
Health Tracking Survey 2012
Data for August 7–September 6, 2012

Revised Topline

11/27/2012

Princeton Survey Research Associates International for
the Pew Research Center's Internet & American Life Project

Sample: n=3,014 national adults, age 18 and older, including 1,206 cell phone interviews
Interviewing dates: 08.07.2012 – 09.06.2012

Margin of error is plus or minus 2.4 percentage points for results based on total [n=3,014]

Margin of error is plus or minus 2.6 percentage points for results based on internet users [n=2,392]

Margin of error is plus or minus 2.6 percentage points for results based on cell phone owners [n=2,581]

Margin of error is plus or minus 3.1 percentage points for results based on online health seekers [n=1,741]

Margin of error is plus or minus 3.8 percentage points for results based on caregivers [n=1,171]

Q1 Overall, how would you rate the quality of life for you and your family today? Would you say it is excellent, very good, good, fair or poor?

	EXCELLENT	VERY GOOD	GOOD	FAIR	POOR	DON'T KNOW ¹	REFUSED
Current	17	26	32	19	5	*	*

¹ For this question and many others throughout the topline, results for "Don't know" often reflect combined "Don't know" and "Refused" percentages. DK and REF are reported separately where available.

INTUSE Do you use the internet, at least occasionally?

EMLOCC Do you send or receive email, at least occasionally?

INTMOB Do you access the internet on a cell phone, tablet or other mobile handheld device, at least occasionally?²

	USES INTERNET	DOES NOT USE INTERNET
Current	81	19

QL1 Do you have a cell phone... or a Blackberry or iPhone or other device that is also a cell phone?³

	YES	NO	DON'T KNOW	REFUSED
Current	85	15	*	0

SMPH Some cell phones are called "smartphones" because of certain features they have. Is your cell phone a smartphone, such as an iPhone, Android, Blackberry or Windows phone, or are you not sure?⁴

Based on cell phone owners

	CURRENT	
%	53	Yes, smartphone
	40	No, not a smartphone
	6	Not sure/Don't know
	*	Refused
	[n=2,581]	

CELL1 Please tell me if you ever use your cell phone to do any of the following things. Do you ever use your cell phone to [INSERT ITEMS; ALWAYS ASK a-b FIRST in order; RANDOMIZE c-f]?⁵

² The definition of an internet user varies from survey to survey. From January 2005 thru February 2012, an internet user is someone who uses the internet at least occasionally or sends/receives email at least occasionally (two-part definition with question wording "Do you use the internet, at least occasionally?" OR "Do you send or receive email, at least occasionally?"). Prior to January 2005, an internet user is someone who goes online to access the internet or to send and receive email (question wording "Do you ever go online to access the Internet or World Wide Web or to send and receive email?").

³ Question was asked of landline sample only. Results shown here have been recalculated to include cell phone sample in the "Yes" percentage. In past polls, question was sometimes asked as an independent question and sometimes as an item in a series. In January 2010, question wording was "Do you have...a cell phone or a Blackberry or iPhone or other handheld device that is also a cell phone." In Dec 2008, Nov 2008, May 2008, January 2005 and Nov 23-30 2004, question wording was "Do you happen to have a cell phone?" In August 2008, July 2008 and January 2008, question wording was "Do you have a cell phone, or a Blackberry or other device that is also a cell phone?" In April 2008, Dec 2007, Sept 2007 and April 2006, question wording was "Do you have a cell phone?" Beginning December 2007, question/item was not asked of the cell phone sample, but results shown here reflect Total combined Landline and cell phone sample.

⁴ Prior to the current survey, question wording was slightly different: "Some cell phones are called 'smartphones' because of certain features they have. Is your cell phone a smartphone or not, or are you not sure?"

Based on cell phone owners

	YES	NO	DON'T KNOW	REFUSED
a. Send or receive email				
Current [N=2,581]	50	50	*	0
b. Send or receive text messages				
Current	80	20	*	0
c. Take a picture				
Current	82	18	*	*
d. Access the internet ⁶				
Current	56	44	0	0
e. Look for health or medical information online ⁷				
Current	31	69	*	*
f. Check your bank account balance or do any online banking ⁸				
Current	29	70	*	*

Q2 Switching topics... In general, how would you rate your own health — excellent, good, only fair, or poor?

