MODULE 7:

Using WHO Anthro Plus Computer Program

- Introduction to WHO Anthro Plus
- Basic community monitoring concepts for outreach teams

Revised 2013

Notice: MAMA Project does not warrant that any medical diagnosis procedure or medical treatment set forth in these materials is the most current or desirable course of treatment. Any user is encouraged to check the accuracy of any medical diagnosis procedure or medical treatment against currently accepted courses of treatment.

Child Survival Programs for Sahel region and Haiti are in collaboration with University of Maryland Dental School.

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What is WHO Anthro Plus?

- WHO Anthro Plus is a computer program created by the World Health Organization (WHO) that compares height/weight/length data for children age 0-19 years to the WHO child growth standards.
- The "nutritional survey" program of WHO Anthro Plus allows for input of large amounts of data that is ideal for analyzing large numbers of children.

Goals

- To use WHO Anthro Plus to demonstrate if a program is effective in improving the health of communities as indicated by the growth of children
- To obtain publishable data that demonstrates the impact of MAMA Project

Indicators of Community Health

- Community Health Indicator #1: Growth of Children
- Community Health Indicator #2: Anemia
  - Anemia can be detected by testing hemoglobin with a simple finger prick, measurement is simple and cost effective.
  - Parasites, malaria, and malnutrition all cause anemia; therefore, a decrease in the prevalence of anemia signifies an increase in the health of a community.

How does MAMA monitor program impact?

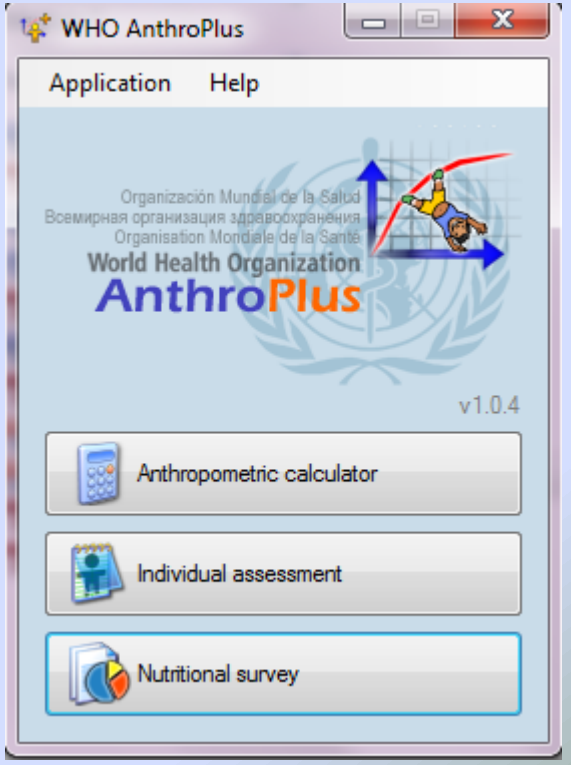
- Every member of the community will be offered the same treatment.
- No new interventions are being tested, rather the results of simultaneous application of multiple proven child survival strategies are being constantly monitored and documented.
- Improvement is measured by comparing community data to the WHO standards and to their own baseline data over time.

Why is documentation important?

- To inform the community of their situation and trends
- To show donors the impact of MAMA Project
- To generate more support and more funding opportunities for MAMA project
- To inform policy makers of program impact on community health for consideration of implementation on a larger scale

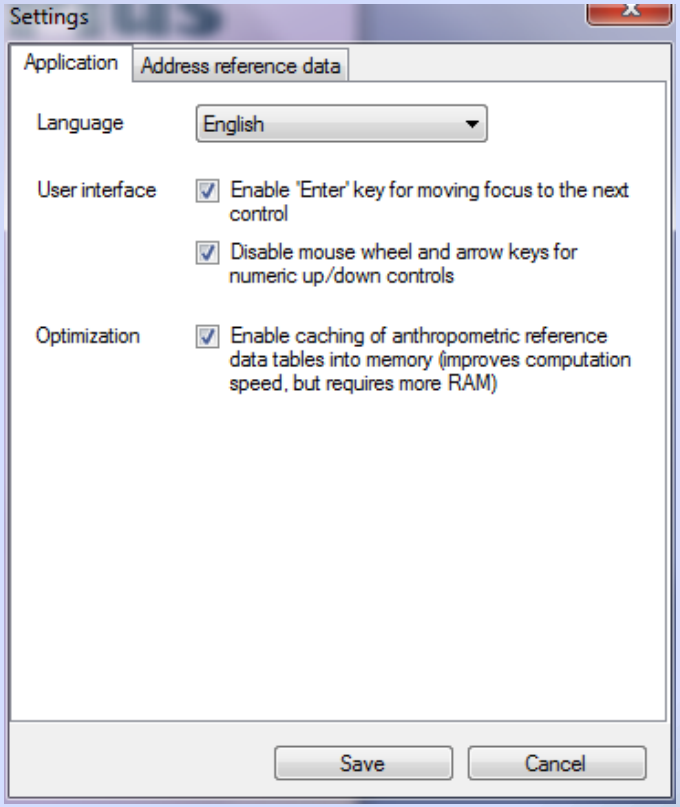
Downloading WHO Anthro Plus

- WHO Anthro Plus can be downloaded for free from the following website: http://www.who.int/growthref/tools/en/
- Instruction manuals can also be downloaded.



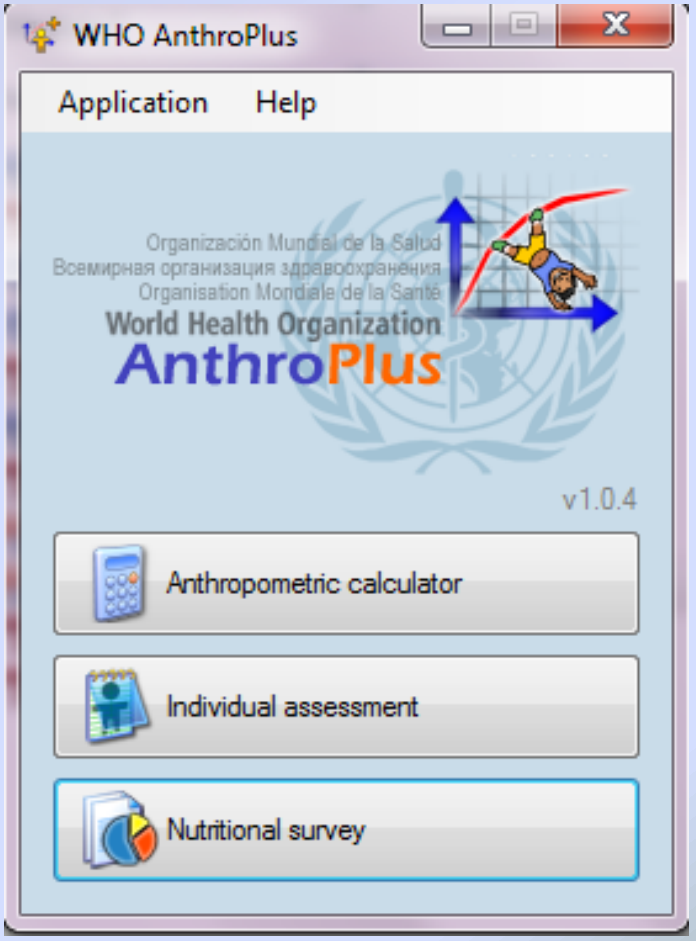
Downloading WHO Anthro Plus

- In order to change the language to something other than English: Open the program, click on "Application," then "Setting," change the language and restart the program
- Language choices: English, French, Spanish, and Russian
- Persons assigned to data input and management must become familiar with this program



Anthro Plus

To begin, open WHO Anthro Plus and click on the Nutritional Survey Application.

