



**Improving  
Preconception Health:  
Women's Knowledge and Use of  
Folic Acid**

**December 2008**

**Survey conducted by Gallup  
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with funding from the U.S. Centers for Disease Control and Prevention**



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# Summary of Findings

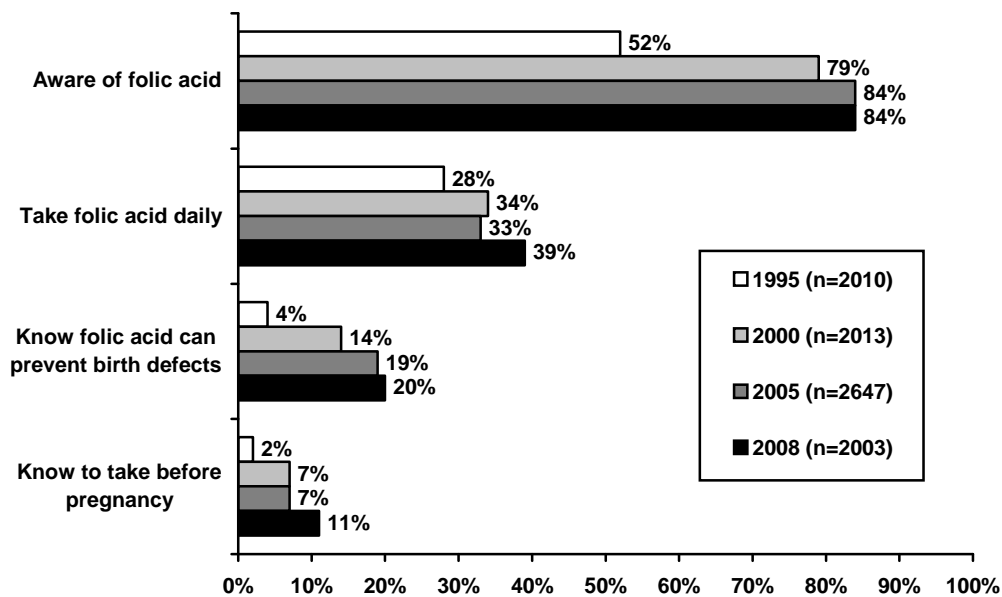
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**More than 80 percent of women ages 18-45 have heard or read something about folic acid in 2008, yet only 11 percent of women know it should be taken daily before pregnancy to reduce the risk of birth defects.**

Significant progress has been made since 1995 to educate women about the importance of taking a multivitamin containing folic acid. Eighty-four percent of women between the ages of 18-45 report they have heard or read something about folic acid, up from 52 percent in 1995. However, only 20 percent of women believe that folic acid helps prevent birth defects, and 11 percent know that it should be taken before pregnancy. Despite increases in awareness and knowledge of its benefits, only modest gains have been made in women's daily folic acid consumption. In 2008, only about 40 percent of women report taking folic acid or a multivitamin containing folic acid daily.

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**SUMMARY OF FOLIC ACID RELATED RESPONSES: 1995, 2000, 2005 AND 2008  
(Based on women ages 18-45)**

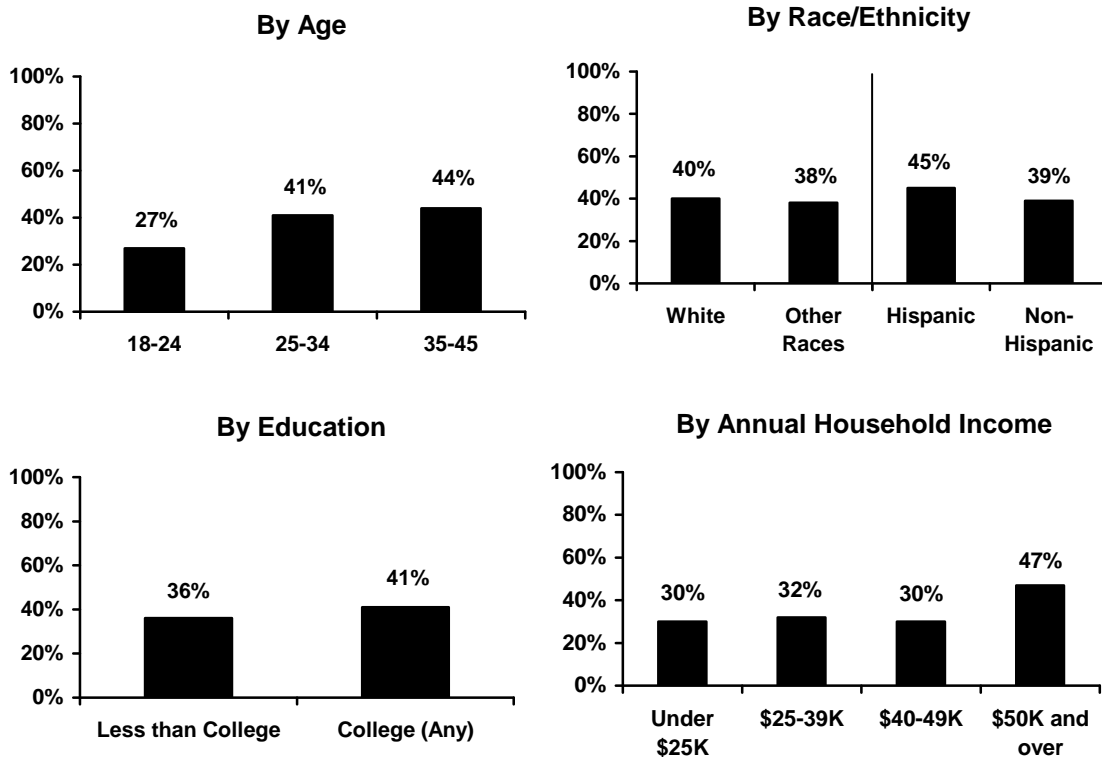


**Nearly 40 percent of women of childbearing age report taking folic acid or a multivitamin containing folic acid daily in 2008. Folic acid consumption varied by maternal age group with only 27 percent of women ages 18 – 24 taking a daily vitamin with folic acid compared to 41 percent of women ages 25 – 34 and 44 percent of women ages 35 - 45.**

Since 1995, the proportion of women taking a vitamin containing folic acid daily has increased, moving from a low of 28 percent in 1995 to high of 40 percent reported in 2004 and 2007 and now 39 percent in 2008. Of all women ages 18-45 surveyed in 2008, those least likely to take a vitamin containing folic acid daily include:

- Younger women 18-24 years (27 percent compared to 41 percent among women 25-34 years, and 44 percent of women 35-45 years).
- Women who have not attended college (36 percent compared to 41 percent among women who have attended or completed college or post-graduate studies).
- Women of other races or non-Hispanic women (38 percent among women of other races compared to 40 percent among white women; 39 percent among non-Hispanic women compared to 45 percent among Hispanic women).
- Women with annual household incomes of less than \$50,000 (30 percent for those with incomes of less than \$25,000, 32 percent for those with incomes of \$25,000 - \$39,999, and 30 percent for those with incomes of \$40,000-\$49,999 compared to 47 percent for those with incomes of \$50,000 or more).

**VITAMIN CONSUMPTION  
(Based on women ages 18-45, n = 2003)**

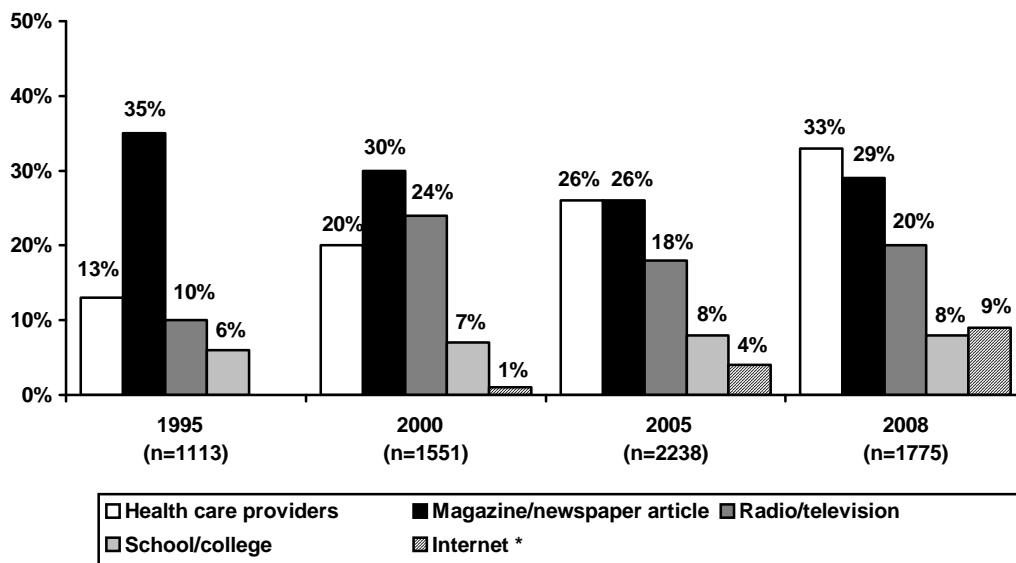


## Health care providers and the print media are the leading sources of information about folic acid.

Compared to 1995, more women today say they receive their information about folic acid from their health care provider (13 percent vs. 33 percent). Twenty-nine percent of women also receive information about folic acid from the print media. Radio and television follow, mentioned by 20 percent in 2008. Nine percent of women cite the internet as their source of information, up from 1 percent in 2000.

