Pew Internet
Pew Internet & American Life Project
a project of the
PewResearchCenter

CALIFORNIA
HEALTHCARE
FOUNDATION

NOVEMBER 8, 2012

Mobile Health 2012

Half of smartphone owners use their devices to get health information and one-fifth of smartphone owners have health apps

Susannah Fox
Associate Director, Pew Internet Project

Maeve Duggan
Research Assistant, Pew Internet Project

Pew Research Center's Internet & American Life Project
1615 L St., NW – Suite 700
Washington, D.C. 20036
Phone: 202-419-4500

http://pewinternet.org/Reports/2012/Mobile-Health.aspx

Key Findings

Mobile health has found its market: smartphone owners

Fully 85% of U.S. adults own a cell phone. Of those, 53% own smartphones. This report will provide details about both groups—people who own a cell phone of any kind and the smaller group of people who own smartphones.

One in three cell phone owners (31%) have used their phone to look for health information. In a comparable, national survey conducted two years ago, 17% of cell phone owners had used their phones to look for health advice.

Smartphone owners lead this activity: 52% gather health information on their phones, compared with 6% of non-smartphone owners. Cell phone owners who are Latino, African American, between the ages of 18-49, or hold a college degree are also more likely to gather health information this way.

Health status also plays a role. Caregivers, those who recently faced a medical crisis, and those who experienced a recent, significant change in their physical health are more likely than other cell phone owners to use their phones to look for health information.

Few receive text alerts about health or medical issues

A whopping 80% of cell phone owners say they send and receive text messages, but just 9% of cell phone owners say they receive any text updates or alerts about health or medical issues.

Women, those between the ages of 30 and 64, and smartphone owners are more likely than other cell phone owners to have signed up for health text alerts.

One-fifth of smartphone owners have a health app

Smartphones enable the use of mobile software applications to help people track or manage their health. Some 19% of smartphone owners have at least one health app on their phone. Exercise, diet, and weight apps are the most popular types.

About this study

The results reported here come from a nationwide survey 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.

The Pew Internet & American Life Project is an initiative of the Pew Research Center, a nonprofit "fact tank" that provides information on the issues, attitudes and trends shaping America and the world. The Project is nonpartisan and takes no position on policy issues.

Support for this study was provided by the Pew Charitable Trusts and the California HealthCare Foundation.

Main Findings

Mobile health continues to climb in popularity, especially among smartphone owners

Now that 85% of U.S. adults own a cell phone—and half (53%) of those are smartphone owners—information is available wherever and whenever people need it.

According to a new survey conducted in August-September 2012, 31% of cell phone owners say they use their phone to look for health or medical information online. That is up from 17% of cell phone owners in September 2010.

Throughout this report we will refer to cell phone owners (85% of adults) and the smaller sub-group of smartphone owners (45% of adults). Smartphone owners lead this activity: 52% have used their phone to search for health information, compared with 6% of other cell phone owners.

Younger adults, minorities, and those in particular need of health information lead the way

Among all cell phone owners, some demographic groups are more likely than others to look for health information on their phones: Latinos, African Americans, those between the ages of 18 and 49, and college graduates.

Mobile Health Information: Demographics

% of cell phone owners within each group who use their phones to look for health or medical information online

All cell phone owners (n=2,581)		**31%**
a	Men (n=1,163)	29
b	Women (n=1,418)	33
	Age	
a	18-29 (n=451)	42[cd]
b	30-49 (n=770)	39[cd]
c	50-64 (n=710)	19[d]
d	65+ (n=599)	9
	Race/ethnicity	
a	White, Non-Hispanic (n=1,586)	27
b	Black, Non-Hispanic (n=434)	35[a]
c	Hispanic (n=351)	38[a]
	Annual household income	
a	Less than $30,000/yr (n=690)	28
b	$30,000-$49,999 (n=456)	30
c	$50,000-$74,999 (n=345)	37[a]
d	$75,000+ (n=646)	37[a]
	Education level	
a	No high school diploma (n=187)	17
b	High school grad (n=681)	26[a]
c	Some College (n=679)	33[ab]
d	College + (n=1020)	38[ab]

Source: Pew Internet/CHCF Health Survey, August 7-September 6, 2012. N=3,014 adults ages 18+. Interviews were conducted in English and Spanish, on landline and cell phones. Margin of error is +/- 3 percentage points for results based on cell phone owners.

