FAMILY STUDY

Cardiovascular Disease in American Indians (Phase IV)

Operations Manual - Volume Seven

DATA ENTRY

THE NATIONAL HEART, LUNG AND BLOOD INSTITUTE
OF THE NATIONAL INSTITUTES OF HEALTH
THE STRONG HEART STUDY

Cardiovascular Disease in American Indians
(Phase IV)

Operations Manual

Volume Seven

DATA ENTRY

June 01, 2001

MS ACCESS Programmers:  Fawn Yeh, PhD, MPH
                          Debra Gates
                          Ying Zhang, MD, PhD
                          Peng Li, MD

Systems Specialist:  Leon Kalbfleisch, MS

For copies, please contact

Strong Heart Study Coordinating Center

Center for American Indian Health Research
College of Public Health

P.O. Box 26901
Oklahoma City, OK  73190
# Table of Contents

Data Entry Flow Chart

- Introduction/BeforeYou Start/Getting Started .......................................................... 1
- Data Entry .................................................................................................................. 2
- Verification ............................................................................................................... 4
- Edit/Browse ............................................................................................................. 5
- Making Corrections ................................................................................................. 5
- Data Entry Codes .................................................................................................. 6
- Guidelines for Data Entry and Verification ............................................................. 8
- Data Clean-up ....................................................................................................... 8
- If You Have Questions ......................................................................................... 9
- Medications Data Entry ....................................................................................... 10
DATA ENTRY FLOWCHART

* Verification works the same way as Data Entry

** Form "select" in the verification works the same way as in data entry
Introduction

This manual was developed to assist data entry personnel understand and use the programs developed for Phase IV of the Strong Heart Study. The following topics will be discussed: data entry/verification, editing data, correcting data entry errors, data entry codes, and data clean-up.

Before You Start

Before entering data, the data entry operator should screen each participant’s folder. This includes putting the forms in numerical order and skimming each form to make sure it has been filled out properly. If you find errors, contact the interviewer and correct them before you enter the data. Performing these preliminary steps will make the data entry process more efficient and less tedious. If you should have complications when using the data entry program, contact the Coordinating Center.

Getting Started

To get started, double click the Strong Heart Data Entry icon in Windows ’98 or 2000, then click the "Connect" button in the Terminal Services program window that will pop up. Once you enter your Username and Password to log in to the session, the following menu will appear (Main Menu) (Note: See pages VII-10 to VII-12 for medications data entry instructions.):
Data Entry

When one selects ‘Data Entry’, The following input box will appear:

![Input Box Image]

PLEASE ENTER THE PARTICIPANT’S SHS IDNO.

- - -

After entering an ID number and pressing the ‘Enter’ key, another screen will appear:

![Screen Shot Image]

FORMS ENTERED PREVIOUSLY FOR SHS

<table>
<thead>
<tr>
<th>Form Description</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Screening for Pregnancy and Lactation</td>
<td></td>
</tr>
<tr>
<td>1. Personal Interview 1</td>
<td></td>
</tr>
<tr>
<td>2. Personal Interview 2</td>
<td></td>
</tr>
<tr>
<td>3. Medical History</td>
<td></td>
</tr>
<tr>
<td>4. Reproduction and Hormone Use</td>
<td></td>
</tr>
<tr>
<td>5. Rose Questionnaire</td>
<td></td>
</tr>
<tr>
<td>6. Respiratory Questionnaire</td>
<td></td>
</tr>
<tr>
<td>7. Physical Examination</td>
<td></td>
</tr>
<tr>
<td>8. Sample Collection Checklist</td>
<td></td>
</tr>
<tr>
<td>9. CBC Results</td>
<td></td>
</tr>
<tr>
<td>10. Cultural Factors Questionnaire</td>
<td></td>
</tr>
<tr>
<td>11. Quality of Life Questionnaire</td>
<td></td>
</tr>
<tr>
<td>12. CES-D Scale</td>
<td></td>
</tr>
<tr>
<td>13. MHLC Scale</td>
<td></td>
</tr>
<tr>
<td>14. Social Support</td>
<td></td>
</tr>
<tr>
<td>15. SPIELBERGER · AX/COOK Scale</td>
<td></td>
</tr>
<tr>
<td>16. Psycho-Social Checklist</td>
<td></td>
</tr>
<tr>
<td>17. Physical Activity</td>
<td></td>
</tr>
<tr>
<td>Physical Examination QC</td>
<td></td>
</tr>
</tbody>
</table>

