not counted. Out of 1948 total foods, 510 were coded as iron-rich or iron-fortified, out of which over 97% were flesh foods.

Codebook for the *ProPAN* Food Composition Table

Both *ProPAN* and *Optifood* share the same FCT.

The table described in this codebook draws directly from the following document:

Standard operating procedures for compilation of the *Optifood* food composition table, Version 9, Revised: August 9, 2011. Prepared by Christine Hotz (Nutridemics), Elaine Ferguson, Gina Kennedy and Monica Woldt.

Table 1. Fields included in the *ProPAN* FCT*

Field name	Description 1	Description 2	Field type	Digits	String field character width
F1	Food code	6-digit unique food code	Numeric	N 100000	
F2	Food name	Description of food item – universal	String		100
F3	Food name (local)	Description of food item - local name	String		100
F4	Spanish food name	Description of food item – in Spanish	String		100
F5	French food name	Description of food item – in French	String		100
F6	Water	Water (g/100 g)	Numeric	N 10.2	
F7	Energy_kcal	Food energy (kcal/100 g)	Numeric	N 100	
F8	Protein	Protein (g/100 g)	Numeric	N 10.2	
F9	Fat	Total lipid (fat) (g/100 g)	Numeric	N 10.2	
F10	Carbohydrate	Carbohydrate (g/100 g)	Numeric	N 10.2	
F11	Calcium	Calcium (mg/100 g)	Numeric	N 10	
F12	Iron	Iron (mg/100 g)	Numeric	N 10.2	
F13	Zinc	Zinc (mg/100 g)	Numeric	N 10.1	
F14	Vit_C	Vitamin C (mg/100 g)	Numeric	N 10.1	
F15	Thiamin	Thiamin (mg/100 g)	Numeric	N 10.3	
F16	Riboflavin	Riboflavin (mg/100 g)	Numeric	N 10.3	
F17	Niacin	Niacin (mg/100 g)	Numeric	N 10.3	
F18	Vit_B6	Vitamin B-6 (mg/100 g)	Numeric	N 10.3	
F19	Folate_DFE	Folate (µg Dietary Folate Equivalents/100 g)	Numeric	N 10	
F20	Vit_B12	Vitamin B-12 (µg/100 g)	Numeric	N 10.2	

Field name	Description 1	Description 2	Field type	Digits	String field character width
F21	Vit_A_RE	Vitamin A (µg Retinol Equivalents/100 g)	Numeric	N 100000	
F22	Vit_A_RAE	Vitamin A (µg Retinol Activity Equivalents/100 g)	Numeric	N 100000	
F23	Country	Country or region of origin	String		15
F24	Food_group_code	Optifood food group code (see Table 2)	Numeric	N 2	
F25	Food_group	Optifood food group name (see Table 2)	String		35
F26	Food_subgroup_code	Optifood food subgroup code (see Table 2)	Numeric	N 3	
F27	Food_subgroup	Optifood food subgroup name (see Table 2)	String		50
F28	Dry_matter	Dry matter (g/100 g)	Numeric	N 10.2	
F29	Retinol	Retinol (µg/100 g)	Numeric	N 10	
F30	Alpha_carot	Alpha-carotene (µg/100 g)	Numeric	N 10	
F31	Beta_carot	Beta-carotene (µg/100 g)	Numeric	N 10	
F32	Beta_crypt	Beta-cryptoxanthin (µg/100 g)	Numeric	N 10	
F33	Ash	Ash (mg/100 g)	Numeric	N 10.2	
F34	Magnesium	Magnesium (mg/100g)	Numeric	N 10	
F35	Phosphorus	Phosphorus (mg/100 g)	Numeric	N 10	
F36	Potassium	Potassium (mg/100 g)	Numeric	N 10	
F37	Pantothene	Pantothene (mg/100 g)	Numeric	N 10.3	
F38	Folate_food	Folate (µg food folate/100 g)	Numeric	N 10	
F39	Folate_total	Folate (µg total folate/100 g)	Numeric	N 10	
F40	Folic_acid	Folic acid (µg/100 g)	Numeric	N 10	
F41	Vit_B12_added	Vitamin B-12 (µg added/100 g)	Numeric	N 10.2	
F42	Sodium	Sodium (mg/100 g)	Numeric	N 10	
F43	FA_Linoleic	Fatty acids, 18:2 undifferentiated (g/100 g)	Numeric	N 10.3	
F44	FA_Linolenic	Fatty acids, 18:3 undifferentiated (g/100 g)	Numeric	N 10.3	
F45	Iron_heme	Heme iron (mg/100 g)	Numeric	N 10.2	
F46	Iron_non_heme	Non-heme iron (mg/100 g)	Numeric	N 10.2	
F47	Iron_animal	Animal source iron (mg/100 g)	Numeric	N 10.2	
F48	Source	Source of food composition data	String		15
F49	Source code	Code for food item in original FCT source			
F50	Fct_source_descr	Text description of imputed data	String		600
F51	Ret_source_code	USDA code for nutrient retention data used	Numeric	N 1000	
F52	Ret_source_descr	USDA description for nutrient retention data used	String		300
F53	Water_source_descr	Text description of the source of data used for water content adjustments of imputed data	String		300
F54	Mod_date	Date of modification (dd_month_yy)	Date	N 10	