	CURRENT	
%	28	Excellent
	52	Good
	16	Only fair
	4	Poor
	*	Don't know
	*	Refused

⁵ In May 2011, the question was asked of all Form B cell phone owners and Form A cell phone owners who said in CELL7 that they do more than make calls on their phone. The percentages shown here are based on all cell phone users, counting as "no" Form A cell phone owners who said in CELL7 they use their phones only for making calls. Prior to May 2011, question was asked of all cell phone owners. Prior to January 2010, question wording was "Please tell me if you ever use your cell phone or Blackberry or other device to do any of the following things. Do you ever use it to [INSERT ITEM]?" In January 2010, question wording was "Please tell me if you ever use your cell phone or Blackberry or other handheld device to do any of the following things. Do you ever use it to [INSERT ITEMS]?" For January 2010, December 2009, and September 2009, an answer category "Cell phone can't do this" was available as a volunteered option; "No" percentages for those trends reflect combined "No" and "Cell phone can't do this" results.

⁶ In December 2007, item wording was "Access the internet for news, weather, sports, or other information"

⁷ In April 2012, question was asked of cell phone owners who use the internet or email on their cell phone or download apps to their cell phone [N=953]; results are re-percentage on all cell phone owners. In September 2010, question was a standalone question with the following question wording: "Do you ever use your cell phone to look up health or medical information?"

⁸ In April 2012, question was asked of Form A cell phone owners who use the internet or email on their cell phone or download apps to their cell phone [N=953]; results are re-percentage on all Form A cell phone owners.

Q3 Are you now living with any of the following health problems or conditions? First, [INSERT ITEM; RANDOMIZE a-e; ITEM f ALWAYS LAST]? And what about... [INSERT ITEM]? [IF NECESSARY: Are you now living with [INSERT ITEM]?]

	YES	NO	DON'T KNOW	REFUSED
a. Diabetes or sugar diabetes				
Current	11	88	*	*
b. High blood pressure				
Current	25	74	1	*
c. Asthma, bronchitis, emphysema, or other lung conditions				
Current	13	86	*	*
d. Heart disease, heart failure or heart attack				
Current	7	92	*	*
e. Cancer				
Current	3	96	*	*
f. Any other chronic health problem or condition I haven't already mentioned				
Current	16	83	*	*

Q4 In the last 12 months, have you personally...[INSERT ITEMS IN ORDER]?

	YES	NO	DON'T KNOW	REFUSED
a. Faced a serious medical emergency or crisis ⁹				
Current	11	89	*	*
b. Gone to the emergency room or been hospitalized unexpectedly				
Current	17	83	*	*
c. Experienced any significant change in your physical health, such as gaining or losing a lot of weight, becoming pregnant, or quitting smoking ¹⁰				
Current	18	81	*	*

⁹ In September 2010, question was asked as a standalone question. For December 2008 and earlier, trend question wording was: "And in the last 12 months, have you or has someone close to you faced a serious medical emergency or crisis?"

¹⁰ In September 2010, question was asked as a standalone question with the following question wording: "And in the last 12 months, have you experienced any other significant change in your physical health, such as gaining or losing a lot of weight, becoming pregnant, or quitting smoking?"

Q5 Thinking about the LAST time you had a serious health issue or experienced any significant change in your physical health... Did you get information, care or support from... [INSERT ITEM; RANDOMIZE]? [IF YES AND INTERNET USER: Did you interact with them ONLINE through the internet or email, OFFLINE by visiting them in person or talking on the phone, or BOTH online and offline?]¹¹

	YES, ONLINE	YES, OFFLINE	YES, BOTH	NO, NOT A SOURCE	DON'T KNOW	REFUSED
a. A doctor or other health care professional						
Current	1	61	8	28	1	1
b. Friends and family						
Current	1	39	20	39	*	1
c. Others who have the same health condition						
Current	2	15	7	73	1	1

¹¹ September 2010 question wording was slightly different: "Thinking about the LAST time you had a health issue, did you get information, care or support from... [INSERT; RANDOMIZE]? [IF YES AND INTERNET USER: Did you interact with them ONLINE through the internet or email, OFFLINE by visiting them in person or talking on the phone, or BOTH online and offline?]"