Note: Columns marked with a superscript letter ([a]) or another letter indicate a statistically significant difference between that row and the row designated by that superscript letter. Statistical significance is determined inside the specific section covering each demographic trait.

Mobile health information also seems to appeal to certain groups of health consumers: caregivers, people who went through a recent medical crisis, and those who experienced a recent, significant

change in their physical health such as gaining or losing a lot of weight, becoming pregnant, or quitting smoking.

Mobile Health Information: Health Status

% of cell phone owners within each group who use their phone to look for health or medical information online

All cell phone owners (n=2,581)	**31%**
Caregiver	
Yes (n=1,032)	37*
No (n=1,549)	27
Those with chronic conditions	
No conditions (n=1,376)	34*
One or more conditions (n=1,205)	26
Faced medical crisis (in last 12 months)	
Yes (n=283)	40*
No (n=2,291)	30
Significant health change (in last 12 months)	
Yes (n=411)	41*
No (n=2,162)	28

Source: Pew Internet/CHCF Health Survey, August 7-September 6, 2012. N=3,014 adults ages 18+. Interviews were conducted in English and Spanish, on landline and cell phones. Margin of error is +/- 3 percentage points for results based on cell phone owners.

*Statistically significant difference compared with others in the same grouping

Half of smartphone owners have used their phone to look up health information

Again, 53% of cell phone owners in the U.S. say that they own a smartphone. This translates to 45% of all American adults. Younger people are more likely than older adults to own a smartphone, as are people with higher income and education levels.

Who Owns Smartphones

% of U.S. adults within each group who have a smartphone

	All adults (n=3,014)	**45%**
a	Men (n=1,337)	46
b	Women (n=1,677)	45
	Age	
a	18-29 (n= 478)	66[cd]
b	30-49 (n=833)	59[cd]
c	50-64 (n=814)	34[d]
d	65+ (n=830)	11
	Race/ethnicity	
a	White, Non-Hispanic (n=1,864)	42
b	Black, Non-Hispanic (n=497)	47
c	Hispanic (n=427)	49[a]
	Annual household income	
a	Less than $30,000/yr (n=876)	35
b	$30,000-$49,999 (n=523)	42
c	$50,000-$74,999 (n=371)	56[ab]
d	$75,000+ (n=680)	68[abc]
	Education level	
a	No high school diploma (n=269)	21
b	High school grad (n=830)	36[a]
c	Some College (n=778)	50[ab]
d	College + (n=1,115)	61[abc]
	Geographic location	
a	Urban (n=1,095)	48[c]
b	Suburban (n=1,406)	49[c]
c	Rural (n=396)	29

Source: Pew Internet/CHCF Health Survey, August 7-September 6, 2012. N=3,014 adults ages 18+. Interviews were conducted in English and Spanish, o landline and cell phones. Margin of error is +/- 2 percentage points for results based on all adults.

Note: Columns marked with a superscript letter ([a]) or another letter indicate a statistically significant difference between that row and the row designated by that superscript letter. Statistical significance is determined inside the specific section covering each demographic trait.

Fully 52% of smartphone owners have looked up health information on their phone, compared with just 6% of other cell phone owners.

A person's likelihood to use their cell phone to look for health information is amplified by each of the characteristics identified in the tables above: youth, having a higher level of education, living in a higher-income household, being Latino, being African American – and owning a smartphone. Each of these observations holds true under statistical analysis isolating each factor. In other words, it is not just that smartphone owners are likely to be younger than other American adults and both groups are likely to use their phones to look up health information. Each characteristic has an independent effect on mobile health information consumption.

Mobile health growth since 2010

In 2010, when the same percentage of U.S. adults owned cell phones, 17% of cell phone owners reported using their phones to access health information. Today, that number stands at 31%, almost double the previous figure.

