Health Information National Trends Survey 7 (HINTS 7)

HINTS 7 Methodology Report

MARCH 20 2025

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1.   HINTS 7 Overview

The Health Information National Trends Survey (HINTS) is a nationally representative survey which has been administered routinely by the National Cancer Institute (NCI) since 2003. The HINTS target population is civilian, non-institutionalized adults aged 18 or older living in the United States. The most recent HINTS administration (referred to as HINTS 7) was conducted from March 25 – September 16, 2024 using a postal delivered, self-administered paper survey with push to web option. This round of data collection resulted in 7,278 completed surveys, for a weighted response rate of 27.3 percent.

Content Focus

HINTS provides NCI with a comprehensive assessment of the American public's access to and use of information about cancer across the cancer control continuum, including items related to etiology, cancer prevention, early detection, diagnosis, treatment, and survivorship. The content of each HINTS data collection effort focuses on understanding health information support needs in the population. In addition to standard/core HINTS content (e.g., health communication constructs, demographics), each round of HINTS has specific topical content to assess recent developments in the public information environment. For HINTS 7, some topics of special interest from HINTS 6 (2022) were continued. These included:

- Misinformation and digital literacy
- Health care discrimination and social determinants of health
- Use of and satisfaction with telehealth
- Genetic testing
- Environment and health

In addition, HINTS 7 introduced new topics of special interest, including:

- Coordination of health care and the clinical health care experience
- Cannabis use
- Environment and health (air pollution and extreme weather experiences)
- Multi-cancer detection tests

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Changes in Mailing Protocol

Although HINTS 7 included the standard $2 pre-incentive sent to all households, the incentive was shown in the envelope window for the HINTS 7 administration rather than being hidden from view. Based on recent literature (Debell, 2022; Sherr and Wells, 2021; Zhang et al., 2023), it was anticipated that having the cash incentive visible would increase the chances of the envelope being opened and therefore increase the response rate.

Because of an unexpectedly low response to the first three HINTS mailings (per the mailing protocol further described in Chapter 3), HINTS 7 included an additional mailing and an increased incentive for a subsample of non-respondents (n=13,055), selected using a systematic sampling approach. This additional mailing, sent out on August 5, 2024, included an increased incentive payment of $30 for completion in any mode. The protocol for this additional mailing is described in Chapter 3.

HINTS Panel Recruitment

Since HINTS 6 (2022), the HINTS program has endeavored to establish a longitudinal panel of HINTS respondents that consent to participate in future surveys. The HINTS Panel will not replace the cross-sectional HINTS data collections but will instead enhance the HINTS program by offering longitudinal data that will enable users to establish temporality when examining change over time in repeated measures. Recruitment for the longitudinal panel was initiated via HINTS 6 and continued with HINTS 7.

As with HINTS 6, the HINTS 7 survey included an item at the end of the survey that asked respondents to provide their email address if they were interested in participating in future health-related surveys for NCI. Respondents who provided their email address (N=3,767) were sent an email introducing the HINTS Panel and were provided the link to the HINTS Panel website and a unique access code to learn more about the panel. Those interested in joining the panel were asked to set up a username and password for the panel website and to review and sign an electronic consent form to complete panel activities. Respondents were then invited to complete a panel enrollment survey in order to be considered a member of the HINTS Panel (referred to as the P7 cohort). A total of 937 participants enrolled in the P7 cohort via HINTS 7.

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Panelists who joined the HINTS Panel in 2022 as part of their completion of the HINTS 6 survey (referred to as members of the P6 cohort) were invited to complete the HINTS 7 survey via the HINTS Panel. Although all 443 members of the P6 cohort were invited to complete the survey, after examining inconsistent responses between HINTS 6, the P6 cohort enrollment survey, and their responses to HINTS 7, 58 panelists were dropped from the P6 cohort. As a result, the P6 cohort was reduced to 385 members[1]. Of those 385 panelists, 154 (40 percent) completed HINTS 7.

Details about the P6 and P7 cohorts of the HINTS Panel are available upon request via the HINTS website: https://hints.cancer.gov/about-hints/contact-us.aspx.

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[1] See Chapter 2 of the HINTS Panel Methodology Report: P6 Cohort for additional details.

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2. Sample Selection

The sampling strategy for the HINTS 7 survey consisted of a two-stage design. In the first stage, a stratified sample of addresses was selected from a file of residential addresses. In the second stage, one adult was selected within each sampled household. The HINTS 7 sample design utilized four sampling strata defined by crossing addresses in high minority and low minority areas by rural and urban geographic classifications. The purpose of these strata was to provide a means to increase the number of addresses located in high minority areas as well as addresses in rural areas in the sample. Additional details are provided below.

2.1 Sampling Frame

The sampling frame for HINTS 7 consisted of a database of addresses used by Marketing Systems Group (MSG) from which a random sample of addresses was drawn.[2] All non-vacant residential addresses in the United States present on the MSG database, including Post Office (PO) Boxes, throwbacks (i.e., street addresses for which mail is redirected by the United States Postal Service (USPS) to a specified PO Box), and seasonal addresses were subject to sampling.

The ABS sampling frame used to draw the HINTS 7 sample included multiple types of PO Boxes. Not all types were included on the final frame. For example, PO Boxes associated with businesses were excluded. The original frame included two types of residential PO Box addresses. The first type of residential PO Box address pertains to those linked to a city-style address. City-style addresses are used by the USPS to deliver mail. In order to ensure households have only one chance of selection into the sample, PO Box addresses linked to a city style address were dropped from the sampling frame. The households on the sampling frame associated with only a PO Box addresses and not linked to a city-style address can only get mail by the PO Box address. Therefore, the HINTS 7 sample was limited to PO Box addresses classified as the only-way-to-get mail. Because PO Box addresses have high undeliverable rates, a byproduct of excluding those linked to city-style addresses was an expected reduction in the rate of undeliverable packets.

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[2] The HINTS 7 sample was drawn from MSG's January, 2024 frame which is updated monthly.

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In rural areas, some addresses do not contain street addresses or box numbers. These simplified addresses contain insufficient information for mailing questionnaires. Consequently, alternative sources of usable addresses were used when a carrier route contained simplified addresses[3]. This partially ameliorated the frame's known undercoverage of rural areas, although the actual coverage and undeliverable rates for this portion of the frame cannot be calculated.

2.2   Stratification

The sampling frame of addresses was grouped into four explicit sampling strata:

1.   Addresses in urban areas with high concentrations of minority adults;

2.   Addresses in urban areas with low concentrations of minority adults;

3.   Addresses in rural areas with high concentrations of minority adults; and

4.   Addresses in rural areas with low concentrations of minority adults.

The high and low racial/ethnic minority stratification was formed using census tract-level characteristics from the 2017–2021 American Community Survey data file. Addresses in census tracts that had a population proportion of Hispanic and/or Non-Hispanic Black/African American residents that equaled or exceeded 34 percent were classified as "high minority." All the remaining addresses were classified as "low minority."

The rural/urban stratification was based on the 2013 United States Department of Agriculture Economic Research Service rural-urban continuum codes (RUCC). These codes form a classification scheme that distinguishes metropolitan (metro) counties by the population size of their metro area, and nonmetropolitan (nonmetro) counties by degree of urbanization and adjacency to a metro area or areas[4]. Addresses in counties with RUCC values associated with metro areas (RUCC 1-3) were classified as urban. Addresses in counties with RUCC values associated with nonmetropolitan areas (RUCC 4-9) were classified as rural.

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[3] Alternative sources are lists of addresses compiled by address vendors from publicly available lists including voter registration lists, property tax records, court records, telephone directories, etc.

[4] See https://www.ers.usda.gov/data-products/rural-urban-continuum-codes.aspx for details.

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The purpose of creating sampling strata by breakouts of racial/ethnic minority and rural status is to provide a means to sample the high-minority and rural strata at higher rates relative to the low-minority and urban strata to increase the precision of estimates for racial/ethnic minority and rural subpopulations. The gains in precision stem from the increase in sample sizes for these groups produced by the oversampling.

An address on the sampling frame was identified as likely being associated with a Spanish speaking household if it satisfied one of two criteria. First, if the surname accompanying the address on the sampling frame matched to a list of Hispanic surnames it was categorized as likely linked to a Spanish speaking household. The second criterion that put an address in the Spanish speaking category was if it was located in an area where at least 13 percent or more of households were classified as limited English speaking.[5] Addresses identified as likely being associated with a Spanish speaking household per either of these criteria received both English and Spanish surveys (further described in Chapter 3).

2.3   Selection of Addresses

An equal-probability sample of addresses was selected from within each explicit sampling stratum. The total number of addresses selected for HINTS 7 was 36,000: 25,300 from the high minority urban stratum, 1,950 from the high minority rural stratum, 6,100 from the low minority urban stratum, and 2,650 from the low minority rural stratum. Relative to a proportional design, the high-minority urban and rural strata were oversampled by 150 percent and 159 percent, respectively. The low minority urban and rural strata were under-sampled by 70 percent and 38 percent, respectively. Using historical HINTS response rates and overall response trends to each sampling strata, an overall HINTS 7 sample size of 36,000 was expected to achieve a target number of 7,000 completed questionnaires.

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[5] Households in which there are no members aged 14 or over who speak only English or speak English "very well" are considered "limited English-speaking" households per the American Community Survey. Prior to 2010 such households were referred to as "linguistically isolated." See https://www.census.gov/content/dam/Census/library/publications/2022/acs/acs-50.pdf for more details.

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Table 2-1 below summarizes the address sample, showing the number of sample addresses, the percent of addresses in the frame and sample, and the percent oversampled/under-sampled relative to a proportional design, by sampling stratum.

Table 2-1.   Summary by sampling stratum

Stratum	Percent of addresses in the frame	Number of sample addresses	Percent of sample addresses	Percent of sampled addresses oversampled (+) or undersampled (-)
High minority - Urban	28.1	25,300	70.3	+150.3%
High minority - Rural	2.1	1,950	5.4	+159.0%
Low minority - Urban	57.8	6,100	16.9	-70.7%
Low minority - Rural	12.0	2,650	7.4	-38.7%
Total	100.0	36,000	100.0	

2.4   Within-Household Sample Selection

The second stage of sampling consisted of selecting one adult within each sampled household. In keeping with previous cycles of HINTS, HINTS 7 implemented the Next Birthday Method (Salmon & Nichols, 1983) to randomly select one adult in the household to complete the survey. The within-household selection was conducted by the respondents themselves. Questions were included on the survey instrument to assist the household in selecting the adult in the household having the next birthday (see **Appendix A** for the survey instrument).

2.5   Embedded Survey Experiments

HINTS 7 included two embedded methodological experiments intended to improve response rates and data quality:

1. **Incentive Experiment:** A sample of 4,800 households in the High Minority strata (the treatment group) were offered an incentive regardless of mode: they were offered a $10 incentive to complete the survey by paper or a $20 incentive to complete the survey online. HINTS administrators examined whether these additional incentive offerings would increase the response rate for racial and ethnic minoritized respondents. Respondents in the control group were offered $10 to complete the survey online and no additional incentive to complete the survey by paper. Details about the protocol for

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this experiment are included in Chapter 3 and a brief presentation of the experiment results is included in Chapter 6.

2. **Respondent Commitment Experiment:** A sample of 7,200 households were randomized to receive a statement at the beginning of their survey asking them to make a commitment to provide complete and accurate information. Based on recent literature (Vanette 2016, Conrad et al 2017, Hibben et al 2020) HINTS administrators examined whether the inclusion of the statement would result in higher quality data without affecting the response rate. The statement itself can be seen in **Appendix A** (the survey instrument), and a brief presentation of the experiment results can be found in Chapter 6.

3.   Data Collection

Data collection for HINTS 7 started on March 25, 2024, and concluded on September 16, 2024. All respondents were offered the choice to respond via paper or online. Both self-administered modes of the survey (paper and web) were offered in English or Spanish. All respondents received a $2 pre-paid monetary incentive to encourage participation. HINTS 7 included two embedded experiments to test for effects on response rate and overall data quality, as described below.

3.1   Mailing Protocol

The mailing protocol for HINTS 7 followed a modified Dillman approach (Dillman, et al., 2009) with all selected households receiving a total of four mailings: an initial mailing, a reminder postcard, and two follow-up mailings. In an effort to increase the response rate, a subsample of non-respondents (n=13,055) received an additional follow-up mailing (for a total of five mailings). The subsample was selected from the full list of nonrespondents, which was sorted by sampling stratum, treatment group, and geography (in order). Systematic sampling was employed wherein every other record was selected for the subsample to ensure that it was balanced across these variables (i.e., 50 percent of the full list of nonrespondents were included in the subsample).

As noted in Chapter 2, HINTS 7 included two embedded methodological experiments to test for effects on response rate and overall data quality:
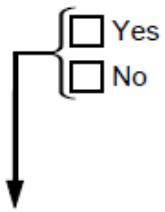
1. **Incentive Experiment:** a portion of respondents in the High Minority stratum (n= 4,800) were promised an incentive regardless of mode ($10 if completed by paper, $20 if completed online), these respondents were considered to be part of the treatment group. Respondents who were offered $10 to complete the survey online and no additional incentive to complete the survey by paper were considered to be part of the control group (n=31,200).

2. **Respondent Commitment Experiment:** a portion of sampled households (n= 7,200) were asked to respond to a statement included at the beginning of their survey (see Exhibit 3-1). Sixty-seven percent of respondents included in this experiment (n=4,800) were part of the control group; the remaining 33 percent (n= 2,400) were part of the treatment group.

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Exhibit 3-1.   Commitment Statement

1. Your answers on this survey may influence cancer communication efforts and public health policy and thus affect the lives of many people in the United States. In order for the survey results to be the most helpful, it is important that you try to be as accurate as possible and to think carefully about each question.

    Are you willing to do this?

    ☐ Yes
    ☐ No

All respondents received materials in English only or both English and Spanish materials (if they were determined to be a likely Spanish-speaking household, as described in Chapter 2). Households that received materials in English only received contact materials in English and the English paper survey. Potential Spanish-speaking households received contact materials and the survey instruments in both English and Spanish. Respondents who elected to complete the survey online were able to toggle the web survey to complete it in either English or Spanish. Households that called the toll-free number to request a Spanish survey (because they had only received English materials) received a Spanish paper survey in subsequent mailings. All households received the first mailing and reminder postcard, while only non-respondents received the two additional follow-up mailings. All mailings for HINTS 7 were sent via First-Class Mail. In order to differentiate the second mailing from the first mailing, the message "Thank you for being a part of this important national study." was added to the front of the 9x12 envelopes used for the second mailing. The message was printed below the window of each envelope in blue in order to draw attention to it. The envelopes used for the mailings to potential Spanish-speaking households included this message in both English and Spanish. The 9x12 envelopes used for the third mailing included a green diamond border in an effort to distinguish the mailing from both the first and second follow-up mailings described above. The green diamond pattern also serves as a visual indicator to USPS that the mailing should be

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identified and treated as First-Class Mail. In addition to the green diamond border, these envelopes included the words "First-Class Mail" and "Important Information Enclosed" in green.

The contact materials for the control and treatment groups were slightly different. The language in the cover letters and inserts included in the mailings varied based on whether respondents were in the treatment group (i.e., promised an incentive regardless of mode) or control group (i.e., promised an incentive only if they completed the survey online). Respondents had the option to receive their incentive as an Amazon e-gift card or to receive cash via mail. All cover letters included a link to the web survey and a unique access code to access the survey. Reminder postcards for both control and treatment groups were folded and sealed so that the respondent's unique access code could be included in the postcard. All households received a $2 pre-paid incentive in the first mailing, which was made visible in the window of the envelope.

An additional follow-up mailing was sent to a subset of non-respondents (n=13,055) in an effort to increase the response rate, which was lower than previous iterations of HINTS at the same point in the data collection schedule. These households were offered a $30 incentive to complete the survey (either via paper or web) and had the option to receive the incentive as a $30 Amazon e-gift card or $30 cash via mail. In addition, the message "Last chance to participate in this important national study." was added to the front of the 9x12 envelopes used for the additional follow-up mailing. The message was printed below the window of each envelope in red. All envelopes for the additional follow-up mailing included this message in both English and Spanish. Households who completed a survey in response to this additional follow-up mailing were not included in either of the experiments described above.

The contents of the mailings are further described in Table 3-1. The envelopes used for the initial and first two follow-up mailings to all households can be found in **Appendix B.** The English contact materials (cover letters and the reminder postcard) for the control group can be found in **Appendix C** and the Spanish contact materials for the control group can be found in **Appendix D.** The English contact materials for the treatment group can be found in **Appendix E** and the Spanish contact materials for the treatment group can be found in **Appendix F.** Households that received English-only materials received cover letters with Frequently Asked Questions (FAQs) on the back. Potential Spanish-speaking households received cover letters with English on the front and Spanish on the back as well as FAQs with English on the front and Spanish on the back. All households

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received an insert (with English on the front and Spanish on the back) to draw their attention to either the promised incentive regardless of mode (if they were in the treatment group) or the promised incentive if they completed the survey online (if they were in the control group). Both inserts can be found in **Appendix G.** Households included in the additional follow-up mailing to a subset of non-respondents received an updated cover letter (in English only) and a new insert (with English on the front and Spanish on the back) to draw their attention to the $30 incentive for completing the survey (via paper or web). The contact materials, new insert, and envelope used for the additional follow-up mailing can be found in **Appendix H.**

Table 3-1.   Mailing protocol

Mailing	Date mailed	Mailing method	Control group materials	Treatment group materials
Mailing 1 (9x12 packet)	March 25, 2024	1st Class Mail	▪ $2 bill ▪ Cover letter with link to web survey and unique access code ▪ FAQs ▪ Questionnaire(s) ▪ Postage-paid return envelope ▪ Insert for promised incentive ▪ ($10 if completed online)	▪ $2 bill ▪ Cover letter with link to web survey and unique access code ▪ FAQs ▪ Questionnaire(s) ▪ Postage-paid return envelope ▪ Insert for promised incentive ($10 if completed by paper, $20 if completed online)
Mailing 2 (Postcard)	April 1, 2024	1st Class Mail	Reminder/thank you postcard with link to web survey and unique access code (folded and sealed)	Reminder/thank you postcard with link to web survey and unique access code (folded and sealed)
Mailing 3 (9x12 packet)	May 1, 2024	1st Class Mail	▪ Cover letter with link to web survey and unique access code ▪ FAQs ▪ Questionnaire(s) ▪ Postage-paid return envelope ▪ Insert for promised incentive ($10 if completed online)	▪ Cover letter with link to web survey and unique access code ▪ FAQs ▪ Questionnaire(s) ▪ Postage-paid return envelope ▪ Insert for promised incentive ($10 if completed by paper, $20 if completed online)

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Mailing	Date mailed	Mailing method	Control group materials	Treatment group materials
Mailing 4 (9x12 packet)	June 5, 2024	1st Class Mail	▪ Cover letter with link to web survey and unique access code ▪ FAQs ▪ Questionnaire(s) ▪ Postage-paid return envelope ▪ Insert for promised incentive ($10 if completed online)	▪ Cover letter with link to web survey and unique access code ▪ FAQs ▪ Questionnaire(s) ▪ Postage-paid return envelope ▪ Insert for promised incentive ($10 if completed by paper, $20 if completed online)
Mailing 5 (9x12 packet)	August 5, 2024	1st Class Mail	▪ Cover letter with link to web survey and unique access code ▪ FAQs ▪ Questionnaire(s) ▪ Postage-paid return envelope ▪ Insert for promised incentive ▪ ($30 if completed online or by paper)	▪ Cover letter with link to web survey and unique access code ▪ FAQs ▪ Questionnaire(s) ▪ Postage-paid return envelope ▪ Insert for promised incentive ($30 if completed online or by paper)

The number of packets sent per mailing is outlined in Table 3-2. Households who sent in completed questionnaires or completed the web survey were removed from further mailings. In addition, households with packets that were returned by the Postal Service as undeliverable were removed from any further mailings.