[READ TO ALL:] On another topic...

CARE2 In the past 12 months, have you provided UNPAID care to an adult relative or friend 18 years or older to help them take care of themselves? Unpaid care may include help with personal needs or household chores. It might be managing a person's finances, arranging for outside services, or visiting regularly to see how they are doing. This person need not live with you.

[IF R ASKS IF GIVING MONEY COUNTS, ASK:] Aside from giving money, do you provide any other type of unpaid care to help them take care of themselves, such as help with personal needs, household chores, arranging for outside services, or other things?

	<u>CURRENT</u>	
%	36	Yes
	64	No
	*	Don't know
	*	Refused

CARE3 Do you provide this type of care to just one adult, or do you care for more than one adult?

Based on those who provide unpaid care to adults

	<u>CURRENT</u>	
%	66	One adult only
	34	Provide care to multiple adults
	*	Don't know
	*	Refused

[n=1,085]

CARE4 [ASK IF PROVIDE UNPAID CARE TO ONE ADULT:] Is this person your parent or your mother-in-law or father-in-law, or not?¹²

CARE5 [ASK IF PROVIDE UNPAID CARE TO MULTIPLE ADULTS, DON'T KNOW OR REFUSED:] Are any of the adults you care for your parent or your mother-in-law or father-in-law, or not?¹³

Based on those who provide unpaid care to adults

	<u>CURRENT</u>	
%	47	Yes, parent or mother-in-law/father-in-law
	53	No, not a parent or mother-in-law/father-in-law
	*	Don't know
	*	Refused

[n=1,085]

¹² September 2010 question wording was slightly different: "Is this person a parent of yours, or not?"

¹³ September 2010 question wording was slightly different: "Are any of the adults you care for a parent of yours, or not?"

CARE6 In the past 12 months, have you provided UNPAID care to any CHILD under the age of 18 because of a medical, behavioral, or other condition or disability? This could include care for ongoing medical conditions or serious short-term conditions, emotional or behavioral problems, or developmental problems, including mental retardation.

	CURRENT	
%	8	Yes
	92	No
	*	Don't know
	*	Refused

Q6 Now, we'd like to know if you've looked for information ONLINE about certain health or medical issues, either for yourself or someone else. Specifically, in the last 12 months, have you looked online for information about... [INSERT FIRST ITEM; ASK a-b FIRST IN ORDER THEN RANDOMIZE c-k; ITEM L ALWAYS LAST]? In the last 12 months, have you looked online for information about... [INSERT NEXT ITEM]?¹⁴

Based on all internet users [N=2,392]

	YES, HAVE DONE THIS	NO, HAVE NOT DONE THIS	DON'T KNOW	REFUSED
a. A specific disease or medical problem				
Current	55	44	*	*
b. A certain medical treatment or procedure				
Current	43	56	*	*
c. Health insurance, including private insurance, Medicare or Medicaid				
Current	25	75	*	*
d. Pregnancy and childbirth				
Current	12	88	0	*
e. Food safety or recalls				
Current	19	80	*	*
f. Drug safety or recalls				
Current	16	84	*	*
g. Medical test results				
Current	15	85	*	*
h. How to lose weight or how to control your weight				
Current	27	73	*	*
i. How to reduce your health care costs				
Current	11	89	*	*
j. Caring for an aging relative or friend				
Current	14	86	*	*

¹⁴ Prior to the current survey, question wording was: "Now, we'd like to ask if you've looked for information ONLINE about certain health or medical issues. Specifically, have you ever looked online for... [INSERT ITEM]?" List of items may vary from survey to survey. The phrase "in the last 12 months" was added in the 2012 survey.

	YES, HAVE DONE THIS	NO, HAVE NOT DONE THIS	DON'T KNOW	REFUSED
k. A drug you saw advertised				
Current	16	84	*	*
l. Any other health issue				
Current	20	79	*	*
Total yes to any item above	72			
Total no to all items	28			

Q7 Thinking about the LAST time you went online for health or medical information... Did you go online to look for information related to YOUR OWN health or medical situation or SOMEONE ELSE'S health or medical situation?

