

COVID-19 Supplement to the  
National Health and Aging Trends Study  
USER GUIDE

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## Overview

In 2020, the National Health and Aging Trends Study (NHATS) conducted a supplemental mail study about participants' experiences during the COVID-19 outbreak. Adult family members and friends who helped NHATS participants were also surveyed about their experiences helping the NHATS participant during the outbreak. This User Guide describes the NHATS COVID-19 Files for NHATS Sample Persons (SP) and Family Members and Friends (FF).

## Design & Eligibility

NHATS participants who completed a Sample Person (SP) interview in Round 10 were eligible to receive the self-administered COVID-19 questionnaire (either in English or Spanish, depending on the language of the Round 10 interview). Proxies who answered the Round 10 NHATS interview for living NHATS participants were sent a proxy version of the questionnaire.

In both the self-administered and proxy versions of the NHATS COVID-19 questionnaire, respondents were asked to provide contact information for up to two adult family members or friends who helped the NHATS sample person most during the COVID-19 outbreak. We classified as ineligible paid aides or, someone from the place where SP lived (for those in residential care settings), and individuals that were not age eligible. A few FFs lived outside the country and were considered eligible but not mailed a questionnaire (hence treated as nonresponse). In calculating response rates, we also considered additional FFs included in the count of helpers provided by the SP or Proxy (indicated in `cv10dnumffelig` in the NHATS COVID-19 SP Tracker File) but not listed at the end of the questionnaire as non-respondents.

## Data Collection

NHATS participant questionnaires were mailed either to the SP or Proxy from the end of June 2020 through October 2020. Collection continued through January 2021. NHATS participants whose interview was completed in Spanish were mailed a Spanish version of the SP questionnaire. Proxy respondents were mailed an FF questionnaire (about their own experiences) at the same time they were mailed the Proxy questionnaire (about the SP's experiences). Most of the SP and Proxy questionnaires were completed in July and August 2020.

Non-proxy FF questionnaires were mailed from the end of July 2020 through January 2021. Collection continued through the first week of March 2021. FFs identified at the end of the SP questionnaire were mailed a questionnaire, typically within a week of SP booklet receipt. Most FF questionnaires were completed in August and September 2020.

SP, Proxy and FF questionnaires were mailed with a pre-paid \$5 incentive. Email and postcard reminders were sent 10 and 20 days after the initial mailing. Non-respondents then received reminder phone calls over a 10-day period. A second copy of the booklet with an additional pre-paid \$5 incentive was sent to non-respondents to the Spanish language SP questionnaire, the Proxy questionnaire, and the FF questionnaire.

## Sample Sizes

The NHATS COVID-19 SP file includes data from 3,257 participants or proxies who returned a completed questionnaire. The NHATS COVID-19 SP Tracker file includes records for 3,961 SPs who were eligible for the COVID-19 SP or Proxy questionnaire.

The NHATS COVID-19 FF file includes data from 2,062 family members or friends associated with the 3,257 SPs in the final NHATS COVID-19 SP file. The NHATS COVID-19 FF Tracker file includes records for 3,154 FFs who were eligible for the COVID-19 FF questionnaire.

An additional 41 SPs/Proxies and 8 FFs who returned their questionnaires were determined to be incomplete (because they answered less than half the items) and were therefore excluded from the NHATS COVID-19 SP and FF files, respectively.

## Response Rates

The unweighted response rate for the NHATS SP COVID-19 supplement was 82.2%. Response rates were lower for older age groups; Black, Hispanic and other minority racial groups; those in residential care settings (particularly nursing homes, not shown) in Round 10; and proxy respondents in Round 10 (see first column of Table 1).

The unweighted response rate for the NHATS FF COVID-19 supplement was 65.4%. Among eligible FFs, response rates were lower for FFs of SPs in younger age groups; who were female; from Black, Hispanic and other minority racial groups; who lived in the community in Round 10, and who answered the Round 10 interview for themselves (see last column of Table 1). FFs who were not spouses and who were not Round 10 proxy respondents also had lower response rates.

## Content

The SP questionnaire includes 13 sections. Topics cover symptoms of COVID-19, measures to limit spread of the virus, and changes in the NHATS participants' living situation, contact with family and friends, other activities, grocery shopping, health care, finances, wellbeing and daily activities. Participants were also asked to provide contact information for the two adult family members or friends who helped most during the outbreak. Most of the items in the SP and proxy questionnaires were identical (except for the reference to "you" vs. "the NHATS participant").

The FF questionnaire includes 17 sections, many of which align with the sections in the SP/Proxy questionnaires (see Table 2). In addition, the FF questionnaire asks about the FF's relationship with the NHATS participant, help given to the NHATS participant before and during the outbreak and reasons for helping. For those who helped for health or functioning reasons, three additional sections about caregiving are included: time spent helping the NHATS participant, dementia caregiving (if help is memory related) and helping challenges and supports.