Field name	Description 1	Description 2	Field type	Digits	String field character width
F58	Iron rich or fortified code	Coding of 0 or 1, where 0=Yes, this is an iron-rich or iron-fortified food 1=No, this is not an iron-rich or iron-fortified food	Numeric	N1	
F59	Iron rich or fortified group ⁷	Group name: Iron-rich or iron-fortified Neither iron-rich nor iron-fortified	String		40
F60	WHO food group ⁸	WHO IYCF food group code (see Table 3)	Numeric	N1	
F61	WHO food group code	WHO IYCF food group name (see Table 3)	String		60
F62	MFF code	1 = not meat, fish or fowl 2 = meat fish or fowl 3 = contains some meat, fish or fowl	Numeric	N1	
F63	MFF defined	Is the food a meat, fish or fowl and does a preparation contain any? There are three options: Not MFF MFF Contains some MFF	String		40

*Adapted from Table 2 in the "Standard operating procedures for compilation of the Food Composition Table."

⁷ As described in Annex IV.

⁸ As described in core indicator number 5 (minimum dietary diversity), the groups are: grains, roots and tubers; legumes and nuts; dairy products (milk, yogurt, cheese); flesh foods (meat, fish, poultry and liver/organ meats); eggs; vitamin-A rich fruits and vegetables; and other fruits and vegetables. Source: WHO and partners, 2008. Indicators for assessing infant and young child feeding practices. Part 1. Definitions, WHO: Geneva.

Table 2. Optifood food groups and sub-groups*

Food group code	Food group	Food group name	Food sub-group code	Food sub-group (examples)
1	Grains & grain products	Grains & grain products ¹	101	Whole grains and products, unenriched/un-fortified
			102	Refined grains and products, unenriched/unfortified
			103	Enriched/fortified grains and products, whole or refined
			104	MyFoods_Special Grains
2	Bakery & Breakfast cereals	Bakery & Breakfast cereals ²	201	Ready-to-eat (RTE) cereals, unfortified
			202	Ready-to-eat (RTE) cereals, fortified
			203	Pancakes, waffles, scones, crackers
			204	Whole grain bread, unenriched/unfortified
			205	Refined grain bread, unenriched/unfortified
			206	Enriched/fortified bread, whole or refined grain
			207	Sweetened bakery products, unenriched/unfortified
			208	Sweetened bakery products, enriched/fortified
			209	MyFoods_Special Bakery
3	Roots	Starchy roots & other starchy plant foods ³	301	Vitamin A source starchy plant foods
			302	Vitamin C-rich starchy plant foods
			303	Other starchy plant foods
			304	MyFoods_Special Starchy Plant Foods
4	Legumes	Legumes, nuts & seeds	401	Cooked beans, lentils, peas
			402	Soybeans and products ⁴
			403	Nuts, seeds, and unsweetened products ⁵
			404	Sweetened legume, nut, seed products
			405	MyFoods_Special Legumes
5	Dairy	Dairy products ⁶	501	Fluid or powdered milk, non-fortified
			502	Flavored milk, non-fortified
			503	Fluid or powdered milk, fortified
			504	Infant formula, fortified
			505	Yoghurt, solid and drinkable
			506	Cheese
			507	Cream, sour cream
			508	Sweetened dairy products/desserts (flan, custard, sweetened yogurt, ice cream)
			509	Other dairy excluding butter
			510	MyFoods_Special Dairy
6	Meats	Meat, fish & eggs	601	Red meat
			602	Pork
			603	Poultry, rabbit
			604	Eggs
			605	Processed meat