Based on online health seekers

	CURRENT	
%	39	Own
	39	Someone else's
	15	Both (VOL.)
	3	Don't know
	3	Refused
	[n=1,741]	

Q8 Still thinking about the LAST time you went online to look for health information... How did you begin looking? Did you start... [READ 1-4 IN ORDER]

Based on online health seekers [N=1,741]

	CURRENT	
%	77	At a search engine such as Google, Bing or Yahoo
	13	At a site that specializes in health information, like WebMD
	2	At a more general site like Wikipedia, that contains information on all kinds of topics, OR
	1	At a social network site like Facebook?
	3	(VOL.) Other (SPECIFY)
	2	(VOL.) Don't know
	2	(VOL.) Refused

There is no Question Q9.

- Q10** When looking for health information online, have you ever been asked to PAY for access to something you wanted to see on the internet?

Based on online health seekers [N=1,741]

	<u>CURRENT</u>	
%	26	Yes
	73	No
	1	Don't know
	*	Refused

- Q11** The last time you were asked to PAY to access health content online, what did you do? Did you... [READ 1-3; READ CATEGORIES IN REVERSE ORDER FOR HALF THE SAMPLE]

Based on online health seekers who have been asked to pay for health content online [N=456]

	<u>CURRENT</u>	
%	2	Pay for access
	83	Try to find the same information somewhere else
	13	Give up
	1	(VOL.) Other
	*	(VOL.) Don't know
	*	(VOL.) Refused

- Q12** Have you ever gone online specifically to try to figure out what medical condition you or someone else might have?

Based on online health seekers [N=1,741]

	<u>CURRENT</u>	
%	59	Yes
	40	No
	*	Don't know
	*	Refused

- Q13** Did the information you found online lead you to think that this was a condition that needed the attention of a doctor or other medical professional, or that it was something you could take care of at home?

Based on online health seekers who have gone online to figure out what medical condition they or someone else might have [N=1,003]

	<u>CURRENT</u>	
%	46	Needed attention of doctor
	38	Could take care of at home
	11	Both/in-between (VOL.)
	4	Don't know
	1	Refused

Q14 Did you happen to talk with a medical professional about what you found online?

Based on online health seekers who have gone online to figure out what medical condition they or someone else might have [N=1,003]

	CURRENT	
%	53	Yes
	46	No
	1	Don't know
	1	Refused

Q15 Did a medical professional confirm what you thought the condition was with a medical diagnosis, did they offer a different medical opinion or diagnosis, or did you not visit a doctor or other medical professional for a diagnosis?

Based on online health seekers who have gone online to figure out what medical condition they or someone else might have [N=1,003]

	CURRENT	
%	41	Yes, confirmed
	18	No, did not confirm/offered different diagnosis
	35	Did not visit a doctor or medical professional for a diagnosis
	2	Confirmed part but not all of R's diagnosis (VOL.)
	1	Medical professional was unable to diagnose (VOL.)
	1	Don't know
	1	Refused

Q16 Apart from looking for information online, there are many different activities related to health and medical issues a person might do on the internet. I'm going to read a list of online health-related activities you may or may not have done in the last 12 months. Just tell me if you happened to do each one, or not. (First,) in the last 12 months, have you... [INSERT ITEM; RANDOMIZE]? In the last 12 months, have you...[INSERT ITEM]?

	YES	NO	DON'T KNOW	REFUSED
a. Signed up to receive email updates or alerts about health or medical issues Current internet users [N=2,392]	11	89	*	*
b. Read or watched someone else's commentary or personal experience about health or medical issues online Current internet users	26	74	*	*
c. Gone online to find others who might have health concerns similar to yours Current internet users	16	84	*	*
d. Downloaded forms online or applied for health insurance online, including private insurance, Medicare, or Medicaid Current internet users	12	88	*	0

Q17 Still thinking just about the last 12 months, have you posted a health-related question online or shared your own personal health experience online in any way?

Based on all internet users [N=2,392]

	CURRENT	
%	8	Yes
	92	No
	*	Don't know
	0	Refused

Q18 And what was it that you posted or shared online? Was it a specific QUESTION about your health, a COMMENT or STORY about your personal health experience, or BOTH a question and a comment?