<b>Table 1. Unweighted percentage of Eligible SPs or Proxies or FFs Returning Completed Questionnaire</b>		
	SP/Proxy RR	FF RR
Rd 9 SP Age+1 in 10-yr age groups		
70-79	84.6	63.2
80-89	81.6	65.8
90+	76.5	69.0
SP Gender		
Male	83.7	69.4
Female	81.2	62.8
SP Race/ethnicity		
White, non-Hispanic	88.0	68.9
Black, non-Hispanic, Hispanic & Other	68.1	54.5
Rd 9 SP Residential Care Setting		
Community	83.5	64.5
Residential care	69.6	73.5
Rd 10 SP's Proxy Status		
Self	84.2	63.5
Proxy	64.0	79.2
FF Relationship <sup>1</sup>		
Spouse/partner	-	91.2
Adult Child	-	70.9
Other and missing	-	61.3
Not listed <sup>2</sup>		-
FF is Proxy		
Yes	-	96.6
No	-	62.9
Total	82.2	65.4
N	3,257/3,961	2,062/3,154
<sup>1</sup> Source Rd 10 OP file and COVID SP booklet information.		
<sup>2</sup> Includes 361 cases not listed by the SP or proxy.		

<b>Table 2. NHATS COVID-19 SP/Proxy and FF Questionnaire Sections</b>							
	<b>SP/Proxy</b>			<b>FF</b>			
<b>Section: Topic</b>	<b>Section</b>	<b>Item</b>	<b>Page</b>	<b>Section</b>	<b>Item</b>	<b>Page</b>	<b>Notes About Source</b>
Today's Date & About You	1-2	2-4	3	1-2	1-14	4-6	Aligned with NHATS (SP/Proxy) or NSOC (FF)
Symptoms of COVID-19	3	5-9	4	3	15-19	7	Adapted from MESA; Common symptoms adapted from CDC definitions
Meaning of During the Outbreak	4	10	5	4	20-21	8	-
Measures to Limit Spread of COVID-19	5	12	6	5	22	9	Adapted from MESA
Assisted Living	6	13-16	6-7	-	-	-	Based on AHCA guidance
Changes in Living Situation	7	17-24	8-9	9	41-44	9	17, 18, 21, and 22 (SP/Proxy) aligned with items in the HRS COVID telephone module.
Changes in Living Situation: Distance	-	-	-	9	45	9	Aligned with NSOC (DI)
Changes in Contact (SP/Proxy: with Friends and Family; FF: with NHATS SP)	8	25-26	9-10	10	46-47	17	-
Changes in Contact (SP/Proxy)/Relationship with NHATS Participant (FF): Give/Get Emotional Support	8	27-28	10	11	50-51	18	Aligned with HRS COVID SAQ
Changes in Other Activities: Life events and Life space constriction	9	29-30	11	-	-	-	Some life events in HRS COVID SAQ; Life space constriction items simplified version of Stalvey et al. (1999) <sup>5</sup>
Changes in Other Activities: Coping Behaviors	9	31	12	6	23	10	-
Changes in Other Activities: Caregiving	9	32	12	6	24	10	-
Changes in Other Activities: Participation	9	33-34	13	-	-	-	Aligned with content in NHATS
Changes in Other Activities (SP/Proxy)/Changes in Contact (FF): Learned technology	9	35-36	13	10	48	17	Aligned with HRS COVID SAQ
Changes in Other Activities: Grocery Shopping	9	37-40	14-15	-	-	-	Aligned with content in NHATS
Changes in Health Care	10	41-45	16-17	-	-	-	41-42 (SP/Proxy) adapted from NSOC III (HC) 43-45 (SP/Proxy) adapted from HRS COVID telephone module
Changes in Work and Finances	-	-	-	7	25-28	11	-
Changes in Finances: Financial Difficulties	11	46-48	18	7	29-31	12	46 (SP/Proxy) 29 (FF) adapted from HRS COVID telephone module; 47-48 (SP/Proxy) 30-31(FF) adapted from PSID shutdown / COVID-19 module
Changes in Wellbeing	12	49-59	19-21	8	32-40		49-52 (SP/Proxy) aligned with HRS COVID SAQ; 57 (SP/Proxy) 38 (FF) PTSD-8 <sup>4</sup> ; 32 (FF) aligned with NSOC (HC); 33 (FF) aligned with PHQ2 and GAD in NHATS (HC); 53 (SP/Proxy) 34 (FF) aligned with NHATS (HC)
Changes in Daily Activities	13	60-69	22-27	-	-	-	Aligned with NHATS (SC, MO, HA, DT, MC)
Relationship with the NHATS Participant	-	-	-	11	49, 52	18	49 (FF) aligned with NSOC (AC) <sup>3</sup>
Help Given Before the Outbreak	-	-	-	12	53-54	19	Aligned with NHATS (SC, MO, HA, DT, MC)
Help Given During the Outbreak	-	-	-	13	55-56	20	Aligned with NHATS (SC, MO, HA, DT, MC)
Reasons for Helping	-	-	-	14	57-58	21	Aligned with NHATS (HA)
Time Spent Helping the NHATS Participant <sup>1</sup>	-	-	-	15	59-66	22-23	59-64 aligned with NSOC (CA)
Dementia Caregiving <sup>1,2</sup>	-	-	-	16	67-70	24	69 Aligned with NHATS (CP)
Helping Challenges and Supports <sup>1</sup>	-	-	-	17	71-79	25-26	71-76, 78-79 (FF) aligned with NSOC (AC)