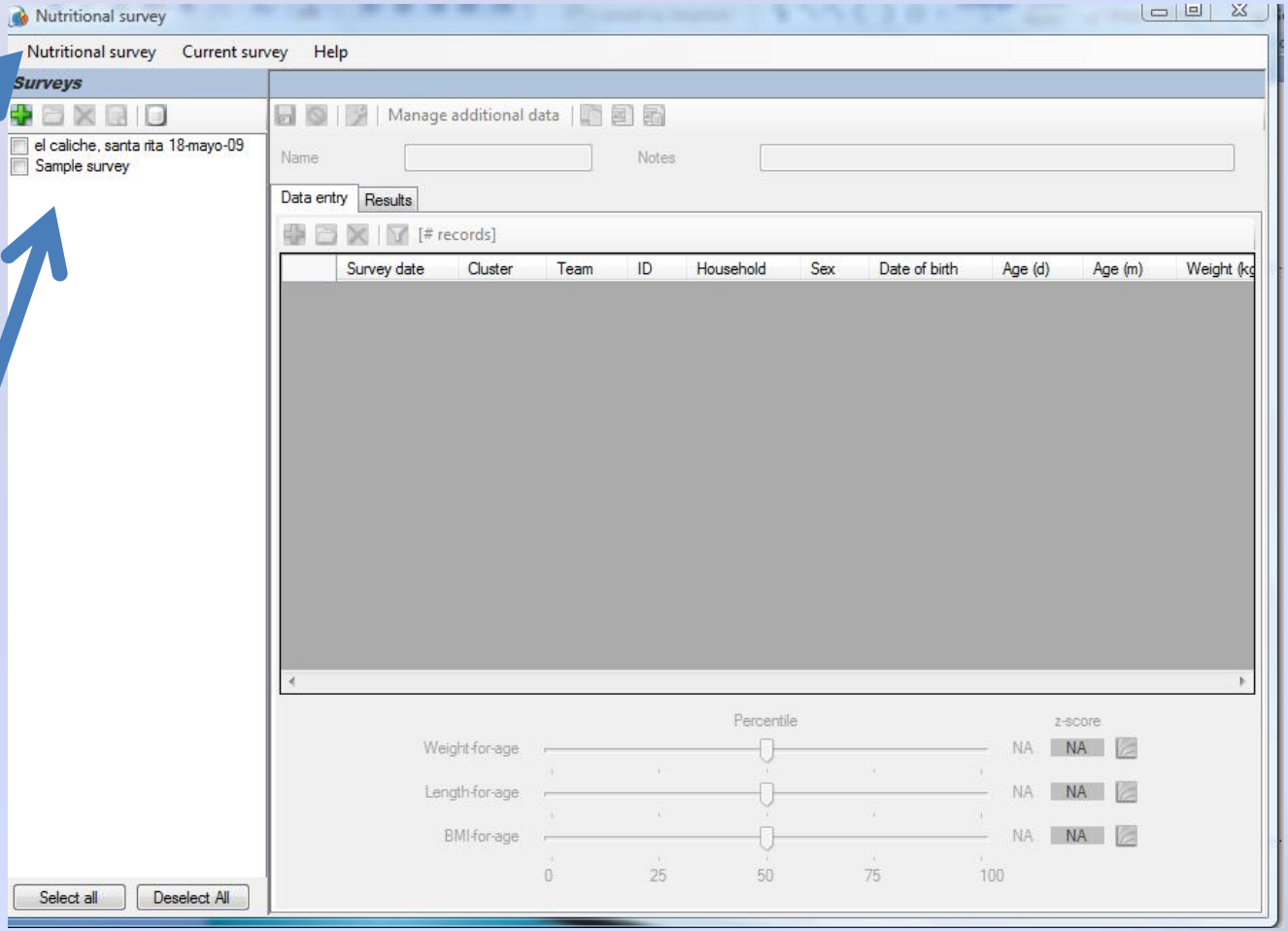


Nutritional Survey

- Create a new survey by clicking on the "Nutritional Survey" menu.