Based on internet users who have posted about a health topic or shared a health experience online [N=173]

	CURRENT	
%	19	Specific health question
	40	Comments/Stories about personal health experiences
	38	Both
	2	Neither/Something else (VOL.)
	1	Don't know
	0	Refused

- Q19** And the LAST time you posted or shared health material online, did you post it somewhere specifically to get feedback from a health professional, or did you post it somewhere it would be read by a more general audience of friends or other internet users?

Based on internet users who have posted about a health topic or shared a health experience online [N=173]

	<u>CURRENT</u>	
%	11	Health professional
	78	More general audience
	4	Both (VOL.)
	5	Neither/Something else (VOL.)
	1	Don't know
	0	Refused

- Q20** Thinking again about health-related activities you may or may not do online, have you... [INSERT ITEM; RANDOMIZE]? (Next,) have you...[INSERT ITEM]?¹⁵

	<u>YES</u>	<u>NO</u>	<u>DON'T KNOW</u>	<u>REFUSED</u>
a. Consulted online rankings or reviews of doctors or other providers ¹⁶				
Current internet users [N=2,392]	17	83	*	*
b. Consulted online rankings or reviews of hospitals or other medical facilities ¹⁷				
Current internet users	14	86	*	0
c. Consulted online reviews of particular drugs or medical treatments				
Current internet users	18	82	1	*
d. Posted a review online of a doctor				
Current internet users	4	96	0	0
e. Posted a review online of a hospital				
Current internet users	3	97	*	*
f. Posted your experiences with a particular drug or medical treatment online				
Current internet users	3	97	*	0

¹⁵ Current question was asked of all internet users. September 2010 trend question was also asked of all internet users, with items asked in rotated order. December 2008 trend question was asked of online health seekers, with the following question wording: "There are many different activities related to health and medical issues a person might do on the internet. I'm going to read a list of things you may or may not have ever done online related to health and medical issues. Just tell me if you happened to do each one, or not. Have you... [INSERT ITEM; ROTATE]?"

¹⁶ December 2008 trend item wording was "Consulted rankings or reviews online of doctors or other providers"

¹⁷ December 2008 trend item wording was "Consulted rankings or reviews online of hospitals or other medical facilities"

[READ TO CELL PHONE OWNERS:] Now thinking about how you might use your cell phone to help manage your health...

- Q21** Do you receive any TEXT updates or alerts about health or medical issues, such as from your doctors or pharmacists?

Based on cell phone owners who text message [N=1,896]

	CURRENT	
%	9	Yes
	91	No
	*	Don't know
	*	Refused

- Q22** On your cell phone, do you happen to have any software applications or "apps" that help you track or manage your health, or not?

Based on cell phone owners

	CURRENT	
%	11	Yes
	88	No
	1	Don't know
	*	Refused

[n=2,581]

- Q23** What kind of health apps do you currently have on your phone? [IF NECESSARY, CLARIFY: What health issue or topic do your apps deal with?] [DO NOT READ; PRECODED OPEN-END]

Based on those who have health apps on their cell phone [N=254]

	CURRENT	
%	38	Exercise, fitness, pedometer or heart rate monitoring (includes specific types of exercise like running, ab workouts, yoga, etc.)
	31	Diet, food, calorie counter
	12	Weight
	7	Period or menstrual cycle
	5	Blood pressure
	4	WebMD
	3	Pregnancy
	2	Blood sugar or diabetes
	2	Medication management (tracking, alerts, etc.)
	*	Mood
	*	Sleep
	14	Other (SPECIFY)
	6	Don't know
	*	Refused

Note: Total may exceed 100% due to multiple responses.

[READ TO ALL:] A few last questions for statistical purposes only...

INS1 Now I would like to ask you about any health insurance you CURRENTLY have that helps pay for the cost of health care. I'm going to read a list of a few types of health insurance, and I'd like you to tell me which of these you have, if any. (First,) are you now PERSONALLY covered by [INSERT ITEMS IN ORDER]?

[IF RESPONDENT NOT SURE WHICH INSURANCE IS INCLUDED: Please think about insurance plans that cover the costs of doctor and hospital bills IN GENERAL, and NOT those that cover ONLY dental or eye care or the costs of caring for specific diseases.]