Food group code	Food group	Food group name	Food sub-group code	Food sub-group (examples)
			606	Fish without bones
			607	Small, whole, fish with bones
			608	Seafood
			609	Organ meat
			610	Insects, grubs
			611	Blood, blood sausage
			612	Other animal parts
			613	Reptiles
			614	MyFoods_Special Meats
7	Fruits	Fruits	701	Vitamin A source fruit ⁷
			702	Vitamin C-rich fruit ⁸
			703	Other fruit ⁹
			704	MyFoods_Special Fruits
8	Vegetables	Vegetables	801	Vitamin A source dark green leafy vegetables ⁷
			802	Vitamin A source other vegetables
			803	Vitamin C-rich vegetables ⁸
			804	Other vegetables ¹⁰
			805	Condiment vegetables
			806	MyFoods_Special Vegetables
9	Fats	Added fats	901	Vegetable oil, unfortified
			902	Red palm oil
			903	Vegetable oil, fortified
			904	Butter, ghee, margarine, unfortified
			905	Margarine, fortified
			906	Other added fats
			907	MyFoods_Special Fats
10	Sugars	Added sugars	1001	Sugar, non-fortified
			1002	Sugar, fortified
			1003	Honey, syrup, nectar
			1004	MyFoods_Special Sugars
11	Sweets	Sweetened snacks & desserts	1101	Sweet snack foods (candy and chocolate)
			1102	Other sweetened desserts (gelatine, non-dairy ice)
			1103	MyFoods_Special Sweetened Snacks and Desserts
12	Beverages	Beverages (non-dairy or blended dairy)	1201	Brewed tea, herbal infusions (with or without sugar or milk)
			1202	Brewed tea, herbal infusions (w/wo sugar or milk)
			1203	Brewed coffee (w/wo sugar or milk)
			1204	Chocolate beverage or powder mix, non-dairy
			1205	Alcoholic beverages
			1206	Juices – commercial, pure, Vitamin A source ¹¹
			1207	Juices – commercial, pure, Vitamin C-rich ¹¹

Food group code	Food group	Food group name	Food sub-group code	Food sub-group (examples)
			1208	Sugar-sweetened beverages (soda, processed or artificial juices)
			1209	Fortified beverage or powder mix
			1210	Other beverages
			1211	Cereal-based beverages (w/wo milk and w/wo fermentation)
			1212	Fruit/dairy-containing blended beverages
			1213	MyFoods_Special Beverages
13	Miscellaneous	Miscellaneous	1301	Condiments, herbs, spices ¹²
			1302	Savory spreads, sauces, pastes, salad dressings, pickles ¹³
			1303	Sweet sauces, jams, pastes and spreads
			1304	Other miscellaneous ¹⁴
			1305	MyFoods_Special Miscellaneous
14	Composites	Composites (mixed food groups) ¹⁵	1401	Main meal recipes
			1402	Grain products w/ fillings (sándwiches, burgers, samosas, enchiladas,)
			1403	Salads w/ mixed food group ingredients
			1404	Soups
			1405	Broths
			1406	Other composites
			1407	MyFoods_Special Composites
15	Fortified	Special fortified products (targeted)	1501	Multiple Micronutrient Powders
			1502	Lipid-based Nutrient Supplement
			1503	Fortified special biscuits
			1504	Other special fortified products
			1505	MyFoods_Special Fortified Products
16	Human Milk	Human Milk	1601	Breastmilk
17	Savory snacks	Savory snacks	1701	Savory snacks, salted, spiced, fried
			1702	MyFoods_Special Savory Snacks