Table 3-2.   Number of packets per HINTS 7 mailing

Mailing[1]	English-only	Potential Spanish	Spanish-only (upon request)	Total[2]
Mailing 1	27,139	8,871	N/A	36,010
Mailing 3	22,828	8,516	5	31,349
Mailing 4	22,128	7,840	9	29,977
Mailing 5	13,055[3]		0	13,055
Total	85,150	25,227	14	110,391

[1] Reflects each mailing in which packets were sent out.

[2] Each mailing included 10 seeds.

[3] Households included in the additional follow-up mailing to a subset of nonrespondents received a cover letter and FAQs in English only and the English questionnaire; only the message printed on the 9x12 envelope and the insert to draw their attention to the $30 incentive was provided in both English and Spanish.

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3.2   In-bound Telephone Calls and Emails

Two toll-free telephone numbers were provided to all respondents: one was used for English speakers and one was used for Spanish speakers. Both numbers were provided in each mailing. Respondents were instructed to call either number if they had questions, concerns, or if they needed to request materials in Spanish. Each number had a HINTS-specific voicemail message that instructed callers to leave their contact information and the reason for the call, and then a study staff member would return their call. The Spanish line was staffed by a native Spanish speaker. When voicemails were received, they were logged into the Study Management System (SMS) and the request was either processed (such as recording their desire for a Spanish questionnaire) or the respondent was called back to ascertain the respondent's need if it was not clear from the message. Callers stating that they did not want to participate in the study were coded as "refusal" and removed from any subsequent mailings.

Respondents who accessed the link to the web survey were also given the option to send electronic messages to study staff if they had questions or concerns. Respondents were able to email study staff using the email address provided on the survey website or they could fill out a form on the website with their name, email address, and reason for contact. Both emails and messages sent via the online form were received in the study's email inbox and staff responded to those messages via email. Emails received were logged in the SMS and requests were processed by study staff (e.g., confirming that the respondent's access code is valid and working).

The help desk received a total of 98 messages (73 voicemails and 25 emails) throughout the HINTS 7 field period (see Table 3-3). The majority of these messages remain unresolved because they were hang-ups or non-informative voicemails and study staff were not able to reach the respondent. Nineteen respondents requested a Spanish questionnaire and 18 respondents had some form of question or comment (e.g., they wanted to let the study team know that they had completed their survey). The rest had questions about the web survey or their access code or about redeeming their incentive gift card code. Twelve respondents indicated that they did not want to participate in the survey.

Table 3-3.   Telephone calls and emails received

Reason for contact	Number of contacts received
Request for a Spanish questionnaire	19
Respondent asked a question or submitted a comment. Topics included:	
They wanted to let the study team know that the survey had been completed	
They requested another copy of the survey	
They wanted to complete more surveys like HINTS	
They expressed interest in participating in HINTS	18
Respondent needed help accessing the web survey or requested their access code	15
Respondent had questions about redeeming their incentive gift code	13
Refusal	12
Calls that were never resolved due to hang ups or non-informative messages	21
Total	98

3.3   Incoming Questionnaires

Field room staff receipted all returned questionnaires into the SMS using each questionnaire's unique barcode. Questionnaires submitted using the web survey were logged as complete by the SMS as soon as they were submitted. The SMS tracked each received questionnaire as well as the status of each household. Once a household was recorded as complete, it no longer received additional mailings. Packages that came back as undeliverable were marked as such in the SMS and those addresses did not receive further mailings.

In addition to refusing by calling the toll-free line or sending an email, some respondents also refused by sending a letter stating that they did not wish to participate or asking to be removed from the mailing list. These individuals were marked in the system as refusals and were removed from subsequent mailings. Respondents who sent back a blank questionnaire were also marked as refusals and removed from subsequent mailings.

The status of all HINTS 7 households after data cleaning and editing (described in Chapter 4) can be found in Table 3-4.

Table 3-4.   Household status of HINTS 7 after data cleaning and editing

Household status	Control group		Treatment group		Total	
	N	%	N	%	N	%
Web completes	3,405	12.90	1,456	15.17	4,861	13.50
Paper completes	1,842	6.98	575	5.99	2,417	6.71
Total completes	5,247	19.88	2,031	21.16	7,278	20.22
Refusal	76	0.29	20	0.21	96	0.27
Undeliverable	2,409	9.13	873	9.09	3,282	9.12

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Household status	Control group		Treatment group		Total	
	N	%	N	%	N	%
Ineligible[1]	10	0.04	2	0.02	12	0.03
Incomplete[2]	111	0.42	54	0.56	165	0.46
Nonresponse	18,547	70.25	6,620	68.96	25,167	69.91
Total	26,400	100.00	9,600	100.00	36,000	100.00

[1] Households determined to be deceased or underage.

[2] Households who returned questionnaires with fewer than 50 percent of applicable questions answered in Sections A and B (described in Chapter 4). These questionnaires were discarded.

The number of questionnaires returned by date during the field period for HINTS 7 can be found in table 3-5. The majority of returns for the control group were early in the field period, with 64 percent of returns coming in after the first mailing of the survey and the mailing of the reminder postcard. The second and third mailings resulted in an additional 29 percent and the remaining six percent were in response to the additional follow up mailing that was added to the protocol.

Table 3-5.   Survey response by date

Date(s) of mailing	Period of returns	Number of returns by paper		Number of returns by web[1]		Total number of returns
		Control group	Treatment group	Control group	Treatment group	
Mailing 1: March 25	March 26-April 3	0	0	1,072	461	1,533
Mailing 2: April 1	April 4-May 3	1,024	306	1,348	602	3,280
Mailing 3: May 1	May 4-June 7	349	114	500	200	1,163
Mailing 4: June 5	June 8-August 7	288	99	438	175	1,000
Mailing 5: August 5	August 8-September 16	185	59	151	71	466
Total		1,846	578	3,509	1,509	7,442

[1] Includes those who started but did not submit the web survey.

The pattern of returns for the treatment group was similar: the majority of returns occurred early in the field period, with 66 percent of returns coming in after the first mailing and the mailing of the reminder postcard. The second and third mailings resulted in an additional 28 percent and the remaining six percent were in response to the additional follow up mailing.

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4.   Data Management

After being processed and receipted into the SMS, each returned paper questionnaire was scanned, verified, cleaned, and edited. Each web questionnaire was evaluated through the Survey Builder verification and cleaning processes and extracted into a combined database and edited along with the paper data. Imputation procedures were also conducted on web and paper data. These procedures are described below.

4.1   Scanning

All completed paper questionnaires were scanned using a data capture software (TeleForm) to capture the survey data and images were stored in SharePoint. Staff reviewed each form as it was prepared for scanning. The review included:

- Determining if the form was not scannable for any reason, such as being damaged in the mail. Some questionnaires or individual responses needed to be overwritten with a pen that was readable by the data capture software. Numeric response boxes were given particular attention in order to interpret and clarify non-numeric responses and responses written outside the capture area.

- Reviewing questionnaires for pertinent comments made by respondents, such as refusal or response clarification. Comments in Spanish were reviewed by a Spanish-speaking staff member.

The reviewed paper surveys were then sent through the high-speed scanner to capture the responses. TeleForm read the form image files and extracted data according to HINTS 7 validation rules, established prior to the field period, (see **Appendix I** for HINTS 7 validation rules). Scanned data were then subject to verification according to HINTS specifications. If a data value violated validation rules (such as marking more than one choice box in a mark-only-one question) the data item was flagged by TeleForm software for review by verifiers who looked at the images and the corresponding extracted data and resolved any discrepancies. Spanish forms were verified by a Spanish-speaking staff member.

Decisions made about data issues as a result of scanning were recorded in a data decision log. The decision log contains the respondent ID, the value triggering the edit, the updated value, and the reason for the update. A total of 146 entries were made into the data decision log during the course

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of data scanning and processing. The majority of these were attributed to multiple response options selected on a gate question (a question where one more response options trigger a skip). Additional entries detail the decisions made about numeric entries outside variable parameters (i.e., 2-digit numbers written on single digit question).

A 10 percent quality control check was then conducted on the scanned data and the electronic images of the survey. Quality Assurance (QA) staff compared the hard copy questionnaire to the data captured in the database item-for-item and the images stored in the repository page-for-page to ensure that all items were correctly captured. If needed, updates were made. In addition, QA staff closely reviewed frequencies and cross tabulations of the HINTS raw data to identify outliers and open ended items to be verified. Identity number reconciliation across the database, images, and the SMS was completed to confirm data integrity.

4.2   Data Cleaning and Editing

Once the paper questionnaires had been scanned, all survey data were cleaned and edited. General cleaning and editing activities are described briefly below, with more detailed information and processing and editing rules found in **Appendix I** (Variable Values and Data Editing Procedures).

- Customized range and logical inconsistency edits, following predetermined processing rules to ensure data integrity, were developed and applied against the data.

- Edit rules were created to identify and recode nonresponse or indeterminate responses.

- Missing values were recoded into existing response options for questions that featured a forced-choice response format and for filter questions where responses to later questions suggested a particular response was appropriate.

- All item nonresponses were coded with the traditional "Missing data" value, but a special "Missing data" value was added to account for web break-offs. This code indicates that a particular item is missing an expected response, but was never seen by the respondent due to the break-off. The point at which the breakoff occurs is coded with the traditional "Missing data" code, but all variables thereafter are coded with the new "Missing data – Never Seen" code.

- Derived variables were created to reflect each response recorded for certain "mark-one" type questions (D2, D5, and R12), to facilitate the imputation process implemented when respondents did not follow the instruction to mark only one response. For these variables, imputation, as described in section 4.3, was carried out. For other "mark-one"

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type questions where respondents marked multiple responses, editing rules were used to determine which response was retained.

- Variables were designed to summarize the responses for the "mark all" type questions (D3, E7, F3, F5, G1, G2, G4, H2, J5, N1, N3, N6, N7, N8, O9, Q2, R5, R6, R9, and R10). These variables (TelehealthReasons_Cat, OnlinePortal_Cat, CaregivingWho2_Cat, CaregivingCond2_Cat, HadTest3_Cat, ReasonTest_Cat, LabShare2_Cat, ClinTrials2_Cat, SunburnedAct_Cat, NRTHelpQuit_Cat, TobMessages_Cat, EverUsed_Cat, NowUse_Cat, MarijuanaUse_Cat, CervCaTest_Cat, Cancer_Cat, Occupation2_Cat, WorkHrs_Cat, Hisp_Cat, and Race_Cat2) indicate the response category selected for respondents who selected only one response, and a "multiple responses selected" category for respondents who answered multiple responses.

- A derived variable (ClinTrials2_Cnt) was developed to determine the number of responses selected by the respondent at question H2, which had a direction "Please mark **up to 3**".

- Data cleaning was carried out for the question I6 variables: Height_Feet and Height_Inches. The rules that were applied minimized the number of out-of-range values by accounting for response measurements in incorrect boxes, responses using metric measures, responses using only one unit of measurement and other response errors.

- "Other, specify" responses were examined, cleaned for spelling errors, categorized, and upcoded into preexisting response codes when applicable. On one of these questions (D3), some of the responses were especially difficult to categorize because they could potentially have been upcoded into multiple categories. In those instances, the response was left as entered in the "Other, specify" field.

4.3   Imputation

The questions for which respondents selected more than one response were recoded to -5 and subject to imputation. On items D2, D5, and R12, a single answer was imputed by selecting one response among those selected by the respondent. The selection of the imputed response was based on the distribution of answers among the single-answer responses. An imputation flag is included on the dataset to indicate imputed values. Imputation occurred as follows:

Table 4-1.   Imputation for multiple responses to mark-only-one questions

Item number	Topic	Total imputed
D2	Primary Reason for not using telehealth	53
D5	Primary Reason for most recent telehealth visit	20
R12	Sexual orientation	4

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Hot-deck imputation was used to replace missing responses for items used in the raking procedure for the weighting. Specifically, this was conducted for items C1, Q1, R1, R3, R7, R8, R9, and R10. Hot-deck imputation is a data processing procedure in which a value is assigned with the corresponding value of a "similar" case in the same imputation class. The data record that supplies the imputed value is referred to as the "donor." Under a hot deck approach, the resulting distribution preserves the distribution of values observed for respondents. Imputation classes are defined on the basis of variables that are thought to be correlated with the item with missing values. A donor is then randomly selected within an imputation class to supply the imputed value. Details for items imputed using the hot-deck approach are as follows:

Table 4-2.   Imputation for missing response

Item number	Topic	Total imputed
C1	Health Insurance coverage	91
Q1	Cancer diagnosis	532
R1	Age	613
R3	Sex	615
R7	Marital status	592
R8	Educational attainment	583
R9	Ethnicity	794
R10	Race	801

4.4   Determination of the Number of Household Adults

For applying weights, a measure of the number of adults in each household (R_HHAdults) was created using questionnaire responses. The initial measure was taken from responses to demographic section questions asking for the total number of people and the number of children in the household (see items R13-R14). Implausible or missing values that resulted from the answers to those questions were substituted with values to questions on the respondent-selection page of the questionnaire. A detailed list of the steps carried out to identify the number of adults in each household is included in **Appendix I.**

4.5   Survey Eligibility

Returned surveys were reviewed for completion and duplication (more than one questionnaire returned from the same household) to ensure they were eligible for inclusion in the final dataset. Of the 7,585 questionnaires received, 52 were returned blank, 165 more were determined to be

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incompletely filled out, and 90 additional surveys were identified as duplicates (i.e., the same household returned multiple surveys). The remaining 7,278 surveys were determined to be eligible. The processes for these reviews are detailed below.

Definition of a Complete and Partial Complete Questionnaire

Only questions asked of every respondent were factored into the completion rate calculation, meaning that questions which followed skip patterns were excluded from the analysis. A partial-complete was defined as when between 50 percent and 79 percent of the applicable questions were answered in Sections A and B. In HINTS 7, there were 70 partially-completed questionnaires and 7,208 completed questionnaires. Both partially-completed and completely-answered questionnaires were retained and a derived variable included on the dataset to distinguish between these groups (QDisp). The 165 questionnaires with fewer than 50 percent of the applicable questions answered in Sections A and B were coded as incompletely-filled out and discarded. The 165 incomplete questionnaires represented about 3% of all surveys with at least one question answered. 158 of the incomplete questionnaires were from web mode.

Eligibility of Multiple Questionnaires from a Household

Ninety households returned two filled in questionnaires (no household returned three or more questionnaires). The procedures to deal with this issue were:

- If the same respondent returned multiple questionnaires, the first questionnaire received was retained.

- If the same respondent returned multiple questionnaires on the same day, the first questionnaire to complete the editing process was retained.

- If a return date was unavailable for questionnaires from the same respondent, the questionnaire with fewer substantive questions omitted was retained.

4.6   Additional Geographic Variables

Included in the delivery files are census tracts, state/county level FIPS codes[6], and six sets of analytical variables related to the geographic location of respondents: 1) rural-urban commuting area (RUCA) codes that classify census tracts using measures of population density, urbanization, and daily commuting; 2) National Center for Health Statistics (NCHS) urban-rural classification scheme for counties; 3) 2013 Urban Influence Codes; 4) Delta Regional Authority service area flag; 5) USDA rural-urban continuum codes (RUCC) and 6) an Appalachia (APP) sub-region variable to distinguish Appalachia/non-Appalachia areas.

The two RUCA codes (primary and secondary) provide a detailed and flexible way for delineating sub-county components of rural and urban areas. They are based on the 2006-10 American Community Survey (ACS) and have been updated using data from the 2010 decennial census. The primary codes (PR_RUCA2010) delineate metropolitan and nonmetropolitan areas based on the size and direction of primary commuting flows. The secondary codes (SEC_RUCA2010) further subdivide the primary codes to identify areas where classifications overlap based on the size and direction of the secondary, or second largest, commuting flow.

The NCHS Urban–Rural Classification Scheme for Counties (NCHSURCODE2013) was developed in 2013 for use in studying associations between urbanization level of residence and health and for monitoring the health of urban and rural residents. The scheme groups counties and county-equivalent entities into six urbanization levels (four metropolitan and two nonmetropolitan), on a continuum ranging from most urban to most rural.

The 2013 Urban Influence Codes, developed by the United States Department of Agriculture, form a classification scheme that distinguishes metropolitan counties by population size of their metro area, and nonmetropolitan counties by size of the largest city or town and proximity to metro and micropolitan areas. The standard Office of Management and Budget (OMB) metro and non-metro categories have been subdivided into two metro and 10 non-metro categories, resulting in a 12-part county classification.

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[6] FIPS codes reflect 2022 updates.

The Delta Regional Authority is a regional economic development agency serving 252 counties and parishes in parts of eight states: Alabama, Arkansas, Illinois, Kentucky, Louisiana, Mississippi, Missouri, and Tennessee. Its mission is to improve the quality of life for the residents of the Mississippi River Delta Region. The Delta Regional Authority service flag (DRA) identifies the areas served by this agency.

Using the Office of Management and Budget's (OMB) delineation of metro areas, counties and census county equivalents are assigned as either metropolitan (metro) or nonmetropolitan (nonmetro). This division of counties is further subdivided into three metro and six nonmetro categories forming Rural-Urban Continuum Codes (RUCC). Each county in the country is assigned one of the nine codes. The RUCC were first developed in 1974 and have been updated every decade starting in 1983. The 2023, 2013 and 2003 RUCC are included on the delivery file.

An Appalachia region indicator identifies addresses within one of three Appalachian regions; Central Appalachia, Northern Appalachia or Southern Appalachia.

4.7   Codebook and Annotated Questionnaire Development

Following cleaning, editing, and weighting (described later in Chapter 5), a detailed codebook including weighted and unweighted frequencies was created for HINTS 7 containing combined data from web and paper surveys. The codebooks define all variables in the questionnaires, provide the question text, list the response option and reserve code values and their corresponding definitions, and explain the inclusion criteria for each item. The English and Spanish instruments were annotated with variable names and response option code values to support the usability of the delivery data.

5. Weighting and Variance Estimation

Every sampled adult who completed a questionnaire in HINTS 7 received a full-sample weight and a set of 50 replicate weights. The full-sample weight is used to calculate population and subpopulation estimates. Replicate weights are used to compute standard errors for these estimates. The use of sampling weights is done to ensure valid inferences from the responding sample to the population, correcting for nonresponse and noncoverage biases to the extent possible.

The computation of the full-sample weights consisted of the following steps:

- Calculating household-level base weights;
- Adjusting for household nonresponse;
- Calculating person-level initial weights; and
- Calibrating the person-level weights to population counts (also known as control totals).

Replicate weights were calculated using the 'delete one' jackknife (JK1) replication method.

5.1 Household Base Weights

The initial step in the weighting process is calculating the household-level base weight for each household in the sample. The household base weight is the reciprocal of the probability of selecting the household for the survey, which depends on the stratum the household was selected from. Generally, base weights for units in oversampled strata are smaller than those in the strata that was not oversampled. In HINTS 7, the base weights for households in the high minority urban stratum, which was oversampled at the highest rate, were roughly 1/8 the size of those in the low minority urban stratum, which was sampled at the lowest rate.