<sup>1</sup>Caregiving sections limited to those helping for health or functioning related reasons. <sup>2</sup>Limited to those helping for dementia or memory-related reasons. <sup>3</sup>FF questionnaire was missing 'not at all' category. <sup>4</sup><https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3023946/> <sup>5</sup><https://www.uab.edu/medicine/ophthalmology/images/research/LifeSpace.pdf>

Many of the questions were designed to align with information collected in the core NHATS and NSOC interviews (sections 1, 9, 10, 11, and 14 in Table 2). Other sections were adapted from or aligned with sources that had drafted COVID questionnaires available before June 2020 (e.g., Multi-ethnic Study of Atherosclerosis (MESA), the Health and Retirement Study (HRS), and the Panel Study of Income Dynamics (PSID)). Details are provided in Table 2.

***Alignment between SP and Proxy Questionnaires.*** Items diverge for SP and proxy booklets in two sections: section 1-About You and section 12-Changes in Wellbeing.

***About You – Q2-Q4.*** In the SP questionnaire Q2 asks whether the respondent is an NHATS participant or a proxy respondent. If the person filling out the booklet is a proxy, we obtain relationship to NHATS participation (Q3) and reason for proxy (Q4). We do not determine how familiar the person answering is with the SP’s routine. In the Proxy questionnaire, we do not ask who is filling out the questionnaire. Instead, Q2 asks relationship to NHATS SP, Q3 asks reason and Q4 asks the proxy how familiar he/she is with the NHATS participant’s daily routine.

***Changes in Wellbeing – Q49-Q50*** (frequency of loneliness before/during outbreak); ***Q51-Q52*** (frequency of not enough time alone before/during outbreak) and ***Q58-Q59*** (frequency of feeling hopeful about the future before/during outbreak) in the self-administered questionnaire are not included in the Proxy questionnaire.

## Data Files and Documentation

The NHATS COVID-19 data release consists of both SP and FF files. Sample sizes are shown in Table 3 for each file.

Sample	File	Sample size
SP	NHATS COVID-19 SP File	3,257
SP	NHATS COVID-19 SP Tracker File	3,961
FF	NHATS COVID-19 FF File	2,062
FF	NHATS COVID-19 FF Tracker File	3,154

The ***NHATS COVID-19 SP File*** includes one record for each NHATS participant who responded to the COVID-19 supplemental collection. Both self-administered (SP) and proxy booklet responses are included and variables have been combined as appropriate.

The SP file includes a sample person identifier (spid, which allows linkage to other NHATS files), combined variables from the questionnaires (almost all with derived variable designations, see Variable Names, below), booklet type (cv10dbooklet) and respondent type (cv10dproxy), and a set of weights and cluster and stratum variables.

The ***NHATS COVID-19 SP Tracker File*** includes all persons eligible for the COVID-19 SP or Proxy questionnaire, i.e., NHATS participants who completed a Sample Person interview in Round 10. This file contains a sample person identifier (spid) and derived variables indicating case status and outcome (cv10dstatus and cv10dcomplete), booklet type and language

(cv10dbooklang), the number of eligible FFs (cv10dnumffelig) and the number of FFs who completed an FF questionnaire (cv10dnumffcplt).

The ***NHATS COVID-19 FF File*** includes one record for each FF who responded to the COVID-19 FF supplemental collection. Both Proxy FF's and non-Proxy FF's received the same questionnaire. The FF file includes identifiers spid and opid, which allow linkage to other NHATS files. There is also a derived variable (ff10drespflag) indicating whether the respondent is likely the same person as the individual identified by the opid (which is the person to whom the questionnaire is mailed). An additional variable was included that specifies whether the FF was the proxy respondent to the SP's questionnaire (ff10dproxyofSP). For variables that we have filled in from other sources we provide users with source variables. Finally, we have included a set of weights and cluster and stratum variables.