Nearly all demographic groups report significant increases in this activity, with the exception of those over 65 and those who did not complete high school. A few groups stand out: cell phone owners who are African American, college graduates, women, those with an annual household income between $50,000 and $74,999, and those between the ages of 30-49.

Smartphone ownership has greatly increased over the last two years and no doubt had an effect on this trend.

Health Information Accessed by Phone, Then and Now

% of cell phone owners within each group who use their phone to look up health or medical information

	2010	2012
All cell phone owners	**17%**	**31%**
Men	17	29*
Women	16	33*
Age		
18-29	29	42*
30-49	18	39*
50-64	7	19*
65+	8	9
Race/Ethnicity		
White, non-Hispanic	15	27*
Black, non-Hispanic	19	35*
Hispanic	25	38*
Annual household income		
Less than $30,000/yr	15	28*
$30,000-$49,999	17	30*
$50,000-$74,999	17	37*
$75,000+	22	37*
Education level		
No high school diploma	16	17
High School grad	12	26*
Some college	21	33*
College+	20	38*

Source: Pew Internet/CHCF Health Surveys: August 9-September 13, 2010 , N=3,001 adults; August 7-September 6, 2012, N=3,014 adults ages 18+. Margin of error for both surveys is +/- 3 percentage points for results based on cell phone owners.

*Statistically significant difference compared with the same group in the previous survey.

Few receive text alerts about health or medical issues

Text messaging is a nearly universal activity, especially among younger cell phone owners, but it has not yet had a significant impact on the health market.

Eighty percent of cell phone owners say they send and receive text messages. Just 9% of cell phone owners say they receive any text updates or alerts about health or medical issues. Women and those

between the ages of 30-64 are more likely than other cell phone owners to have signed up for health text alerts.

Smartphone owners are more likely than other cell phone owners to get text updates about health: 9%, compared with 6%.

		TEXTERS	TEXT FOR HEALTH
		% of cell phone owners within each group who send or receive texts	*% of cell phone owners within each group who receive health or medical information via text*
All cell phone owners (n=2,581)		**80%**	**9%**
a	Men (n=1,163)	81	6
b	Women (n=1,418)	80	9[a]
	Age		
a	18-29 (n=451)	97b[cd]	5
b	30-49 (n=770)	92[cd]	10[ad]
c	50-64 (n=710)	72[d]	9[d]
d	65+ (n=599)	34	4
	Race/Ethnicity		
a	White, Non-Hispanic (n=1,586)	79	7
b	Black, Non-Hispanic (n=434)	80	11[c]
c	Hispanic (n=351)	85	6
	Annual household income		
a	Less than $30,000/yr (n=690)	78	7
b	$30,000-$49,999 (n=456)	78	9
c	$50,000-$74,999 (n=345)	89[ab]	9
d	$75,000+ (n=646)	90[ab]	9
	Education level		
a	No high school diploma (n=187)	65	4
b	High School grad (n=681)	75	7
c	Some college (n=679)	85[ab]	9[a]
d	College+ (n=1,020)	86[ab]	8[a]

Source: Pew Internet/CHCF Health Survey, August 7-September 6, 2012. N=3,014 adults ages 18+. Interviews were conducted in English and Spanish, on landline and cell phones. Margin of error is +/- 3 percentage points for results based on cell phone owners.

Note: Columns marked with a superscript letter ([a]) or another letter indicate a statistically significant difference between that row and the row designated by that superscript letter. Statistical significance is determined inside the specific section covering each demographic trait.

People who are potentially dealing with more serious health situations – caregivers, people living with chronic conditions, those with recent significant health changes – are more likely to engage in this mobile health activity.

Text for Health: Health Status

% of cell owners within each group who receive health or medical information via text

All cell owners (n=2,581)	9%
Caregiver	
Yes (n=955)	11*
No (n=1,626)	5
Those with chronic conditions	
No Conditions (n=1,376)	6
One or More Conditions (n=1,205)	10*
Faced medical crisis (in last 12 months)	
Yes (n=507)	10
No (n=2,074)	7
Significant health change (in last 12 months)	
Yes (n=411)	12*
No (n=2,170)	7

Source: Pew Internet/CHCF Health Survey, August 7-September 6, 2012. N=3,014 adults ages 18+. Interviews were conducted in English and Spanish, on landline and cell phones. Margin of error is +/- 3 percentage points for results based on cell phone owners.