5.2 Household Nonresponse Adjustment

Nonresponse is generally encountered to some degree in every survey. The first and most obvious effect of nonresponse is the reduction in the effective sample size, which in turn increases the sampling variance. In addition, if there are systematic differences between the respondents and the

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nonrespondents, there will be a bias of unknown size and direction. This bias is generally adjusted for in the case of unit nonrespondents (nonrespondents who refuse to participate in the survey at all) with the use of a weighting adjustment term multiplied to the base weights of sample respondents. Item nonresponse (nonresponse to specific questions only) is generally adjusted for through the use of imputation. This section discusses weighting adjustments for unit nonresponse.

The most widely accepted paradigm for unit nonresponse weighting adjustment is the quasi-randomization approach (Oh & Scheuren, 1983). In this approach, nonresponse cells are defined based on those measured characteristics of the sample members that are known to be related to response propensity. For example, if it is known that males respond at a lower rate than females, then sex should be one characteristic used in generating nonresponse cells. Under this approach, sample units are assigned to a response cell, based on a set of defined characteristics. The weighting adjustment for the sample unit is the reciprocal of the estimated response rate for the cell. Any set of response cells must be based on characteristics that are known for all sample units, responding and nonresponding. Thus, questionnaire items on the survey cannot be used in the development of response cells because these characteristics are only known for the responding sample units.

Under the quasi-randomization paradigm, Westat models nonresponse as a "sample" from the population of adults in that cell. If this model is in fact valid, then the use of the quasi-randomization weighting adjustment eliminates any nonresponse bias (see, for example, Little & Rubin (1987), Chapter 4). The weighting procedure for HINTS 7 used a household-level nonresponse adjustment procedure based on this approach. The base weights of the households that did return the questionnaire were adjusted to reflect nonresponse by the remaining eligible households. A classification tree algorithm[7] was used to create the nonresponse adjustment cells. The variables used to define nonresponse cells for HINTS 7 were:

- Sampling stratum (High Minority Urban; High Minority Rural; Low Minority Urban; Low Minority Rural)

- Census region (Northeast; South; Midwest; West)

- Route type (Street address; other addresses such as PO Box, Rural Route, etc.)

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[7] The *ctree* function in the R package partykit (https://cran.r-project.org/web/packages/partykit/partykit.pdf).

- Metropolitan Status (county in Metro areas; county in Non-Metro areas) using USDA ERS rural-urban continuum codes (2013 RUCC)

- High Spanish linguistically isolated area[8] (Yes; No).

Nonresponse adjustment factors were computed for each nonresponse cell b using the formula below. This formula is consistent with the Response Rate 4 (RR4) formula of the American Association of Public Opinion Research (AAPOR) for calculating response rates, which is how the response rate is being calculated for HINTS 7. See Chapter 6 for more details.

$$HH\_NRAF(b) = \frac{RESPONSE + NONRESPONSE + UNKNOWN \times e}{RESPONSE},$$

where

- $RESPONSE$ is the sum of household base weights for all responding households in nonresponse cell b,

- $NONRESPONSE$ is the sum of the household base weights for all known nonresponding households in nonresponse cell b,

- $UNKNOWN$ is the sum of the household base weights for all households that did not return mail whose eligibility is unknown in nonresponse cell b, and

- e is the estimated percentage of eligible households among the households that did not return mail.

The estimated percentage of eligible households among the households that did not return mail, e, was 100 percent for HINTS 7 and was calculated using the procedure described in Chapter 6. An $e = 100\%$ essentially means that all ineligible housing units have been taken out of the frame. (See Standard Definitions (aapor.org), page 61.)

The household nonresponse adjustment factors ranged from a low of 3.39 to a high of 5.36, and averaged 4.85 across all nonresponse adjustment cells.

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[8] Sample households in Census tracts where at least 13% of the households are classified as linguistically isolated Spanish-speaking households from the latest 5-year ACS are flagged as being in a high Spanish linguistically isolated area.

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5.3   Initial Person-Level Weights

Each sampled adult in responding households was assigned an initial person-level weight. The initial person-level weight was calculated by multiplying the nonresponse-adjusted household weight by the reciprocal of the sample person's within-household probability of selection. Because only one adult per household was selected to participate in the survey, the reciprocal of the sample person's within-household probability of selection is identical to the number of adults in the household. So, for example, if a household contained three adults and one adult was selected, the initial weight for the selected adult is equal to the nonresponse-adjusted household weight times three.

5.4   Calibration Adjustments

The purpose of calibration is to reduce the sampling variance of estimators through the use of reliable auxiliary information (see, for example, Deville & Sarndal, 1992). In the ideal case, this auxiliary information usually takes the form of known population totals for particular characteristics (called *control totals*). However, calibration also reduces the sampling variance of estimators if the auxiliary information has sampling errors, as long as these sampling errors are significantly smaller than those of the survey itself.

Calibration reduces sampling errors particularly for estimators of characteristics that are highly correlated to the calibration variables in the population. The extreme case of this would be the calibration variables themselves. The survey estimates of the control totals would have considerably higher sampling errors than the "calibrated" estimates of the control totals, which would be the control totals themselves. The estimator of any characteristic that is correlated to any calibration variable will share partially in this reduction of sampling variance, though not fully. Only estimators of characteristics that are completely uncorrelated to the calibration variables will show no improvement in sampling error. Deville and Sarndal (1992) provide a rigorous discussion of these results.

Control Totals

The American Community Survey (ACS) of the U.S. Census Bureau has much larger sample sizes than those of HINTS. The ACS estimates of any U.S. population totals have lower sampling error than the corresponding HINTS estimates, making calibration of the survey weights to ACS control

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totals beneficial. Westat used the 2023 ACS estimates that are publicly available on the Census Bureau web site.

Calibration variables were selected among those that were on the ACS public-use file and were found to be well correlated to important HINTS questionnaire item outcomes (i.e., Westat wanted ACS-available characteristics that tend to have differing mean values for HINTS questionnaire item outcomes). The following ACS characteristics correlate well with HINTS questionnaire items:

- Age

- Sex

- Educational Attainment

- Marital Status

- Race

- Ethnicity

- Census Region

In addition to characteristics from the ACS, two health-related variables were used: *Percent with health insurance* and p*ercent of adults who have ever been diagnosed with cancer*. The *health insurance* variable came from the 2023 National Health Information Survey (NHIS) (Cohen, et al., 2022) and corresponds to the question asked in the HINTS survey (C1, "Are you covered by any kind of health insurance or health care plan, including employer-sponsored insurance, prepaid, plans, or government plans such as Medicare, Medicaid or TRICARE?"). The *percent of adults who have ever been diagnosed with cancer* variable came from the 2023 National Center for Health Statistics (National Center for Health Statistics, Interactive Summary Health Statistics for Adults, 2023, n.d.) and corresponds to the question asked in the HINTS survey (Q1, "Have you ever been diagnosed as having cancer?").

Raking to the control totals for these variables (either alone or cross-classified with each other) was then performed. As a result of the raking HINTS weights to the control totals, estimates calculated from HINTS data for the control-total variables agree with those calculated from the source data for the control totals. For example, the national-level estimate of *Percent with health insurance* calculated from HINTS data agrees with the estimate calculated from NHIS 2023 data.

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5.5　　Replicate Variance Estimation

In addition to the full-sample weight, a set of 50 replicate weights were provided for each adult. These replicate weights are used to calculate standard error of estimates obtained from the HINTS data, using the delete one jackknife (JK1) replication method.

The JK1 jackknife technique is compatible with the sample design and weighting procedures for HINTS. This jackknife variance estimation technique takes carefully selected subsets of the data for each "replicate," and for each respondent in the replicate subset and determines a sampling weight, as if the replicate subset were in fact the responding sample. (This replicate subset is usually almost the entire sample, except for a group of respondents that are "deleted" for that replicate.) The resulting weights are called replicate weights.

The jackknife variance estimator requires the use of replicate weights. For the HINTS 7 data set, a set of 50 replicate weights was assigned to each responding adult. To illustrate how the replicate variance estimates are computed, suppose P is a percentage of adults in the U.S. population having a particular characteristic (e.g., answering one of the HINTS questions in a particular way). A nationally representative estimator p can be computed by aggregating the adult sampling weights of all responding adults with this characteristic (e.g., all responding adults in the survey answering the survey question in a particular way). A JK1 jackknife variance estimator of the sampling variance of p can be computed in two steps:

- **Step 1.** Recompute estimators $p(r)$, $r = 1,...,50$, by aggregating the replicate sampling weights corresponding to replicate r for all responding adults with the characteristic.

- **Step 2.** Compute the JK1 jackknife variance estimator

$$v(p) = \frac{R-1}{R} \sum_{r=1}^{50} (p(r) - p)^2$$

The replicate weights are computed by systematically deleting a portion of the original sample, and recomputing the sampling weights as if the remaining sample (without the deleted portion) were the actual sample. These deleted sample units should be first-stage sampling units, which in HINTS are households. The remainder of the sample with the deleted portion removed is called the replicate

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subset, and it should mirror the full sample design, as if it were a reduced version of the original sample.

For the purposes of JK1 jackknife variance estimation, each household was assigned to one of 50 replicate "deletion" groups $D(r)$, $r = 1,..., 50$. Each replicate sample is the full sample minus the deletion group (i.e., it is roughly 49/50 of the original sample).

The replicate sampling weights were generated in a series of steps that parallel the steps computing the full-sample sampling weights. The replicate base weight for each sampled household or adult and each replicate is either equal to $R/(R-1)$ times the full sample base weight (if the household is contained in the replicate subset) or equal to 0 (if the household is not contained in the replicate subset, but instead is contained in the "deleted" set for that replicate).

Nonresponse and calibration adjustments were then computed for each set of replicate weights, using the replicate weights in the computation of nonresponse and calibration adjustments in place of the original weights. These calculations generated a set of replicate nonresponse and poststratification adjustments for each responding adult. The final replicate weights were products of the replicate weights, nonresponse adjustments, and calibration adjustments.

5.6   Taylor Series Variance Estimation

Even though replication is the recommended method for variance estimation for HINTS, not all software packages have a replication option to produce variance estimates. For example, SPSS has built-in options for estimating variance using Taylor's Series methods but not replication methods. To accommodate SPSS users or any end user who wants to produce variances using Taylor Series methodology, Westat provided the appropriate variables on the HINTS data files to do so.

The full-sample weight (as described in the introduction of Chapter 5) is used as the weight to compute Taylor's Series variance estimates. The variable VarStratum indicates the variance-estimation stratum and the variable VarCluster indicates the primary sampling unit (PSU) or cluster within the variance-estimation stratum. These variables allow the analyst to produce variance estimates using Taylor's Series.

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6. Response Rates

For HINTS 7, response rates were calculated using the RR4 formula defined by AAPOR. The RR4 formula is adjusted based on an estimate of the eligibility rate (*e*) among the unresolved households (i.e., the households that never return a survey or refuse, or have mailings returned because they were undeliverable).

Incorporating *e* into HINTS's response rate calculation is appropriate for its address-based sample design where a large proportion of the sampled units' eligibility statuses are never resolved. Numerous other federal surveys incorporate an estimate of *e* into their response rate calculation, including the CDC's Behavioral Risk Factor Surveillance System (BRFSS), the NCHS's National Household Education Surveys Program (NHES), and the SAMHSA's National Survey on Drug Use and Health (NSDUH). Recently, DeMatteis (2019) developed a method for estimating *e* in addressed-based samples designs, facilitating the use of RR4 for studies like HINTS.

The formula to calculate *e* for HINTS 7 is based on DeMatteis (2019):

$$e = \left(\frac{1}{\hat{T}_U}\right)\left(\hat{T}_{ACS} - \hat{T}_R - \hat{T}_{NR}\right)$$

where $\hat{T}_U$ is the base-weighted number of households with unknown eligibility, $\hat{T}_R$ is the estimated eligible responding households, and $\hat{T}_{NR}$ is the estimated eligible non-responding households (e.g., refusals and incompletes). $\hat{T}_{ACS}$ is an estimate of the total number of eligible households in the population based on a reliable external source, the 2023 American Community Survey. Table 6-1 summarizes the components of the *e* calculation.

Table 6-1.   Components of e calculation used to compute response rate (RR4)

Household status	Description	Base-weighted sum of households
$\hat{T}_R$	Total responding households	31,016,421
$\hat{T}_{NR}$	Total non-responding, known eligible households	1,156,149
$\hat{T}_U$	Total households with unknown eligibility	95,669,742
$\hat{T}_{ACS}$	Total households estimated by 2023 ACS	131,332,360

As mentioned in the sampling frame section (section 2.1 of Chapter 2), the HINTS 7 sampling procedures excluded PO Box addresses linked to city style addresses due to their high undeliverable

rates. As a result, the *e* estimate was above 1 (1.04) which suggests a very high eligibility rate among the unresolved households. Therefore, e was set to 1 in the response rate calculation

Table 6-2 shows the final response rates (RR4) overall and for each strata. Tables 6-3 and 6-4 show the response rates by each stratification factor (high/low minority status and urban/rural). These data have been weighted to account for the oversampling of addresses in high-minority and rural strata as well as the subsampling of nonrespondents to receive an additional mailing with an increased incentive of $30 for completion.

The overall weighted response rate to HINTS 7 was 27.3 percent and differed significantly by strata. The high-minority strata had significantly lower response rates 7.5% (p <0.0001) than the Low-minority strata (22.0% and 29.5% respectively). Rural and non-rural areas did not differ in response rates. The percent of undeliverable households was slightly higher in the high-minority-rural strata than the others.

The final response rates in Tables 6-2, 6-3 and 6-4 reflect the additional non-response conversion mailing (i.e., Mailing 5, as described in Chapter 3) which was intended to boost the lower than expected response rates achieved by HINTS's standard mailing protocol. Excluding the fifth mailing, the overall response rate was 24.8%, therefore the fifth mailing improved response rates by 2.5 percentage points (or 10 percent improvement). This nominal improvement was relatively consistent across strata; the High-minority-rural strata saw the largest boost from the additional mailing (3.4 percentage points, or 16 percent improvement) while the Low-minority-rural strata saw the smallest (2.2 percentage points, or 8 percent improvement).

Table 6-2.   Weighted final response rate calculations overall and by strata (**RR4**)

Response class	High Minority, Rural	High Minority, Urban	Low Minority, Rural	Low Minority, Urban	Overall
Total sample*	2,919,133	39,189,198	16,762,523	80,716,492	139,587,346
Respondents	594,935	7,751,734	4,208,521	22,038,127	34,593,318
Nonrespondents	1,924,501	27,586,699	10,757,565	51,824,079	92,092,844
Undeliverable	381,733	3,571,948	1,650,950	6,086,817	11,691,449
Total Households	2,901,169	38,910,382	16,617,037	79,949,024	138,377,611
Household response rate	23.6%	21.9%	28.1%	29.8%	27.3%
Percent Undeliverable	13.2%	9.2%	9.9%	7.6%	8.4%

*values may not sum to total sample due to rounding of weighted values to nearest single digit

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Table 6-3. Weighted final response rate calculations by high/low minority strata (**RR4**)

Response class	High Minority	Low Minority	Overall
Total sample*	42,108,331	97,479,015	139,587,346
Respondents	8,346,669	26,246,649	34,593,318
Nonrespondents	29,511,200	62,581,644	92,092,844
Undeliverable	3,953,681	7,737,768	11,691,449
Total Households	41,811,551	96,566,061	138,377,611
Household response rate	22.0%	29.5%	27.3%
Percent Undeliverable	9.5%	8.0%	8.4%

*values may not sum to total sample due to rounding of weighted values to nearest single digit

Table 6-4. Weighted final response rate calculations by rural/urban strata (**RR4**)

Response class	Rural	Urban	Overall
Total sample*	19,681,656	119,905,690	139,587,346
Respondents	4,803,456	29,789,862	34,593,318
Nonrespondents	12,682,067	79,410,778	92,092,844
Undeliverable	2,032,683	9,658,766	11,691,449
Total Households	19,518,206	118,859,405	138,377,611
Household response rate	27.5%	27.3%	27.3%
Percent Undeliverable	10.4%	8.1%	8.4%

*values may not sum to total sample due to rounding of weighted values to nearest single digit

Incentive Experiment Response Rate Results

Tables 6-5 and 6-6 present the response rates for the incentive experiment that about 18 percent of respondents in the High Minority strata (the treatment group) were offered: a $10 incentive to complete the survey by paper or a $20 incentive to complete the survey online. Respondents in the control group were offered $10 to complete the survey online and no additional incentive to complete the survey by paper. There was a significant difference in response rate between the treatment (promised incentive regardless of mode) and control (promised incentive if completed online) groups. For High-minority-rural strata, the response rate for the treatment group was 6.3 percent higher than the response rate for the control group ($p < 0.001$). For High-minority-urban strata, the response rate for the treatment group was 3.6 percent higher than the response rate for the control group ($p < 0.001$). The findings suggest that offering additional promised incentives to complete the survey by paper was effective at increasing response rate for the high-minority strata.

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Table 6-5.   Weighted final response rate calculations for the treatment group (with incentives) by strata (**RR4**)

Response class	High Minority, Rural	High Minority, Urban	Overall
Total sample*	919,153	6,484,031	7,403,184
Respondents	223,209	1,456,794	1,680,003
Nonrespondents	577,681	4,393,704	4,971,385
Undeliverable	116,765	593,259	710,025
Total Households	917,656	6,443,757	7,361,413
Household response rate	27.9%	24.9%	25.3%
Percent Undeliverable	12.7%	9.2%	9.6%

*values may not sum to total sample due to rounding of weighted values to nearest single digit

Table 6-6.   Final weighted Response rate calculations for the control group (no incentives) by strata (**RR4**)

Response class	High Minority, Rural	High Minority, Urban	Overall
Total sample*	1,999,980	32,705,167	34,705,147
Respondents	371,726	6,294,940	6,666,666
Nonrespondents	1,346,820	23,192,995	24,539,815
Undeliverable	264,967	2,978,689	3,243,656
Total Households	1,983,513	32,466,624	34,450,138
Household response rate	21.6%	21.3%	21.4%
Percent Undeliverable	13.4%	9.2%	9.4%

*values may not sum to total sample due to rounding of weighted values to nearest single digit

Respondent Commitment Experiment Response Rate Results

Tables 6-7 and 6-8 present the response rates for the commitment statement experiment that a random sample of 7,200 (2,400 in High-minority strata and 4,800 in other strata) households received: a statement at the beginning of their survey asking them to make a commitment to provide complete and accurate information (see Exhibit 3-1). The rest of the sampled households did not receive the commitment statement. There were no significant differences in the overall response rates and response rates by strata between households who received the commitment statement and households who did not receive the commitment statement.