However, source of information on folic acid varies by age. Women ages 18-24 are substantially less likely than their counterparts to get their information on folic acid from a health care provider (12 percent vs. 41 percent for women 25-34 and 35 percent for women 35-45). These younger women are more likely to learn about folic acid from print media (23 percent) and school or college (19 percent).

**SOURCES OF INFORMATION ABOUT FOLIC ACID: 1995, 2000, 2005 AND 2008**  
(Based on women aware of folic acid)



\* = Not available in 1995.

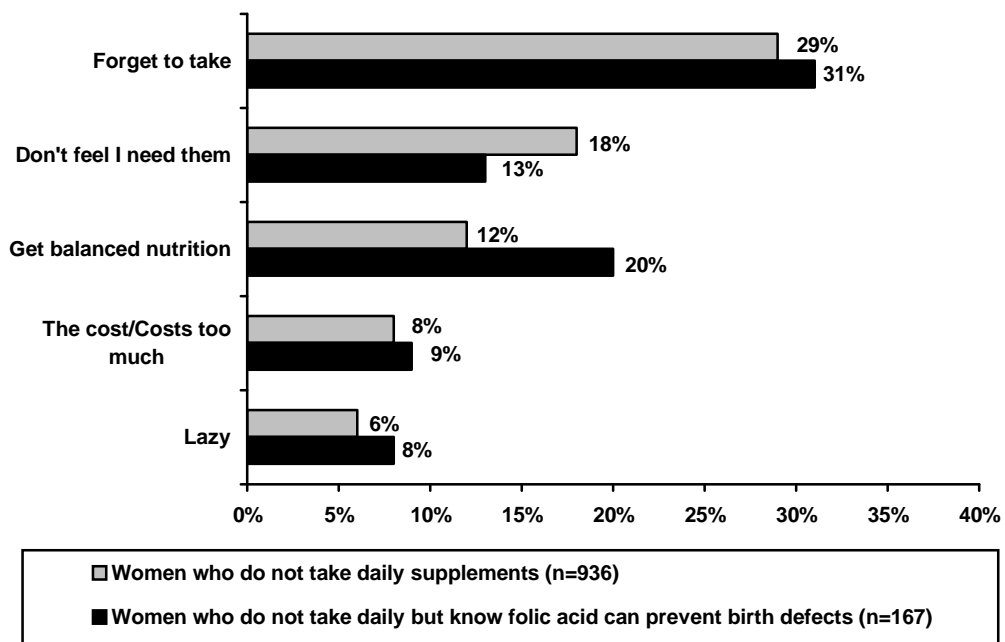
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**Most women who don't take a multivitamin forget to take them, feel they don't need them, or believe that they consume a balanced diet.**

In 2008 the most frequently mentioned reason given by women for not taking multivitamins daily is forgetting to take them, mentioned by 29 percent of women who don't take supplements on a daily basis. Eighteen percent feel they don't need them and 12 percent feel that they get balanced nutrition from foods.

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**REASONS FOR NOT TAKING VITAMIN/MINERAL SUPPLEMENTS DAILY**





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**Women not currently taking a multivitamin would be most motivated to do so if advised by their doctor.**

Women who do not take a vitamin or mineral supplement were asked two different questions about what might encourage them to take a multivitamin. In the first question, “how likely would you be to follow your doctor or health care provider’s advice to take a daily multivitamin,” 89 percent of women report they would be likely (very or somewhat likely) to take a daily multivitamin if advised to do so by their physician or other health care provider.

In a second unprompted question, later in the survey, non-supplement users were asked what, if anything, would make them more likely to take a multivitamin on a daily basis. In response to this question, 31 percent report they would be more likely to do so on the advice of their doctor or health care provider. Nine percent say they would take it if they experienced a change in health.

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**THINGS THAT MIGHT ENCOURAGE WOMEN TO TAKE A MULTIVITAMIN DAILY  
(Based on women who do not take vitamin or mineral supplements daily)**

	2001 %	2002 %	2003 %	2004 %	2005 %	2007 %	2008 %
If doctor/health care provider advised them to take it	20	34	33	42	26	35	31
If I experienced a change in health	13	11	9	2	9	10	9
If I needed vitamins	-	4	4	1	6	7	8
If lower cost/free	4	2	3	2	3	3	5
If eating poor diet	3	2	3	6	2	7	4
If I felt run down	7	4	4	10	2	4	4
Number of interviews	(1085)	(1035)	(1030)	(1010)	(1400)	(973)	(936)

Table lists mentions of 4 percent or more in 2008.  
- =Not available.

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**Over half (58 percent) of women ages 18-45 have not been advised by a health care provider to take a multivitamin.**

Among women 18-24 years, only 31 percent say a doctor or other health care provider has recommended a multivitamin, down from 35 percent in 2005. Almost half (47 percent) of women ages 25-34 say their doctor has recommended that they take a multivitamin.

Among women who take a multivitamin daily, more than half (56 percent) report that a doctor has recommended they take a multivitamin. In contrast, 74 percent of women who do not take any vitamins say a doctor or other health care provider has never recommended they take a multivitamin.

# Acknowledgments

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This report, *Improving Preconception Health: Women's Knowledge and Use of Folic Acid*, could not have been produced and distributed without the help of numerous people.

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The data presented in the report were collected and analyzed by the competent staff at Gallup, under the direction of Eileen McMurray.

Many thanks to Caroline C. Alter who drafted this report and to Sarah Smith Carroll of The Hillcrest Group who designed and organized the original template.

This report was carefully edited by Vani Bettgowda and Tomoko Yamada-Kushnir of the March of Dimes Perinatal Data Center.

Finally, we would like to thank the regional offices and state chapters of the March of Dimes for making the data available to the media, health professionals, and other partners around the country.

Permission to copy, disseminate, or otherwise use information from this report is granted as long as appropriate acknowledgment is given. Much of the data presented in this report is available at [marchofdimes.com/peristats](http://marchofdimes.com/peristats).

# Introduction

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In 1992, the U.S. Public Health Service (PHS) recommended that all women who are capable of becoming pregnant consume 400 micrograms of the B vitamin folic acid per day to reduce their risk of having a pregnancy affected by neural tube defects. In 1995, the March of Dimes Foundation received funding from the Centers for Disease Control and Prevention to conduct a benchmark survey of women of childbearing age to assess their knowledge and behaviors relative to daily consumption of folic acid. The survey found relatively low awareness of folic acid and the PHS recommendation, suggesting the need to educate women about the benefits of folic acid and to inform health care providers of the need to talk with women about folic acid.

Since the 1995 survey, the March of Dimes has commissioned Gallup to conduct ten follow-up surveys to measure changes that have occurred since 1995 in women’s awareness and behavior relative to folic acid and other pre-pregnancy health issues. As such, these surveys serve as rough measures of effectiveness of the educational campaigns designated to increase awareness of folic acid among women of childbearing age.

Many of the questions from the 1995 survey were repeated in each of the follow-up surveys to create trends. A complete listing of survey questions is located in Appendix B. References to questions in small purple boxes also appear throughout the body of the report.

Q: 22

The text to the right of each reference provides the tabulated results. For example, question 22 asked “Have you ever heard or read anything about folic acid?” The results, in the body of the report, indicate that “In 2008, more than four out of five (84 percent) of the women surveyed report having heard or read something about folic acid.”

The survey results for each of the following years are based on telephone interviews with a national sample of women ages 18-45.

Survey Year	Number of Interviews	Survey Dates
1995	2010	January 19 – February 23, 1995
1997	2001	January 21 – March 3, 1997
1998	2115	July 2 – August 21, 1998
2000	2013	January 13 – February 17, 2000
2001	2001	April 14 – May 22, 2001
2002	2004	January 14 – February 24, 2002
2003	2006	April 25 – June 3, 2003
2004	2012	April 19 – May 20, 2004
2005	2647	April 28 – July 12, 2005
2007	2003	May 17 – June 26, 2007
<b>2008</b>	<b>2003</b>	<b>April 28 – July 5, 2008</b>

For current results based on the 2008 sample of 2003 women, one can say with 95 percent confidence that the error attributable to sampling and other random effects could be plus or minus 3 percentage points. For comparisons involving subsets of the sample, the margin of error would be greater. Please refer to tables of recommended sampling tolerances in Appendix C for more detailed information. In addition to sampling error, question wording and practical difficulties in obtaining respondents can introduce error or bias into the findings of opinion polls.