*Statistically significant difference compared with others in the same grouping

One in 5 smartphone owners has a health app

As of April 2012, 84% of smartphone owners had downloaded an app of any kind to their phone.[1] By comparison, 19% have downloaded an app specifically to track or manage health. Women, those under age 50, those better educated, and those with an annual household income over $75,000 are more likely to have downloaded a health app.

[1] Spring Tracking survey, March 15-April 3, 2012.

Who Uses Health Apps?

% of smartphone owners within each group who have software applications on their phone to track or manage health

	All smartphone owners (n=1,262)	19%
a	Men (n=602)	16
b	Women (n=660)	23[a]
	Age	
a	18-29 (n=332)	24[cd]
b	30-49 (n=516)	19[d]
c	50-64 (n=293)	16
d	65+ (n=105)	10
	Race/ethnicity	
a	White, Non-Hispanic (n=712)	19
b	Black, Non-Hispanic (n=211)	21
c	Hispanic (n=203)	15
	Annual household income	
a	Less than $30,000/yr (n=268)	14
b	$30,000-$49,999 (n=193)	21
c	$50,000-$74,999 (n=198)	21
d	$75,000+ (n=443)	23[a]
	Education level	
a	High school grad (n=288)	11
b	Some College (n=326)	24[a]
c	College + (n=597)	22[a]

Source: Pew Internet/CHCF Health Survey, August 7-September 6, 2012. N=3,014 adults ages 18+. Interviews were conducted in English and Spanish and on landline and cell phones. Margin of error is +/- 3.2 percentage points for results based on smartphone owners.

Note: Columns marked with a superscript letter ([a]) or another letter indicate a statistically significant difference between that row and the row designated by that superscript letter. Statistical significance is determined inside the specific section covering each demographic trait.

Those who have faced a significant health change in the last twelve months are also more likely to have downloaded a health app.

Health Apps: Health Status

% of smartphone owners within each group who have software applications on their phone to track or manage health

All smartphone owners (n= 1,262)	19%
Caregiver	
Yes (n=510)	22
No (n=752)	17
Those with chronic conditions	
No Conditions (n=817)	19
One or More Conditions (n=445)	21
Faced medical crisis (in last 12 months)	
Yes (n=218)	22
No (n=1,044)	19
Significant health change (in last 12 months)	
Yes (n=216)	29*
No (n=1,046)	17

Source: Pew Internet/CHCF Health Survey, August 7-September 6, 2012. N=3,014 adults ages 18+. Interviews were conducted in English and Spanish and on landline and cell phones. Margin of error is +/- 3 percentage points for results based on smartphone owners.

*Statistically significant difference compared with others in the same grouping

Exercise, diet, and weight apps most popular

Exercise, diet, and weight apps are the most popular types of health apps downloaded. Some 38% of health app users track their exercise, 31% monitor their diet, and 12% use an app to manage their weight. Other health apps track menstrual cycles, blood pressure, pregnancy, blood sugar or diabetes, and medication. The WebMD app was also cited, along with a number of other brand-name apps (a full list of uncategorized responses is below).

Types of Health Apps

% of health app users who use apps to track…

All health app users (n=254)	
Exercise, fitness, pedometer or heart rate monitoring	38%
Diet, food, calorie counter	31
Weight	12
Period or menstrual cycle	7
Blood pressure	5
WebMD	4
Pregnancy	3
Blood sugar or diabetes	2
Medication management (tracking, alerts, etc)	2
Mood	*
Sleep	*
Other	14

Source: Pew Internet/CHCF Health Survey, August 7-September 6, 2012. N=3,014 adults ages 18+. Interviews were conducted in English and Spanish and on landline and cell phones. Margin of error is +/- 7 percentage points for results based on health app users.