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Table 6-7. Final weighted response rate calculations for households who received the commitment statement by strata (**RR4**)

Response class	High Minority, Rural	High Minority, Urban	Low Minority, Rural	Low Minority, Urban	Overall
Total sample*	583,827	7,837,840	3,352,505	16,143,298	27,917,469
Respondents	134,819	1,630,648	822,712	4,407,606	6,995,785
Nonrespondents	371,164	5,480,720	2,112,311	10,319,846	18,284,041
Undeliverable	74,850	662,964	385,854	1,230,596	2,354,263
Total Households	580,833	7,774,331	3,320,877	15,958,047	27,634,089
Household response rate	26.6%	22.9%	28.0%	29.9%	27.7%
Percent Undeliverable	12.9%	8.5%	11.6%	7.7%	8.5%

*values may not sum to total sample due to rounding of weighted values to nearest single digit

Table 6-8. Final weighted response rate calculations for households who did not receive the commitment statement by strata (**RR4**)

Response class	High Minority, Rural	High Minority, Urban	Low Minority, Rural	Low Minority, Urban	Overall
Total sample*	2,335,306	31,351,358	13,410,018	64,573,194	111,669,877
Respondents	460,116	6,121,086	3,385,810	17,630,522	27,597,533
Nonrespondents	1,553,337	22,105,979	8,645,254	41,504,233	73,808,804
Undeliverable	306,883	2,908,985	1,265,096	4,856,222	9,337,186
Total Households	2,320,336	31,136,050	13,296,160	63,990,976	110,743,523
Household response rate	22.9%	21.7%	28.1%	29.8%	27.2%
Percent Undeliverable	13.2%	9.3%	9.5%	7.6%	8.4%

*values may not sum to total sample due to rounding of weighted values to nearest single digit

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Appendix A

HINTS 7 Instrument

Photo is for illustrative purposes only. Any person depicted in the photo is a model.

Health Information

National Trends Survey

English Instrument

H7

Instructions

▶ Please use a black or blue pen to complete this form.

▶ Mark ☒ to indicate your answer.

▶ If you want to change your answer, mark ▇ on the wrong answer.

1. Is there more than one person age 18 or older living in this household?

☐ Yes
☐ No → **GO TO Question 1 on the next page**

2. Including yourself, how many people age 18 or older live in this household?

3. **The adult with the next birthday should complete this questionnaire.** This way, across all households, HINTS will include responses from adults of all ages.

4. Please write the first name, nickname, or initials of the adult with the next birthday. This is the person who should complete the questionnaire.

Si prefiere recibir la encuesta en español, por favor llame 1-888-738-6812

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1. Your answers on this survey may influence cancer communication efforts and public health policy and thus affect the lives of many people in the United States. In order for the survey results to be the most helpful, it is important that you try to be as accurate as possible and to think carefully about each question.

   Are you willing to do this?

   ☐ Yes
   ☐ No

A: Looking For Health Information

A1. Have you ever looked for information about cancer from any source?

   ☐ Yes
   ☐ No → **GO TO A3 in the next column**

A2. Based on the results of your most recent search for information about cancer, how much do you agree or disagree with **each** of the following statements?

	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree
a. It took a lot of effort to get the information you needed	☐	☐	☐	☐
b. You felt frustrated during your search for the information	☐	☐	☐	☐
c. You were concerned about the quality of the information	☐	☐	☐	☐
d. The information you found was hard to understand	☐	☐	☐	☐

A3. In general, how much would you trust information about cancer from **each** of the following?

	Not at all	A little	Some	A lot
a. A doctor	☐	☐	☐	☐
b. Family or friends	☐	☐	☐	☐
c. Government health agencies	☐	☐	☐	☐
d. Charitable organizations	☐	☐	☐	☐
e. Religious organizations and leaders	☐	☐	☐	☐
f. Scientists	☐	☐	☐	☐

A4. How often do health recommendations from experts seem to conflict or contradict one another?

   ☐ Never
   ☐ Rarely
   ☐ Often
   ☐ Very Often

A5. How often do health recommendations from experts seem to change over time?

   ☐ Never
   ☐ Rarely
   ☐ Often
   ☐ Very Often

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B: Internet and Technology Use

B1. About how often do you use the Internet, either on a computer, laptop, smartphone or any other device?

- ☐ More than once per day
- ☐ About once per day
- ☐ A few times a week
- ☐ Less than once per week
- ☐ Rarely
- ☐ Never → **GO TO B5 in the next column**

B2. When you use the Internet, do you connect to it through...

	Yes	No
a. A cellular network (4G / 5G / LTE)?.............	☐	☐
b. A service such as DSL, cable, FiOS, Wi-Fi, or satellite?..	☐	☐

B3. In the past 12 months, have you used the Internet to take care of any of the following health-related needs?

	Yes	No
a. Look for health or medical information.........	☐	☐
b. Send a message to a health care provider or a health care provider's office..................	☐	☐
c. View medical test results.............................	☐	☐
d. Make an appointment with a health care provider..	☐	☐

B4. How satisfied are you with your Internet connection at home to meet health-related needs?

- ☐ Extremely satisfied
- ☐ Very satisfied
- ☐ Somewhat satisfied
- ☐ Not very satisfied
- ☐ Not at all satisfied

B5. How much do you agree or disagree with the following statements?

	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree
a. I find learning how to use new technology frustrating..................	☐	☐	☐	☐
b. I can use applications/programs (like Zoom) on my cell phone or computer without asking someone for help.........................	☐	☐	☐	☐
c. I have the skills to find the health information I need on the Internet....................................	☐	☐	☐	☐

B6. In the last 12 months, which of the following devices did you use?

	Yes	No
a. Desktop computer or laptop..........................	☐	☐
b. Smartphone..	☐	☐
c. Tablet...	☐	☐
d. Smartwatch or other electronic wearable device (for example an Apple Watch or Fitbit)..	☐	☐

B7. In the past 12 months, have you used a health or wellness app on your tablet or smartphone?

- ☐ Yes
- ☐ No
- ☐ I do not have any health apps on my tablet or smartphone
- ☐ I do not have a tablet or smartphone

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B8. In the past 12 months, have you used an electronic wearable device to monitor or track your health or activity? For example, a Fitbit, Apple Watch, or Garmin Vivofit.

☐ Yes

☐ No, not in the past 12 months

☐ I have **never** used an electronic wearable device

GO TO B11 below

B9. In the past month, how often did you use an electronic wearable device to track your health?

☐ Every day

☐ Almost every day

☐ 1-2 times per week

☐ Less than once per week

☐ I did not use a wearable device in the past month

B10. Would you be willing to share health data from your electronic wearable device with your health care provider?

☐ Yes

☐ No

B11. Electronic monitoring devices include electronic wearable devices and other devices such as blood glucose meters, blood pressure monitors, etc.

Have you shared health information from either **an electronic monitoring device or smartphone** with a health professional within the last 12 months?

☐ Yes

☐ No

☐ I do not use a smartphone or electronic monitoring device

B12. Sometimes people use the Internet to connect with other people online through social media. Examples of social media sites include Facebook, TikTok, YouTube, and Instagram.

In the past 12 months, how often did you do the following?

	Almost every day	At least once a week	A few times a month	Less than once a month	Never
a. Visited a social media site.......	☐	☐	☐	☐	☐
b. Shared **personal** health information on social media....	☐	☐	☐	☐	☐
c. Shared **general** health-related information on social media (for example, a news article)...	☐	☐	☐	☐	☐
d. Interacted with people who have similar health or medical issues on social media or online forums...........	☐	☐	☐	☐	☐
e. Watched a health-related video on a social media site (for example, YouTube)..........	☐	☐	☐	☐	☐

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B13. How much of the health information that you see on social media do you think is false or misleading?

☐ I do not use social media → **GO TO C1 in the next column**

☐ None

☐ A little

☐ Some

☐ A lot

B14. How much do you agree or disagree with the following statements?

	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree
a. I use information from social media to make decisions about my health......................................	☐	☐	☐	☐
b. I use information from social media in discussions with my health care provider.....................	☐	☐	☐	☐
c. I find it hard to tell whether health information on social media is true or false....................	☐	☐	☐	☐
d. Most of the people in my social media networks have the same views about health as me............	☐	☐	☐	☐

C: Your Health Care

C1. Are you covered by any kind of health insurance or health care plan, including employer-sponsored insurance, prepaid plans, or government plans such as Medicare, Medicaid or TRICARE?

☐ Yes

☐ No

C2. **In the past 12 months**, not counting times you went to an emergency room, how many times did you see a doctor, nurse, or other health professional to get care for yourself?

☐ None → **GO TO C7 on the next page**

☐ 1 time

☐ 2 times

☐ 3 times

☐ 4 times

☐ 5-9 times

☐ 10 or more times

C3. Overall, how would you rate the quality of health care you received **in the past 12 months**?

☐ Excellent

☐ Very good

☐ Good

☐ Fair

☐ Poor

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C4. The following questions are about your communication with all doctors, nurses, or other health professionals you saw **during the past 12 months**.

How often did they do each of the following?

		Always	Usually	Sometimes	Never
a.	Give you the chance to ask all the health-related questions you had...............................	☐	☐	☐	☐
b.	Give the attention you needed to your feelings and emotions.....	☐	☐	☐	☐
c.	Involve you in decisions about your health care as much as you wanted..................................	☐	☐	☐	☐
d.	Make sure you understood the things you needed to do to take care of your health......................	☐	☐	☐	☐
e.	Explain things in a way you could understand........................	☐	☐	☐	☐
f.	Spend enough time with you.......	☐	☐	☐	☐
g.	Help you deal with feelings of uncertainty about your health or health care............................	☐	☐	☐	☐

C5. In the past 12 months, was there a time when you had to wait for medical test results longer than you thought reasonable?

☐ Yes
☐ No

C6. In the past 12 months, when getting care for a medical problem, was there a time when you had to redo a test or procedure because the earlier test results were not available?

☐ Yes
☐ No

C7. In the past 12 months, how often have you talked to a doctor, nurse, or other health professional about any kind of health information you found on the Internet?

☐ Never → **GO TO C10 below**
☐ 1 or 2 times
☐ More than 2 times

C8. How much do you agree or disagree with the following statements?

In the past 12 months, when I talked with a healthcare professional about information I found on the Internet…

		Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree
a.	They were open to talking about the information with me..	☐	☐	☐	☐
b.	They respected what I had to say..	☐	☐	☐	☐

C9. As a result of talking to my doctor, nurse or other health professional about health information from the Internet, our interaction became…

☐ A lot worse
☐ A little worse
☐ No impact on our interaction
☐ A little better
☐ A lot better

C10. How confident are you filling out medical forms by yourself?

☐ Not at all
☐ A little
☐ Somewhat
☐ Very

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C11. How much do you trust the health care system (for example, hospitals, pharmacies, and other organizations involved in health care)?

- ☐ Not at all
- ☐ A little
- ☐ Some
- ☐ A lot

C12. Have you ever experienced prejudice or been discriminated against when getting medical care?

- ☐ Yes
- ☐ No

C13. In the past 12 months, how often did you get the help you needed from **your primary care provider's office** to manage your care among different providers and services?

- ☐ Never
- ☐ Sometimes
- ☐ Usually
- ☐ Always
- ☐ I did not need help coordinating my care
- ☐ I did not visit a primary care provider ➜ **GO TO D1 in the next column**

C14. In the past 12 months, how often did your primary care provider's office seem informed and up-to-date about the care you got from other health care providers?

- ☐ Never
- ☐ Sometimes
- ☐ Usually
- ☐ Always
- ☐ Not applicable

D: Telehealth

D1. A telehealth visit is a telephone or video appointment with a doctor or health professional.

In the past 12 months, did you receive care from a doctor or health professional using **telehealth**?

- ☐ Yes, by video
- ☐ Yes, by phone call (voice only with no video)   ⎫ **GO TO D3 on the next page**
- ☐ Yes, some by video and some by phone call   ⎭
- ☐ No telehealth visits in the past 12 months

D2. If you have not used telehealth in the last 12 months, what was the primary reason?

Mark only **one**.

- ☐ I did not have a need to visit a doctor or health professional
- ☐ I needed an examination or test that could only be done in-person
- ☐ I was not offered telehealth
- ☐ I didn't know how to use telehealth
- ☐ I preferred to see a doctor or health professional in-person
- ☐ I was concerned about the privacy of my personal health data
- ☐ My Internet or phone data cost too much
- ☐ My insurance did not cover telehealth or I could not afford it
- ☐ Other ➜ Specify: _____

> **!**
>
> **If you have not had a telehealth visit in the last 12 months, go to D6 on the next page**
>
> **Otherwise, go to D3 on the next page**

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D3. What are the reasons you chose (a) telehealth visit(s) for yourself?

Mark **all that apply**.

- ☐ The health care provider recommended or required the visit use telehealth
- ☐ I wanted advice about whether I needed in-person medical care
- ☐ I wanted to avoid possible infection at the doctor's office or hospital (for example, COVID-19 or flu)
- ☐ It was more convenient than going to a doctor or health professional (for example, less travel or wait times)
- ☐ I needed to see a health professional that was not available in my area (for example, a second opinion from a specialist in another state)
- ☐ I could include family or other caregivers in my appointment
- ☐ Other ➜ Specify: _____

D4. In general, how much do you agree or disagree with the following statements regarding your telehealth visit(s)?

	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree
a. I had technical problems with my telehealth visit(s) (for example, difficulty using the technology, trouble seeing or hearing my health care provider)....................	☐	☐	☐	☐
b. The care I received from telehealth was as good as a regular in-person visit....................	☐	☐	☐	☐
c. Telehealth made it easier for me to get care when and where I needed it......................	☐	☐	☐	☐
d. I would recommend using telehealth to another person.........	☐	☐	☐	☐

D5. What was the primary reason for your **most recent** telehealth visit?

Mark only **one**.

- ☐ Annual visit or follow up appointment
- ☐ Acute care for a minor illness (for example, fever, sinus infection)
- ☐ Managing my chronic health condition/disease (for example, high blood pressure, diabetes, heart disease, obesity, cancer)
- ☐ Mental health, behavioral, or substance abuse issues (for example, depression, anxiety, drug or alcohol use)
- ☐ Physical Rehabilitation (physical therapy, occupational therapy, speech-language pathology)
- ☐ Other ➜ Specify: _____

D6. How willing are you to do a telehealth visit in the future if one is offered to you?

- ☐ Very willing
- ☐ Somewhat willing
- ☐ Somewhat unwilling
- ☐ Very unwilling

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E: Medical Records

Next, we are going to ask you some questions about online medical records. Online medical records, also known as patient portals, are secure websites that allow people to access their health records and communicate with health care providers using a computer or smartphone health app.

E1. Have you ever been offered online access to your medical records (for example, a patient portal) by your…

	Yes	No	Don't Know
a. health care provider?	☐	☐	☐
b. health insurer?	☐	☐	☐

E2. Have any of your health care providers, including doctors, nurses, or office staff ever encouraged you to use an online medical record or patient portal?

☐ Yes
☐ No

E3. For the next set of questions, please think about the online medical record or patient portal offered to you by **a health care provider or insurer**.

How many times did you access your online medical record or patient portal in the last 12 months?

☐ 0 → **GO TO E7 in the next column**
☐ 1 to 2 times
☐ 3 to 5 times   **GO TO E4 in the next column**
☐ 6 to 9 times
☐ 10 or more times

E4. How did you access your online medical record or patient portal?

☐ App
☐ Website
☐ Both app and website
☐ Don't know

E5. In the past 12 months, have you used your online medical record or patient portal to…

	Yes	No
a. Look up test results?	☐	☐
b. View clinical notes (a health care provider's written notes that describe your visit)?	☐	☐

E6. How easy or difficult was it to understand the health information in your online medical record or patient portal?

☐ Very easy
☐ Somewhat easy
☐ Somewhat difficult
☐ Very difficult

E7. Which of the following organizations/ providers do you have an online medical record or patient portal with? Your medical record could include specific types of health data, such as insurance claims, prescription information, and laboratory test results.

Mark **all that apply**.

☐ My primary care doctor's office
☐ Other health care provider(s) such as a specialty provider, counselor, or dentist
☐ My insurer(s)
☐ Clinical laboratory that performs lab tests
☐ Pharmacy
☐ Hospital
☐ I do not have any online medical records or patient portals

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E8. Have you ever used an app like 'Apple Health Records' or 'CommonHealth' to combine your medical information from different patient portals or online medical records into one place?

☐ Yes
☐ No

E9. In the past 12 months, were you given the option to decide whether or not you wanted to receive test results before your health care provider could discuss them with you?

☐ Yes
☐ No
☐ Don't know

E10. In the past 12 months, did you look at test results made available to you through your online medical record or patient portal **before** hearing about the result from your health care provider?

☐ Yes
☐ No ➜ **GO TO F1 in the next column**
☐ I did not have any medical tests in the past 12 months ➜ **GO TO F1 in the next column**

E11. How well did you understand what the test results showed and what they meant for your care?

☐ Very well
☐ Well
☐ Fairly well
☐ Poorly

F: Palliative Care & Caregiving

F1. How would you describe your level of knowledge about palliative care?

☐ I've never heard of it ➜ **GO TO F3 below**
☐ I know a little bit about palliative care
☐ I know what palliative care is and could explain it to someone else

F2. How much do you agree or disagree with the following statement about palliative care?

If you accept palliative care, you must stop other treatments.

☐ Strongly agree
☐ Somewhat agree
☐ Somewhat disagree
☐ Strongly disagree
☐ Don't know

F3. Are you currently caring for or making health care decisions for someone **with a disability or a medical, behavioral, or other condition**?

Mark **all that apply**.

☐ Yes, a parent/parents
☐ Yes, a spouse/partner
☐ Yes, a child/children that need(s) special care due to a medical condition or disability
☐ Yes, another family member
☐ Yes, a friend or other non-relative
☐ No ➜ **GO TO G1 on the next page**

F4. Do you provide any of this care professionally as part of a job (for example, as a nurse or professional home health aide)?

☐ Yes
☐ No

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F5. Please think about the individual for whom you are **currently providing the most care**.

Please **mark all** conditions for which you have provided care for this person.

Mark **all that apply**.

- ☐ Cancer
- ☐ Alzheimer's, confusion, dementia, forgetfulness, brain injury, stroke, or other neurological issue
- ☐ A short-term but serious condition such as recovery from surgery or an injury
- ☐ A long-term illness such as high blood pressure, hypertension, diabetes, heart disease, heart attack, lung disease, or emphysema
- ☐ Difficulty moving around such as an orthopedic issue, a musculoskeletal issue, or an aging-related issue
- ☐ A mental health issue, substance abuse, intellectual or developmental issue
- ☐ Other ➔ Specify: _____
- ☐ Not sure/don't know

F6. Think about the individual for whom you are **currently providing the most care**. How many times did you access that person's online medical record in the last 12 months?

- ☐ Care recipient does not have an online medical record
- ☐ None
- ☐ 1 to 2 times
- ☐ 3 to 5 times
- ☐ 6 to 9 times
- ☐ 10 or more times

G: Genetic Testing

G1. Genes are inherited from your parents and are passed down from one generation to the next through the family tree. Genetic tests can determine your genetic makeup.

Which of the following types of genetic tests have you **had**?

Mark **all that apply**.

- ☐ **Ancestry testing** to understand where you and your relatives come from (for example, tests offered by companies such as Ancestry or 23andMe)
- ☐ **Personal trait testing** to understand whether you have genes that are linked to certain characteristics like enjoying the taste of cilantro (for example, tests offered by companies such as Ancestry or 23andMe)
- ☐ **Testing for specific diseases** to understand your risk of getting certain diseases such as breast cancer, colon cancer, cardiovascular (heart) disease, diabetes, or dementia/Alzheimer's
- ☐ **Prenatal genetic carrier testing** to determine the risk that a man and a women will have a baby with certain diseases such as cystic fibrosis or Tay Sachs
- ☐ Other ➔ Specify: _____
- ☐ Not sure what type of genetic test I've had   **GO TO H1 on the next page**
- ☐ I have not had any genetic tests

G2. What were the reasons you had genetic testing?

Mark **all that apply**.