The ***NHATS COVID-19 FF Tracker File*** includes family members or friends of SPs eligible for the COVID-19 FF questionnaire. This file includes identifiers (spid and opid), which allow linkage to other NHATS files, and derived variables indicating case status and outcome (ff10dstatus and ff10dcomplete), type of FF respondent (ff10dcasetype), relationship to SP base on the NHATS OP file (ff10drelshpcat).

A crosswalk is provided that links each item in the mail questionnaires to variable names in the data files. A codebook is also provided with each data file that includes frequencies for categorical variables and means for continuous variables.

## **Linking to other NHATS Files**

The variable spid may be used to link files to SP-level files in NHATS. On the FF file, spid and opid may be used to link to SP-level or OP-level files.

Note that the opid indicates the individual to whom the questionnaire was mailed (see discussion of ff10drespflag under Data Editing). In the vast majority of cases (97.1%) the opid and the respondent are likely to be the same person; remaining cases are likely to be a spouse of the FF (0.5%) or another family member of the FF (2.4%).

Values of 996 and 997 indicate FFs who are eligible but were not listed in the NHATS COVID-19 SP booklet and thus no questionnaire was mailed to them. Values of 998 and 999 indicate FFs who have never been mentioned in any round of NHATS (that is, not in the 2020 NHATS OP file).

## **Overview of Weights**

The COVID-19 SP and FF files contain weights that account for differential probabilities of selection and nonresponse along with variables for variance estimation. A separate technical paper (to be released in 2021) describes the creation of COVID-19 SP (w10cvspfinwgt0-56) and FF weights (w10cvfffinwgt0-56).

## Survey Design Adjustments

The NHATS COVID-19 SP and FF files also include Round 10 strata (w10varstrat) and cluster (w10varunit) variables, which allow users to adjust standard errors and statistical tests to account for the complex design of NHATS. We also recommend using the subpop option with stata svy commands or domain with SAS commands rather than subsetting the file for analysis.

## Obtaining COVID-19 SP and FF Data

NHATS COVID-19 SP files are designated as public for purposes of data release. Registered users can download SP files at [www.nhats.org](http://www.nhats.org). NHATS COVID-19 FF files are designated as Sensitive for purposes of data release. To obtain FF files, download the document entitled *Obtaining Sensitive Data from the National Health and Aging Trends Study* from the NSOC & Other Sensitive Files page of the NHATS website and follow the instructions. The NHATS COVID-19 SP and FF Instruments and Crosswalk are publicly available at [www.nhats.org](http://www.nhats.org).

## Variable Names and Missing Data Conventions

**Variable names.** Variable names in both the NHATS COVID-19 SP and FF files follow NHATS conventions. In the SP file, variables start with “cv” (for COVID-19) and in the FF file, variables start with “ff” (for family and friends). In both cases this prefix is followed by NHATS round number (i.e., 10). This “stem” is followed by a name that reflects the question asked. A “d” is before the stem if the variable is derived. For the SP file, because we brought together SP and Proxy information to construct the variables, we have designated almost all variables as derived.

**Variable labels.** Variable labels in both the NHATS COVID-19 SP and FF files follow NHATS conventions. Labels start with the Round number (R10) followed by a D if derived and followed by COVID-19 to indicate the file. Next, we provide information on the item(s) for the variable. For variables with the same item numbers in both the SP and Proxy booklets, we use SP PROXY Q#, where Q# is the item number from the booklet; for variables with different items numbers in the two booklets we use SP Q# PROXY Q#; and for variables in one booklet and not the other we use either SP or PROXY and then Q#. For variables on the FF file we use FF Q# where Q# is the item number from the FF booklet. The rest of the label includes an abbreviated description of the content of the variable.

**Missing Data.** NHATS COVID-19 files use the NHATS and NSOC conventions of assigning -1 to variables with purposeful skips and -9 to missing. In the NHATS COVID-19 SP file we expanded the purposeful skip indicator to reflect *why* an individual skipped an item as follows:

- 3 Question not in self-administered booklet
- 2 Question not in proxy booklet

Note that for items that involve grids and instructions to “mark all that apply,” we assigned a code of “7 Not checked” for unselected items (rather than missing). If all items in a grid were not checked, we coded all of them as -9 Missing. See *Data Editing* for details.