[SELECT FORM] [RETURN TO MAIN MENU]

If a date is displayed in the right hand column, that form
has already been entered for that participant. This will help you keep track of which data have already been entered for a participant. Personal Interview Form 1 must be entered first in order for the data entry date(s) to appear in the right hand column.

To proceed, left click the button labeled ‘SELECT FORM’. You will see a screen like the one below. This is called the Select Form:

To begin entering data, left click Personal Interview Form One. After you exit the last field, a message box will appear asking you if you would like to open the next form.
If you select ‘No’, the next form, Personal Interview Two, will be opened and Personal Interview Form 1 will be closed. If you select ‘Yes’, the cursor will go back to the ‘Main Menu/Select Form’ as shown below. If you select ‘Cancel’, you will remain in Personal Interview Form One. For all subsequent forms, the same message box will appear prompting you for the next form.

After exiting from the last field of the last form (Physical Activity), a message box like the following will appear:

```
You just finished this participant!
Do you want to ....

1  Go back to the main menu?
2  Enter the next participant?

If you want to enter the Screening for Pregnancy and Latation form, close the current form and click the button on the Select form
```

**Verification**

The process of entering data for ‘Verification’ is identical to ‘Data Entry’. Since the data entry screens are also identical, we have placed a red colored ‘V’ in the upper left hand corner to help you differentiate between the two.
**Edit/Browse**

In order to edit data, you must select ‘Edit/Browse’ from the Main Menu. After selecting this button, another screen will appear asking you to select which database you would like to edit:

**Please select one of the following:**

1. Edit First Entry
2. Edit Verification
3. Back to Main Menu

Once the database you want to edit/browse is selected, the Select Form (page 4) will appear. Choose the form you wish to edit/browse. Once you have made your selection, the form will open and the data entered for the specific participant will be displayed.

After you have finished making corrections, you must close the form manually. You can go to the menu bar, left click the button, and close the form. After you close the form, you will return to the Select Form.

**Making Corrections**

In order to produce a data entry program that is user friendly and selective about the data entered, skip patterns and message boxes have been added. Unfortunately, the same features that are intended to help the data entry operator can be a source of frustration when one is trying to correct errors, unless you follow these suggestions.

We will discuss two different situations. A data entry error noticed **BEFORE** exiting the field, and a data entry error noticed **AFTER** exiting the field in question.

1) Error noticed **BEFORE** exiting the field.

**Solution:** Use the backspace key to remove the error and enter the correct value.
2) Error noticed **AFTER** exiting the field.

**Solution:** We suggest that you use the mouse to reenter the field with the mistake. If you can see the field, place the I-bar in the field and *left* click. Make your correction and continue with the rest of the form. If, after exiting the field that contains the error, the Data Entry program moves to the next page, use the mouse to move the scroll bar (located on the right hand side of the screen) up until you see the field you wish to correct. *Left* click in the field and make your correction.

When attempting to reenter a field that contains an error, this message box may appear:

![Message Box](image)

This means that you are trying to leave a field that requires an entry. First, select 'OK' on the message box. Then, respond to the question, but **DO NOT PRESS 'ENTER'**. Now you can use the mouse to reenter the field with the error and correct it.

If you notice an error after the form is closed, make a note of it and correct it after completing all of the forms for that participant.