The March of Dimes is the leading nonprofit organization for pregnancy and baby health. With chapters nationwide, the March of Dimes works to improve the health of babies by preventing birth defects, premature birth and infant mortality. For the latest resources and information, visit [marchofdimes.com](http://marchofdimes.com) or [nacersano.org](http://nacersano.org). For detailed national, state and county perinatal data, visit [marchofdimes.com/peristats](http://marchofdimes.com/peristats).

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# Part 1.

## Awareness and Knowledge of Folic Acid and Other Preconception Health Issues

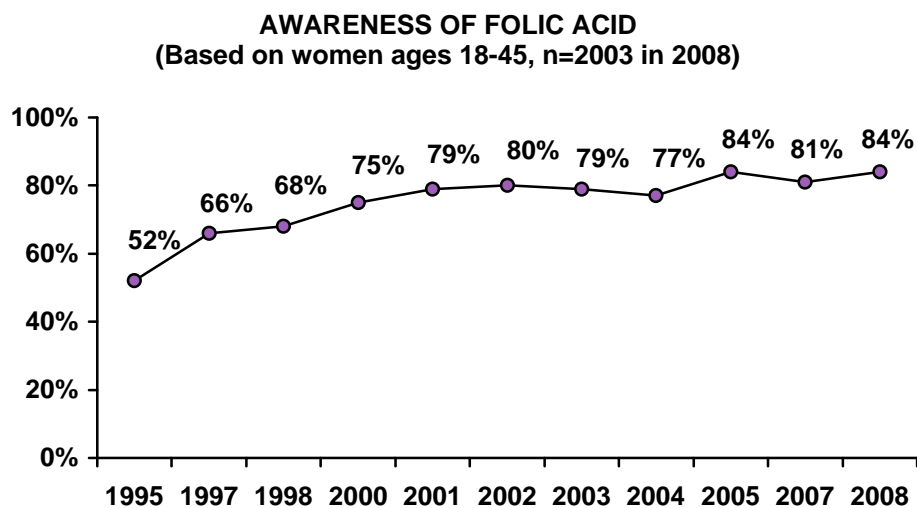
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### Awareness of Folic Acid

Q: 22

In 2008, more than four out of five (84 percent) of the women surveyed report having heard or read something about folic acid. Reported awareness of folic acid has increased substantially since 1995.

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Reported awareness of folic acid increases with educational level attained, ranging from 78 percent among those who have not attended college to 94 percent among college graduates. Women ages 18-24 are less likely than those ages 25-34 and 35-45 to say they have heard or read something about folic acid (66 percent compared to 90 percent and 89 percent respectively).

Younger women ages 18-24 are less likely to say they have heard or read something about folic acid than older women.

**AWARENESS OF FOLIC ACID  
(Based on women ages 18-45)**

	2000 %	2001 %	2002 %	2003 %	2004 %	2005 %	2007 %	2008 %
ALL WOMEN AGES 18-45	75	79	80	79	77	84	81	84
<b>AGE</b>								
18-24 years	68	73	70	73	70	72	61	66
25-34 years	76	82	84	82	80	88	87	90
35-45 years	77	80	81	81	80	87	89	89
<b>RACE/ETHNICITY</b>								
White	78	82	82	83	81	87	82	85
Other races	62	69	71	68	68	71	75	74
Hispanic	62	69	69	72	71	73	71	85
Non-Hispanic	76	80	81	80	79	84	82	84
<b>EDUCATION</b>								
Less than H.S.	54	60	59	56	56	58	40	-
H.S./Tech. grad.	66	72	73	76	70	78	74	-
Less than College	-	-	-	-	-	-	-	78
College (any)	83	86	87	86	86	90	88	88
College incomplete	79	83	82	83	82	86	83	82
College grad./Post grad.	89	89	92	89	90	94	94	94
<b>LAST PREGNANCY</b>								
Less than 2 years / currently pregnant	86	86	84	85	82	88	90	91
3-4 years	78	80	84	84	88	92	91	94
5 years or more	71	77	78	78	75	85	87	87
<b>ANNUAL HOUSEHOLD INCOME</b>								
Under \$25,000	61	71	68	69	66	72	63	76
\$25,000 - \$39,999	76	77	76	79	79	84	83	79
\$40,000 - \$49,999	80	77	84	87	82	87	86	89
\$50,000 and over	84	88	88	86	87	90	87	89
<b>REGION</b>								
East	76	78	78	82	78	86	79	90
Midwest	76	79	82	82	79	82	79	82
South	73	78	79	78	77	84	81	81
West	74	80	79	76	75	82	87	84
Number of Interviews	(2013)	(2001)	(2004)	(2006)	(2012)	(2647)	(2003)	(2003)

- = Not available.

## Knowledge of the Importance and Role of Folic Acid during Pregnancy

Q: 23

Based on all women surveyed, more than one quarter (28 percent), in total, report that folic acid helps to prevent birth defects. Eleven percent are aware that folic acid should be taken before pregnancy. On an unprompted basis, 18 percent know that the need for folic acid is greater during pregnancy, up from 13 percent in 2007.

### SPECIFIC KNOWLEDGE OF WHAT WAS HEARD, READ OR SEEN ABOUT FOLIC ACID (Based on women ages 18-45)

	2000 %	2001 %	2002 %	2003 %	2004 %	2005 %	2007 %	2008 %	Change in % Points '00-'08
NET: Helps prevent birth defects/ neural tube defects/reduces risk of spina bifida	20	24	25	26	29	25	28	28	+8
Helps prevent birth defects	14	19	20	21	24	19	18	20	+6
Need is greater during pregnancy	8	8	10	10	9	12	13	18	+10
Should be taken before pregnancy	10	7	10	10	12	7	12	11	+1
Helps reduce risk for spina bifida	5	5	5	4	4	5	9	8	+3
Important for baby's development	3	4	5	5	2	8	7	9	+6
Good for you/good to take/important	4	6	7	6	2	7	6	7	+3
Prevents neural tube defects	2	2	2	2	3	3	5	4	+2
Development of brain/neurons	-	-	-	-	-	2	4	4	-
Reduces risk of premature birth	*	1	*	1	2	1	2	3	-
Don't know/Refused	48	42	39	36	47	31	32	28	-20
Number of Interviews	(2013)	(2001)	(2004)	(2006)	(2012)	(2647)	(2003)	(2003)	

Table lists mentions of 2 percent or more in 2008.

- =Not available.

\* = Less than 0.5%.

Only about one quarter of women  
believe that folic acid helps  
prevent birth defects.

All women in the survey were asked which vitamins or mineral supplements they perceived as being especially important to women of childbearing age. In 2008, more than four in ten (43 percent) name folic acid as a vitamin or mineral supplement that is important to women of childbearing age. Calcium is mentioned by 26 percent and iron by 21 percent. Eighteen percent mention multivitamins and 8 percent cite vitamin C.

Women ages 25-34 are more likely to mention folic acid as very important to women of childbearing age (59 percent) and women ages 18-24 are least likely to mention folic acid (17 percent). Forty-five percent of women ages 35-45 mention folic acid as very important.

**TYPE OF VITAMINS PERCEIVED AS VERY IMPORTANT TO WOMEN OF CHILDBEARING AGE  
(Based on women ages 18-45)**

	1995 %	2000 %	2005 %	2007 %	2008 %	Change in % Points '95-'08
Folic acid	6	21	30	42	43	+37
Calcium	26	25	26	31	26	0
Iron	27	20	19	26	21	-6
Multivitamins (net with/ without iron)	20	23	16	21	18	-2
Prenatal vitamins	6	7	12	9	11	+5
Vitamin C	14	12	8	11	8	-6
Vitamin D	2	4	3	6	7	+5
Vitamin B12	6	4	3	6	4	-2
Vitamin A	4	4	3	4	3	-1
Vitamin E	5	4	3	3	3	-2
Vitamin B	-	-	2	2	3	-
Vitamin B6	5	4	3	3	2	-3
Magnesium	*	*	1	1	1	*
Omega 3 fatty acid	-	-	*	1	1	-
None	3	2	1	1	2	-1
All/Any	2	3	2	3	2	0
Don't know/Refused	25	21	18	16	18	-7
Number of Interviews	(2010)	(2013)	(2647)	(2003)	(2003)	

Table lists mentions of 1 percent or more in 2008.

- = Not available.

\* = Less than 1%.



Folic acid (39 percent), prenatal vitamins (23 percent), iron (21 percent) and calcium (21 percent) are the supplements mentioned most frequently as being especially important to women who are pregnant. There has been a steady increase in mentions of folic acid since 2000 (from 17 percent to 39 percent currently).