- ☐ Doctor's recommendation
- ☐ Understand my family ancestry
- ☐ Find relatives
- ☐ Learn more about personal traits that may be influenced by genetics
- ☐ Learn more about my risk for certain diseases (for example, cancer or heart disease)
- ☐ Understand things like what diet might be best for me
- ☐ Prenatal testing – for example, carrier testing
- ☐ I received the test as a gift
- ☐ Other ➔ Specify: _____

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G3. Overall, how confident are you that your genetic testing results are correct and accurate?

- ☐ Completely confident
- ☐ Very confident
- ☐ Somewhat confident
- ☐ A little confident
- ☐ Not confident at all

G4. If you had a genetic test, who did you think the laboratory that did your genetic test would share your results with?

Mark **all that apply**.

- ☐ My healthcare provider
- ☐ Scientific researchers for research purposes
- ☐ Other for-profit companies for commercial purposes such as pharmaceutical companies or companies that gather and sell data
- ☐ Law enforcement agencies
- ☐ Health insurance companies
- ☐ Insurance companies for life, disability, or long term care insurance
- ☐ I was not sure with whom the laboratory would share my results
- ☐ I did not think my genetic test results would be shared with anyone besides me

H: Clinical Trials

H1. Clinical trials are research studies that involve people. They are designed to compare new kinds of health care with the standard health care people currently get to learn if it's better or about its side effects. Clinical trials could test a new type of drug or a new exercise program to help patients live longer.

Which of the following best describes your experience with clinical trials?

Mark **only one**.

- ☐ I have never discussed participating in a clinical trial with a health care provider
- ☐ I have discussed participating in a clinical trial with a health care provider but decided not to participate
- ☐ I have discussed participating in a clinical trial with a health care provider but was not eligible to participate
- ☐ I have participated in a clinical trial
- ☐ I don't know/don't remember

H2. Imagine that you had a health issue and you were invited to participate in a clinical trial for that issue. Which of the following would most influence your decision to participate in the clinical trial?

Please mark **up to 3**.

- ☐ If I would be helping other people by participating
- ☐ If I would receive payment or other support for participating, such as transportation, childcare, or paid time off from work
- ☐ If my doctor encouraged me to participate
- ☐ If my family and friends encouraged me to participate
- ☐ If trying a new kind of care might give me a chance to get better
- ☐ If participating in the trial wasn't disruptive to my everyday life
- ☐ I would not be willing to participate in a clinical trial

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H3. How much do you agree or disagree with the following statement?

People should be suspicious of clinical trials.

- ☐ Strongly agree
- ☐ Somewhat agree
- ☐ Neither agree nor disagree
- ☐ Somewhat disagree
- ☐ Strongly disagree

I: Your Overall Health

I1. In general, would you say your health is...?

- ☐ Excellent
- ☐ Very good
- ☐ Good
- ☐ Fair
- ☐ Poor

I2. Overall, how confident are you about your ability to take good care of your health?

- ☐ Completely confident
- ☐ Very confident
- ☐ Somewhat confident
- ☐ A little confident
- ☐ Not confident at all

I3. Do you have friends or family members that you talk to about your health?

- ☐ Yes
- ☐ No

I4. Do any of the following significantly limit your daily activities?

		Yes	No
a.	Deafness or serious difficulty hearing..........	☐	☐
b.	Visual impairment or blindness....................	☐	☐
c.	Permanent or long term physical or mobility limitations..	☐	☐
d.	Chronic pain...	☐	☐

I5. Has a doctor or other health professional ever told you that you had any of the following medical conditions:

		Yes	No
a.	Diabetes or high blood sugar?.....................	☐	☐
b.	High blood pressure or hypertension?.........	☐	☐
c.	A heart condition such as heart attack, angina, or congestive heart failure?............	☐	☐
d.	Chronic lung disease, asthma, emphysema, or chronic bronchitis?.............	☐	☐
e.	Depression or anxiety disorder?..................	☐	☐

I6. About how tall are you without shoes?

☐ Feet **and** ☐☐ Inches

I7. About how much do you weigh, in pounds, without shoes?

☐☐☐ Pounds

I8. During the past 30 days, how many hours of sleep did you usually get in a 24-hour period…

a. On a weekday?.............. ☐☐

b. On a weekend day?....... ☐☐ Number of hours

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I9. **Over the past 2 weeks**, how often have you been bothered by any of the following problems?

	Nearly every day	More than half the days	Several days	Not at all
a. Little interest or pleasure in doing things...............................	☐	☐	☐	☐
b. Feeling down, depressed, or hopeless......................................	☐	☐	☐	☐
c. Feeling nervous, anxious, or on edge..	☐	☐	☐	☐
d. Not being able to stop or control worrying...........................	☐	☐	☐	☐

I10. Please respond to each item by marking one box per row.

	Always	Usually	Sometimes	Rarely	Never
a. I feel left out............................	☐	☐	☐	☐	☐
b. I feel that people barely know me.................................	☐	☐	☐	☐	☐
c. I feel isolated from others......	☐	☐	☐	☐	☐
d. I feel that people are around me but not with me....	☐	☐	☐	☐	☐

I11. **In a typical week**, how many days do you do any physical activity or exercise of at least moderate intensity, such as brisk walking, bicycling at a regular pace, and swimming at a regular pace (do not include weightlifting)?

☐ None ➜ **GO TO I13 in the next column**
☐ 1 day per week
☐ 2 days per week
☐ 3 days per week
☐ 4 days per week
☐ 5 days per week
☐ 6 days per week
☐ 7 days per week

GO TO I12 in the next column

I12. On the days that you do any physical activity or exercise of at least moderate intensity, how long do you typically do these activities?

☐☐☐ **Minutes of physical activity per day**

I13. **In a typical week**, outside of your job or work around the house, how many days do you do leisure-time physical activities specifically designed to strengthen your muscles such as lifting weights or circuit training (do not include cardio exercise such as walking, biking, or swimming)?

☐ None
☐ 1 day per week
☐ 2 days per week
☐ 3 days per week
☐ 4 days per week
☐ 5 days per week
☐ 6 days per week
☐ 7 days per week

I14. During the past 7 days, how much time did you spend sitting on a typical day at home or at work? This may include time spent sitting at a desk, visiting friends, reading, driving or riding in a car, or sitting or lying down to watch television.

☐☐ **Hours sitting per day**

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J1. How much do you think climate change will harm your health?

☐ A lot
☐ Some
☐ A little
☐ Not at all
☐ Don't know

J2. Thinking about your neighborhood, over the past 12 months, how much was it affected by extreme weather events (such as severe storms, droughts, floods, heat waves, cold snaps, etc.)?

☐ A lot
☐ Some
☐ A little
☐ Not at all

J3. How much do you worry that each of the following will harm your health?

	Not at all	A little	Some	A lot
a. Outdoor air pollution......................	☐	☐	☐	☐
b. Indoor air pollution.........................	☐	☐	☐	☐

J4. During the past 12 months, how many times have you had a sunburn (even a small part of your skin turns red or hurts for 12 hours or more) from too much sun exposure?

☐☐☐ Sunburns in past 12 months

↳ (IF 0 THEN GO TO K1 on the next page)

J5. On the most recent time you were sunburned, what were you doing when you were sunburned?

Mark **all that apply**.

☐ Working at your job
☐ Working outside at your own home or a family/friend's home
☐ Sunbathing
☐ Swimming
☐ Exercise (running, hiking, sports) (do not include swimming)
☐ Watching a sporting event
☐ Attending an outdoor event or venue (a concert, the zoo, a fair, etc.)
☐ Day-to-day activities
☐ Other
☐ Don't know

J6. Were you doing any of the following at any of the times when you were sunburned?

	Yes	No
a. Drinking alcohol...	☐	☐
b. Using marijuana or a marijuana product......	☐	☐

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K: Financial Concerns

K1. In the past 12 months, how often were the following things true?

	Very often true	Often true	Sometimes true	Rarely true	Never true
a. Someone in your household cut the size of meals or skipped meals because there wasn't enough money for food...............	☐	☐	☐	☐	☐
b. Someone in your household was not able to afford to eat balanced meals..........................	☐	☐	☐	☐	☐
c. Someone in your household was worried about being forced to move (for example, because of eviction or foreclosure)............	☐	☐	☐	☐	☐
d. Lack of reliable transportation kept someone in your household from medical appointments, work, or from getting things needed for daily living..................	☐	☐	☐	☐	☐
e. You or someone in your household had difficulty paying or was unable to pay medical bills..	☐	☐	☐	☐	☐

K2. If you were experiencing issues with housing, transportation, or affording or accessing healthy food, how comfortable would you be with your health care providers doing the following?

	Very comfortable	Somewhat comfortable	Somewhat uncomfortable	Very uncomfortable
a. Documenting the issue in your medical record for your healthcare purposes?..................	☐	☐	☐	☐
b. Sharing your information about these issues with other providers for your healthcare purposes?...................................	☐	☐	☐	☐

L: Health and Nutrition

L1. About how many cups of fruit (including 100% pure fruit juice) do you eat or drink **each day**?

☐ None
☐ ½ cup or less
☐ ½ cup to less than 1 cup
☐ 1 to less than 2 cups
☐ 2 to less than 3 cups
☐ 3 to less than 4 cups
☐ 4 or more cups

> 1 cup of fruit could be:
> - 1 small apple
> - 1 large banana
> - 1 large orange
> - 8 large strawberries
> - 1 medium pear
> - 2 large plums
> - 32 seedless grapes
> - 1 cup (8 oz.) fruit juice
> - ½ cup dried fruit
> - 1 inch-thick wedge of watermelon

L2. About how many cups of vegetables (including 100% pure vegetable juice) do you eat or drink **each day**?

☐ None
☐ ½ cup or less
☐ ½ cup to less than 1 cup
☐ 1 to less than 2 cups
☐ 2 to less than 3 cups
☐ 3 to less than 4 cups
☐ 4 or more cups

> 1 cup of vegetables could be:
> - 3 broccoli spears
> - 1 cup cooked leafy greens
> - 2 cups lettuce or raw greens
> - 12 baby carrots
> - 1 medium potato
> - 1 large sweet potato
> - 1 large ear of corn
> - 1 large raw tomato
> - 2 large celery sticks
> - 1 cup of cooked beans

L3. MyPlate is developed by the U.S. government to share with the public how to follow a healthy eating style and guide portion sizes at meals. Have you tried to follow the recommendations in the MyPlate plan? Would you say…

☐ Yes, I know about the MyPlate plan and have tried to follow recommendations
☐ I know about the MyPlate plan but have not tried to follow the recommendations
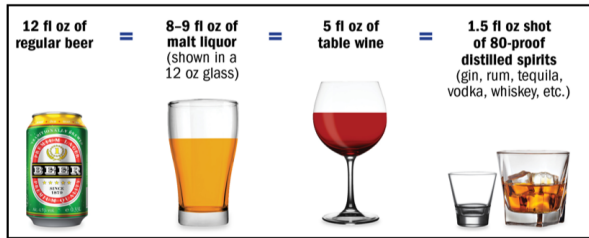☐ No, I have never heard of MyPlate

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L4. **Prepared meals** include ready-to-eat foods from a deli, hot bar, or salad bar as well as packaged food items like frozen meals and canned items.

Thinking about the last time you bought a **prepared meal** at a grocery store, did you use the calorie information in deciding what to buy?

☐ Yes
☐ No
☐ I did not notice any calorie information on the last prepared meal I bought
☐ I do not buy prepared meals

M: Alcohol

M1. These are examples of one drink of alcohol:

| 12 fl oz of regular beer | = | 8–9 fl oz of malt liquor (shown in a 12 oz glass) | = | 5 fl oz of table wine | = | 1.5 fl oz shot of 80-proof distilled spirits (gin, rum, tequila, vodka, whiskey, etc.) |

During the past 30 days, **on how many days** did you have at least one drink of any alcoholic beverage?

☐ Days per month

→ **(IF 0 THEN GO TO M4 in the next column)**

M2. During the past 30 days, **on the days when you drank alcohol**, about how many alcoholic drinks did you drink on average?

☐☐ Average alcoholic drinks **per day**

M3. *For males:* During the past 30 days, how many times did you have 5 or more alcoholic drinks on one occasion?

For females: During the past 30 days, how many times did you have 4 or more alcoholic drinks on one occasion?

☐ Never
☐ 1 or 2 times
☐ 3 to 5 times
☐ 6 to 10 times
☐ 11 or more times

M4. In your opinion, how does drinking alcohol affect the risk of getting cancer?

☐ Decreases risk of cancer
☐ Has no effect on the risk of cancer
☐ Increases risk of cancer
☐ Don't know

M5. To what extent would you support or oppose the following measures related to alcohol?

	Strongly oppose	Oppose	Neither support nor oppose	Support	Strongly support
a. Banning outdoor advertising of alcohol such as on billboards and bus stops?	☐	☐	☐	☐	☐
b. Requiring specific warnings about cancer on alcohol containers?	☐	☐	☐	☐	☐

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N: Tobacco & Marijuana Products

N1. Some products are approved to help people quit smoking. These include over the counter Nicotine Replacement Therapy (NRT) like gum, lozenges, or the patch, prescription nicotine replacement therapy like a spray or inhaler, or prescription medications like varenicline and bupropion.

Do you believe that any of the following **tobacco products** can help people quit smoking cigarettes?

Mark **all that apply**.

- ☐ Electronic nicotine devices (ENDS), like e-cigarettes
- ☐ Nicotine pouches
- ☐ Heated tobacco products, like IQOS
- ☐ Modified Risk Tobacco Products, like General Snus or VLN KING, VLN Menthol King
- ☐ None of these can help smokers quit smoking
- ☐ I don't know

N2. In the past 6 months, have you seen messages saying that a Federal Court has ordered tobacco companies to make statements about the dangers of smoking cigarettes? **These messages have been in stores where people buy cigarettes.**

- ☐ Yes
- ☐ No ➔ **GO TO N4 in the next column**

N3. Based on the message(s) that you saw, which of the following statements are true?

Mark **all that apply**.

- ☐ I trusted the information
- ☐ I wanted to look for more information about the harms of smoking
- ☐ I thought about quitting smoking
- ☐ I thought about friends and family who smoke
- ☐ I liked that a court is ordering tobacco companies to "tell the truth"

N4. Have you smoked at least 100 cigarettes in your entire life?

- ☐ Yes
- ☐ No

N5. How often do you now smoke cigarettes?

- ☐ Every day
- ☐ Some days
- ☐ Not at all

N6. Have you **ever used** any of the following tobacco products, even one or two times?

Mark **all that apply**.

- ☐ E-cigarettes (also known as vapes, vape-pens, tanks, mods or pod-mods)
- ☐ Cigars, including cigars, cigarillos, and little filtered cigars
- ☐ Hookah (also known as Waterpipe or shisha)
- ☐ Smokeless tobacco, including chewing tobacco, snus, and snuff
- ☐ Nicotine pouches
- ☐ Heated tobacco products, like IQOS
- ☐ Modified Risk Tobacco Products, like General Snus or VLN KING, VLN Menthol King
- ☐ I have never used any of these tobacco products ➔ **GO TO N8 on the next page**

N7. Do you **now use** any of the following tobacco products every day or some days?

Mark **all that apply**.

- ☐ E-cigarettes (also known as vapes, vape-pens, tanks, mods or pod-mods)
- ☐ Cigars, including cigars, cigarillos, and little filtered cigars
- ☐ Hookah (also known as Waterpipe or shisha)
- ☐ Smokeless tobacco, including chewing tobacco, snus, and snuff
- ☐ Nicotine pouches
- ☐ Heated tobacco products, like IQOS
- ☐ Modified Risk Tobacco Products, like General Snus or VLN KING, VLN Menthol King
- ☐ I do not currently use any of these products

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N8. The next set of questions are about marijuana products, sometimes called cannabis, pot, weed, hashish, or concentrates. Some of the ways these products can be used are smoking (such as in joints, pipes, bongs, blunts, or hookahs), vaping (using vape pens, dab pens, tabletop vaporizers, or portable vaporizers), dabbing, eating, drinking, or applying as a lotion. Please exclude the use of CBD or hemp products when answering these questions.

Please mark all of the following ways you have used a product containing marijuana in the past 12 months.

Mark **all that apply**.

☐ I have not used any product containing marijuana in the past 12 months ➜ **GO TO N10 below**
☐ Smoking
☐ Vaping
☐ Dabbing
☐ Eating
☐ Drinking
☐ Applying a lotion

N9. When you used marijuana during the past 12 months was it usually...

☐ For medical reasons
☐ For recreational reasons
☐ For medical and recreational reasons

N10. I believe that using marijuana is...

☐ Very harmful
☐ Somewhat harmful
☐ Both harmful and beneficial
☐ Neither harmful nor beneficial
☐ Somewhat beneficial
☐ Very beneficial
☐ Don't know

O: Cancer Screening and Awareness

O1. In the last 12 months, how much did worry about COVID-19 cause you to delay or avoid having a cancer screening test?

☐ Not at all
☐ A little
☐ Some
☐ A lot
☐ Not applicable (I had not planned to have a screening test)

O2. At any time in the past year, did a doctor or other health professional talk with you about having a low-dose CT (LDCT) scan to check for lung cancer?

☐ I have never heard of this test
☐ Yes
☐ No
☐ Don't know

O3. There are a few different tests to check for colorectal cancer in people who have no symptoms. These tests include:

A **colonoscopy** - For this test, a tube is inserted into your rectum and you are given medication that may make you feel sleepy. After the procedure, you need someone to drive you home.

A **sigmoidoscopy** - For this test, you are awake when the tube is inserted into your rectum. After the test you can drive yourself home.

A **stool test** - For this test, you collect a stool sample at home, and then provide it to a doctor or lab for testing. The fecal immunochemical test (FIT) and Cologuard are both stool tests.

Has a doctor or other health professional ever told you there are a few different tests to detect colorectal cancer?

☐ Yes
☐ No
☐ I have never discussed these tests with a doctor or other health professional

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O4. Scientists have developed new tests to "screen" for cancers early when they are easier to treat. These new tests, called Multi-Cancer Early Detection tests, use a single blood test to detect many different cancers at the same time.

Before today, had you ever heard of Multi-Cancer Early Detection tests?

☐ Yes
☐ No

O5. How valuable do you think it would be for you to have a Multi-Cancer Early Detection test right now?

☐ Not at all valuable
☐ A little valuable
☐ Somewhat valuable
☐ Very valuable

O6. Do you think the Hepatitis B virus (also known as Hep B or HBV) can cause cancer?

☐ Yes
☐ No
☐ Don't know
☐ I have never heard of HBV

O7. Do you think the Hepatitis C virus (also known as Hep C or HCV) can cause cancer?

☐ Yes
☐ No
☐ Don't know
☐ I have never heard of HCV

O8. Cervical cancer screening helps to prevent and detect cervical cancer in people who have no symptoms. In the future, it may be possible for people to collect their own sample for the cervical cancer screening test at home using a mailed test kit. This might involve using a swab (like a long cotton bud) to take a sample from the vagina or by collecting a sample of urine.

If you had a choice, how would you prefer to do the cervical cancer screening test?

☐ Not applicable – I do not need cervical cancer screening ➜ **GO TO P1 on the next page**
☐ I would prefer to have a health professional do the test in a doctor's office (as happens now) ➜ **GO TO P1 on the next page**
☐ I would prefer to do the test myself at home
☐ I don't know which option I would choose

O9. What are the reasons you would consider collecting your own at-home sample for cervical cancer screening?