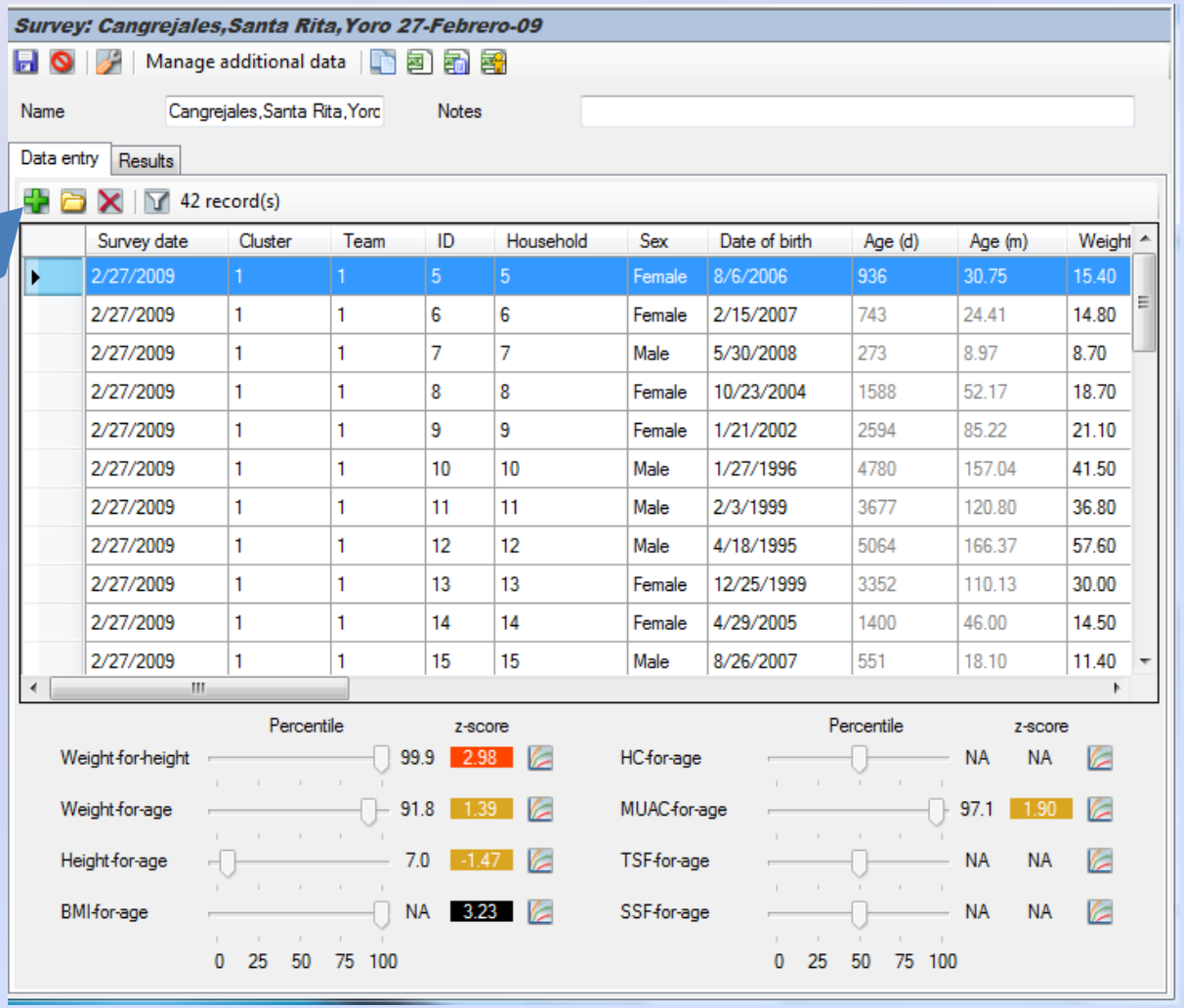
OR

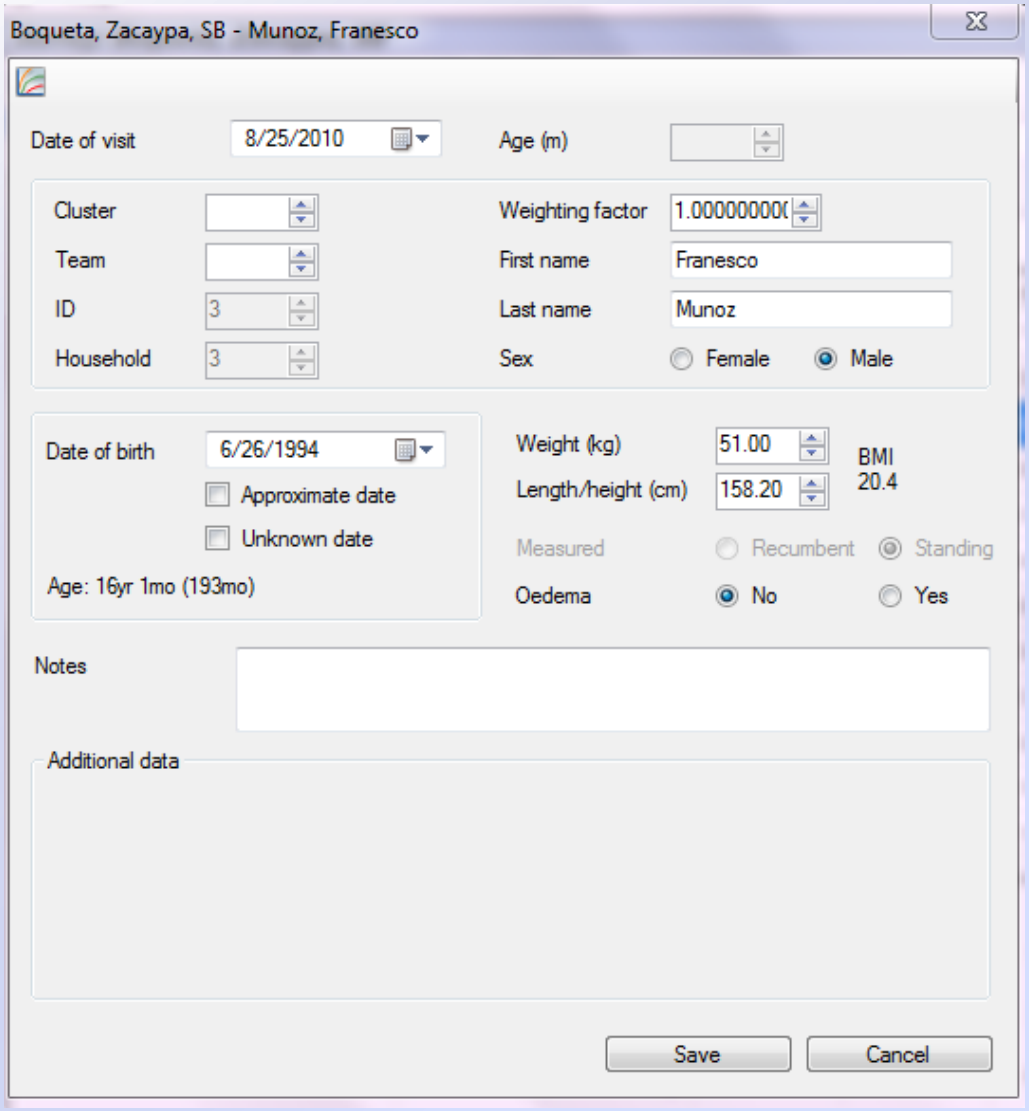
- Choose an existing survey from the left and click on the open folder



Adding a Child

- Add a new child by clicking on the green "plus" in the upper left corner.

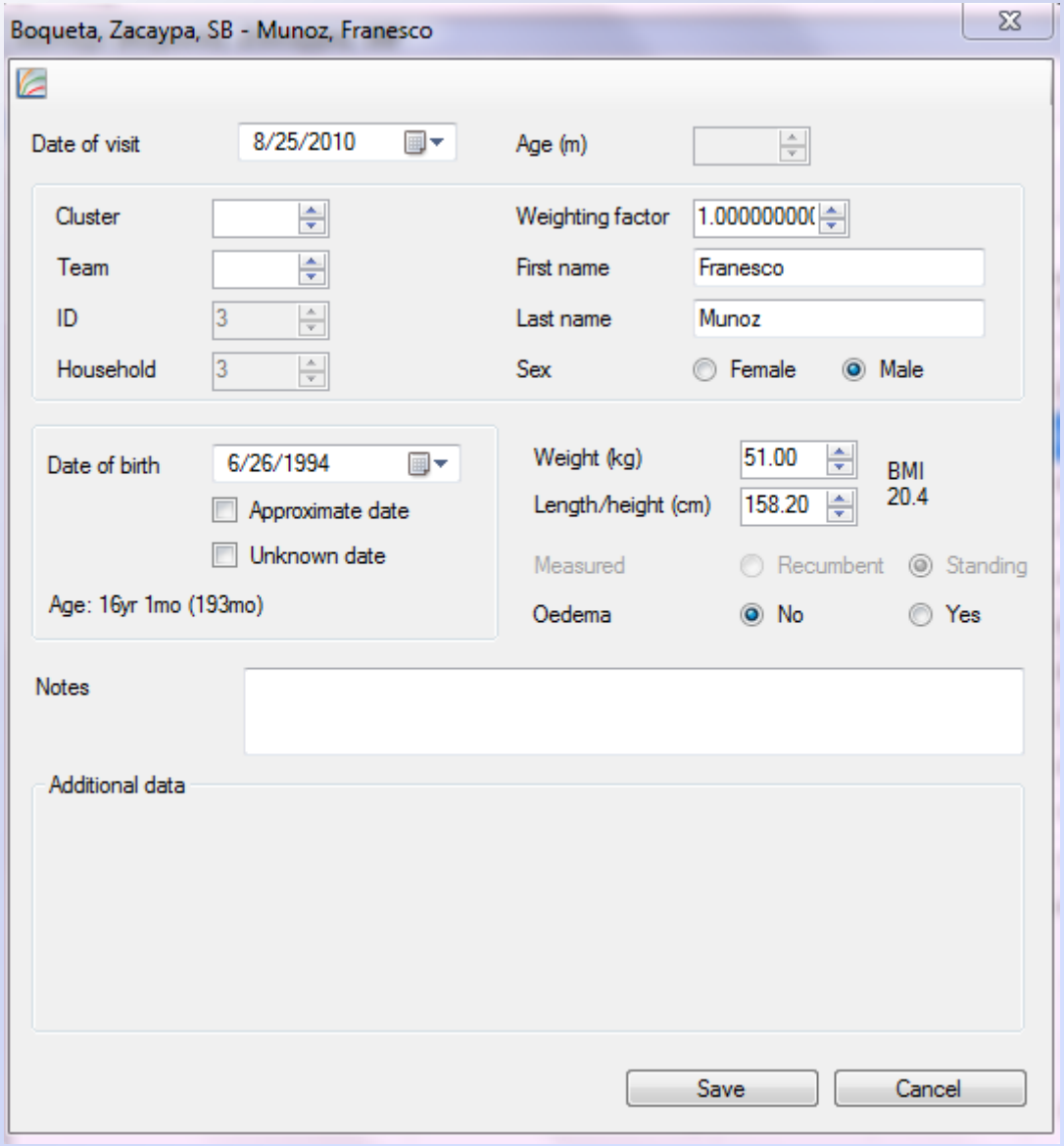




For each child, complete the information screen:

1. Enter today's date
2. Enter your assigned team number
3. Enter the child's first and last name
4. Choose the sex of the child
5. ID Number and Household Number are automatically assigned – If you want to assign them, you need to change in the program options menu.
6. Enter the birthdate of the child- this will be in mm/dd/yy format

   -If the birthdate is unknown, click the approx. date or unknown box



7. Enter the weight in kg

9. Enter the height in cm/mm

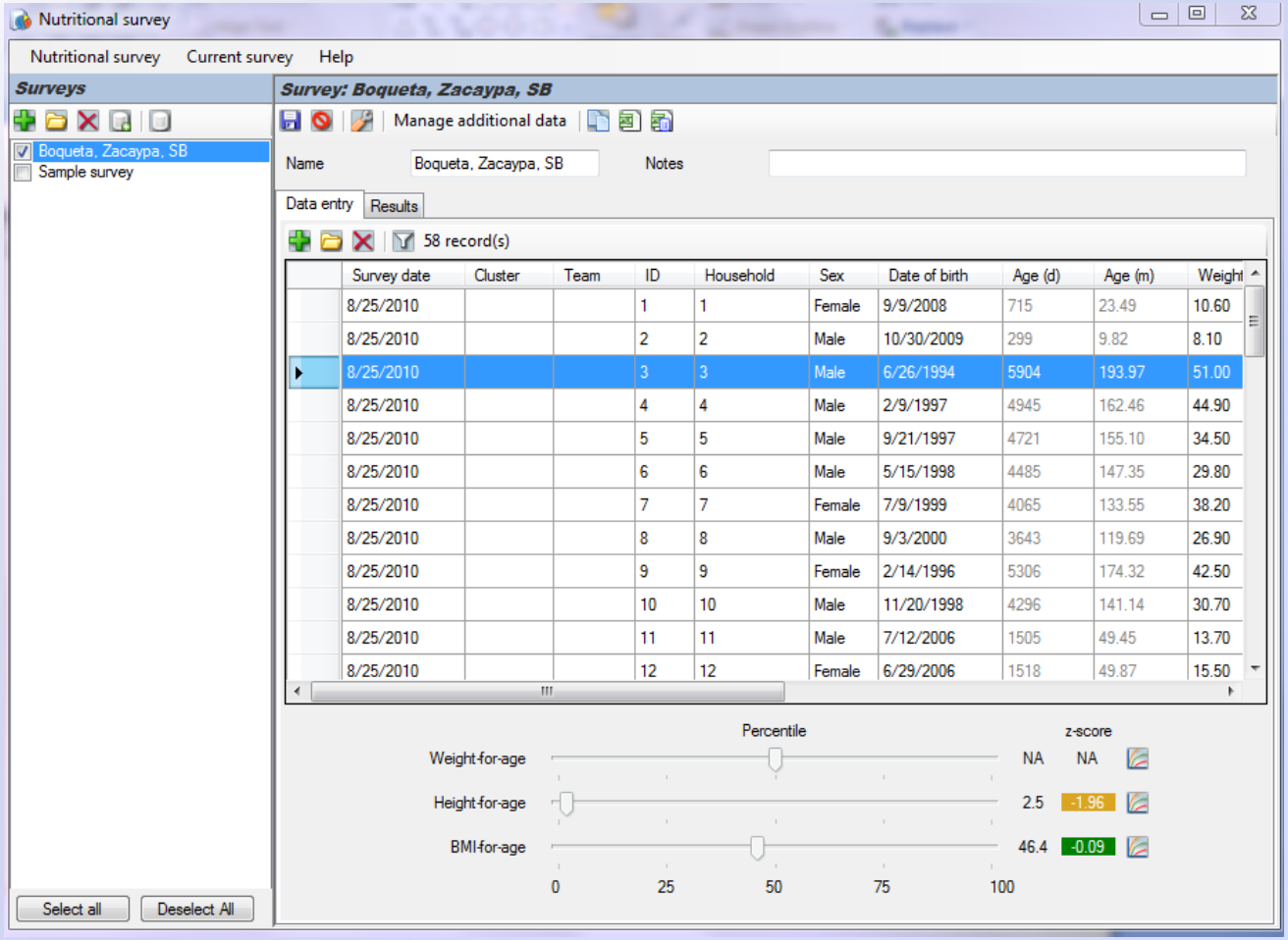
10. If a child is measured laying down, click the "recumbent" circle (If child is over 5 yrs, you won't need to click on the circle.)

11. Test the child for oedema and click the appropriate circle.

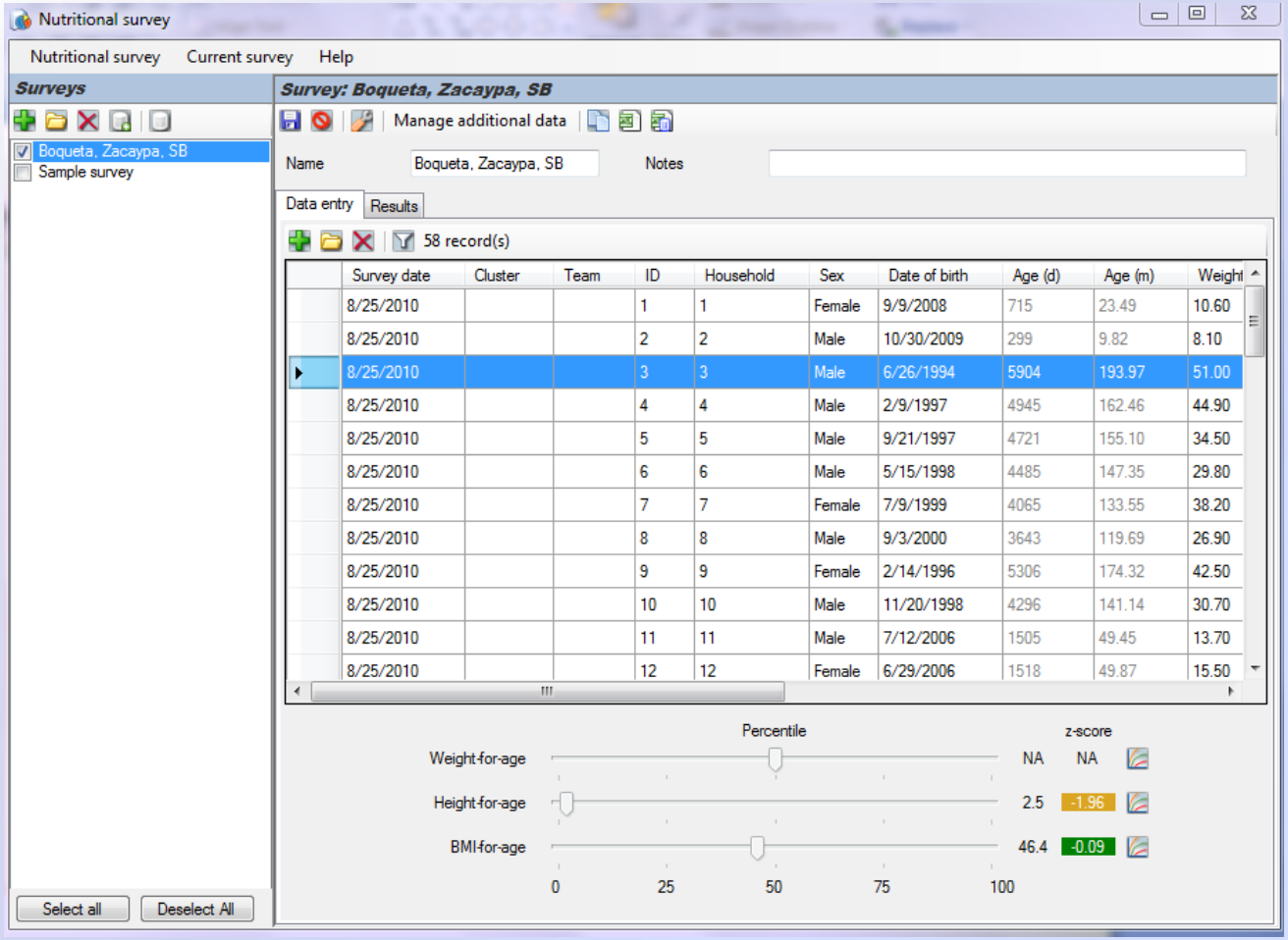
12. Click Save and the window will close.