**TYPE OF VITAMINS PERCEIVED AS ESPECIALLY IMPORTANT TO WOMEN WHO ARE PREGNANT  
(Based on women ages 18-45)**

	2000 %	2005 %	2007 %	2008 %	Change in % Points '00-'08
Folic acid	17	29	37	39	+22
Prenatal vitamins	23	24	24	23	0
Iron	19	20	22	21	+2
Calcium	20	22	23	21	+1
Multivitamins (net with/without iron)	15	9	12	10	-5
Vitamin C	8	7	8	8	0
Vitamin D	3	3	5	5	+2
Vitamin B12	3	2	5	4	+1
Vitamin B6	3	2	3	3	0
Vitamin A	2	2	3	2	0
Vitamin E	2	2	2	2	0
Vitamin B	1	1	2	2	+1
Omega 3 fatty acid	-	*	1	1	-
None	1	2	2	2	+1
All/Any	3	2	3	2	-1
Don't know/Refused	19	18	16	17	-2
Number of Interviews	(2013)	(2647)	(2003)	(2003)	

Table lists mentions of 1 percent or more in 2008.

- = Not available.

\* = Less than 0.5%.

This question was first asked in 2000.

## Knowledge of Folic Acid in Foods and in Multivitamin Supplements

Q: 28

More than one third of women (35 percent) who are aware of folic acid cannot name a food source from which it comes. Thirty-three percent mention green leafy vegetables. Thirteen percent of these women cite orange juice as a good source of folic acid. Broccoli, spinach and other greens such as collard, mustard or turnip greens are frequently mentioned as sources of folic acid.

### GOOD SOURCES OF FOLIC ACID (Based on women familiar with folic acid)

	2003 %	2004 %	2005 %	2007 %	2008 %
<b>NET green leafy vegetables</b>	<b>28</b>	<b>25</b>	<b>26</b>	<b>33</b>	<b>33</b>
Orange juice	15	18	15	15	13
Broccoli	12	16	12	14	11
Other greens (collard, mustard, turnip greens)	10	13	7	11	11
Spinach	7	12	7	11	11
Salad greens	5	6	3	6	8
Fortified cereals	3	3	5	5	5
Vegetables (non-specific)	6	*	8	7	5
Whole grains	2	3	3	3	4
Fruits (non-specific)	4	1	6	5	4
Oranges	3	1	4	3	3
Other	4	2	5	3	3
Don't know/Refused	33	38	30	32	35
Number of Interviews	(1630)	(1587)	(2238)	(1750)	(1775)

Table lists mentions of 3 percent or more in 2008.

\* = Less than 0.5%.

Q: 40A

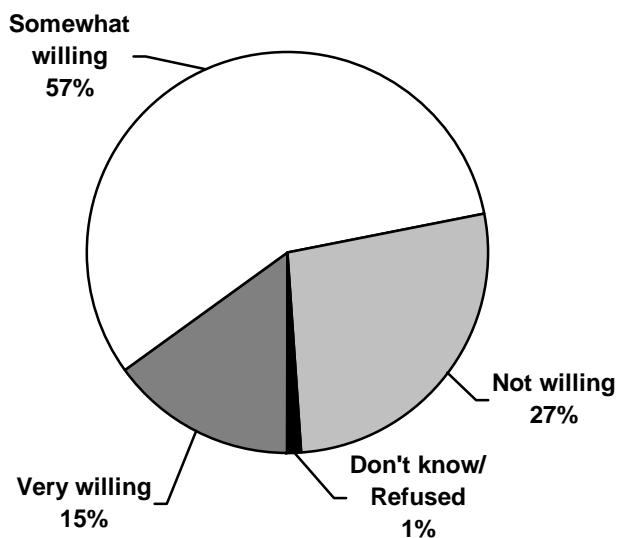
In 1998, federal guidelines required that folic acid be added to all enriched wheat, rice, and corn products in an effort to increase folate levels of women and help reduce specific birth defects. Less than one in five women (19 percent) report that they had heard or read about increasing the amount of folic acid added to these products.

Q: 40B

Women were also told that some organizations believe that the amount of folic acid in these products should be increased because women don't get all the folic acid they need from fortified foods to prevent some serious birth defects, while others believe that increasing the amount may make some people get too much, that is, more than the recommended upper level. Seventy-two percent of women surveyed report that they would be very or somewhat willing to support efforts to double the amount of folic acid added to grain products.

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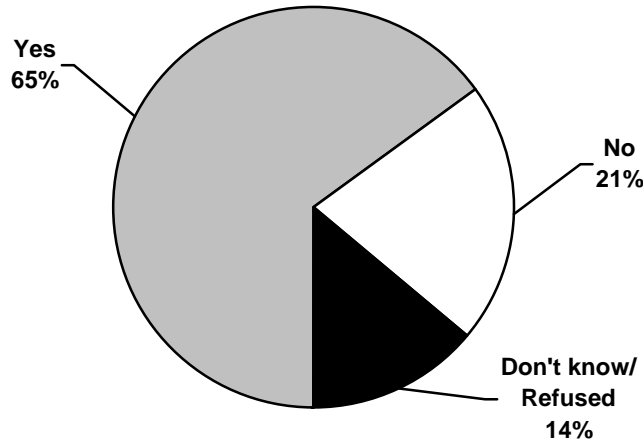
**WILLINGNESS TO SUPPORT DOUBLING OF FOLIC ACID ADDED TO GRAIN PRODUCTS  
(Based on women ages 18-45, n=2003)**



Seventy-two percent of women surveyed report that they would be very or somewhat willing to support efforts to double the amount of folic acid added to grain products.

In 2008, 65 percent of women surveyed correctly report that multivitamins contain folic acid. Awareness that multivitamins contain folic acid ranges from 48 percent among women ages 18-24 to 73 percent among women 25-34 and 68 percent among those ages 35-45.

**BELIEVE MULTIVITAMINS CONTAIN FOLIC ACID  
(Based on women ages 18-45, n=2003)**



**BELIEVE MULTIVITAMINS CONTAIN FOLIC ACID  
(Based on women ages 18-45)**

	2003 %	2004 %	2005 %	2007 %	2008 %	Change in % Points '03-'08
Yes, contain folic acid	60	56	61	63	65	+5
No, do not	24	21	22	22	21	-3
Don't know/Refused	16	23	17	15	14	-2
Total	100	100	100	100	100	
Number of Interviews	(2006)	(2012)	(2647)	(2003)	(2003)	

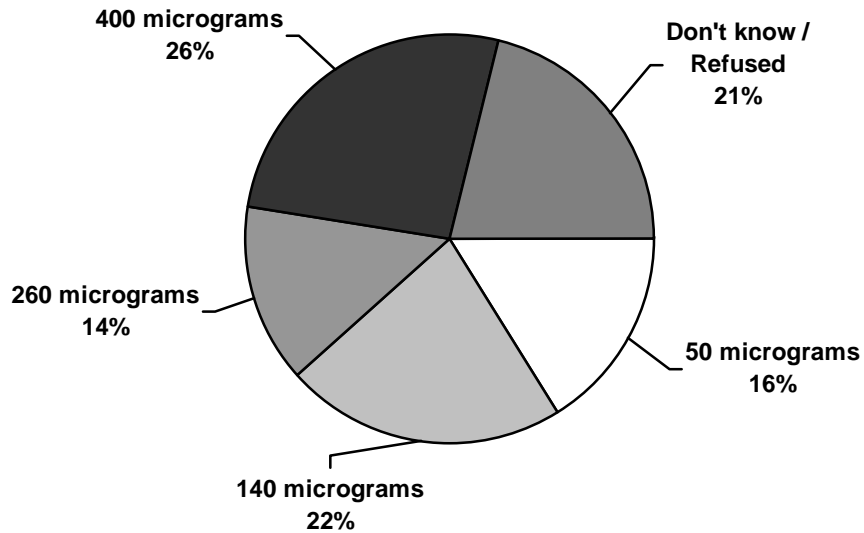
Note: This question first asked in 2003.

Q: 37A

Only about one quarter (26 percent) of the women surveyed correctly state that 400 micrograms is the recommended amount of folic acid for a woman of childbearing age to take daily. Twenty-one percent say that they do not know.

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**WHAT IS THE RECOMMENDED DAILY AMOUNT OF FOLIC ACID FOR A WOMEN OF  
CHILDBEARING AGE  
(Based on women ages 18-45, n=2003)**



Does not total to 100% due to rounding.

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Pregnant women or those who have had a pregnancy within the past two years are more likely than women whose last pregnancy was more than five years ago to be aware that folic acid helps prevent birth defects (49 percent versus 31 percent). Knowledge that folic acid helps prevent birth defects is lowest for women under 25 years (14 percent) and for women who have not attended college (25 percent).