## Data Editing

**Upcoding other specify fields.** The questionnaires included several items that had a list of options for respondents to choose from and also provided an open-ended response box for respondents to specify another answer. We took the following steps when reviewing this open text:

- If the text corresponded to available answer category, we recoded the response to match an existing category;
- If more than 10 respondents mentioned an answer that was not available as an answer category, we created a new response.
- If the text did not correspond to an available or new answer, but provided a relevant answer, we coded the response to “other”

Three new variables were created as a result of this upcoding process (and therefore are not answers shown on the instruments; see Table 5).

<b>Item number</b>	<b>Question wording</b>	<b>Response option added</b>	<b>Variable Name</b>
Q44 (SP/Proxy)	What type(s) of care did you put off? Mark all that apply	12. Tests or lab work	cv10ddelaycare12
Q45 (SP/Proxy)	What are the reason(s) that you put off that care? Mark all that apply	8. In quarantine	cv10ddelayreas8
Q66 (FF)	What is the reason(s) the amount of help has changed? Mark all that apply.	16. NHATS SP injured or had surgery	ff10hlphrschg16

**Addition of response option to cv10dproxy.** Q2 in the SP questionnaire asked who was filling out the self-assessed booklet (the SP or the proxy). We ascertained from Q2 and Q4 (reason for proxy) that for some cases the NHATS and SP filled out the questionnaire together. We therefore added a third response category to Q2 (3. NHATS SP and Proxy).

Specifically, the following respondents were coded as 3 for cv10dproxy (N=105):

- Respondents who checked both response options 1 and 2 in Q2;
- Respondents who wrote in the text box provided at Q4 that the NHATS SP and proxy filled out the questionnaire together; and
- Respondents who checked that they were an NHATS participant (response option 1 in Q2) but also provided valid answers for Q3 (proxy relationship to SP) or Q4 (reason for proxy).

In addition, three respondents who completed the proxy booklet indicated that they were the NHATS SP in Q3 of the proxy questionnaire (reason for proxy). We coded these cases as “1 NHATS SP” on cv10dproxy.

**“Mark all that apply” (MATA) questions.** Several questions directed respondents to mark all response options that applied (MATA). For MATA questions that were supposed to be answered (no skip pattern around the item), we did the following. For cases with at least one response

checked in the SP and FF files, response options that were not checked were coded “7 Not checked.” In addition, if all response options were unchecked, we coded all of the items as “-9 Missing” (note that previously in the beta version these items were coded “7”). For MATA questions that were supposed to be skipped (based on the answer to an earlier question), all response options were coded “-1 Inapplicable.”

**Grid questions.** Several questions in the SP/Proxy and FF questionnaires were presented in a grid with answers displayed in a row at the top. Respondents were directed to answer every question, but for some grids (e.g., with yes/no response options) they sometimes only checked “Yes” responses. For grid items that were supposed to be answered, items left blank were coded “7 Not checked.” For grid items that were supposed to be skipped (based on the answer to an earlier question), all items were coded “-1 Inapplicable.”

**Questions with skip patterns.** In general, follow-up questions to lead-in items that skipped respondents around subsequent questions were edited based on the answer to the lead-in question. If the answer to the lead-in question was missing or if the answer indicated a skip should occur, follow-up questions were coded “-1 Inapplicable.” If the lead-in question indicated no skip should occur, follow-up questions without answers were coded “-9 Missing” (except for MATA and grid questions, as discussed above). For four caregiving-related questions in the FF file (Q67, Q71, Q73 and Q75), for a small number of cases missing the lead-in question, we filled the question with a Yes response (n=22, 15, 9, and 7, respectively) when follow-up questions had been answered.

**FF Caregiver checkpoints.** In the FF questionnaire, there are two key checkpoints, Q57 (any help was given to the SP; ff10anyhelp) and Q58 (help was given because of SP’s health or functioning; ff10healthfunc). The two checkpoints determine whether an FF continues into the ‘caregiving’ sections of the questionnaire (sections 15-17).

- We edited ff10anyhelp based on whether respondents answered Yes to any part of Q53, Q54, Q55 or Q56 (=1) or No to all parts of all four questions (=2). If all parts of all four questions were missing, we accepted the original answer to Q57.
- We assigned ff10healthfunc to the original value of Q58 and then edited it based on two variables: (1) edited ff10anyhelp and (2) a variable we constructed based on endorsement of any item suggesting care was provided for health or functioning reasons (care=1 if any sub-item of Q56=1, any sub-item of Q54=1, Q61>1, Q64>1, Q67=1, or Q78D=1 or 2; otherwise care=0). If ff10healthfunc was missing and care=1, we assigned ff10healthfunc=1. If ff10healthfunc was missing and care=0, we assigned ff10healthfunc=1 if Q59=0 & Q60=0 & Q62=0 & Q63=0 and we assigned ff10healthfunc=2 if the caregiver was not a spouse (Q2~=1)
- We then made ff10anyhelp and ff10healthfunc consistent based on values of care. If care is yes (1) we set ff10anyhelp and ff10healthfunc both equal to yes (1). If care is no (0) then we set the value of ff10healthfunc to either missing (-1) or no (2), depending on the value of ff10anyhelp (no (2) or yes (1), respectively). If care is yes (1) and ff10anyhelp is missing (-1) and ff10healthfunc= no (2), we set ff10anyhelp to no (2) and ff10healthfunc to missing (-1)