Mark **all that apply**.

☐ Prefer not to take time off work
☐ Save transportation cost
☐ I live far from my healthcare provider
☐ Privacy
☐ To avoid embarrassment
☐ Other reasons not listed

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P: Beliefs About Cancer

P1. How much do you agree or disagree with each of the following statements?

	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree
a. It seems like everything causes cancer..	☐	☐	☐	☐
b. There's not much you can do to lower your chances of getting cancer..	☐	☐	☐	☐
c. There are so many different recommendations about preventing cancer, it's hard to know which ones to follow............	☐	☐	☐	☐
d. When I think about cancer, I automatically think about death..	☐	☐	☐	☐

P2. Have you heard of "chemo brain," "chemo fog," or "cancer-related cognitive impairment?"

☐ Yes
☐ No

P3. As far as you know, who has a greater chance of getting cancer - a person with a 1 in 1,000 chance of getting cancer, or a person with a 1 in 100 chance?

☐ 1 in 1,000 is a greater chance of getting cancer
☐ 1 in 100 is a greater chance of getting cancer
☐ Don't know

Q: Cancer History

Q1. Have you ever been diagnosed as having cancer?

☐ Yes
☐ No → **GO TO Q4 on the next page**

Q2. What type of cancer did you have?

Mark **all that apply**.

☐ Bladder cancer
☐ Bone cancer
☐ Breast cancer
☐ Brain cancer
☐ Cervical cancer (cancer of the cervix)
☐ Colon cancer
☐ Endometrial cancer (cancer of the uterus)
☐ Eye or eye socket cancer
☐ Head and neck cancer
☐ Leukemia/Blood cancer
☐ Liver cancer
☐ Lung cancer
☐ Lymphoma (Hodgkin's)
☐ Lymphoma (Non-Hodgkin's)
☐ Melanoma
☐ Multiple myeloma
☐ Oral cancer
☐ Ovarian cancer
☐ Pancreatic cancer
☐ Pharyngeal (throat) cancer
☐ Prostate cancer
☐ Rectal cancer
☐ Renal cancer (kidney cancer)
☐ Skin cancer, non-melanoma
☐ Stomach cancer
☐ Testicular cancer
☐ Thyroid cancer
☐ Other → Specify: _____

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Q3. At what age were you first told that you had cancer?

☐☐☐ Years old

Q4. Have any of your first- or second-degree biological relatives (parents, brothers and sisters, children, grandparents, aunts and uncles, nieces and nephews) ever had cancer?

☐ Yes
☐ No
☐ Not sure

R: You and Your Household

R1. What is your age?

☐☐☐ Years old

R4. About how many hours do you work per week at all of your jobs and businesses combined?

☐☐☐ Hours of work per week

R5. Which of the following best describe your current occupational status?

Mark **all that apply**.

☐ Employed, including self-employed
☐ Out of work for 1 year or more
☐ Out of work for less than 1 year
☐ A homemaker/caregiver
☐ A student
☐ Retired
☐ Unable to work (disabled)
☐ Other ➜ Specify: _____

R6. In the past 30 days, my work hours included…

Mark **all that apply**.

☐ I did not work in the past 30 days
☐ Early morning hours (4am-8am)
☐ Morning hours (8am-12pm)
☐ Afternoon hours (12pm-6pm)
☐ Evening hours (6pm-11pm)
☐ Night hours (11pm-4am)

R7. What is your marital status?

Mark only **one**.

☐ Married
☐ Living as married or living with a romantic partner
☐ Divorced
☐ Widowed
☐ Separated
☐ Single, never been married

R8. What is the highest grade or level of schooling you completed?

☐ Less than 8 years
☐ 8 through 11 years
☐ 12 years or completed high school
☐ Post high school training other than college (vocational or technical)
☐ Some college
☐ College graduate
☐ Postgraduate

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R9. Are you of Hispanic, Latino/a, or Spanish origin? One or more categories may be selected.
Mark **all that apply**.

- ☐ No, not of Hispanic, Latino/a, or Spanish origin
- ☐ Yes, Mexican, Mexican American, Chicano/a
- ☐ Yes, Puerto Rican
- ☐ Yes, Cuban
- ☐ Yes, another Hispanic, Latino/a, or Spanish origin

R10. What is your race? One or more categories may be selected.
Mark **all that apply**.

- ☐ White
- ☐ Black or African American
- ☐ American Indian or Alaska Native
- ☐ Asian Indian
- ☐ Chinese
- ☐ Filipino
- ☐ Japanese
- ☐ Korean
- ☐ Vietnamese
- ☐ Other Asian
- ☐ Native Hawaiian
- ☐ Guamanian or Chamorro
- ☐ Samoan
- ☐ Other Pacific Islander

R11. How much do you agree or disagree with the following statement?

I have a strong sense of belonging to my own ethnic, racial, and/or cultural group.

- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

R12. Do you think of yourself as…
Mark only **one**.

- ☐ Lesbian or gay
- ☐ Straight, that is, not gay or lesbian
- ☐ Bisexual
- ☐ I use a different term: _____
- ☐ Don't know

R13. **Including yourself**, how many people live in your household?

☐☐ Number of people

R14. How many children under the age of 18 live in your household?

☐☐ Number of children under 18

R15. Thinking about politics these days, how would you describe your own political viewpoint?

- ☐ Very Liberal
- ☐ Liberal
- ☐ Somewhat Liberal
- ☐ Moderate
- ☐ Somewhat Conservative
- ☐ Conservative
- ☐ Very Conservative

R16. Thinking about members of your family living in this household, what is your combined annual income, meaning the total pre-tax income from all sources earned in the past year?

- ☐ $0 to $9,999
- ☐ $10,000 to $14,999
- ☐ $15,000 to $19,999
- ☐ $20,000 to $34,999
- ☐ $35,000 to $49,999
- ☐ $50,000 to $74,999
- ☐ $75,000 to $99,999
- ☐ $100,000 to $199,999
- ☐ $200,000 or more

R17. Which one of these comes closest to your own feelings about your household's income?

- ☐ Living comfortably on present income
- ☐ Getting by on present income
- ☐ Finding it difficult on present income
- ☐ Finding it very difficult on present income

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R18. We invite you to participate in future health surveys for the National Cancer Institute (NCI). These are voluntary and will involve answering online surveys a few times a year. You will receive a $20 Amazon e-gift card once you have completed your first survey.

If you are interested in participating, please write your name and email address in the boxes below. You will then receive an email with instructions for how to register for future surveys. Your information will be kept private and will only be used to contact you about future surveys.

First name: [   ]

Last name: [   ]

E-mail: [   ]

Thank you!

We would like to send you $10 as a token of appreciation for completing this survey. You can receive the $10 cash in the mail or we can email you an Amazon e-gift card code.

To receive $10 in the mail at the address where you received this survey, please provide your first and last name below so we can address the envelope to you.

First name: [   ]

Last name: [   ]

To receive $10 as an Amazon e-gift card, please provide your e-mail address below. Please write legibly; we can only e-mail one gift code to your household:

☐ Use the email I provided above.

E-mail: [   ]

Please return this questionnaire in the postage-paid envelope within 2 weeks.

If you have lost the envelope, mail the completed questionnaire to:

> HINTS Study, WB 380F
> Westat
> 1600 Research Boulevard
> Rockville, MD 20850

47474

CI

Westat

Appendix B

Envelopes for Initial and First Two Follow up Mailings

U.S. Department of Health and Human Services
The National Institutes of Health

c/o Westat
1600 Research Boulevard, WB 380
Rockville, MD 20850-3129

RETURN SERVICE REQUESTED

Official Business
Penalty for Private Use, $300

FIRST-CLASS MAIL
POSTAGE & FEES
PAID
NIH/NICHD
PERMIT NO. G-806

Please respond within two weeks.
Por favor responda dentro de dos semanas.

Westat®

U.S. Department of Health and Human Services
The National Institutes of Health

c/o Westat
1600 Research Boulevard, WB 380
Rockville, MD 20850-3129

RETURN SERVICE REQUESTED

Official Business
Penalty for Private Use, $300

Thank you for being a part of this important national study.
Gracias por ser parte de este importante estudio nacional.

Please respond within two weeks.
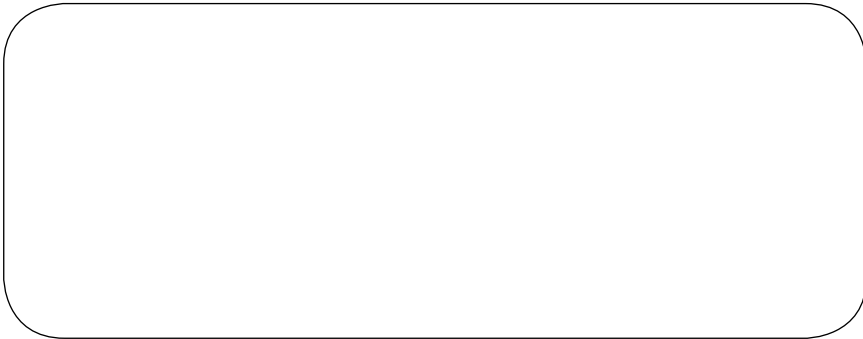Por favor responda dentro de dos semanas.

Westat®

U.S. Department of Health and Human Services
The National Institutes of Health

c/o Westat
1600 Research Boulevard, WB 380
Rockville, MD 20850-3129

RETURN SERVICE REQUESTED

Official Business
Penalty for Private Use, $300

Thank you for being a part of this important national study.

Please respond within two weeks.

Westat

U.S. Department of Health and Human Services
The National Institutes of Health
c/o Westat
1600 Research Boulevard, WB 380
Rockville, MD 20850-3129

RETURN SERVICE REQUESTED

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FPO

FIRST CLASS MAIL

Please respond within two weeks.
Por favor responda dentro de dos semanas.

IMPORTANT INFORMATION ENCLOSED

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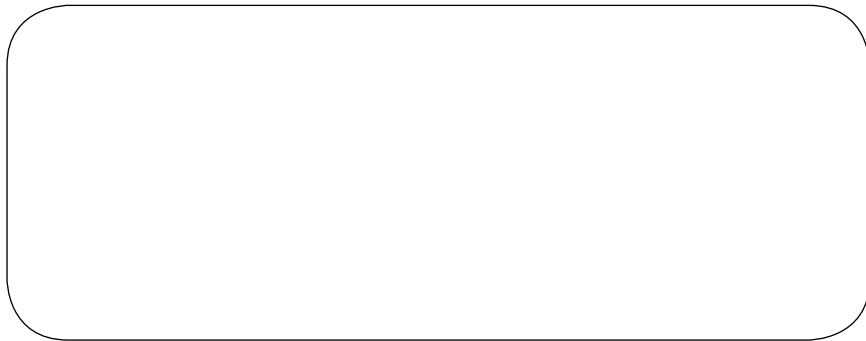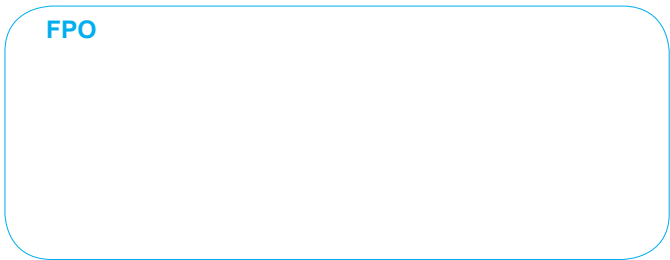
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U.S. Department of Health and Human Services
The National Institutes of Health
c/o Westat
1600 Research Boulevard, WB 380
Rockville, MD 20850-3129

RETURN SERVICE REQUESTED

Official Business
Penalty for Private Use, $300

FPO

FIRST CLASS MAIL

Please respond within two weeks.

IMPORTANT INFORMATION ENCLOSED

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Appendix C

English Contact Materials (Control Group)

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

Public Health Service

National Institutes of Health
Bethesda, Maryland 20892

FIRST MAILING

Dear {City} Resident:

We are writing to invite you to take part in an important national survey sponsored by the U.S. Department of Health and Human Services - the Health Information National Trends Survey (HINTS). The goal of HINTS is to learn about how people find and use health and medical information. By completing this survey, you will help us learn what health information you need and how to make that information available to you, your family, and your community.

In order to make sure we get responses from a random sample of people, **we ask the adult in your household with the next birthday to complete the survey in the next two weeks.**

To complete the survey online, please visit:

Survey Website: www.hints-survey.org
Your Access Code: {**1A0784B8**}

If you complete the survey online, you will receive a $10 Amazon e-gift card!

You may also fill out and return the paper survey that is included in this mailing. **You do not need to do both the online and paper versions of the survey.**

Your participation is voluntary and your responses will not be linked to your name. We have enclosed $2 as a token of our appreciation for your participation.

The study is sponsored by the U.S. Department of Health and Human Services. Westat, a research firm, is conducting the survey. If you have any questions about HINTS, please call Westat toll-free at 1-888-738-6805. Thank you in advance for your participation.

Sincerely,

Kelly D. Blake, ScD
Director, HINTS
National Cancer Institute, National Institutes of Health
U.S. Dept. of Health and Human Services

Si prefiere recibir la encuesta en español, por favor llame al 1-888-738-6812.

The Health Information National Trends Survey is authorized under 42 USC, Section 285A.

SECOND MAILING- POSTCARD TEXT

A few days ago you should have received a survey packet asking for your household's participation in the Health Information National Trends Survey (HINTS). By participating in HINTS, you can help the U.S. Department of Health and Human Services determine the best ways of communicating important health information to members of your community.

We are inviting the adult in the household with the next birthday to complete the survey. If that adult has already completed the survey, please accept my sincere thanks. If that adult has not yet completed the survey, we ask that he or she please do so as soon as possible.

To complete HINTS online, please visit:

Survey Website: www.hints-survey.org
Access code: {**1A0784B8**}

If you complete the survey online, you will receive a $10 Amazon e-gift card. If you prefer to answer a paper version of the survey, an extra copy will be mailed to your household in the next few weeks. **You do not need to do both the online and paper versions of the survey.**

Sincerely,

Kelly D. Blake, ScD
Director, HINTS
National Cancer Institute, National Institutes of Health
U.S. Dept. of Health and Human Services

THIRD AND FOURTH MAILINGS

Dear {City} Resident:

We recently invited you to participate in an important national survey sponsored by the U.S. Department of Health and Human Services (HHS). The goal of the Health Information National Trends Survey (HINTS) is to learn about how people find and use health and medical information. Your responses will help us keep you, your family, and members of your community better informed on the health issues that matter to you.

We have not yet received your completed survey. To make sure HINTS provides accurate information, we need all the households invited to participate in this year's HINTS to complete the survey. In order to make sure we get responses from a random sample of people, **we ask the adult in your household with the next birthday to complete the survey in the next two weeks.**

To complete the survey online, please visit:

> **Survey Website:** www.hints-survey.org
> **Your Access Code:** {**1A0784B8**}

If you complete the survey online, you will receive a$10 Amazon e-gift card!

You may also fill out and return the paper survey that is included in this mailing. **You do not need to do both the online and paper versions of the survey.**

If you completed the survey before receiving this letter, thank you for the time you took to help make this study a success. If you have any questions, please call Westat toll free at 1-888-738-6805. Thank you in advance for contributing to this important national study.

Sincerely,

Kelly D. Blake, ScD
Director, HINTS
National Cancer Institute, National Institutes of Health
U.S. Dept. of Health and Human Services

Si prefiere recibir la encuesta en español, por favor llame al 1-888-738-6812.

The Health Information National Trends Survey is authorized under 42 USC, Section 285A.

Some Frequently Asked Questions about the
Health Information National Trends Survey

Q: **I completed the survey online. Do I also need to complete the paper survey?**

A: No, you only need to complete the survey **once.** If you completed the survey online then you do not need to return the paper survey.

Q: **What is the study about? What kind of questions do you ask?**

A: You can find out more about HINTS at hints.cancer.gov. The study concerns health and how people get health information. For example, we will ask how you usually get information about health and what sources of information you most trust. We will also ask about your beliefs on what contributes to good health, how best to prevent cancer, and other health related topics.

Q: **How will the study results be used?**

A: The results will help the U.S. Department of Health and Human Services promote good health and prevent disease by determining the best ways to communicate accurate health information.

Q: **How did you get my address?**

A: Your address was randomly selected from among all of the known home addresses in the nation. It was selected using scientific sampling methods.

Q: **Why should I take part in this study? Do I have to do this?**

A: Getting answers from all the households chosen for the study is the best way to make sure the study results reflect the thoughts and opinions of all Americans. Your participation is voluntary, and you may refuse to answer any questions or leave the study at any time. However, your answers are very important to the success of this study and will represent thousands of others.

Q: **Will my answers to the survey be kept private?**

A: Yes. Your answers will be kept private under the Privacy Act. Your answers cannot be linked to any information that could identify you or your household, to the extent provided by law. Your completed survey will be stored in a secure file with restricted access. All contact information for your household (such as mailing address) will be destroyed shortly after the research is finalized.

Q: **How long will it take to answer the questions?**

A: About 20 to 30 minutes.

Q: **Who is sponsoring the study?**

A: The study is sponsored by the U.S. Department of Health and Human Services.

Q: **Who is Westat?**

A: Westat is a research company located in Rockville, Maryland. Westat is conducting this survey under contract to the U.S. Department of Health and Human Services.

Westat®

Appendix D

Spanish Contact Materials (Control Group)

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

Public Health Service

National Institutes of Health
Bethesda, Maryland 20892

FIRST MAILING

Estimado(a) habitante de {City}:

Le escribimos para invitarle a participar en una importante encuesta nacional que patrocina el Departamento de Salud y Servicios Humanos de Estados Unidos - la Encuesta Nacional de Tendencias sobre Información de la Salud (HINTS, por sus siglas en inglés). El objetivo de HINTS es aprender cómo las personas encuentran y utilizan la información médica y de salud. Al contestar esta encuesta, nos ayudará a saber qué información de salud necesita y cómo ponerla a disposición de usted, su familia y su comunidad.

Para asegurarnos de recibir respuestas de una muestra aleatoria de personas, **le pedimos al adulto de su hogar que vaya a cumplir años próximamente que conteste la encuesta en las próximas dos semanas.**

Para contestar la encuesta por Internet, visite:

> **la página web de la encuesta:** www.hints-survey.org
> **Su código de acceso:** {**1A0784B8**}

Si contesta la encuesta por Internet, recibirá una tarjeta de regalo electrónica de Amazon por valor de 10 dólares.

Además, puede contestar y devolver la encuesta impresa adjunta en esta carta. **No es necesario contestar la versión impresa y por Internet de la encuesta.**

Su participación es voluntaria, y sus respuestas no se relacionarán con su nombre. Como muestra de agradecimiento por su participación adjuntamos 2 dólares.

Patrocina el estudio el Departamento de Salud y Servicios Humanos de Estados Unidos. Westat, una compañía de estudios de investigación realiza la encuesta. Si desea hacer alguna pregunta sobre HINTS, llame al servicio gratuito de Westat al 1-888-738-6812. Le agradecemos de antemano su participación.

Atentamente,

Kelly D. Blake, ScD
Directora de HINTS
Instituto Nacional del Cáncer, Institutos
Nacionales de Salud del Departamento de Salud y
Servicios Humanos de Estados Unidos

La Encuesta Nacional de Tendencias sobre Información de la Salud está autorizada bajo el Título 42, Sección 285A del Código de Estados Unidos.

hints
Health
Information
National
Trends
Survey

SECOND MAILING- POSTCARD TEXT

Hace unos días debió haber recibido un paquete con una encuesta solicitando la participación de su hogar en la Encuesta Nacional de Tendencias sobre Información de la Salud (HINTS, por sus siglas en inglés). Al participar en HINTS, puede ayudar al Departamento de Salud y Servicios Humanos de Estados Unidos a determinar las mejores formas de comunicar información de salud importante a los miembros de su comunidad.