**KNOWLEDGE OF ROLE OF FOLIC ACID**  
(Based on women ages 18-45)

	Total %	EDUCATION		LAST PREGNANCY			AGE		
		Less than College %	Any College %	Past 2 Yrs. / Currently Pregnant %	3-4 Yrs. %	5+ Yrs. %	18-24 Yrs. %	25-34 Yrs. %	35-45 Yrs. %
NET: Birth defects/spina bifida /neural tube defects	28	25	31	49	45	31	14	34	32
Helps prevent birth defects	20	20	19	34	30	22	8	24	22
Need is greater during pregnancy	18	15	21	18	19	17	12	23	19
Should be taken before pregnancy	11	8	13	8	11	11	6	12	13
Important for baby development	9	7	10	11	17	10	3	12	10
Helps reduce risk for spina bifida	8	4	10	14	10	8	6	9	9
Good for you/need it	7	8	7	6	5	7	8	6	7
Prevents neural tube defects	4	3	6	8	11	4	2	6	4
Development of brain/neurons	4	4	5	11	4	4	1	6	4
Reduces risk of premature birth	3	4	3	5	5	4	4	3	4
Seen name/ heard of it /saw commercial	2	3	1	1	-	2	3	1	2
Comes in vitamins	1	1	2	*	2	2	1	2	1
Don't know/Refused	28	36	23	13	12	24	54	19	20
Number of Interviews	(2003)	(321)	(1675)	(365)	(187)	(737)	(308)	(619)	(1076)

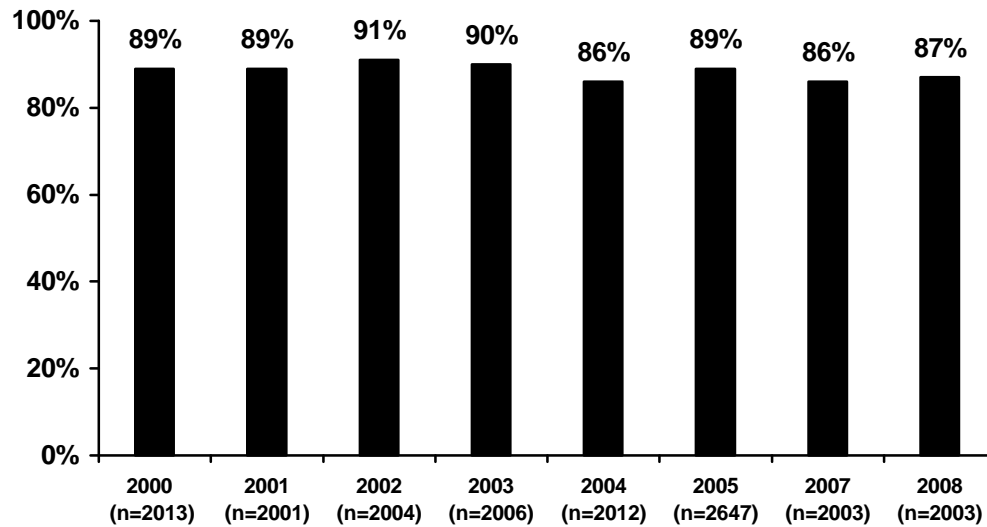
Table lists total mentions of 1 percent or more in 2008.

\* = Less than 0.5%.

In 2008, approximately nine in ten women surveyed (87 percent) believe there are things women can do to help reduce their risk of having a baby with birth defects. Ninety percent of women ages 25-34 are of this opinion, compared to 85 percent of women ages 18-24 and 87 percent of women ages 35-45.

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**WOMEN WHO BELIEVE THEY CAN DO SOMETHING TO REDUCE RISK OF  
HAVING A BABY WITH BIRTH DEFECTS  
(Based on women ages 18-45)**



A majority of women who feel they can reduce their risk of having a baby with birth defects cite no drinking/no drugs and no smoking most frequently as ways to reduce this risk. More than one third (38 percent) mention a proper diet, 27 percent mention taking vitamins and 22 percent mention regular doctor visits.

**WAYS TO REDUCE RISK OF BIRTH DEFECTS**  
(Based on all who believe women can reduce risk)

	1995 %	2000 %	2005 %	2007 %	2008 %	Change in % Points '95-'08
No drinking alcohol/taking drugs	73	72	64	66	70	-3
No smoking	63	54	58	56	62	-1
Proper diet	33	30	30	32	38	+5
Prenatal vitamins/multivitamins	12	18	26	22	27	+15
Regular doctor visits/ prenatal visits	20	20	17	23	22	-2
Exercise	13	7	9	9	12	-1
Folic acid	1	3	9	15	11	+10
Take care of yourself	13	7	8	13	10	-3
Have pregnancy before 40	-	2	4	3	3	-
Avoid/reduce caffeine	-	-	2	2	3	-
Avoid certain foods	-	-	-	2	3	-
Avoid medications	-	-	2	3	3	-
Avoid pesticides/chemicals	-	-	1	3	3	-
Get plenty of rest	1	2	2	1	2	+1
No stress/avoid stress	2	2	1	2	2	0
Number of Interviews	(1786)	(1801)	(2381)	(1784)	(1810)	

Table lists mentions of 2 percent or more in 2008.

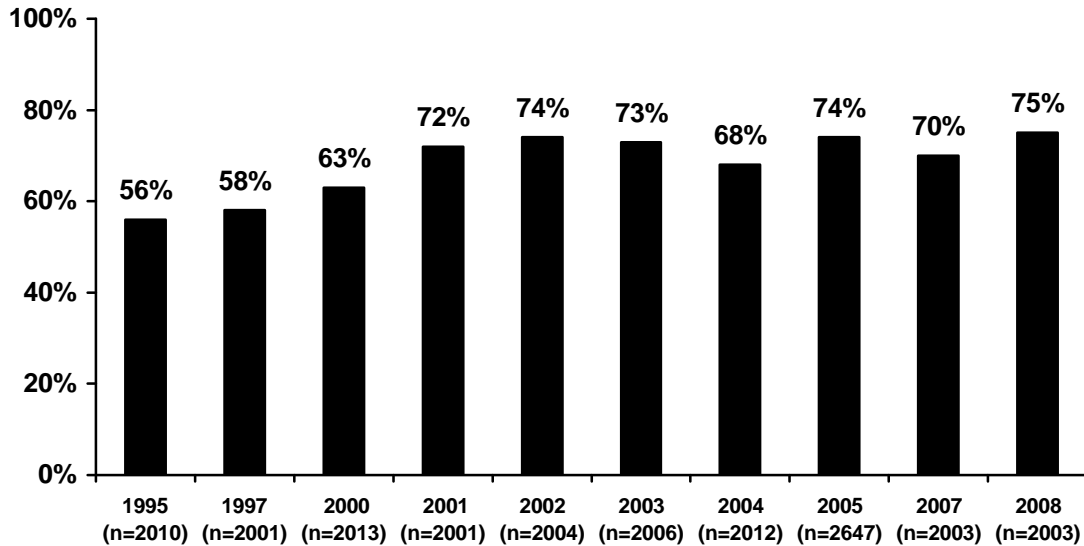
- = Not available.



Q: 31

In 2008, 75 percent of all women ages 18-45 surveyed believe that consuming vitamins during pregnancy can reduce the risk of birth defects. This represents an increase of 19 percentage points since the 1995 survey. Sixteen percent do not think that taking vitamins during pregnancy can reduce this risk. About one in twelve (8 percent) say they don't know whether consuming vitamins during pregnancy could reduce the risk of birth defects.

**WOMEN WHO BELIEVE VITAMIN CONSUMPTION DURING PREGNANCY  
CAN REDUCE RISK OF BIRTH DEFECTS  
(Based on women ages 18-45)**



Note: Question not asked in 1998.

Women who believe vitamins can reduce the risk of birth defects were asked which birth defects they might help to reduce. In 2008, spina bifida is mentioned by 17 percent and 6 percent cite neural tube defects. Mentions of spina bifida have increased 10 percentage points since 1995. Nearly half of women surveyed (47 percent) say they do not know.

**TYPE OF BIRTH DEFECTS THAT VITAMINS CAN HELP REDUCE**  
(Based on women who believe taking vitamins during pregnancy can reduce risk of birth defects)

	1995 %	2000 %	2005 %	2007 %	2008 %	Change in % Points '95-'08
Spina bifida	7	11	15	18	17	+10
Premature birth	3	3	5	5	8	+5
Neural tube defects	2	4	4	6	6	+4
Birth defects (non-specific)	10	10	5	6	6	-4
Low birthweight	14	12	8	6	5	-9
Down's Syndrome	2	3	5	5	4	+2
Brain damage	-	-	4	4	4	-
Mental retardation	2	5	3	2	4	+2
Developmental*	3	2	3	1	2	-1
Other	-	6	9	5	4	-
Don't know/Refused	45	50	42	50	47	+2
Number of Interviews	(1106)	(1277)	(2010)	(1481)	(1557)	

Table lists mentions of 2 percent or more in 2008.

- = Not available.

\* In 1995 this category included growth.