[IF RESPONDENTS TRY TO TELL TYPE THEY HAVE INSTEAD OF GOING THROUGH THE LIST: I'm sorry but I have to ask about each type of insurance for the survey. Just tell me 'no' if you don't have this type.]

	YES	NO	DON'T KNOW	REFUSED
a. Private health insurance offered through an employer or union [IF "NO": This could be insurance through a current job, a former job, your job or someone else's job.]	51	47	1	1
b. A private health insurance plan that you bought yourself	17	82	1	1
c. Medicaid, [IF STATE CALIFORNIA: Medi-Cal], or some other type of state medical assistance for low-income people	14	85	1	*
d. Medicare, the government program that pays health care bills for people over age 65 and for some disabled people	21	78	1	*
<i>Item E: Based on those who are not insured through private health insurance, Medicaid, or Medicare [N=526]</i>				
e. Health insurance through ANY other source, including military or veteran's coverage	12	87	*	1

INS2 Medicare is health insurance coverage most people receive when they turn 65 and are eligible for Social Security. This includes different kinds of health plans offered THROUGH the Medicare program — like the plans called H-M-Os. Are you now covered by Medicare or by ANY Medicare plan?

Based on those age 65 and older who are not covered by Medicare [N=82]

	CURRENT	
%	38	Yes, covered
	56	No, not covered
	3	Don't know
	3	Refused

INS3 Does this mean you personally have NO health insurance now that would cover your doctor or hospital bills?

Based on those who are not covered by any health insurance or are undesignated [N=450]

	<u>CURRENT</u>	
%	91	I do NOT have health insurance
	7	I HAVE some kind of health insurance
	1	Don't know
	2	Refused

SUMMARY OF INSURANCE STATUS (BASED ON INS1, INS2, INS3)

	<u>CURRENT</u>	
%	82	Insured
	18	Not insured

The remaining demographic questions are not reported in this topline.

THANK RESPONDENT: That concludes our interview. The results of this survey are going to be used by a non-profit research organization called the Pew Research Center's Internet & American Life Project, which is looking at the impact of the internet on people's lives. A report on this survey will be issued by the project in a few months and you can find the results at its web site, which is www.pewinternet.org [w-w-w dot pew internet dot org]. Thanks again for your time. Have a nice (day/evening).

Methodology

August-September 2012 Health Survey

Prepared by Princeton Survey Research Associates International
for the Pew Internet Project

SUMMARY

The 2012 Health Survey, sponsored by the Pew Research Center's Internet & American Life Project, obtained telephone interviews with a nationally representative sample of 3,014 adults living in the United States. Telephone interviews were conducted by landline (1,808) and cell phone (1,206, including 624 without a landline phone). The survey was conducted by Princeton Survey Research Associates International. Interviews were done in English and Spanish by Princeton Data Source from August 7 to September 6, 2012. Statistical results are weighted to correct known demographic discrepancies. The margin of sampling error for the complete set of weighted data is ± 2.4 percentage points.

Details on the design, execution and analysis of the survey are discussed below.

DESIGN AND DATA COLLECTION PROCEDURES

Sample Design

A combination of landline and cell random digit dial (RDD) samples was used to reach a representative sample of all adults the United States who have access to either a landline or cellular telephone. Both samples were disproportionately-stratified to increase the incidence of African-American and Hispanic respondents. Within strata, phone numbers were drawn with equal probabilities. The landline samples were list-assisted and drawn from active blocks containing three or more residential listing while the cell samples were not list-assisted, but were drawn through a systematic sampling from dedicated wireless 100-blocks and shared service 100-blocks with no directory-listed landline numbers.

Contact Procedures

Interviews were conducted from August 7 to September 6, 2012. As many as 7 attempts were made to contact every sampled telephone number. Sample was released for interviewing in replicates, which are representative subsamples of the larger sample. Using replicates to control the release of sample ensures that complete call procedures are followed for the entire sample.

Calls were staggered over times of day and days of the week to maximize the chance of making contact with potential respondents. Each phone number received at least one daytime call.