Check Z-scores

- WHO Anthro Plus compares entered data to WHO Child Growth Standards by calculating Z-scores.
- A Z-score is a number that indicates how many standard deviations a data point is from the average (average=WHO standards).
- A negative z-score indicates that a child's data falls below the average; a positive z-score indicates that the data is above the average.
- The smaller a z-score, the closer the data is to the standard.



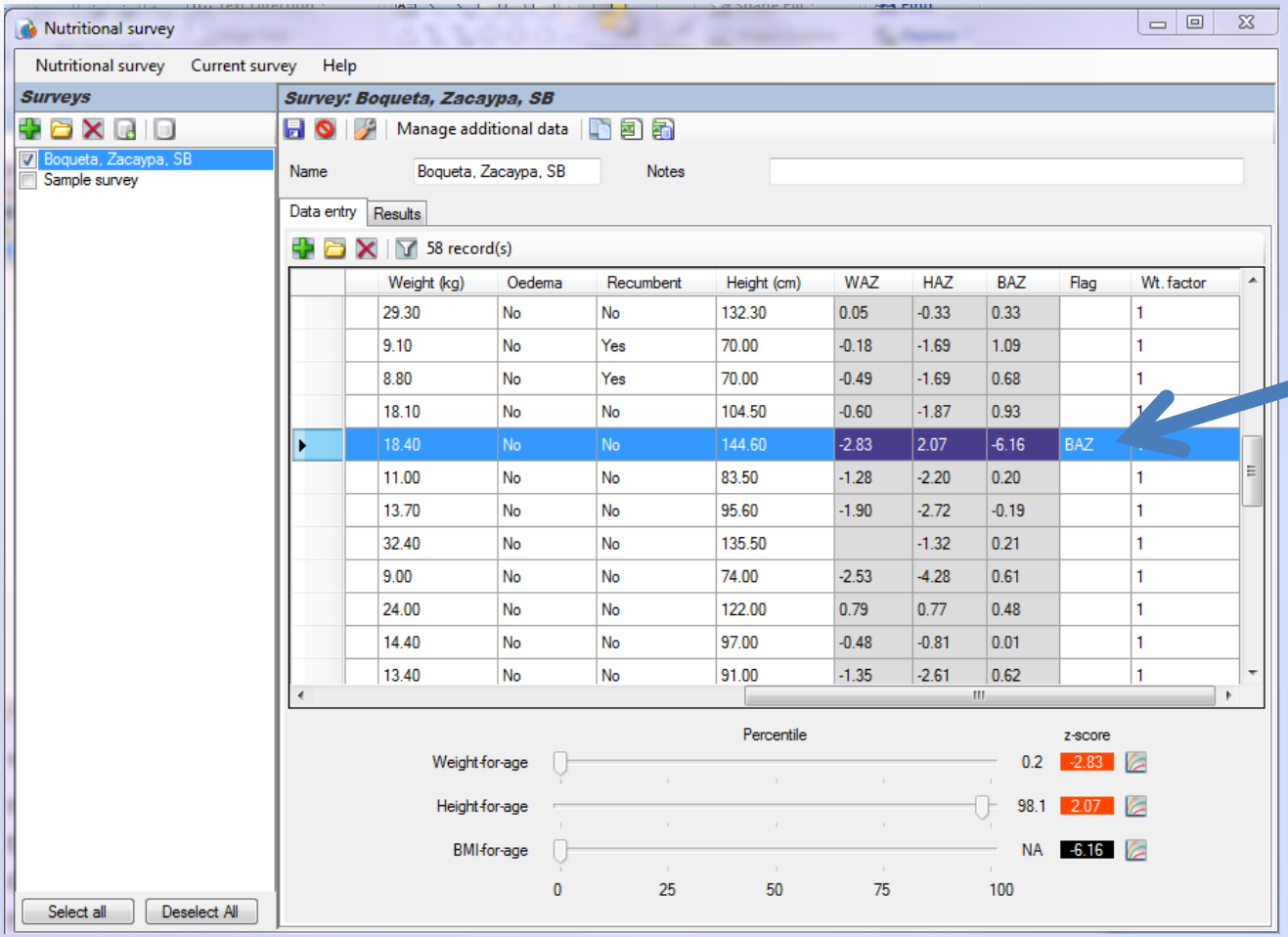
- When the window closes, you will go back to the main screen of all of the data you've been entering.
- Check the data on the bottom of the page.
- Weight for Age is only calculated for children up to 10 years old.
- Check to see if Z-scores/malnutrition levels are same with other people taking height/weight data.



*Note: At MAMA, we are only concerned about the negative Z-scores. If the person is severely obese, they will also be marked with a black box, but they don't get the same treatment as a severely malnourished child.

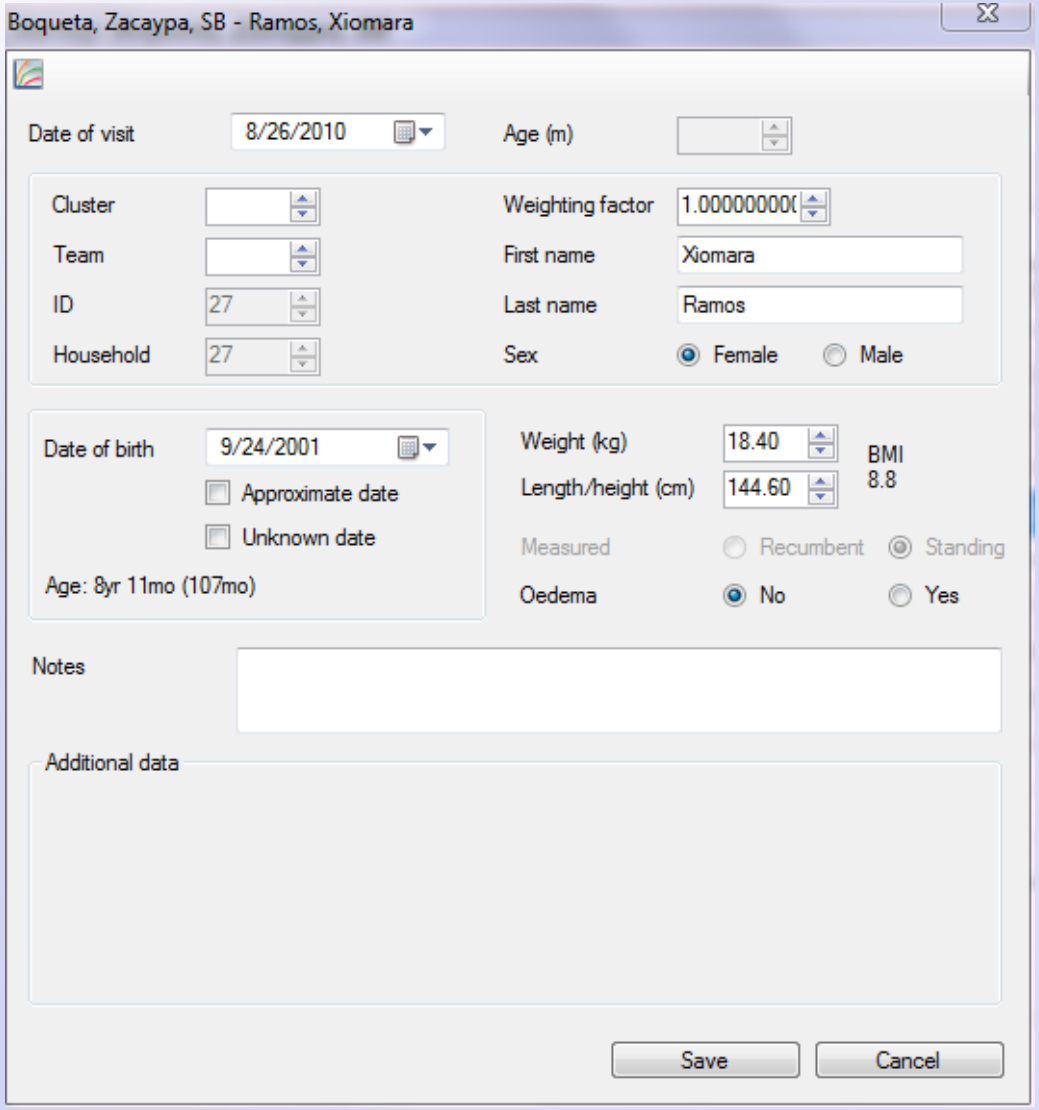
Coding that Anthro Plus Uses:

- Colored Green or Yellow – Normal Nutrition Levels
- Colored Red – Moderate Malnutrition Levels
- Colored Black – Severe Malnutrition Levels

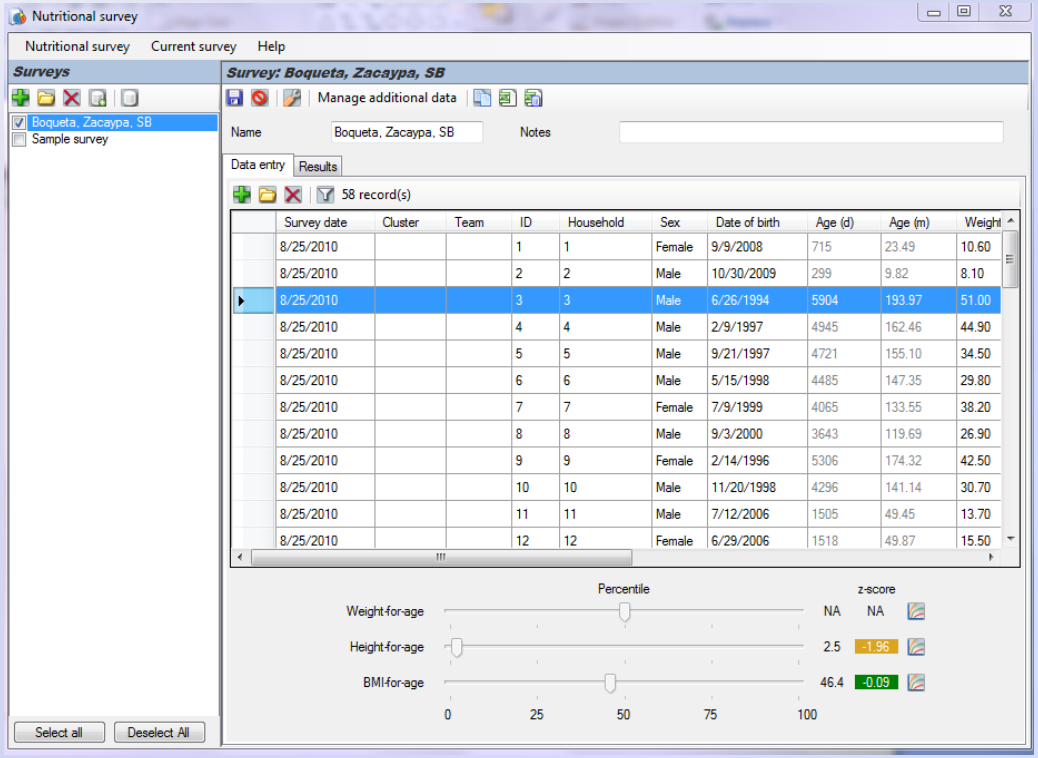


Always scroll to the right to check to see if you have a flag on the record, too.

This record has a flag on the BAZ (BMI-for-age). Check record to make sure that your data you input for weight and height is correct. -- Notice the -6 z-score, too.

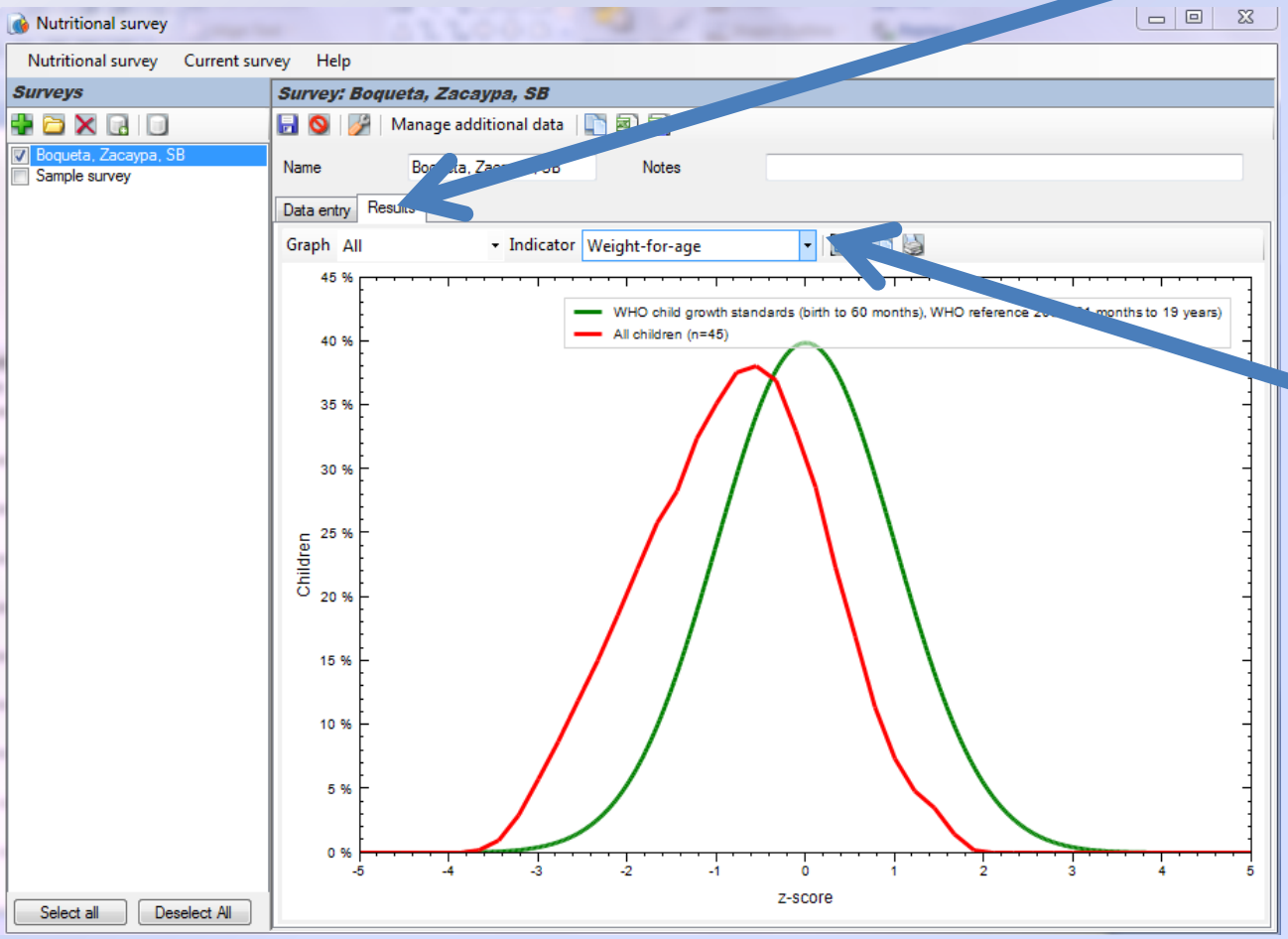


Double click on entry and child's entry will open again. It looks like the weight was probably mis-entered here and is causing the flag. Change the result so that the results are accurate.