Women were asked which specific vitamins they believe could help reduce the risk of birth defects. Of all women ages 18-45, 39 percent mention folic acid as a vitamin which can help reduce a woman's risk of birth defects in her unborn child. This represents a substantial increase since 2001 in those mentioning folic acid. Eleven percent name some form of a multivitamin or prenatal vitamin taken daily or less frequently. Thirty-six percent say they do not know.

**VITAMINS BELIEVED TO REDUCE RISK OF BIRTH DEFECTS**  
(Based on women ages 18-45)

	2001 %	2002 %	2003 %	2004 %	2005 %	2007 %	2008 %	Change in % Points '01-'08
Folic Acid	26	30	31	27	34	37	39	+13
Multivitamin/prenatal vitamin	12	12	14	19	15	8	11	-1
Calcium	5	6	7	5	5	6	10	+5
Iron	5	7	7	7	6	7	8	+3
Vitamin D	3	3	3	3	3	3	7	+4
Vitamin C	6	6	6	5	5	5	6	0
Vitamin A	3	4	4	4	4	3	4	+1
Vitamin B 12	3	3	2	3	2	4	4	+1
Vitamin E	2	2	2	2	2	2	2	0
Vitamin B	-	-	2	-	1	1	2	-
Vitamin B 6	2	2	2	2	2	2	2	0
Don't know/Refused	47	42	39	44	38	44	36	-11
Number of Interviews	(2001)	(2004)	(2006)	(2012)	(2647)	(2003)	(2003)	

Table lists mentions of 2 percent or more in 2008.  
- = Not available.

## Source of Information on Folic Acid

Q. 24

In 2008, one third of women who are familiar with folic acid say they have heard about folic acid from their physician or other health care provider. Twenty-nine percent of women aware of folic acid report reading about it in a magazine or newspaper article. Twenty percent cite radio or television as their source of information. Nine percent of women mention the internet as their source of information, up from 4 percent in 2005.

Women ages 18-24 are less likely than women ages 25-34 and women ages 35-45 to say they learned about folic acid from their health care provider (12 percent vs. 41 percent and 35 percent respectively).

### SOURCE OF INFORMATION ON FOLIC ACID (Based on women who are familiar with folic acid)

	1995 %	2000 %	2005 %	2007 %	2008 %	Change in % Points '95-'08
Physician	13	20	26	33	33	+20
Magazine/newspaper article	35	30	26	31	29	-6
Radio/television	10	24	18	23	20	+10
Internet	-	1	4	7	9	-
Friend/relative*	6	7	8	10	9	+3
School/college	6	7	8	10	8	+2
Books	9	7	6	7	8	-1
Don't know/Refused	9	6	5	9	12	+3
Number of Interviews	(1113)	(1551)	(2238)	(1750)	(1775)	

Table lists mentions of 7 percent or more in 2008.

- = Not available.

\* In 1995 this category included co-worker.

**SOURCE OF INFORMATION ON FOLIC ACID BY AGE**  
**(Based on women who are familiar with folic acid)**

	Total %	18-24 Yrs. %	25-34 Yrs. %	35-45 Yrs. %
Physician	33	12	41	35
Magazines/newspapers	29	23	26	34
Radio/television	20	14	23	20
Internet	9	9	12	8
Friend/relative	9	11	9	7
Books	8	5	8	10
School/college	8	19	7	4
Number of Interviews	(1775)	(220)	(570)	(985)

Table lists mentions of 2 percent or more for all age groups.

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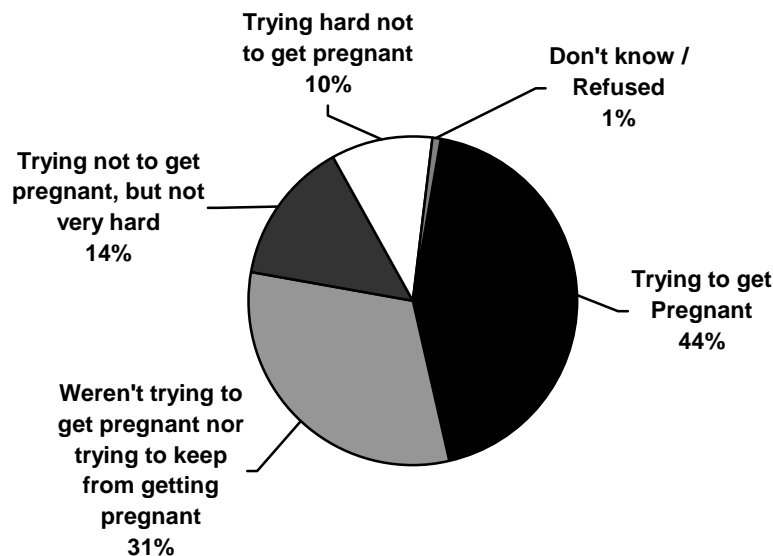
## Knowledge and Attitudes about Preconception Health

Q: 7-1

Women were asked which statement best described them during the three months before their last pregnancy. Forty-four percent say that they were trying to get pregnant, while 10 percent state that they were trying hard not to get pregnant. Another 31 percent state that they were neither trying to get pregnant, nor trying to keep from getting pregnant and 14 percent say that they were trying to keep from getting pregnant but were not trying very hard.

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**BEST DESCRIPTION OF HERSELF DURING THE THREE MONTHS PRIOR TO HER MOST RECENT PREGNANCY**  
(Based on women who have children, n=1252)



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Q: 6D

Eighty-six percent of all women surveyed think it is important for a woman to visit her healthcare provider to plan for her pregnancy before she becomes pregnant.

Q: 11

Twenty-nine percent of women who have had children or are currently pregnant report discussing pregnancy with their health care provider before they got pregnant.

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## Knowledge of Prematurity: Incidence and Intervention

Q: 6G

One in four women surveyed (26 percent) think that premature birth (more than three weeks before the baby's due date) in the U.S. is a very serious problem. Sixty-three percent of women surveyed think it is somewhat serious. More women with less education and women of color state that the problem of premature birth was very serious.

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### HOW SERIOUS IS THE PROBLEM OF PREMATURE BIRTH IN U.S. (Based on women ages 18-45)

	Total %	EDUCATION		RACE	
		Less than College %	Any College %	White %	Other races %
Very serious	26	34	20	23	40
Somewhat serious	63	55	68	65	51
Not at all serious	10	10	10	10	8
Number of Interviews	(2003)	(321)	(1675)	(1752)	(236)

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Q: 7A

In 2008, 21 percent of women who have had children report delivering at least one child prematurely, up from 18 percent in 2007.

Q: 7B

Some studies have reported that women at very high risk for premature birth may benefit from a treatment using a hormone progesterone, such as Gestiva. Only 6 percent of women who have had children report that their health care provider has spoken to them about this treatment, up from 4 percent in 2007.

# Part 2.

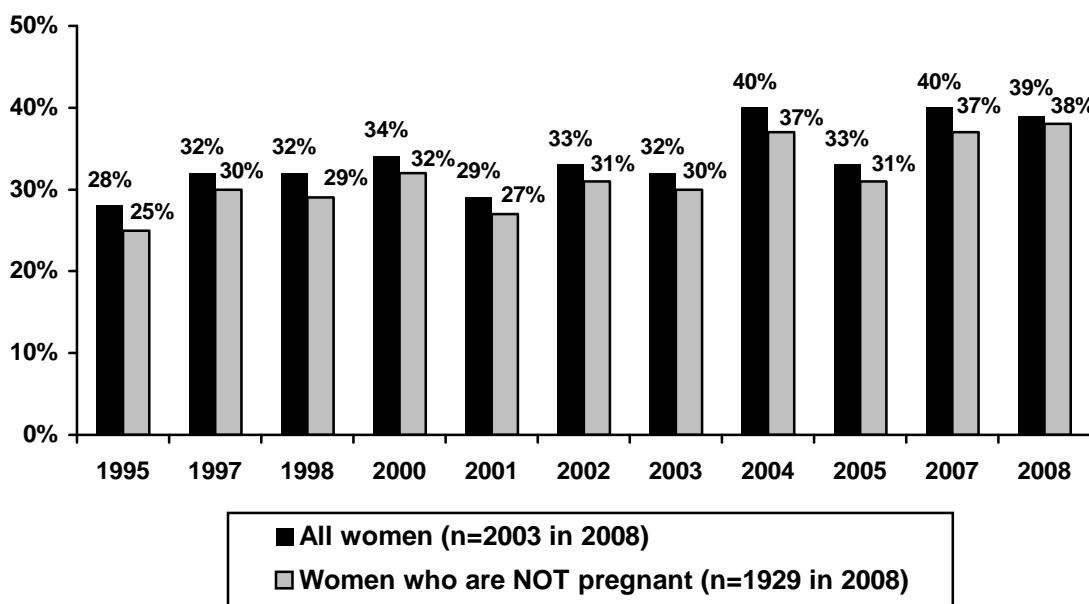
## Vitamin Use among Women

### Vitamin Use among Women, ages 18-45

**Q: 1** In 2008, 48 percent of all women surveyed say they currently take any type of vitamin or mineral supplements on a daily basis, though not necessarily vitamins containing folic acid. Specific to vitamins that contain folic acid, 39 percent of women in 2008 say they take some type of vitamin containing folic acid on a daily basis. An additional 12 percent say they take a vitamin containing folic acid less frequently. These findings are consistent with the findings for 2004 and 2007. Of women who were not pregnant at the time of the 2008 survey, 38 percent report taking a vitamin containing folic acid daily.