For the landline sample, interviewers asked to speak with either the youngest male or youngest female currently at home based on a random rotation. If no male/female was available at the time of the call, interviewers asked to speak with the youngest adult of the opposite sex. This systematic respondent selection technique has been shown to produce samples that closely mirror the population in terms of age and gender when combined with cell sample.

For the cell sample, interviews were attempted with the person who answered the phone. Interviewers first verified that the person was an adult and in a safe place before continuing with the interview.

WEIGHTING AND ANALYSIS

Weighting is generally used in survey analysis to adjust for effects of the sample design and to compensate for patterns of nonresponse that might bias results. The weighting was accomplished in multiple stages to account for the disproportionately-stratified sample, the overlapping landline and cell sample frames and differential non-response associated with sample demographics.

The first-stage of weighting compensated for the disproportionate sample design. This adjustment (called SAMPWT in the dataset) was computed by dividing the proportion of the population from each stratum by the proportion of sample drawn from the stratum. The landline and cell samples were drawn using the same relative sampling fractions within strata so the. Table 1 shows the SAMPWT values by strata.

Table 1. SAMPWT by Stratum

Strata	Population Dist'n	Sample Dist'n	SAMPWT
1	10.8%	4.1%	2.63
2	9.0%	3.4%	2.63
3	9.8%	3.7%	2.63
4	9.5%	3.6%	2.63
5	10.6%	8.1%	1.31
6	9.0%	10.2%	0.88
7	9.7%	11.1%	0.88
8	11.4%	17.4%	0.66
9	9.3%	17.8%	0.53
10	10.7%	20.5%	0.53

The second stage of weighting corrected for different probabilities of selection based on the number of adults in each household and each respondents telephone use (i.e., whether the respondent has access to a landline, to a cell phone or to both types of phone).

The second-stage weight can be expressed as:

$$\frac{1}{LL_i \left(\frac{S_{LL}}{S_{CP}} \times \frac{1}{AD_i} \right) + (CP_i \times R)}$$

LL _i	=1 if respondent has a landline phone and =0 if respondent has no landline phone
CP	=1 if respondent has a cell phone and =0 if respondent has no cell phone
S _{LL}	the size of the landline sample
S _{CP}	the size of the cell sample
R	the estimated ratio of the size of the landline sample frame to the size of the cell sample frame. For this survey R=0.55.

Both adjustments were incorporated into a first-stage weight that was used as an input weight for post-stratification. The data was raked to match sample distributions to population parameters. The African-American and White/Other samples were raked to match parameters for sex by age, sex by education, age by education and region. Hispanics were raked to match population parameters for sex by age, sex by education, age by education and region. In addition, the Hispanic group was raked to a nativity parameter.

The combined data was then raked to match population parameters for sex by age, sex by education, age by education, region, household phone use and population density. The white, non-Hispanic subgroup was also balanced by age, education and region. The telephone usage parameter was derived from an analysis of recently available National Health Interview Survey data¹⁸. The population density parameter is county-based and was derived from Census 2000 data. All other weighting parameters were derived from the Census Bureau's 2011 Annual Social and Economic Supplement (ASEC).

This stage of weighting, which incorporated each respondent's first-stage weight, was accomplished using Sample Balancing, a special iterative sample weighting program that simultaneously balances the distributions of all variables using a statistical technique called the

¹⁸ Blumberg SJ, Luke JV. Wireless substitution: Early release of estimates from the National Health Interview Survey, July-December, 2011. National Center for Health Statistics. June 2012.

Deming Algorithm. The raking corrects for differential non-response that is related to particular demographic characteristics of the sample. This weight ensures that the demographic characteristics of the sample closely approximate the demographic characteristics of the population. Table 2 compares full sample weighted and unweighted sample demographics to population parameters.