Once you have completed entering the information on the entire village, it is time to look at the graphs.

Graphing the Data

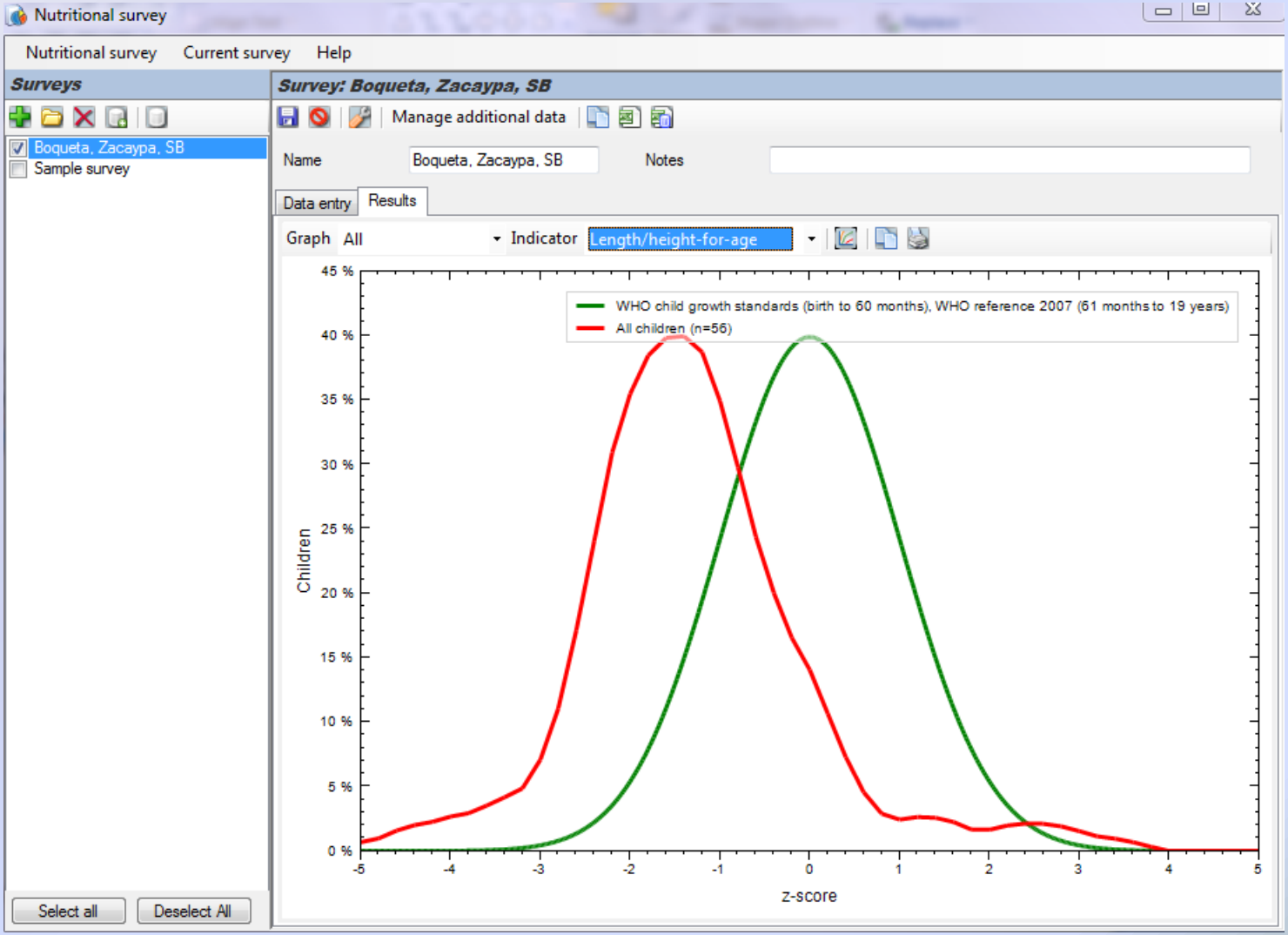


Clicking the results tab will generate a graph of the entered data: the green line represents WHO standards and the red line represents the entered data.

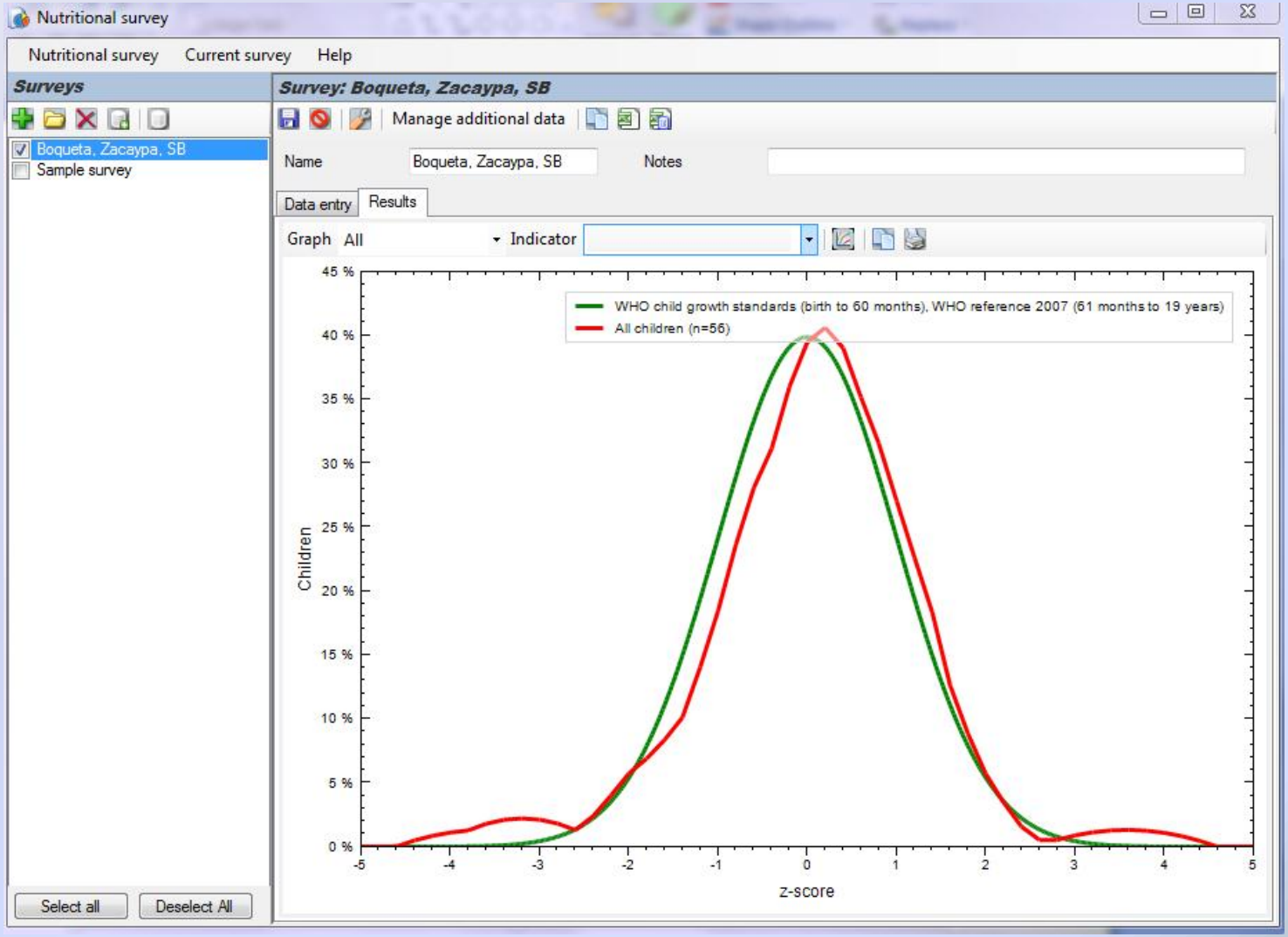
The drop-down box labeled "Indicator" allows you to choose which variable is being compared (ex. Weight-for-age).