*Less than 1% of respondents

"Other" Health Apps

- "About how the human body works"
- "Hearing"
- "Health insurance app"
- "Personal business app"
- "Brain trainer"
- "Allergy alert, weather channel pollen alert"
- "MD encyclopedia"
- "Hypnosis"
- "Medical handbook"
- "An app for medicines, doctors, and hospitals in the area"
- "Drugs" (cited twice)
- "Kids' illnesses"
- "Walgreens" (cited three times, twice as "Walgreens", once as "walgreen app for prescriptions")
- "Stop smoking"
- "Search app about my health"
- "P tracker women's health app"
- "Pharmacy doctor benefits"
- "Asthma"
- "Triage" (cited twice)
- "Headaches"
- "Anatomy" (cited twice)
- "First aid"
- "Heart disease"
- "Medical diagnosis app"
- "Insurance tracker"
- "App for monitoring fluids for kidney stones"
- "Blood work"
- "Comparing prescriptions"
- "App for symptoms"
- "Drug guide and diagnosis guide"
- "Appointment app"

Survey questions

Health Tracking Survey 2012

Final Topline 09/10/2012

Data for August 7–September 6, 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 percentage points for results based on Total [n=3,014]
Margin of error is plus or minus 3 percentage points for results based on internet users [n=2,392]
Margin of error is plus or minus 3 percentage points for results based on cell phone owners [n=2,581]
Margin of error is plus or minus 3 percentage points for results based on online health seekers [n=1,741]
Margin of error is plus or minus 4 percentage points for results based on caregivers [n=1,171]

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
August 2012[i]	85	15
April 2012	82	18
February 2012	80	20
December 2011	82	18
August 2011	78	22
May 2011	78	22
January 2011[ii]	79	21
December 2010[iii]	77	23
November 2010[iv]	74	26
September 2010	74	26

[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?").

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
August 2012	89	10	0	*
April 2012	88	12	*	*
February 2012	88	12	0	*
December 2011	87	13	0	*
August 2011	84	15	*	*
May 2011	83	17	*	0
January 2011	84	16	*	*
December 2010	81	19	*	*
November 2010	82	18	0	*
September 2010	85	15	*	*

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		APRIL 2012	FEB 2012	MAY 2011
%	53	Yes, smartphone	46	45	33
	40	No, not a smartphone	44	46	53
	6	Not sure/Don't know	10	8	14
	*	Refused	*	*	*
	[n=2,581]		[n=1,954]	[n=1,961]	[n=1,914]

[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?"

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]

Based on cell phone owners

	YES	NO	DON'T KNOW	REFUSED
a. Send or receive email				
Current [N=2,581]	50	50	*	0
April 2012 [N=1,954]	44	56	*	*
August 2011 [N=1,948]	42	58	*	0
May 2011 [N=1,914]	38	62	0	*
December 2010 [N=1,982]	38	62	*	*
November 2010 [N=1,918]	34	66	0	*
September 2010 [N=2,485]	34	66	*	0
b. Send or receive text messages				
Current	80	20	*	0
April 2012	79	21	*	*
August 2011	76	24	*	*
May 2011	73	27	0	0
December 2010	74	26	*	*
November 2010	71	28	*	0
September 2010	74	26	*	0
c. Take a picture				
Current	82	18	*	*
April 2012	82	18	0	0
May 2011	73	27	*	0
May 2010	76	24	*	*
d. Access the internet[6]				
Current	56	44	0	0
April 2012	53	46	*	*
August 2011	48	52	*	0
May 2011	44	56	0	0
December 2010	42	58	*	*
November 2010	39	61	*	*
September 2010	39	61	*	0

CELL1 continued…

[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"

CELL1 continued…

	YES	NO	DON'T KNOW	REFUSED
e. Look for health or medical information online[7]				
Current	31	69	*	*
April 2012	24	76	*	0
September 2010	17	83	*	0
f. Check your bank account balance or do any online banking[8]				
Current	29	70	*	*
April 2012	24	75	*	0
May 2011	18	81	0	8