**Data Entry Codes**

In some cases, the participant responding to a question may not know the answer or refuse to answer the question. Some questions have these options listed while others do not. For those that do not, the *interviewer* should indicate these responses by putting a question mark for unknown or drawing two lines through the box for refused. Since the data entry program will not allow the operator to use these symbols, we have developed codes which can be used instead. It was not possible to use the same code for every type of field (e.g. Text, Numeric, etc.), but we tried to make the codes as consistent as possible. Finally, if a question is not answered and there is no indication that the participant did not know or refused, we classify this as missing. The following is a list of data entry codes by variable type.
Text variables (Questions which have options listed or are not quantitative):

7 = Missing
8 = Refused
9 = Unknown

Numeric variables (Questions requesting quantitative information such as measurement data):

777 = Missing
888 = Refused
999 = Unknown

Time variables (Questions requesting the time of an event):

00:07 = Missing
00:08 = Refused
00:09 = Unknown

Date variables (Questions requesting the date of an event):

01/01/1007 = Missing
01/01/1008 = Refused
01/01/1009 = Unknown

Note: if only the year is known use: 06/30/year
if only month and year are known use: month/15/year

Currency variables (Questions requesting a dollar amount):

$777.00 = Missing
$888.00 = Refused
$999.00 = Unknown

If you are not sure which variable type you are working with, leave the field empty and press 'ENTER'. This will cause a message box to appear telling you that the field cannot be left blank, but it will also tell you what codes are appropriate for
Guidelines for Data Entry and Verification

To reduce the likelihood that a data entry error will be repeated during verification, data entry and verification should not be done by the same person. We understand that this is not possible at all field sites. If the same person is performing both data entry and verification, here are two suggestions:

1) For a specific participant, do data entry and verification at least a day apart.

OR

2) If both data entry and verification must be entered on the same day and you have data for more than one participant:

   i) Do data entry for all of the participants, then
   ii) Do verification for all of the participants in the same order that data entry was performed.

Data Clean-Up

Data will be stored at the CC as it is entered (form-by-form), so there will be no need for separate backup or transmission procedures at the FC computers. Opportunities to edit previously entered data through the online Data Entry program will be limited, as CC staff will "sweep" all raw data on a weekly basis, Mondays before 12:00 Noon Central Time -- moving them from the online entry database into first-stage cleaning (see below).

The CC will be responsible for identifying: missing forms, orphan records (records which do not belong to any participant according to the SHS ID number listed on the form), incomplete forms, discrepancies between 'Data Entry' and 'Verification', and values which appear to be unreasonable. The field sites will be responsible for providing information to the CC so that the aforementioned problems can be rectified.

Data clean-up will occur in two stages.

Stage One: Raw data are examined at the CC. Incomplete items and discrepancies between 'Enter' and 'Verify' are listed and sent to the field via fax. Field centers will fax copies of the form with correct information circled and all confidential information
marked off and participant ID number written on it within five working days. The CC will make corrections to the database.

**Stage Two:** Statistical checks will be performed to identify unreasonable values. These items will be listed and sent to the field. Field personnel will perform verification of the suspect data. A response (fax, as detailed under stage one) is expected within five working days.

Upon completion of both stages, cleaned records will be appended to the Main Database. Please note that the Main Database will be used to perform analyses for reports and publications. Therefore, if a field site were to identify any data entry errors after data clean-up has been completed, they must notify the CC promptly.

In cases where there are many data entry errors found in stage one of data clean-up, the CC may request that changes to a specific record be made at the field and said records be re-entered through the online Data Entry program.

**If You Have Questions**

So that your questions may be answered efficiently, please address your queries to the following personnel:

- Data Entry Programs - Dr. Fawn Yeh
- Data Clean-Up - Ms. Debra Gates
- Forms - Dr. Jeunliang Yeh
- Data Entry Online Server Logins, or Terminal Services (FC computer) client program - Mr. Leon Kalbfleisch

**Note:** See the following pages (pp. VII-10 to VII-12) for instructions regarding data entry for medications.
Medication Data Entry

In order to enter the medication data, you must select ‘Medication Program’ from the Main Menu. See additional instructions on the following pages.

Double click the ‘Medication Program’ button several times and wait about 20 seconds, another screen will appear showing Strong Heart Study Medications Data Entry System. You can select different options (Enter New Record, Edit/View Records, and Exit) by clicking on different buttons (see top of this screen).