These graphs can be printed and given to the community leader as a summary of children's health in the community.

Length/Height for Age

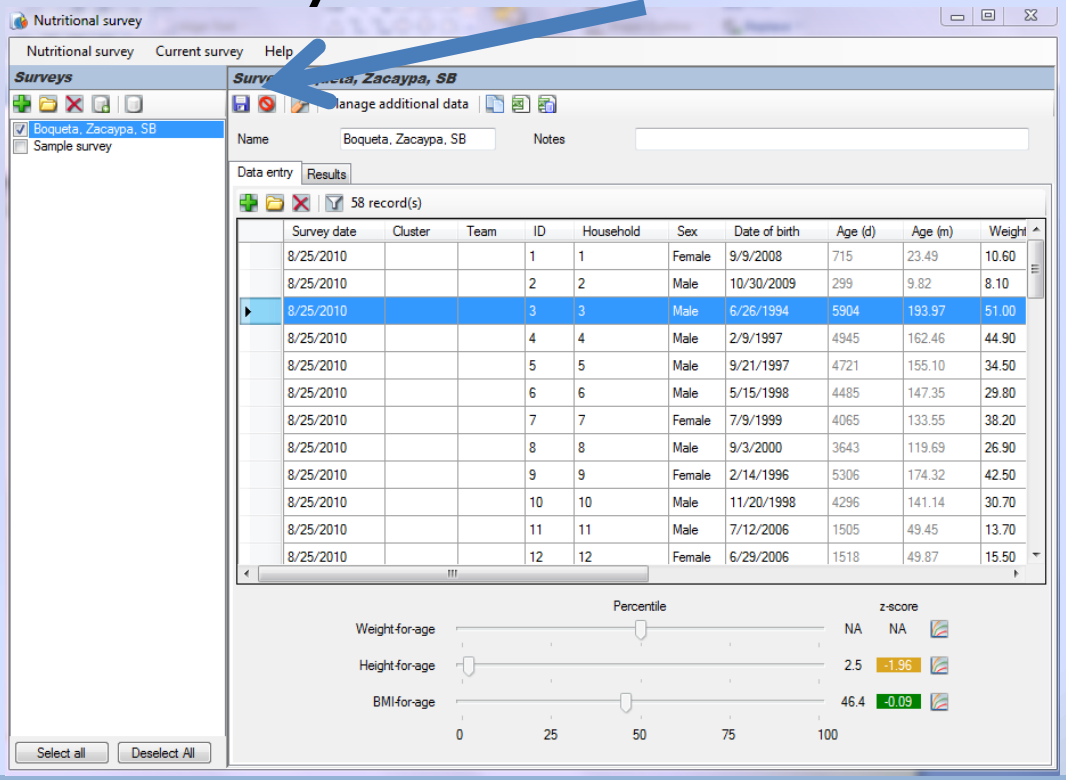


BMI for Age


Nutritional survey
Nutritional survey
Current survey
Help
Surveys
Boqueta, Zacaypa, SB
Sample survey
Select all
Deselect All
Survey: Boqueta, Zacaypa, SB
Manage additional data
Name
Boqueta, Zacaypa, SB
Notes
Data entry
Results
Graph
All
Indicator
WHO child growth standards (birth to 60 months), WHO reference 2007 (61 months to 19 years)
All children (n=56)
45 %
40 %
35 %
30 %
25 %
20 %
15 %
10 %
5 %
0 %
Children
-5
-4
-3
-2
-1
0
1
2
3
4
5
z-score

At the End of the Day

- Save files periodically throughout the day by clicking the floppy disk icon in the top left corner of the program. Save file as name of community, county, and date/year of visit



At the End of the Day

- Write the names of all moderately and severely malnourished children on a list to be given to the community leader with the graphs.

How can data be used?

- Data can be collected from each community on a regular basis.
- The average z-scores for each community will be compared over time (using Microsoft Excel); improvement in z-scores in a community will be used to indicate an improvement in community health.
- At the end of the study period, the data can be analyzed to determine if the improvement in z-scores is statistically significant.

Using Microsoft Excel

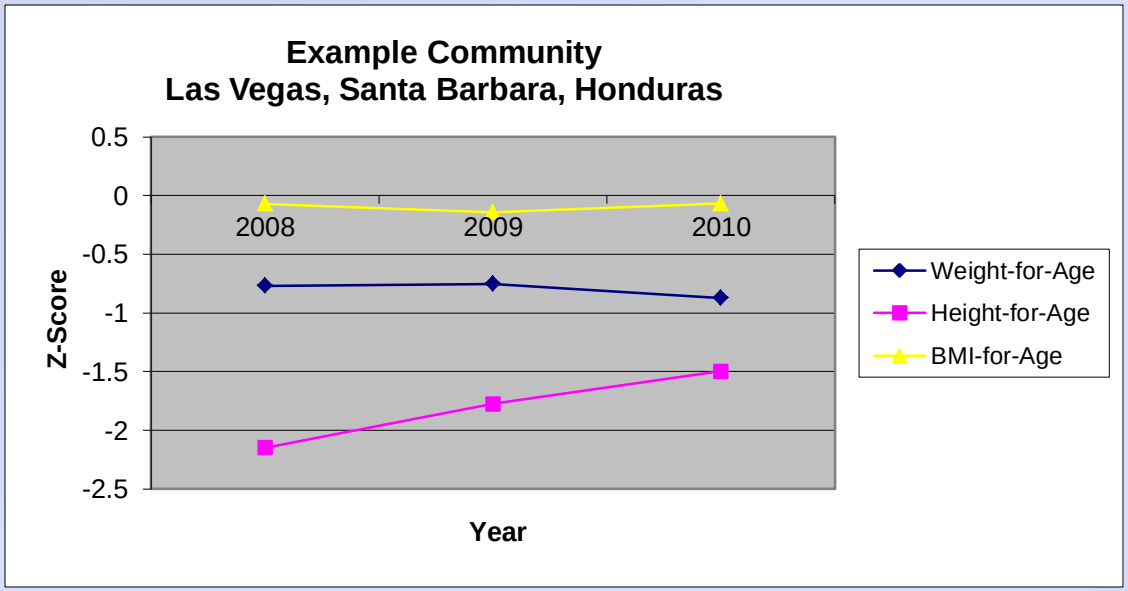
- Export the data from Anthro into an Excel document.
- Find the average Z-scores for Weight for Age, Height for Age, and BMI for Age for that day.

Example Community

Survey Date	WAZ	HAZ	BAZ
2/21/2008	-0.7672	-2.1491	0.0706
2/26/2009	-0.7506	-1.7743	0.1417
2/15/2010	-0.8718	-1.4972	0.0669

Using Excel for data analysis

- Afterwards, a graph can be made to see the results for comparison.



Thank you!