- 1 Grains & grain products include, cereal grains and cereal-based porridges etc that are a major source of energy in the diet. The only exception is porridges to which sugar has been added at the household level (as per local recipes). Highly processed and often sweetened or flavored grain products and sweetened grain products consumed as deserts or sweet snacks, such as cookies, cakes, and doughnuts, are included under 'Bakery & breakfast cereals'.
- 2 Bakery & breakfast cereals was created to isolate foods that tend to be highly processed, sweetened, and/or flavored, that may be consumed as part of a main meal (eg., breakfast) but are unlikely to be recommended as a major source of energy or nutrients. These include ready-to-eat cereals, pancakes, bakery products such as plain *unsweetened* breads, buns, chapattis, biscuits, highly processed and often sweetened or flavored grain products and sweetened grain products consumed as deserts or sweet snacks, such as cookies, cakes, doughnuts and sweet breads.
- 3 In addition to starchy roots and tubers, this group also includes other starchy plant food parts that are typically used as 'staple' foods, defined as major sources of carbohydrate/energy in meals. These may include plantains, sago palms, enset, and other starchy, non-root plant parts. Root types with energy content <~60 kcal/100 grams on a raw weight basis are categorized as vegetables.
- 4 Tofu is included here based on the convention from Indonesia that tofu is a legume product.
- 5 The subgroup for 'Nuts, seeds, and unsweetened products' includes whole and processed nuts and seeds such as unsweetened butters, pastes, and powders. The subgroup "Sweetened legume, nut, seed products" includes legume products that are sweetened and generally used as snacks or deserts.
- 6 Dairy products include unsweetened dairy and sweetened dairy products. Fruit/dairy blended beverages such as smoothies and licuados, that have little dairy, are classified in the 'Beverages' group (subgroup: 'Fruit/dairy-containing blended beverages').
- 7 Vitamin A source fruits and vegetables are defined as those containing ≥ 120 RE/100 g (or ≥ 60 RAE/100 g) of food in the form that it is eaten. Vitamin A source fruits and vegetables are included in this category regardless of whether they are also considered to be vitamin C-rich (see footnote 8). See footnote #11 regarding classification of pure, home-made juices and pure commercial juices.
- 8 Vitamin C-rich fruits and vegetables are defined as those containing ≥ 18 mg/100 gm of food in the form that it is eaten. Vitamin C-rich fruits and vegetables are NOT included here if they are categorized as vitamin A source.
- 9 Includes mature and immature coconut meat. This food group does NOT include plantain (see footnote 3).
- 10 Immature (green) maize is included in 'Vegetables' group. The higher water content does not justify its inclusion in 'Grains & grain products'.

- 11 Pure, home-made fruit juice is categorized in the “Fruits” group and pure, home-made vegetable juice is categorized in the “Vegetables” group. If the pure, home-made fruit or vegetable juice has a vitamin A content ≥ 60 RE/100 gm edible portion, it is classified in the “Vitamin A source fruits” subgroup or “Vitamin A source vegetables” subgroup. If the pure, home-made fruit or vegetable juice is not a Vitamin A source and if it has a vitamin C content ≥ 9 mg/100 gm edible portion it is classified in the “Vitamin C-rich fruits” subgroup or the “Vitamin C-rich vegetables” subgroup. Juices that are commercially produced are categorized in the “Beverages (non-diary or blended dairy)” group and in one of the following subgroups: “Juices – commercial, pure, vitamin A source”, which have ≥ 60 RE/100 gm edible portion; “Juices – commercial, pure, vitamin C-rich”, which have ≥ 9 mg/100 gm edible portion, or “Juices – commercial, pure, other”. Note that juices that are both a Vitamin A source and Vitamin C-rich are classified as Vitamin A source.
- 12 Includes both fresh herbs and dried herbs, and dried chillies but NOT fresh chillies; fresh chillies are included in the ‘Vegetables’ group.
- 13 Includes food items preserved in salted brine that are typically consumed in small portion sizes, such as olives, capers, and pickled vegetables.
- 14 Other miscellaneous food items may include leavening agents, and powdered flavoring mixes.
- 15 Composite dishes are defined as those with ingredients from more than one major food group, with the exception of additional salt and modest amounts of fats for cooking. It is desirable to minimize the number of composite dishes in dietary data collection as they interfere with the ability to generate accurate food-group based recommendations. This category should thus be reserved for foods where standard recipes are difficult to obtain. Note that this food group will NOT include composite dishes when all ingredients (except added salt and cooking fat) are derived from the same major food group (eg., Pumpkin leaves + tomatoes + onions + vegetable oil, would be categorized under the ‘Vegetables’ group).

Table 3. WHO IYCF food groups*

Food code	Food Group
0	None of the seven groups below (for example, oils)
1	Grains, roots and tubers
2	Legumes and nuts
3	Dairy products (milk, yogurt, cheese)
4	Flesh foods (meat, fish, poultry and liver/organ meats)
5	Eggs
6	Vitamin-A rich fruits and vegetables
7	Other fruits and vegetables

*Copied from page 35 of WHO and partners. Indicators for assessing infant and young child feeding practices: Part 2. Measurement. Geneva, 2010.

Changes and updates to the *ProPAN* 2.0 software

As changes are made to the software, they will be recorded here.



ProPAN is available at no cost in English, Spanish, and French at
www.PAHO.org/ProPAN

