

**1993-1996 National Health Interview Survey (NHIS)  
Family Resources Public Use Imputed Data File  
(Income and Assets Supplement): Release of  
Additional Imputation Flags**

## **Background**

The 1993-1996 National Health Interview Surveys each included a supplemental questionnaire on Income and Assets Supplement (Family Resources). The Family Resources supplemental questions differed from the core survey questions on income both in content and in treatment of item non-response. All missing data in the Family Resources supplement were imputed. Imputation flags were included on public use micro data files, but every imputed item did not have a separate imputation flag; rather, the imputation flag indicated one or more items in a related set of responses had been imputed. A discussion of the potential value of providing a separate imputation flag for each item (one-to-one) rather than a shared imputation flag is provided below, using as an example the amount of Social Security/Railroad Retirement (RR) income in the last month and the number of months such income has been received.

The imputation flag from the 1993 National Health Interview Survey (NHIS) Family Resources Supplement for the amount of Social Security/Railroad Retirement income in the last month and the number of months such income has been received is referenced as "MATRIX 3a ALLOCATION OF SOCIAL SECURITY/RR DOLLAR AMOUNT AND NO.OF MONTHS (items 6d and 6e)" on the 1993 NHIS Family Resources Public Use Data File documentation. This imputation flag, like many others on the file, is not one-to-one, but is shared by two variables (SS/RR income, number of months income was received). A flag with a "1" for MATRIX 3a ALLOCATION OF SOCIAL SECURITY/RR DOLLAR AMOUNT AND NO.OF MONTHS (items 6d and 6e) indicates that at least one these variables was imputed, but the data user is not able to identify the specific variable(s) with imputed information. The use of imputation flags that are not one-to-one may be problematic

for data users needing to identify the specific variable(s) with imputed data.

Table 1 shows the record count for the original imputation flag for records with imputed responses to Social Security/Railroad Retirement income **and/or** the number of months the income was received. Table 1 also provides information on the specifics leading to an imputation flag being assigned to the record. An imputation flag for item non-response for Security/Railroad Retirement income **and/or** the number of months the income was assigned based on a) unknown Social Security income (only), b) unknown number of months income was received (only), and c) an unknown response to both Social Security income and the number of months income was received.

**TABLE 1**

<b>MATRIX 3a IMPUTED RESPONSES</b>	<b>COUNT</b>
"Social Security Income in the Last Month" <i>and/or</i> "Number of Months Social Security Benefits Have Been Received" were flagged as imputed	2,140
<b>TYPES OF IMPUTED RESPONSES</b>	
Known "Social Security Income in the Last Month" <i>and</i> Unknown "Number of Months Social Security Benefits Have Been Received"	745
Unknown "Social Security Income in the Last Month" <i>and</i> Known "Number of Months Social Security Benefits Have Been Received"	909
Unknown "Social Security Income in the Last Month" <i>and</i> Unknown "Number of Months Social Security Benefits Have Been Received"	486
	2,140

Some data users prefer to exclude records with imputed data from their research. Use of the shared imputation flag might result in a larger number of records being excluded from analysis than would be the case if one-to-one imputation flags were used. For example, if a data user was interested in examining Social Security income and wished to exclude imputed dollar amounts, the use of the shared imputation flag currently on the Family Resources data file would lead to 745 observations with a known Social Security income being excluded. Similarly, if a data user was interested in examining the number of months Social Security benefits were received, but wished to exclude

imputed month data, the use of the shared imputation flag would exclude 909 records with a known number of months in which income was received. Similar calculations can be made for other income variables so long as one-to-one imputation flags are provided.

Division of Health Interview staff review of the shared imputation flags on the previously released 1993-1996 National Health Interview Survey Family Resources Supplements (Imputed), led to the decision to prepare and release additional data sets with one-to-one imputation flags for items in the Family Resources files. Although the original shared imputation flags are not incorrect, staff felt the one-to-one imputation flags were potentially more useful to data users. Therefore, additional one-to-one imputation flag data sets have been created for each year of the 1993-1996 National Health Interview Survey Family Resources Supplements (Imputed). The content of these data sets consists of the newly created one-to-one imputation flags as well as public-use identifiers to allow data users to link back to the originally released Family Resources Supplement data files.

## **Public Use Data File of the Additional Imputation Flags for the 1993-1996 National Health Interview Survey (NHIS) Family Resources Public Use Imputed Data File (Income and Assets Supplement)**

In addition to the data sets with the additional one-to-one imputation flags, this data release includes data file layouts, imputation flag frequency counts, and SAS input statements.

The file layouts for the 1993-1996 Family Resources Supplement data files containing the additional one-to-one imputation flags are structured as follows:

- a. Processing year and person identification number (locations 1-14). The person identification number is constructed from the variables in file locations 3-14.
- b. Family number (location 15)
- c. Imputation flags (locations 16-105)

## **Additional Information About Imputation of Dividend Loss**

The number of records with an additional imputation flag for the loss from dividends variable in the 1994 Family Resources supplement data file (file location 82) is larger than in 1993, 1995, and 1996. The initial editing of the 1994 data coded persons who had no dividends as having "no loss" rather than as "blank"(not in universe). During the imputation process, these responses were correctly coded to "blank", and a flag was added to those records. The larger number of records in 1994 with additional imputation flags for loss of dividends reflects both the correction of the initial editing error and imputation for item non-response for this item. For survey years 1993, 1995, and 1996, persons who did not have any dividends were correctly assigned a response of "blank"(not in universe) for the question about whether or not the person had a loss on dividends, and therefore no correction was needed during the imputation process.

## **Previously released 1993-1996 NHIS Family Resources Supplements files**

For more information on the previously released 1993-1996 NHIS Family Resources supplements, including more details about the imputation process and the analysis of imputed data (including variance estimation and the use of sampling weights), please refer to [http://www.cdc.gov/nchs/about/major/nhis/quest\\_data\\_related\\_1969\\_96.htm](http://www.cdc.gov/nchs/about/major/nhis/quest_data_related_1969_96.htm) and select the appropriate survey year.