**Other SP file edits.** Four additional variables were edited as follows:

- If month of interview was missing or later than the receipt date (N=318 cases), the response to cv10dintmonth (Q1\_MM) was constructed based on receipted date minus 10 days (the average gap for dated questionnaires)
- If the month COVID ended was reported as a month later than the questionnaire was completed (N=19 cases), responses to cv10dmonthend (Q11) were edited to “13 Reported month in the future”
- Responses to whether the respondent lives in a residential care facility were edited to be consistent with r10dresid (N=59 responses edited and 292 missing responses filled in).
- If cv10dnumhlp (SP Q62 PROXY Q56) was equal to zero and cv10dnumhlpamt was equal to “1 More” (N=3 cases), responses to cv10dnumhlpamt (SP Q63 PROXY Q57) were edited to “-9 Missing.”
- If cv10dhlphrs (SP Q64 PROXY Q58) was equal to zero and cv10dhlphrsamt was equal to “1 More” (N=13 cases), responses to cv10dhlphrsamt (SP Q65 PROXY Q59) were edited to “-9 Missing.”
- If cv10dnumhlp was greater than 10 (N=24 cases), responses to cv10dnumhlp (SP Q62 PROXY Q56) were edited to “10 or more.”
- If cv10dhlphrs was greater than 168 (N=11 cases), responses to cv10dhlphrs (SP Q64 PROXY Q58) were edited to 168.

**Other FF File edits.** 12 additional variables were edited as follows:

- Respondents with reversed relationship (i.e., FF should report relationship to SP but reported SP’s relationship to FF) were corrected in ff10relatnshp (N=18 cases)
- If month of interview was missing or later than the receipt date (N=126 cases), the response to ff10intmonth (Q1\_MM) was constructed based on receipted date minus 10 days (the average gap for dated questionnaires)
- If the month COVID ended was reported as a month later than the questionnaire was completed (N=6 cases), responses to ff10monthend (Q21) were edited to “13 Reported month in the future”
- Response to ff10numinh18older (Q13) were edited to be the same as ff10numinhh (Q12) if  $Q12 > 0$  and  $Q13 = 0$  (respondents likely misread Q13 as number of people age 18 or younger; N = 138 cases); Responses to Q12 were edited to be the same as Q13 if  $Q13 > Q12$  (N = 26); Responses to both variables were edited to be “-9 Missing” if both Q12 and Q13 were missing (N = 51 cases).
- If ff10symptoms (Q15) was 2 (No) and Q18 was missing, responses to ff10sympvl (Q18) were edited to “5 Does not apply” (N = 75 cases); If Q18 was “1 Mild” to “4 Very severe” and Q15 was missing or “2 No,” responses to ff10symptoms were edited to 1 (Yes) (N = 4 cases).
- Responses to ff10befhlpdays (Q59) were edited to 7 if  $Q59 > 7$  (N = 1 case); Responses to ff10befhlphrs (Q60) and ff10durhlphrs (Q63) were edited to 24 if  $Q60 / Q63 > 24$  (N = 5 cases for Q60; N = 6 cases for Q63).
- The COVID-19 FF questionnaire had a label error for item Q8 in the second category “1st – 8th grade.” We therefore collapsed categories 1<sup>st</sup> -8<sup>th</sup> and 9<sup>th</sup> -12<sup>th</sup> (no diploma) in creating ff10educ. For those with missing values in Q8, education from the Round 10 OP file was used to fill in the missing information if ff10drespflag=1 (Likely same person). (N=17 cases)
- We flagged cases that were likely filled out by the spouse of the FF or by another relative of the FF in the variable ff10drespflag. To make this determination, we identified differences

between information provided in the COVID-19 FF questionnaire and in the Round 10 OP file for age (>2 years different), gender and relationship. If two of the three indicators were different, we coded respondents as either “2 Likely spouse of FF completed” or “3 Likely other family member of FF completed” (depending on relationship). When only one or two indicators were available, we used one different indicator as the threshold. (N=60 cases)

## Meta Data Variables

Here we document variables about the data collected (but not collected in the COVID-19 booklets). The variables can be found at the end of each file before the weighting variables.