Strong Heart Study Medications Data Entry

With thanks to the MESA Coordinating Center,
University of Washington
Additional instructions from the Coordinating Center:

1. Please ignore the “Reports”, “Transmit Data”, and “Settings” buttons. This Medication Data Entry program was modified from the MESA study for the SHS to use. These buttons are specifically for MESA. Don’t even click any of them. If you accidentally hit any of these buttons and cause some error messages to pop-up, don’t panic, just get out of the program and start over again.

2. You have to find the Interviewer’s code and interview date on the third page of the data form. Type both of them in the boxes. Do not neglect the interview date. If you don’t type it in, the program will automatically assign the date you enter this form as the interview day.

3. You have to count the total number of medications that the participant was taking. This number includes both prescribed and over the counter (OTC) medications. The program will use this number to cross check the number of medications you are entering. If at the end, the program tells you the number of medications you entered does not match the number you claimed, check the total that you entered. If the entry is correct, you can tell the program to change this number to match the entries.

4. When entering the medication name, type in the first few letters. You will see the medication menu scroll down to match the drug name you are typing. Click the dose that matches the strength listed on the paper form. If you cannot find the correct strength, choose “---” if it appears in the list. Otherwise, choose the closest dose. You may ask if this will affect the medication codes assigned for this particular drug. If it is indeed the same drug with a different package, different strength, or different commercial brand, it will have a different NDC code, but the Class Code will always be the same. In the SHS we are primarily using Class Code to determine treatment, so it is perfectly O.K. to do so.

5. If you cannot find a match, first, check the spelling with your Field Coordinator. If you decide the spelling is correct and still cannot find a match, go ahead and click “add” to complete the data entry. Keep a log of these “unmatched” medications and send the log to the CC once a month. The CC will check with MESA investigators in Seattle to solve the problem.

6. Please do not type the medication name too fast, especially when you have a long drug name. The program only identifies
the first thirteen characters of the drug name. If you type too fast, the pointer will roll back to the top of the menu as if it cannot find a match, and you will have to re-type the medication name.

7. Put a check in the correct box to indicate if this is an over-the-counter (OTC) medication. The next three boxes are for entering the number of doses taken in what time period; check the “PRN” box only if the medication is taken “as needed”. Then click the Update button. This will add the medication to the list on the right hand side. Now repeat this process for all the remaining medications listed on the form. When you have entered all medications, click the “Done” button. This will save your entries and return you to the main menu screen.

8. Since we are using a program developed by MESA, we cannot change the contents or format of the program. Thus, we cannot make the Medications Program match our other data entry programs and data forms. Please bear this with us in this regard.
“Your ID” = data entry person’s code number.
“Date Keyed” = should default to the current date and can be skipped.
“Interviewer ID” = interviewer’s code number from page three of the medications form.
“Date Form Initiated” = Date of Interview, from page three of the medications form.
“Participant ID” = SHS ID number. Ignore “Visit” as we are not using this.
“Comment” = use to record comments from page three of medications forms, specifically to record use of any home remedies.
“List All Meds” = should be either Yes or Took None in most cases.
“Number of Meds” = enter the total number of medications to be entered, both prescription and non-prescription.
“Specify Reason for Refusal” = if participant refuses to provide medications information, enter reason here.

Click on “Enter Medications” to get the screen to list medications.
"Medication" = name of medication.
"Dose" = strength of medication.
"OTC" = check this if medication is non-prescription.
"PRN" = check this if medication is to be taken on an “as needed” basis.
"Taken/Period" = amount of medication participant has taken in what period of time, i.e., 1/day.
"Rx/Period" = prescribed amount of medication participant is to take in what period of time, i.e., 1/day.

Click on “Add” after each medication has been entered. When all medications have been entered, click “Done”. This will return you to the main menu where you can add another participant’s records. When you are finished with all records to be entered in a session, click on “Save and Close”, then click “Exit” in the top right corner to quit the program.