Table 2. Sample Demographics

	<u>Parameter</u>	<u>Unweighted</u>	<u>Weighted</u>
<u>Gender</u>			
Male	48.6	44.4	48.9
Female	51.4	55.6	51.1
<u>Age</u>			
18-24	12.8	10.0	12.8
25-34	18.0	12.4	17.5
35-44	17.2	13.2	17.3
45-54	19.0	17.8	19.2
55-64	16.0	18.5	16.0
65+	17.0	28.1	17.3
<u>Education (changed)</u>			
Less than HS Graduate	13.3	9.0	11.7
HS Graduate	30.4	27.7	30.6
Some College/Assoc Degree	28.5	26.0	28.8
College Graduate	27.8	37.3	28.9
<u>Race/Ethnicity</u>			
White/not Hispanic	67.8	63.0	68.1
Black/not Hispanic	11.5	16.8	11.8
Hispanic - US born	6.6	7.6	6.6
Hispanic - born outside	7.4	6.8	7.0
Other/not Hispanic	6.7	5.7	6.5
<u>Region</u>			
Northeast	18.3	16.4	19.2
Midwest	21.7	19.0	22.1
South	36.8	41.5	36.1
West	23.2	23.0	22.6

(continued...)

Table 2. Sample Demographics (...continued)

<u>County Pop. Density</u>			
1 - Lowest	20.1	18.8	20.4
2	20.0	18.0	20.1
3	20.1	18.9	20.2
4	20.2	20.0	19.9
5 - Highest	19.6	24.4	19.3

<u>Household Phone Use</u>			
LLO	7.0	7.9	7.2
Dual - few, some cell	39.0	54.4	40.3
Dual - most cell	18.8	16.9	18.9
CPO	35.2	20.8	33.6

Effects of Sample Design on Statistical Inference

Post-data collection statistical adjustments require analysis procedures that reflect departures from simple random sampling. PSRAI calculates the effects of these design features so that an appropriate adjustment can be incorporated into tests of statistical significance when using these data. The so-called "design effect" or *deff* represents the loss in statistical efficiency that results from a disproportionate sample design and systematic non-response. The total sample design effect for this survey is 1.75.

PSRAI calculates the composite design effect for a sample of size n , with each case having a weight, w_i as:

$$deff = \frac{n \sum_{i=1}^n w_i^2}{\left(\sum_{i=1}^n w_i \right)^2} \quad \text{formula 1}$$

In a wide range of situations, the adjusted *standard error* of a statistic should be calculated by multiplying the usual formula by the square root of the design effect (\sqrt{deff}). Thus, the formula for computing the 95% confidence interval around a percentage is:

$$\hat{p} \pm \left(\sqrt{deff} \times 1.96 \sqrt{\frac{\hat{p}(1-\hat{p})}{n}} \right) \quad \text{formula 2}$$

where \hat{p} is the sample estimate and n is the unweighted number of sample cases in the group being considered.

The survey's *margin of error* is the largest 95% confidence interval for any estimated proportion based on the total sample—the one around 50%. For example, the margin of error for the entire sample is ± 2.4 percentage points. This means that in 95 out of every 100 samples drawn using the same methodology, estimated proportions based on the entire sample will be no more than 2.4 percentage points away from their true values in the population. It is important to remember that sampling fluctuations are only one possible source of error in a survey estimate. Other sources, such as respondent selection bias, question wording and reporting inaccuracy may contribute additional error of greater or lesser magnitude. Table 3 shows design effects and margins of error for key subgroups.

Table 3. Design Effects and Margins of Sampling Error

	Sample Size	Design Effect	Margin of Error
Total Sample	3,014	1.75	2.4 percentage points
White, not Hispanic	1,864	1.75	3.0 percentage points
African American, not Hispanic	497	1.62	5.6 percentage points
Hispanic	427	1.56	5.9 percentage points

RESPONSE RATE

Table 4 reports the disposition of all sampled telephone numbers ever dialed from the original telephone number samples. The response rate estimates the fraction of all eligible sample that was ultimately interviewed.¹⁹

Table 4. Sample Disposition

Landline	Cell	
1807	1205	I=Completes
8660	10980	R=Refusal and breakoff
3941	5570	NC=Non contact
164	87	O=Other
40051	13668	OF=Business/computer/not working/child's cell phone
4225	619	UH/UO=Unknown household/Unknown other
0.27	0.57	AAPOR's $e=(I+R+NC+O)/(I+R+NC+O+OF)$
11.5%	6.6%	AAPOR RR3=$I/[I+R+NC+O+(e*UH/UO)]$

¹⁹ The sample disposition codes and reporting are consistent with the American Association for Public Opinion Research standards.

Endnotes