<b>COVID-19 SP File</b>		
<b>Variable Name VARIABLE LABEL</b>	<b>CODING SPECIFICATIONS/ SOURCE</b>	<b>VALUES and VALUE LABELS</b>
cv10dbooklet R10 D COVID-19 SP PROXY BOOKLET TYPE	Based on booklet type received	1 Self-administered SP booklet 2 Proxy booklet
cv10dlanguage R10 D COVID-19 SP PROXY LANGUAGE OF QUESTIONNAIRE	Based on booklet type received	1 English 2 Spanish
cv10drecdmnth R10 D COVID-19 SP PROXY MONTH QUESTIONNAIRE RECEIPTED	Receipt system	-9 Missing 7 July 8 August 9 September 10 October
cv10dintmosrc R10 D COVID-19 SP PROXY INTERVIEW MONTH Q1_MM SOURCE	If Q1_MM missing or Q1 is later than questionnaire receipt date then cv10dintmosrc=2 (Constructed based on date questionnaire receipted – 10 days) Else cv10dintmosrc=1	1 Response to Q1 2 Month receipted
cv10drecdyear R10 D COVID-19 SP PROXY YEAR QUESTIONNAIRE RECEIPTED	Receipt system	2020 2021
cv10dintyrsrc R10 D COVID-19 SP PROXY INTERVIEW YEAR Q1_YYYY SOURCE	If Q1 date is in 2021 then cv10dintyrsrc = 2 Else cv10dintyrsrc = 1	1 Response to Q1

<b>COVID-19 SP Tracker File</b>		
<b>Variable Name VARIABLE LABEL</b>	<b>CODING SPECIFICATIONS/ SOURCE</b>	<b>VALUES and VALUE LABELS</b>
cv10dstatus R10 D COVID-19 SP TRCKER SP CASE STATUS	1 Mailed, returned, completed 2 Mailed, returned, not completed if more than half of the questions (i.e., questions without skip patterns built in) are missing 3 Mailed, not returned or refused	1 Mailed, returned, completed 2 Mailed, returned, not completed 3 Mailed, not returned or refused
cv10dcomplete R10 D COVID-19 SP TRCKER SP CASE COMPLETE	cv10dcomplete = 1 if cv10dstatus = 1 Else cv10dcomplete = -1	-1 Inapplicable 1 COVID-19 SP Case Complete
cv10dbooklang R10 D COVID-19 SP TRCKER SP BOOKLET TYPE AND LANGUAGE	Based on mailed booklet type 1 if NHATS participants completed R10 interview in English 2 if Proxies answered the Round 10 NHATS interview for living NHATS participants 3 if NHATS participants completed R10 interview in Spanish	1 Self-administered booklet English 2 Proxy booklet English 3 Self-administered booklet Spanish
cv10dnumffelig R10 D COVID-19 SP TRCKER NUMBER OF ELIGIBLE FF CASES	-1 if cv10dcomplete = -1 0 to 2 are constructed based on two information: 1) number of FF reported by SP (SP Q67A PROXY Q61A in the questionnaire) and 2) number of returned questionnaires by eligible FF per SP	-1 Inapplicable 0 No eligible FF cases 1 One eligible FF cases 2 Two eligible FF cases
cv10dnumffcpt R10 D COVID-19 SP TRCKER NUMBER OF COMPLETED FF CASES	-1 if cv10dcomplete = -1 or cv10dnumffelig = 0; 0 if SP have eligible FF but no FF completed FF interview; 1 if one FF completed FF interview; 2 if two FF completed FF interview	-1 Inapplicable 0 No completed FF cases 1 One completed FF cases 2 Two completed FF cases