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

	CURRENT		SEPT 2010	DEC 2008	AUGUST 2006	DECEMBER 2002
%	28	Excellent	30	29	33	35
	52	Good	49	51	47	48
	16	Only fair	16	14	14	12
	4	Poor	5	5	4	4
	*	Don't know	*	*	1	1
	*	Refused	*	*	--	--

[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-percentaged 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-percentaged 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	*	*
	September 2010	11	89	*	*
	December 2008	10	90	*	1
b.	High blood pressure				
	Current	25	74	1	*
	September 2010	24	75	1	*
	December 2008	23	76	1	1
c.	Asthma, bronchitis, emphysema, or other lung conditions				
	Current	13	86	*	*
	September 2010	12	88	*	*
	December 2008	12	87	*	1
d.	Heart disease, heart failure or heart attack				
	Current	7	92	*	*
	September 2010	6	94	*	*
	December 2008	7	92	1	1
e.	Cancer				
	Current	3	96	*	*
	September 2010	2	97	*	*
	December 2008	3	96	1	1
f.	Any other chronic health problem or condition I haven't already mentioned				
	Current	16	83	*	*
	September 2010	17	82	*	1

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	*	*
September 2010	12	88	*	*
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	*	*
September 2010	17	83	*	*

[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?

	CURRENT		SEPT 2010
%	36	Yes	27
	64	No	72
	*	Don't know	*
	*	Refused	*

[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?"

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

	CURRENT		SEPT 2010
%	66	One adult only	66
	34	Provide care to multiple adults	33
	*	Don't know	*
	*	Refused	*
	[n=1,085]		[n=790]

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?[11]

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?[12]

Based on those who provide unpaid care to adults

	CURRENT		SEPT 2010
%	47	Yes, parent or mother-in-law/father-in-law	38
	53	No, not a parent or mother-in-law/father-in-law	62
	*	Don't know	*
	*	Refused	*
	[n=1,085]		[n=790]

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		SEPT 2010
%	8	Yes	5
	92	No	94
	*	Don't know	*
	*	Refused	*

[11] September 2010 question wording was slightly different: "Is this person a parent of yours, or not?"
[12] September 2010 question wording was slightly different: "Are any of the adults you care for a parent of yours, or not?"

[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		SEPT 2010
%	11	Yes	9
	88	No	90
	1	Don't know	1
	*	Refused	*
	[n=2,581]		[n=2,485]

Results based on smartphone owners:

	CURRENT	
%	19	Yes
	80	No
	1	Don't know
	*	Refused
	[n=1,262]	

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.

Methodology

Summary

The 2012 Health Survey, sponsored by the Pew Research Center's Internet & American Life Project and the California HealthCare Foundation, 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.

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 and 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 data[13]. 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 *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.

[13] 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.

Table 2. Sample Demographics

	Parameter	Unweighted	Weighted
Gender			
Male	48.6	44.4	48.9
Female	51.4	55.6	51.1
Age			
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
Education (changed)			
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
Race/Ethnicity			
White/not Hispanic	67.8	63.0	68.1
Black/not Hispanic	11.5	16.8	11.8
Hisp - US born	6.6	7.6	6.6
Hisp - born outside	7.4	6.8	7.0
Other/not Hispanic	6.7	5.7	6.5
Region			
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)*

County Pop. Density			
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

Household Phone Use			
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:

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

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 (√*deff*). Thus, the formula for computing the 95% confidence interval around a percentage is:

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

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.[14]

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)]**

[i] August 2012 trends based on the Civic Engagement Tracking Survey 2012, conducted July 16–August 7, 2012 [N=2,253, including 900 cell phone interviews].

[ii] January 2011 trends based on the Pew Internet Project/Project for Excellence in Journalism/Knight Foundation "Local News survey," conducted January 12-25, 2011 [N=2,251, including 750 cell phone interviews].

[iii] December 2010 trends based on the Social Side of the Internet survey, conducted November 23–December 21, 2010 [N=2,303, including 748 cell phone interviews].

[iv] November 2010 trends based on the Post-Election Tracking Survey 2010, conducted November 3-24, 2010 [N=2,257, including 755 cell phone interviews].

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