Invitamos al adulto de su hogar que vaya a cumplir años próximamente que conteste la encuesta. Si ese adulto ya contestó la encuesta, acepte mi más sincero agradecimiento. Si ese adulto aún no ha contestado la encuesta, le pedimos que lo haga tan pronto como sea posible.

Para contestar HINTS por Internet, visite:

> la página web de la encuesta: www.hints-survey.org
> Código de acceso: {**1A0784B8**}

Si contesta la encuesta por Internet, recibirá una tarjeta de regalo electrónica de Amazon por valor de 10 dólares. Si prefiere contestar una versión impresa de la encuesta, se le enviará por correo una copia adicional a su hogar en las próximas semanas. **No es necesario contestar la versión impresa y por Internet de la encuesta.**

Atentamente,

Kelly D. Blake

Kelly D. Blake, ScD
Directora de HINTS
Instituto Nacional del Cáncer, Institutos
Nacionales de Salud del Departamento de Salud
y Servicios Humanos de Estados Unidos

Appendix E

English Contact Materials (Treatment Group)

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

Public Health Service
_____

National Institutes of Health
Bethesda, Maryland 20892

FIRST MAILING

Dear {City} Resident:

We are writing to invite you to take part in an important national survey sponsored by the U.S. Department of Health and Human Services - the Health Information National Trends Survey (HINTS). The goal of HINTS is to learn about how people find and use health and medical information. By completing this survey, you will help us learn what health information you need and how to make that information available to you, your family, and your community.

In order to make sure we get responses from a random sample of people, **we ask the adult in your household with the next birthday to complete the survey in the next two weeks.**

We will send you $10 after receiving your completed survey. If you complete the survey online, you will receive an additional $10 (that's $20 total if you respond online!).

To complete the survey online, please visit:

> **Survey Website:** www.hints-survey.org
> **Your Access Code:** {**1A0784B8**}

You may also fill out and return the paper survey that is included in this mailing. **You do not need to do both the online and paper versions of the survey.**

Your participation is voluntary and your responses will not be linked to your name. We have enclosed $2 as a token of our appreciation for your participation.

The study is sponsored by the U.S. Department of Health and Human Services. Westat, a research firm, is conducting the survey. If you have any questions about HINTS, please call Westat toll-free at 1-888-738-6805. Thank you in advance for your participation.

Sincerely,

Kelly D. Blake, ScD
Director, HINTS
National Cancer Institute, National Institutes of Health
U.S. Dept. of Health and Human Services

Si prefiere recibir la encuesta en español, por favor llame al 1-888-738-6812.

The Health Information National Trends Survey is authorized under 42 USC, Section 285A.

Health
Information
National
Trends
Survey

hints

Westat®

SECOND MAILING- POSTCARD TEXT

A few days ago you should have received a survey packet asking for your household's participation in the Health Information National Trends Survey (HINTS). By participating in HINTS, you can help the U.S. Department of Health and Human Services determine the best ways of communicating important health information to members of your community.

We are inviting the adult in the household with the next birthday to complete the survey. If that adult has already completed the survey, please accept my sincere thanks. If that adult has not yet completed the survey, we ask that he or she please do so as soon as possible.

We will send you $10 after receiving your completed survey. If you complete the survey online, you will receive an additional $10 (that's $20 total if you respond online!).

To complete HINTS online, please visit:

Survey Website: www.hints-survey.org
Access code: {**1A0784B8**}

If you prefer to answer a paper version of the survey, an extra copy will be mailed to your household in the next few weeks. **You do not need to do both the online and paper versions of the survey.**

Sincerely,

Kelly D. Blake, ScD
Director, HINTS
National Cancer Institute, National Institutes of Health
U.S. Dept. of Health and Human Services

THIRD AND FOURTH MAILINGS

Dear {City} Resident:

We recently invited you to participate in an important national survey sponsored by the U.S. Department of Health and Human Services (HHS). The goal of the Health Information National Trends Survey (HINTS) is to learn about how people find and use health and medical information. Your responses will help us keep you, your family, and members of your community better informed on the health issues that matter to you.

We have not yet received your completed survey. To make sure HINTS provides accurate information, we need all the households invited to participate in this year's HINTS to complete the survey. In order to make sure we get responses from a random sample of people, **we ask the adult in your household with the next birthday to complete the survey in the next two weeks.**

We will send you $10 after receiving your completed survey. If you complete the survey online, you will receive an additional $10 (that's $20 total if you respond online!).

To complete the survey online, please visit:

> **Survey Website:** www.hints-survey.org
> **Your Access Code:** {**1A0784B8**}

You may also fill out and return the paper survey that is included in this mailing. **You do not need to do both the online and paper versions of the survey.**

If you completed the survey before receiving this letter, thank you for the time you took to help make this study a success. If you have any questions, please call Westat toll free at 1-888-738-6805. Thank you in advance for contributing to this important national study.

Sincerely,

Kelly D. Blake, ScD
Director, HINTS
National Cancer Institute, National Institutes of Health
U.S. Dept. of Health and Human Services

Si prefiere recibir la encuesta en español, por favor llame al 1-888-738-6812.

The Health Information National Trends Survey is authorized under 42 USC, Section 285A.

Some Frequently Asked Questions about the Health Information National Trends Survey

Q: **I completed the survey online. Do I also need to complete the paper survey?**

A: No, you only need to complete the survey **once.** If you completed the survey online then you do not need to return the paper survey.

Q: **What is the study about? What kind of questions do you ask?**

A: You can find out more about HINTS at hints.cancer.gov. The study concerns health and how people get health information. For example, we will ask how you usually get information about health and what sources of information you most trust. We will also ask about your beliefs on what contributes to good health, how best to prevent cancer, and other health related topics.

Q: **How will the study results be used?**

A: The results will help the U.S. Department of Health and Human Services promote good health and prevent disease by determining the best ways to communicate accurate health information.

Q: **How did you get my address?**

A: Your address was randomly selected from among all of the known home addresses in the nation. It was selected using scientific sampling methods.

Q: **Why should I take part in this study? Do I have to do this?**

A: Getting answers from all the households chosen for the study is the best way to make sure the study results reflect the thoughts and opinions of all Americans. Your participation is voluntary, and you may refuse to answer any questions or leave the study at any time. However, your answers are very important to the success of this study and will represent thousands of others.

Q: **Will my answers to the survey be kept private?**

A: Yes. Your answers will be kept private under the Privacy Act. Your answers cannot be linked to any information that could identify you or your household, to the extent provided by law. Your completed survey will be stored in a secure file with restricted access. All contact information for your household (such as mailing address) will be destroyed shortly after the research is finalized.

Q: **How long will it take to answer the questions?**

A: About 20 to 30 minutes.

Q: **Who is sponsoring the study?**

A: The study is sponsored by the U.S. Department of Health and Human Services.

Q: **Who is Westat?**

A: Westat is a research company located in Rockville, Maryland. Westat is conducting this survey under contract to the U.S. Department of Health and Human Services.

Appendix F

Spanish Contact Materials (Treatment Group)

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

Public Health Service

National Institutes of Health
Bethesda, Maryland 20892

FIRST MAILING

Estimado(a) habitante de {City}:

Le escribimos para invitarle a participar en una importante encuesta nacional que patrocina el Departamento de Salud y Servicios Humanos de Estados Unidos: la Encuesta Nacional de Tendencias sobre Información de la Salud (HINTS, por sus siglas en inglés). El objetivo de HINTS es aprender cómo las personas encuentran y utilizan la información médica y de salud. Al contestar esta encuesta, nos ayudará a saber qué información de salud necesita y cómo ponerla a disposición de usted, su familia y su comunidad.

Para asegurarnos de recibir respuestas de una muestra aleatoria de personas, **le pedimos al adulto de su hogar que vaya a cumplir años próximamente que conteste la encuesta en las próximas dos semanas.**

Le enviaremos 10 dólares después de haber recibido la encuesta contestada. Si contesta la encuesta por Internet, recibirá 10 dólares adicionales (¡eso es 20 dolares en total si la contesta por Internet!).

Para contestar la encuesta por Internet, visite:

la página web de la encuesta: www.hints-survey.org
Su código de acceso: {1A0784B8}

Además, puede contestar y devolver la encuesta impresa adjunta en esta carta. **No es necesario contestar la versión impresa y por Internet de la encuesta.**

Su participación es voluntaria, y sus respuestas no se relacionarán con su nombre. Como muestra de agradecimiento por su participación adjuntamos 2 dólares.

Patrocina el estudio el Departamento de Salud y Servicios Humanos de Estados Unidos. Westat, una compañía de estudios de investigación, realiza la encuesta. Si desea hacer alguna pregunta sobre HINTS, llame al servicio gratuito de Westat al 1-888-738-6812. Le agradecemos de antemano su participación.

Atentamente,

Kelly D. Blake, ScD
Directora de HINTS
Instituto Nacional del Cáncer, Institutos Nacionales de Salud
del Departamento de Salud y Servicios Humanos de Estados Unidos

La Encuesta Nacional de Tendencias sobre Información de la Salud está autorizada bajo el Título 42, Sección 285A del Código de Estados Unidos.

Health Information National Trends Survey

hints

SECOND MAILING- POSTCARD TEXT

Hace unos días debió haber recibido un paquete con una encuesta solicitando la participación de su hogar en la Encuesta Nacional de Tendencias sobre Información de la Salud (HINTS, por sus siglas en inglés). Al participar en HINTS, puede ayudar al Departamento de Salud y Servicios Humanos de Estados Unidos a determinar las mejores formas de comunicar información de salud importante a los miembros de su comunidad.

Invitamos al adulto de su hogar que vaya a cumplir años próximamente que conteste la encuesta. Si ese adulto ya contestó la encuesta, acepte mi más sincero agradecimiento. Si ese adulto aún no ha contestado la encuesta, le pedimos que lo haga tan pronto como sea posible.

Le enviaremos 10 dólares después de haber recibido la encuesta contestada. Si contesta la encuesta por Internet, recibirá 10 dólares adicionales (¡eso es 20 dolares en total si la contesta por Internet!).

Para contestar HINTS por Internet, visite:

> **la página web:** www.hints-survey.org
> **Código de acceso: {1A0784B8}**

Si prefiere contestar una versión impresa de la encuesta, se le enviará por correo una copia adicional a su hogar en las próximas semanas. **No es necesario contestar la versión impresa y por Internet de la encuesta.**

Atentamente,

Kelly D. Blake

Kelly D. Blake, ScD
Directora de HINTS
Instituto Nacional del Cáncer, Institutos Nacionales de Salud
del Departamento de Salud y Servicios Humanos de Estados Unidos

THIRD AND FOURTH MAILINGS

Estimado(a) habitante de {City}:

Recientemente se le invitó a participar en una importante encuesta nacional que patrocina el Departamento de Salud y Servicios Humanos de Estados Unidos (HHS, por sus siglas en inglés). El objetivo de la Encuesta Nacional de Tendencias sobre Información de la Salud (HINTS, por sus siglas en inglés) es aprender cómo las personas encuentran y utilizan la información médica y de salud. Sus respuestas nos ayudarán a mantener a usted, a su familia y a los miembros de su comunidad mejor informados sobre los problemas de salud que le interesan.

No hemos recibido su encuesta contestada. Para asegurarnos de que HINTS proporcione información precisa, necesitamos que todos los hogares invitados a participar en HINTS de este año contesten la encuesta. Para asegurarnos de recibir respuestas de una muestra aleatoria de personas, **le pedimos al adulto de su hogar que cumpla años el próximo año que conteste la encuesta en las próximas dos semanas.**

Le enviaremos 10 dólares después de haber recibido la encuesta contestada. Si contesta la encuesta por Internet, recibirá 10 dólares adicionales (¡eso es 20 dolares en total si la contesta por Internet!).

Para contestar la encuesta por Internet, visite:

> **la página web de la encuesta:** www.hints-survey.org
> **Su código de acceso: {1A0784B8}**

Además, puede contestar y devolver la encuesta impresa adjunta en esta carta. **No es necesario contestar la versión impresa y por Internet de la encuesta.**

Si contestó la encuesta antes de recibir esta carta, le agradecemos por el tiempo que se tomó para ayudar a que este estudio sea un éxito. Si desea hacer alguna pregunta sobre HINTS, llame al servicio gratuito de Westat al 1-888-738-6812. Le agradecemos de antemano por contribuir a este importante estudio nacional.

Atentamente,

Kelly D. Blake, ScD
Directora de HINTS
Instituto Nacional del Cáncer, Institutos Nacionales de Salud
del Departamento de Salud y Servicios Humanos de Estados Unidos

La Encuesta Nacional de Tendencias sobre Información de la Salud está autorizada bajo el Título 42, Sección 285A del Código de Estados Unidos.

P: **Llené la encuesta en línea. ¿Necesito también llenarla en papel?**

R: No, solamente necesita llenarla una vez. Si ya completó la encuesta en línea, entonces, no necesita regresar la encuesta en papel.

P: **¿De qué se trata el estudio? ¿Qué tipo de preguntas contiene?**

R: Puede encontrar más información sobre HINTS en hints.cancer.gov. El estudio trata sobre la salud y la manera en que las personas reciben información sobre la salud. Por ejemplo, le preguntaremos cómo obtiene normalmente información sobre salud y en qué fuentes de información más confía. También le preguntaremos sobre lo que cree que contribuye a la buena salud, la mejor manera de prevenir el cáncer y otros temas relacionados con la salud.

P: **¿Cómo se utilizarán los resultados del estudio?**

R.   Los resultados ayudarán al Departamento de Salud y Servicios Humanos de EE. UU. a fomentar la buena salud y a prevenir las enfermedades al determinar las mejores maneras de comunicar información correcta de salud.

P: **¿Cómo obtuvieron mi dirección?**

R: Su dirección fue seleccionada al azar entre todas las direcciones conocidas en el país usando métodos científicos de muestreo.

P: **¿Por qué debo participar en este estudio? ¿Es obligatorio hacerlo?**

R: El obtener respuestas de todos los hogares escogidos para este estudio es la mejor manera de asegurar que se reflejen los pensamientos y opiniones de todos los estadounidenses. Su participación es voluntaria y usted puede rehusarse a contestar cualquiera de las preguntas o retirarse del estudio en cualquier momento. Sin embargo, sus respuestas son muy importantes para el éxito de este estudio y representarán a miles de personas.

P: **¿Se mantendrá la privacidad de mis respuestas a la encuesta?**

R.   Sí. Sus respuestas se mantendrán privadas en virtud de la Ley de Privacidad. Sus respuestas no pueden asociarse a su nombre ni a ninguna otra información que podría identificarlo a usted o a su hogar en la medida de lo permisible por ley. La encuesta completa se almacenará en un archivo separado con acceso restringido. Toda la información de contacto para su hogar (tal como la dirección postal) se destruirá poco después de la finalización de la investigación.

P: **¿Cuánto tiempo tomará responder las preguntas?**

R: Entre 20 a 30 minutos.

P: **¿Quién patrocina el estudio?**

R: El estudio es patrocinado por el Departamento de Salud y Servicios Humanos de los Estados Unidos.

P: **¿Quién es Westat?**

R.   Westat es una compañía de investigación ubicada en Rockville, Maryland. Westat realiza esta encuesta bajo contrato con el Departamento de Salud y Servicios Humanos de los Estados Unidos.

Appendix G

English and Spanish Inserts
(Control and Treatment Group)

Source: Printed insert for mailing (hard-copy only).

Source: Printed insert for mailing (hard-copy only).

2 ways to complete the
Health Information National Trends Survey!
You will receive...

hints

$20 ▶ **If you complete the survey online at: www.hints-survey.org**

OR ──────── **OR** ────────

See the enclosed letter for details

$10 ▶ **If you fill out and return the enclosed paper survey**

Source: Printed insert for mailing (hard-copy only).

2 maneras de contestar la
¡Encuesta Nacional de Tendencias sobre Información de la Salud!
Recibirá...

hints

$20 ▶ **Si contesta la encuesta por Internet en: www.hints-survey.org**

O ──────── **O** ────────

Consulte la carta que se le adjunta para obtener más detalles.

$10 ▶ **Si contesta y devuelve la encuesta impresa adjunta**

Source: Printed insert for mailing (hard-copy only).

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Appendix H

Contact Materials, Insert, and envelope for Additional Follow up Mailing

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

Public Health Service

National Institutes of Health
Bethesda, Maryland 20892

FIFTH MAILING

Dear {City} Resident:

We recently invited you to participate in HINTS – the Health Information National Trends Survey, sponsored by the U.S. Department of Health and Human Services (HHS). Your response will help us keep you, your family, and members of your community informed on the health issues that matter to you.

We have not yet received your completed survey. To make sure HINTS is accurate, we need all the invited households to participate. **We are now offering $30 for completing the survey by web or by paper.**

In order to make sure we get responses from a random sample of people, **we ask the adult in your household with the next birthday to complete the survey in the next two weeks.** To complete the survey online, please visit:

> **Survey Website:** www.hints-survey.org
> **Your Access Code:** {1A0784B8}

If your household completed the survey before receiving this letter, thank you for the time you took to help make this study a success. If you have any questions, please call Westat toll free at 1-888-738-6805. Thank you in advance for contributing to HINTS.

Sincerely,

Kelly D. Blake, ScD
Director, HINTS
National Cancer Institute, National Institutes of Health
U.S. Dept. of Health and Human Services

Si prefiere recibir la encuesta en español, por favor llame al 1-888-738-6812.

The Health Information National Trends Survey is authorized under 42 USC, Section 285A.

Health
Information
National
Trends
Survey

hints

Some Frequently Asked Questions about the Health Information National Trends Survey

Q: **I completed the survey online. Do I also need to complete the paper survey?**

A: No, you only need to complete the survey **once.** If you completed the survey online then you do not need to return the paper survey.

Q: **What is the study about? What kind of questions do you ask?**

A: You can find out more about HINTS at hints.cancer.gov. The study concerns health and how people get health information. For example, we will ask how you usually get information about health and what sources of information you most trust. We will also ask about your beliefs on what contributes to good health, how best to prevent cancer, and other health related topics.

Q: **How will the study results be used?**

A: The results will help the U.S. Department of Health and Human Services promote good health and prevent disease by determining the best ways to communicate accurate health information.

Q: **How did you get my address?**

A: Your address was randomly selected from among all of the known home addresses in the nation. It was selected using scientific sampling methods.

Q: **Why should I take part in this study? Do I have to do this?**

A: Getting answers from all the households chosen for the study is the best way to make sure the study results reflect the thoughts and opinions of all Americans. Your participation is voluntary, and you may refuse to answer any questions or leave the study at any time. However, your answers are very important to the success of this study and will represent thousands of others.

Q: **Will my answers to the survey be kept private?**

A: Yes. Your answers will be kept private under the Privacy Act. Your answers cannot be linked to any information that could identify you or your household, to the extent provided by law. Your completed survey will be stored in a secure file with restricted access. All contact information for your household (such as mailing address) will be destroyed shortly after the research is finalized.

Q: **How long will it take to answer the questions?**

A: About 20 to 30 minutes.