<b>COVID-19 FF File</b>		
<b>Variable Name VARIABLE LABEL</b>	<b>CODING SPECIFICATIONS/ SOURCE</b>	<b>VALUES and VALUE LABELS</b>
ff10drespflag R10 D COVID-19 FF RESPONDENT FLAG	Based on differences between (see <i>Data Editing</i> ): <ul style="list-style-type: none"> <li>• Age (Q4, OP file op10age)</li> <li>• Gender (Q3, OP file op10gender)</li> <li>• Relationship (Q2, OP file op10relatnshp)</li> </ul>	1 Likely same person questionnaire mailed to 2 Likely spouse of family or friend of SP (FF) completed 3 Likely other family members of FF completed
ff10dproxyofSP R10 D COVID-19 FF PROXY RESPONDENT TO R10 NHATS SP INTERVIEW	Based on receipt system	1 Yes 2 No
ff10drecdmonth R10 D COVID-19 FF MONTH QUESTIONNAIRE RECEIPTED	Based on receipt system	7 July 8 August 9 September 10 October 11 November 12 December
ff10dintmosrc R10 D COVID-19 FF INTERVIEW MONTH Q1_MM SOURCE	If Q1_MM missing or Q1 is later than questionnaire receipt date then ff10dintmosrc=2 (Constructed based on date questionnaire received – 10 days) Else ff10dintmosrc =1	1 Response to Q1 2 Time questionnaire received
ff10drecdyear R10 D COVID-19 FF YEAR QUESTIONNAIRE RECEIPTED	Receipt system	2020 2021
ff10dintyrsrc R10 D COVID-19 FF INTERVIEW YEAR Q1_YYYY SOURCE	If Q1 date is in 2021 then ff10dintyrsrc = 2 Else ff10dintyrsrc = 1	1 Response to Q1_YYYY 2 Time questionnaire received
ff10drelatnsrsrc R10 D COVID-19 FF RELATIONSHIP TO SP Q2 SOURCE	If Q2 missing and ff10drespflag=1 then ff10drelatnsrsrc=2 Else ff10drelatnsrsrc=1	1 Response to Q2 2 Round 10 OP file

ff10dgnsrc R10 D COVID-19 FF GENDER Q3 SOURCE	If Q3 missing and ff10drespflag=1 then ff10dgnsrc=2 Else ff10dgnsrc=1	1 Response to Q3 2 Round 10 OP file
ff10dbthmosrc R10 D COVID-19 FF BIRTH MONTH Q4_MM SOURCE	If Q4_MM missing and ff10drespflag=1 then ff10dbthmosrc=2 Else ff10dbthmosrc=1	1 Response to Q4_MM 2 Round 10 OP file
ff10dbthysrc R10 D COVID-19 FF BIRTH YEAR Q4_YYYY SOURCE	If Q4_YYYY missing and ff10drespflag=1 then ff10dbthysrc=2 Else ff10dbthysrc=1	1 Response to Q4_YYYY 2 Round 10 OP file
ff10dage R10 D COVID-19 FF AGE	Age constructed based on Q4_MM and Q4_YYYY; If missing, ff10dage	-9 Missing 18-100
ff10dagesrc R10 D COVID-19 FF AGE SOURCE	If age constructed based on Q4_MM and Q4_YYYY missing and ff10drespflag=1 then ff10dagesrc=2 Else ff10dagesrc=1	1 Response to Q4 2 Round 10 OP file
ff10deducsrc R10 D COVID-19 FF HIGHEST DEGREE OR GRADE Q8 SOURCE	If Q8 missing and ff10drespflag=1 then ff10deducsrc=2 Else ff10deducsrc=1	1 Response to Q8 2 Round 10 OP file
ff10dmartlsrc R10 D COVID-19 FF MARITAL STATUS Q9 SOURCE	If Q9 missing and ff10drespflag=1 then ff10dmartlsrc=2 Else ff10dmartlsrc=1	1 Response to Q9 2 Round 10 OP file

<b>COVID-19 FF Tracker File</b>		
<b>Variable Name VARIABLE LABEL</b>	<b>CODING SPECIFICATIONS/ SOURCE</b>	<b>VALUES and VALUE LABELS</b>
ff10dstatus R10 D COVID-19 FF TRCKER FF CASE STATUS	1 Mailed, returned, completed 2 Mailed, returned, not completed if more than half of the questions (i.e., questions without skip patterns built in) are missing 3 Mailed, not returned or refused 4 Eligible FF listed by SP, questionnaire not mailed 5 Eligible FF not listed by SP, questionnaire not mailed	1 Mailed, returned, completed 2 Mailed, returned, not completed 3 Mailed, not returned or refused 4 Listed, not mailed 5 Not listed, not mailed
ff10dcomplete R10 D COVID-19 FF TRCKER FF CASE COMPLETE	ff10dcomplete = 1 if ff10dstatus = 1 Else ff10dcomplete = -1	-1 Inapplicable 1 COVID-19 FF Case Complete
ff10dcasetype R10 D COVID-19 FF TRCKER TYPE OF FF RESPONDENT	1 if FF is the proxy respondent who answered the Round 10 NHATS interview for living NHATS participants 2 Non-proxy FF listed first by SP 3 Non-proxy FF listed second by SP	1 Proxy FF 2 Non-proxy FF listed first 3 Non-proxy FF listed second
ff10drelshpcat R10 D COVID-19 FOUR CAT RELASHIP TO SP BASED ON R10 OP RELATIONSHIP	-1 if op10relatnshp is missing 1 Spouse/partner 2 Adult Child 3 Other relatives 4 Non-relatives	-1 Inapplicable 1 Spouse/partner 2 Adult Child 3 Other relatives 4 Non-relatives