**Q: 4**

**TAKE VITAMIN CONTAINING FOLIC ACID DAILY**



Of all women ages 18-45 surveyed in 2008, those least likely to consume a vitamin containing folic acid daily include:

- Younger women 18-24 years (27 percent compared to 41 percent among women 25-34 years, and 44 percent of women 35-45 years).
- Women who have not attended college (36 percent compared to 41 percent among women who have attended or completed college or post-graduate studies).
- Women with annual household incomes of less than \$50,000 (30 percent for those with incomes of less than \$25,000, 32 percent for those with incomes of \$25,000 - \$39,999, and 30 percent for those with incomes of \$40,000-\$49,999 compared to 47 percent for those with incomes of \$50,000 or more).



**TAKE VITAMIN CONTAINING FOLIC ACID DAILY  
(Based on women ages 18-45, n=2003)**

	1995 %	1997 %	1998 %	2000 %	2001 %	2002 %	2003 %	2004 %	2005 %	2007 %	2008 %
ALL WOMEN AGES 18-45	28	32	32	34	29	33	32	40	33	40	39
ALL WOMEN AGES 18-45 NOT CURRENTLY PREGNANT	25	30	29	32	27	31	30	37	31	37	38
<b>RACE/ETHNICITY</b>											
White	-	-	33	36	30	36	34	43	36	40	40
Other races	-	-	26	26	23	25	28	31	23	36	38
Hispanic	-	-	29	36	23	26	29	38	27	38	45
Non-Hispanic	-	-	32	34	29	34	33	40	34	40	39
<b>AGE</b>											
18-24 years	21	23	23	29	22	22	25	31	24	30	27
25-34 years	30	36	34	34	32	37	34	39	36	47	41
35-45 years	30	35	34	36	30	36	35	46	37	40	44
<b>EDUCATION</b>											
Less than H.S.	22	20	20	18	26	21	21	19	20	29	-
H.S./Tech. grad.	26	30	27	31	24	29	28	32	31	36	-
Less than college	-	-	-	-	-	-	-	-	-	-	36
College (any)	30	37	36	38	32	38	37	48	36	42	41
College incomplete	29	34	33	36	30	33	32	47	31	37	36
College grad./ Post grad.	32	40	40	42	35	45	43	49	43	48	48
<b>ANNUAL HOUSEHOLD INCOME</b>											
Under \$25,000	20	22	28	26	22	23	24	30	27	32	30
\$25,000 - \$39,999	31	32	29	34	26	34	31	40	28	39	32
\$40,000 - \$49,999	32	34	31	37	28	33	39	48	37	43	30
\$50,000 and over	33	43	38	40	35	40	38	46	38	43	47
<b>REGION</b>											
East	29	33	30	31	30	32	32	41	34	44	42
Midwest	27	31	31	33	29	34	34	41	34	40	34
South	26	28	29	33	26	31	28	35	30	38	39
West	32	40	37	40	31	37	39	44	37	40	42
<b>LAST PREGNANCY</b>											
Currently pregnant	-	79	79	84	80	74	82	81	90	93	91
Less than 2 years / currently pregnant	-	35	34	41	32	35	43	45	48	58	53
Pregnant past 3-4 years	-	37	30	33	30	30	28	48	34	35	41
Pregnant 5 years or more	-	30	30	32	27	32	30	38	33	35	39
<b>DOCTOR EVER RECOMMENDED MULTIVITAMIN</b>											
Yes	-	-	-	-	-	-	-	-	43	55	53
No	-	-	-	-	-	-	-	-	25	28	29

- = Not available.

**TYPE OF SUPPLEMENTS TAKEN DAILY**  
(Based on women ages 18-45)

	2005 %	2007 %	2008 %	Change in % Points '05-'08
<b>NET: Take multivitamins/ prenatal/ folic acid daily</b>	33	40	39	+6
<b>Multivitamins</b>				
With iron	27	31	30	+3
Without iron	7	8	10	+3
Non-specific	2	7	5	+3
Calcium	9	14	14	+5
Vitamin C	7	11	8	+1
Prenatal vitamins	7	8	6	-1
Vitamin D	1	2	4	+3
Vitamin B 12	2	4	4	+2
Iron	3	4	4	+1
Fish oil	1	4	4	+3
Vitamin E	3	3	4	+1
Other	7	4	5	-2
Don't know/refused	36	33	35	-1
Number of Interviews	(2647)	(2003)	(2003)	

Table lists mentions of 3 percent or more in 2008.

## Reasons for Taking Vitamin or Mineral Supplements

Q. 4A

Thirty-two percent of women who take vitamin or mineral supplements report taking them to supplement their diet. One quarter (25 percent) mention general health reasons. Ten percent say they take supplements to help prevent illness.

Q. 4B

When asked about specific health reasons for which they are taking multivitamins or mineral supplements, 28 percent cite general health, 10 percent mention anemia, and 8 percent mention supplementing their diet.

### REASONS FOR TAKING VITAMIN OR MINERAL SUPPLEMENTS (Based on women who take vitamins or mineral supplements)

	2001 %	2002 %	2003 %	2004 %	2005 %	2007 %	2008 %
Poor diet/supplement diet	26	24	22	19	24	34	32
Health reasons	25	20	25	55	14	19	25
Prevent illness	6	8	7	1	11	15	10
Health care provider recommended	6	5	7	10	5	8	8
Good for you	6	7	6	*	9	9	7
For energy	6	6	7	2	5	4	6
To prevent osteoporosis/ensure strong bones	2	2	2	*	2	5	5
Pregnancy related	6	8	7	3	9	7	4
Number of Interviews	(1344)	(1352)	(1346)	(1347)	(1765)	(1432)	(1443)

Table lists mentions of 4 percent or more in 2008.

\* = Less than 0.5%.

### SPECIFIC HEALTH REASONS FOR TAKING VITAMIN/MINERAL SUPPLEMENT (Based on women who cited health reasons for taking vitamin/mineral)

	2005 %	2007 %	2008 %	Change in % Points '05-'08
General health	23	29	28	+5
Anemia	6	7	10	+4
To supplement diet/proper nutrition	7	14	8	+1
To boost immune system	2	3	7	+5
Boost energy	6	7	7	+1
Osteoporosis/saving their bones	8	10	6	-2
Pregnancy related	3	4	5	+2
Other	11	10	10	-1
None	6	14	20	+14
Number of Interviews	(225)	(280)	(306)	

Table lists mentions of 4 percent or more in 2008.

## Reasons for Not Taking Vitamin or Mineral Supplements

Q: 5

In 2008, 29 percent of women who do not take a vitamin or mineral supplement on a daily basis report that they forget to take them. Eighteen percent feel that they don't need them. One in eight (12 percent) say they get the nutrition they need from the foods they eat.

### REASONS FOR NOT TAKING VITAMINS OR MINERAL SUPPLEMENTS ON DAILY BASIS (Based on women who don't take daily vitamins)

	2001 %	2002 %	2003 %	2004 %	2005 %	2007 %	2008 %
Forget to take them	24	24	24	23	28	33	29
Don't feel I need them	20	17	16	18	16	18	18
No particular reason	17	18	22	23	16	14	15
Get balanced nutrition	9	8	9	5	9	12	12
The cost/costs too much	4	4	4	4	5	6	8
Lazy	4	6	3	4	6	6	6
Number of Interviews	(1085)	(1035)	(1030)	(1010)	(1400)	(973)	(936)

Table lists mentions of 6 percent or more in 2008.

Women who do not take vitamins or mineral supplements daily and know that folic acid helps prevent birth defects were asked their reasons for not consuming supplements daily. The most frequent reasons for not taking daily supplements are forgetting to take them (31 percent), feeling they get balanced nutrition from the foods they eat (20 percent) and believing they don't need them (13 percent). Nine percent report that vitamins cost too much and another 8 percent report being lazy.

### REASONS FOR NOT TAKING VITAMINS/MINERAL SUPPLEMENTS ON DAILY BASIS (Based on women who do not take vitamins/mineral supplements daily and know folic acid can help prevent birth defects)

	2003 %	2004 %	2005 %	2007 %	2008 %
I forget to take them	13	14	20	29	31
Get balanced nutrition from foods	14	11	15	18	20
Don't feel I need them	20	16	17	21	13
The cost/Costs too much	7	4	5	6	9
Lazy	2	3	11	7	8
Don't like taking pills	-	-	-	9	6
Stomach problems	3	3	5	9	6
No particular reason	21	24	14	7	5
Number of Interviews	(175)	(154)	(188)	(167)	(167)

Table lists mentions of 4 percent or more in 2008.