Q: **Who is sponsoring the study?**

A: The study is sponsored by the U.S. Department of Health and Human Services.

Q: **Who is Westat?**

A: Westat is a research company located in Rockville, Maryland. Westat is conducting this survey under contract to the U.S. Department of Health and Human Services.

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U.S. Department of Health and Human Services
The National Institutes of Health

c/o Westat
1600 Research Boulevard, WB 380
Rockville, MD 20850-3129

RETURN SERVICE REQUESTED
_____

Official Business
Penalty for Private Use, $300

Last chance to participate in this important national study.

Última oportunidad para participar en este importante estudio nacional.

Please respond within two weeks.
Por favor responda dentro de dos semanas.

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Appendix I

Variable Values and Data Editing Procedures

Mail Processing and TeleForm Verifier Rules

#	Process	Issue	Rule
1	WB Mail Processing	Respondent writes refused on top of survey or survey is blank	WB Field Room- only complete forms are receipted in TF Receipt and sent to Scan Ops for processing.
2	WB Mail Processing/Receipting	Barcode ID does not scan	Enter human readable ID.
3	Verification/QC	Intended Response Clear Respondent has made correction	Enter intended response
4	Verification/QC	Response is unreadable Response is numeric Response is alpha	Leave blank Enter "Unreadable"
5	Verification/QC	Multiple response to mark one where TF accepts all responses: A2a-d, A3a-f, A4, A5, B4, B5a-c, B7, B9, B11, B12a-e, B14a-d C3, C4a-g, C8a-b, C9, C10, C11, C14 D2, D4a-d, D5, D6 E1a-b, E4, E6, E9, E11 F2, F6, G3, H1, H3, I1, I2, I9a-d, I10a-d, I13 J1, J2, J3a-b, K1a-e, K2a-b, L1, L2, L3, L4, M3, M4, M5a-b N5, N9, N10, O1, O2, O3, O5, O6, O7, P1a-d, P3 Q4, R2, R3, R7, R11, R12, R15, R17	Leave as is TeleForm is set up to accept multiple responses to these "Mark 1" questions No DDL entry required
6	Verification/QC	M1 response exceeds 1 box Response will be entered in the DB viewer in QC	Enter response as written, flag for QC
7	Verification/QC	Multiple response to Mark One where TF accepts ONE response (for these questions only): B1, B8, B13, C2, C7, C13, D1, E3, E10, F1, I11, O8 All other Mark one where TF accepts one response	Clear response and enter in DDL Clear response; no DDL entry
8	Verification/QC	Multiple response to range question: Q R8 Education Q R16 Income	Choose highest; no DDL entry Choose highest; no DDL entry

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#	Process	Issue	Rule
9	Verification/QC	Other Specify text	Other specify text is entered exactly as written. Profanity is replaced with "expletive"
10	Verification/QC	Rounding rule: COV2, I6, I7, I8a-b, I12, I14, J4, M1, M2, R4, R13, R14 Age (Q3, R1) is never rounded up	Round up .5 or greater; round down below .5
11	Verification/QC	Response exceeds the number of boxes M1 is the exception. This is entered in QC	Clear response and enter in DDL Do not enter M1 in the DDL
12	Verification/QC	Response = ?, NA	Clear response
13	Verification/QC	Respondent gives a range	Enter higher value: ex.: 2-3 enter 3, 4-5 enter 5 2-4 take 3 "mid point"

Missing Value Definitions

Values identifying types of nonresponse or indeterminate responses:

- -1 = Valid skips or appropriately missing data following a dependent question (correctly skipped). Example: If SeekCancerInfo=2 'no' and CancerLotOfEffort was missing, CancerLotOfEffort was assigned the value -1.

- -2 = Question was answered, but respondent should not have answered the question. The question was answered in error by the respondent. Example: If SeekCancerInfo=2 'no' and CancerLotOfEffort was not missing, CancerLotOfEffort was assigned the value -2.

- -4 = Question was answered, but data was removed because the entry of the number or character could not be determined (e.g. unreadable or non-conforming numeric response).

- -5 = Respondent selected more response options than appropriate for the question. Example: If CancerTrustDoctor had values 3 'a little' and 2 'some', CancerTrustDoctor was assigned the value -5. In cases where both -2 and -5 values could be assigned, the -2 value was assigned.

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- -6 = Missing data in variables following a missing filter question. Example: If filter question (e.g., SeekCancerInfo) was missing (assigned the value -9) and variables up to the next applicable question (e.g. CancerTrustDoctor) were missing (e.g., CancerLotOfEffort = missing and CancerFrustrated = missing and CancerConcernedQuality = missing and CancerTooHardUnderstand = missing), then the variables with missing values were assigned the value -6.

- -7 = Missing data (exclusive to web mode respondent variables), question never presented due to break off in interview. Example: If web mode respondent reached any point in questionnaire and exited interview without finishing, exit point would be assigned the traditional Missing data value (-9), and all variables thereafter would be assigned the value -7.

- -9 = Missing data. Not ascertained. Question should have been answered, but no response was recorded. Example: If HealthRecsConflict was missing, it was assigned the value -9.

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Data Editing Procedures

Variable	Editing Rule	Description of Rule
AdultsInHH	Recoding initial filter/skip question	The value of the following response, MailHHAdults, determined how missing responses to AdultsInHH were re-assigned. As an example, if AdultsInHH was missing and MailHHAdults initially had value 1 (adult in household) then AdultsInHH was assigned the value 2 'no' (indicating not more than 1 adult in the household) and MailHHAdults was assigned the 'missing value' -2 (answered inappropriately). If AdultsInHH was missing and MailHHAdults had value 2 (or greater) then AdultsInHH was assigned the value 1 'yes' (indicating more than 1 adult in the household) and the value for MailHHAdults was retained.
SeekCancerInfo EverHadCancer SeenFedCourtTobMessages	Recoding filter/skip questions	For these filter questions (questions containing a skip instruction associated with the particular response that was selected), response patterns following the question were examined if the filter question was not answered. The 'yes' value (in the majority of cases where a 'yes' response instructed a respondent to continue answering the subsequent questions) was substituted for the missing filter question when any of the subsequent questions were answered. Similarly (when a 'no' response instructed a respondent to skip subsequent questions), the 'no' value was substituted for the missing filter question when all of the subsequent questions that a 'no' response would have directed the respondent to skip were left unanswered and the respondent answered the next applicable question all respondents were supposed to answer. Please note that if neither condition was met, the missing response code values were retained.
NoTelehealth_IMP RecentTelehealthReason2_IMP SexualOrientation_I	Imputation for multiple responses	Imputation was carried out when multiple responses were selected, resulting in one unique response for these "mark only one" variables. Respondent's multiple answers were replaced with a single imputed answer that had the same distribution over the multiple answers as occurred in the single-answer responses. Imputation was not performed on missing values for this question. The suffixes "_IMP" and "_I" indicate that these variables include imputed values. Flags (indicated by suffix '_IFlag') indicate which values were imputed.

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Variable	Editing Rule	Description of Rule
Internet_Cell2 Internet_HighSpeed2 Electronic2_HealthInfo Electronic2_MessageDoc Electronic2_TestResults Electronic2_MadeAppts UseDevice_Computer UseDevice_SmPhone UseDevice_Tablet UseDevice_SmWatch RecordsOnline2_ViewResults RecordsOnline2_ViewNotes HealthLimits_Deaf HealthLimits_Blind HealthLimits_Mobility HealthLimits_Pain MedConditions_Diabetes MedConditions_HighBP MedConditions_HeartCondition MedConditions_LungDisease MedConditions_Depression Sunburned_Alcohol2 Sunburned_Marijuana	Recoding missing responses for items with forced-choice response formats	Respondents were asked to select 'yes' or 'no' to a series of sub-items, allowing them to select as many responses as would apply. These 'forced-choice' response formats sometimes result in respondents indicating which sub-items apply to them by selecting the 'yes' response option for some and leaving the others unanswered. To allow the data to reflect this practice, if respondents did check one or more 'yes' response options within the group, but did not check a 'no' response option for any sub-item in the question, the sub-items that were missing a response were set to 'no.' However, if a respondent, in addition to leaving other sub-items unanswered, did select a 'no' response option for at least one sub-item, the unanswered sub-items were not assumed to be 'no' responses and instead remained missing.
HealthInsurance2_I EverHadCancer_I Age_I Sex_I MaritalStatus_I Education_I Hisp_Cat_I Race_Cat2_I	Imputation for missing responses	Missing values were imputed for variables that were used in the process of assigning weights. The suffix "_I" indicates that this variable includes imputed values. Flags (indicated by suffix '_IFlag') indicate which values were imputed.
WearableDevTrackHealth2 ReceiveTelehealthcare	Recoding filter/skip questions	For these filter questions (questions containing a skip instruction associated with the particular response that was selected), response patterns following the question were examined if the filter question was not answered. The value representing the response which moves forward was substituted for the missing filter question if any of the subsequent questions that the response directed the respondent to skip were answered. However, missing values were not substituted with other values if the filter question was not answered and the follow up questions were also not answered. (-9 follows the skip pattern.)

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Variable	Editing Rule	Description of Rule
FreqUseInternet MisleadingHealthInfo FreqGoProvider TalkedDoctor2 ManageMultipleProviders AccessOnlineRecord3 KnowledgePalliativeCare TimesModerateExercise	Recoding filter/skip questions	For these filter questions (questions containing a skip instruction associated with the particular response that was selected), response patterns following the question were examined if the filter question was not answered. The value representing the skip response was substituted for the missing filter question if all of the subsequent questions that the response directed the respondent to skip were left unanswered, and the respondent answered the next applicable question. However, missing values were not substituted with other values if the filter question was not answered but a follow-up question was answered. (-9 answers the follow up questions and/or -6 value is used in missing follow up questions.)
Height_Feet Height_Inches	Edits for implausible values	The rules that were applied minimized the number of out-of-range values by accounting for response measurements in incorrect boxes, responses using metric, responses using only one unit of measurement and other response errors. **Rules Applied to Edit Height Variables:** If HEIGHT_Feet was 0 or missing and HEIGHT_Inches>48 and HEIGHT_Inches<=60, then the first digit was taken as the feet value and the second digit was taken as the inches value (to correct for respondents expressing both feet and inches in the inches box). If HEIGHT_Feet was 0 or missing and HEIGHT_Inches>61 and HEIGHT_Inches<=83, then the inches value was converted to its feet-and-inches equivalent (to correct for respondents expressing height in inches, resulting in heights from 5'1" to 6'11"). If HEIGHT_Feet was 1 and HEIGHT_Inches>=3 and HEIGHT_Inches<=9 (or HEIGHT_Inches>=30 and HEIGHT_Inches<=90) then this metric value was converted to feet-and-inches (to correct for respondents using meters and tenths and hundredths of a meter to express height). If HEIGHT_Feet>3 and HEIGHT_Feet<7 and HEIGHT_Inches = 20, 30, etc. thru 90 then the trailing 0 was removed. If HEIGHT_Feet>3 and HEIGHT_Feet<7 and HEIGHT_Inches = 15, 25, etc. thru 95 then the trailing 5 was removed (to correct for respondents expressing values in tenths of an inch). If HEIGHT_Feet>3 and HEIGHT_Feet<7 and HEIGHT_Inches = 12, 23, 34, 45 etc. thru 89 then the first digit was taken (to correct for respondents giving an inch value as a range, e.g., 1-2 or 8-9 inches).

Variable	Editing Rule	Description of Rule
		If HEIGHT_Feet>3 and HEIGHT_Feet<7 and HEIGHT_Inches = a two digit value whereby the first digit equaled the feet value the second digit was taken as the inches value (to correct for respondents expressing the height in inches as well as in feet, e.g., 5'58" resulted in value 5'8") If HEIGHT_Feet>6 and HEIGHT_Feet<12 and HEIGHT_Inches>3 and HEIGHT_Inches<7, then the values were switched (to correct for respondents putting measurements in the wrong boxes, resulting in edited values from 4'7" to <7 feet). If none of the preceding height editing rules were applicable: **Height_Feet (Height in Feet):** Any responses greater than 7 feet were recoded to "-4", which is the code for non-conforming responses. **Height_Inches (Height in Inches):** Any responses greater than 11 inches were recoded to "-4", which is the code for non-conforming responses.
TelehealthReasons_Cat OnlinePortal_Cat CaregivingWho2_Cat CaregivingCond2_Cat HadTest3_Cat ReasonTest_Cat LabShare2_Cat ClinTrials2_Cat SunburnedAct_Cat TobMessages_Cat EverUsed_Cat NowUse_Cat MarijuanaUse_Cat CervCaTest_Cat Cancer_Cat Occupation2_Cat WorkHrs_Cat Hisp_Cat Race_Cat2	Summarized distribution of 'mark all that apply' responses	A variable was created to indicate each response selection a respondent made for these 'mark all that apply' variables. The derived variable with the suffix '_cat' summarized the response selected or indicated that multiple responses were selected.
Education IncomeRanges	Edits for multiple responses	The highest order (e.g., education level or income range) was taken when multiple responses were selected.
R_HHAdults	Derived variable	Responses to questions asking about household size as well as other information about the household (e.g., number of questionnaires returned) were compiled into a derived measure that best represented the number of adults in the household.
HHAdults_Num	Imputation for zero and missing responses	Missing values were imputed for the derived count of household adults when the derived variable had values of zero or missing. A flag (indicated by suffix '_IFlag') indicates which values were imputed.

Variable	Editing Rule	Description of Rule
QDisp	Derived variable	A variable was created to indicate the proportion of items respondents answered in the first two sections. This was used to determine incompletely-filled out questionnaires.
FullTimeOcc2_Cat	Derived variable	A variable was created which combines the responses to R4 and R5, which aims to give a more comprehensive idea of a respondent's full time occupation.
MailHHAdults Weight SleepWeekdayHr SleepWeekendHr2 HowLongModerateExerciseMinutes AverageTimeSitting TimesSunburned DrinkDaysPerMonth DrinksPerDay2 WhenDiagnosedCancer Age WorkHrsPerWeek SexualOrientation2_OS	Recoding out of range responses	**MailHHAdults** Any responses greater than 10 HH members were reviewed, but were left as written **Weight** Any responses less than 40 pounds or greater than 500 pounds were recoded to "-4", which is the code for non-conforming responses. **SleepWeekdayHr** Any responses greater than 24 hours were recoded to "-4", which is the code for non-conforming responses. **SleepWeekendHr2** Any responses greater than 24 hours were recoded to "-4", which is the code for non-conforming responses. **HowLongModerateExerciseMinutes** Any responses greater than 240 minutes were reviewed for scanning accuracy, but were left as is **AverageTimeSitting** Any responses greater than 24 hours were recoded to "-4", which is the code for non-conforming responses. **TimesSunburned** Any responses greater than 30 sunburns were reviewed for scanning accuracy, but were left as is. **DrinkDaysPerMonth** Any responses greater than 31 days per month were recoded to "-4", which is the code for non-conforming responses. **DrinksPerDay2** Any responses greater than 30 drinks were reviewed for scanning accuracy, but were left as is. **WhenDiagnosedCancer** **(Age at Time of Cancer Diagnosis)** Any responses greater than the age of the respondent were recoded to "-4", which is the code for non-conforming responses.

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Variable	Editing Rule	Description of Rule
		Age Responses were examined for out of range or unlikely ages (those listing their age as < 18 and > 105). **WorkHrsPerWeek** Any responses greater than 100 hours were reviewed for scanning accuracy, but were left as is. **SexualOrientation_OS** Review of verbatim responses - Responses of "none of your business" and other similar phraseology were reviewed for scanning accuracy and recoded to "-4", which is the code for nonconforming responses.
CaregivingWho2_No HadTest3_NotSure HadTest3_NotHad EverUsed_None Marijuana_NotUsed	Recoding filter/skip questions	For these "mark all that apply" filter questions ("mark all that apply" type questions where one or more response option contains a skip instruction at the "No" or "None" response), when the "No" or "None" response was selected, all responses within the question group were examined. If other responses were selected, the "No" or "None" response was recoded to "Not selected", and the other responses were retained.
OnlinePortal_NoRec LabShare2_NotShared ClinTrials2_NotWilling NRTHelpQuit_None NowUse_None WorkHrs_DidNotWork NotHisp	Recoding illogical response combinations	For these "mark all that apply" questions ("mark all that apply" type questions where one or more response options do not contain a skip instruction at the "No" or "None" response, but keeping a "No" or "None" response in combination with other responses does not make logical sense), when the "No" or "None" response was selected, all responses within the question group were examined. If other responses were selected, the "No" or "None" response was recoded to "Not selected", and the other responses were retained.

Deriving and Imputing Measure of Household Adults

A program was developed based on the following guidelines in order to develop a single derived indicator for the number of household adults. The derived value is calculated for each household based on three sources of household size information that is solicited in the questionnaire. The guidelines were adapted from the analogous procedures used in HINTS 6.

1. Create a composite variable (R_SELECTION) from the raw and edited versions of AdultsInHH and MailHHAdults, resulting in a value of household adults reported for the within household selection. The value is 1 if respondents indicate that there is not more than one adult in the household (AdultsInHH=2). The value will be the raw (unedited) value of MailHHAdults for situations when respondents indicate that there is not more than one adult in the household (AdultsInHH=2) but enter a value for MailHHAdults that is greater than 1.

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2. Create a second indicator for the number of adults in the household (Demo_HHAdults) based on responses to questions in the demographic section. Demo_HHAdults = TotalHousehold - ChildrenInHH. If Demo_HHAdults is 0 or negative, then reset the value of Demo_HHAdults to be missing.

3. Create a variable (R_HHADULTS) by R_SELECTION and Demo_HHAdults, resulting in a value of household adults in all households. If R_SELECTION is not missing, retain the value of R_SELECTION for variable R_HHADULTS. If R_SELECTION is missing but Demo_HHAdults is not missing, retain the value of Demo_HHAdults for the variable R_HHADULTS. If R_SELECTION is not missing, Demo_HHAdults is not missing, and the value for R_SELECTION does not equal to the value for Demo_HHAdults, retain the value of R_SELECTION for the variable R_HHADULTS when (R_SELECTION > Demo_HHAdults), otherwise retain the value of Demo_HHAdults for the variable R_HHADULTS when (Demo_HHAdults > R_SELECTION). Imputation for the remaining values of zero, values greater than 30, or missing values for R_HHAdults involved replacing these values with the average number of adults in responding households with non-zero or non-missing values of R_HHAdults, resulting in the variable HHAdults_Num. 72 households had missing values and 6 households had values greater than 30 of R_HHAdults for a total of 78 that needed to be imputed.

Deriving the FullTimeOcc2_Cat variable

Fulltimeocc2_cat combines responses to R4 (WorkHrsPerWeek) and R5 (Occupation2_Cat) in to a single indicator of occupation status with the response options listed below.

Respondents are assigned to the category they selected in R5 which appears highest in the list below. For participants who chose 'Employed' for R5, their answer to R4 was used to determine whether they are coded as 'Employed full time' or 'Employed part time.' In some instances participants open-ended response to the R5 'Other' category were used to re-categorize them in to a different category than the highest one selected on the list. Participants who chose both 'Employed' and an Unemployed category in R5 were coded as 'Illogical response combination.'

Category	Value
R4 and/or R5 are missing	-9
Illogical response combination	-4
Employed full time	1
Employed part time	2
Homemaker/Caregiver	3
Student	4
Retired	5
Unable to work (Disabled)	6
Unemployed less than 1 year	7
Unemployed 1 year or more	8
Other	9

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