- = Not available.

Q: 5-1

Among women who said they don't take vitamins daily because they don't feel they need them, 43 percent would start if a doctor recommended it, an increase of 23 percentage points since 2005. Twenty-four percent indicate that they would start taking a vitamin or mineral supplement if they were sick. Seventeen percent say they would start taking a vitamin if they were deficient in anything, and 13 percent would start if they were pregnant.

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**SPECIFIC NEED FOR WHICH WOMEN WOULD START TAKING A MULTIVITAMIN**  
**(Based on women who said they don't feel they need them)**

	2005 %	2007 %	2008 %	Change in % Points '05-'08
If a doctor recommended	20	32	43	+23
If were sick/in poor health	20	21	24	+4
If deficient in anything	7	17	17	+10
Pregnancy	8	7	13	+5
Other	5	7	4	-1
Don't know/Refused	12	4	5	-7
Number of Interviews	(134)	(139)	(132)	

Table lists mentions of 4 percent or more in 2008.

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## Timing of Vitamin, Mineral or Multivitamin Use

Q: 14

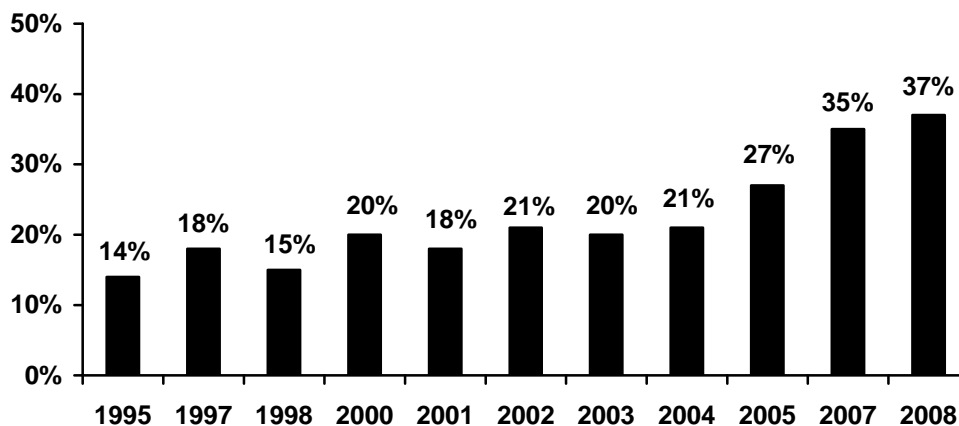
Nearly all (95 percent) women who have had children or are currently pregnant say they took a prenatal vitamin or multivitamin around the time of their last pregnancy. The percentage of women who report taking a prenatal or multivitamin during their pregnancy has remained stable since 1995.

Q: 15

More women in 2008 who have ever been pregnant and who say they took a prenatal or multivitamin around the time of their last pregnancy report taking the vitamin before they became pregnant. Currently, 37 percent say they took the vitamin prior to their pregnancy. Still, while progress has been made since 1995, 63 percent report waiting until they knew they were pregnant.

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**STARTED TAKING PRENATAL/MULTIVITAMINS BEFORE BECOMING PREGNANT**  
(Based on women who took a prenatal or multivitamin around the time of their last pregnancy, n = 1216 in 2008)



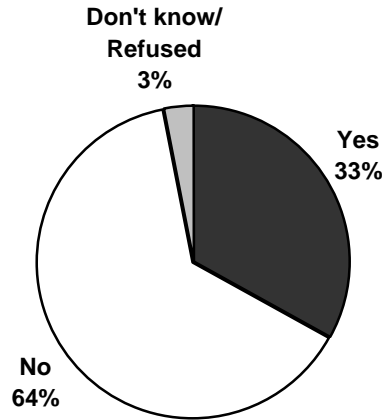
In 2008, women who report having a recent pregnancy are more likely than those whose last pregnancy was five or more years ago to report taking a multivitamin before pregnancy (52 percent vs. 26 percent). College-educated women (44 percent) and women aware of folic acid (40 percent) are also more likely than their counterparts to take vitamins before getting pregnant (26 percent and 9 percent respectively).

**TIME FIRST STARTED TAKING PRENATAL/MULTIVITAMINS**  
**(Based on women who took prenatal or multivitamin around the time of their last pregnancy)**

	Before Became Pregnant %	After Became Pregnant %	Number of Interviews
TOTAL	37	63	(1216)
LAST PREGNANCY			
Less than 2 years / currently pregnant	52	48	(353)
3-4 years	48	52	(182)
5 years or more	26	73	(699)
EDUCATION			
Less than college	26	73	(202)
College (any)	44	56	(1010)
AWARENESS OF FOLIC ACID			
Yes, aware	40	60	(1125)
Not aware	9	91	(91)

Women who had children or were currently pregnant were asked if they took any single vitamin or mineral supplements around the time of their last pregnancy. One third (33 percent) say they had, while 64 percent say they had not. Prenatal vitamins, iron, and multivitamins with iron are most common types of vitamins taken.

**TOOK SINGLE VITAMIN/MINERAL SUPPLEMENT AROUND TIME OF MOST RECENT PREGNANCY**  
 (Based on women who have children or are currently pregnant, n = 1272)



**TYPE OF SINGLE VITAMIN OR MINERAL SUPPLEMENTS TAKEN AROUND TIME OF LAST PREGNANCY**  
 (Based on women who have had children or are currently pregnant)

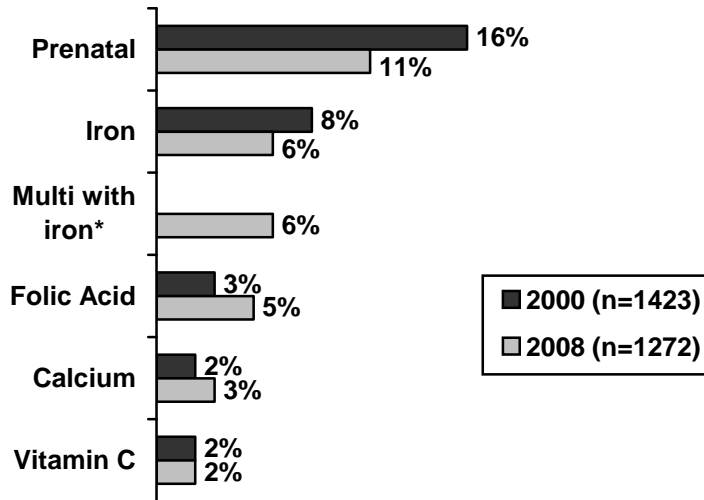


Chart lists mentions of 2 percent or more in 2008.  
 \*= Not available in 2000.



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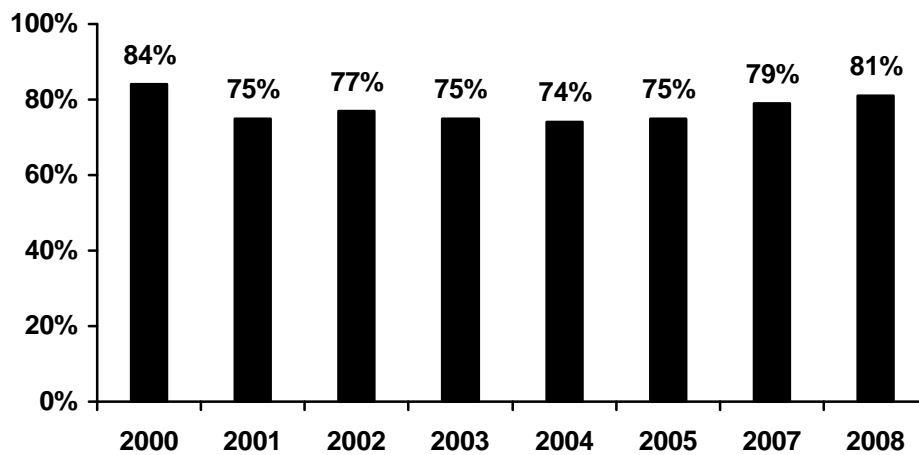
## Frequency of Vitamin, Mineral or Multivitamin Use

Q: 16

Women who took vitamins before their most recent pregnancy were asked if they took prenatal or multivitamins on a daily basis or less frequently. Four out of five (81 percent) indicate they had taken them daily.

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**TOOK PRENATAL/MULTIVITAMINS DAILY BEFORE LAST PREGNANCY**  
(Based on women who took prenatal/multivitamins before their last pregnancy, n = 524 in 2008)



## Willingness to Take Multivitamins

Q: 38

Women were read an explanation of why the U.S. Public Health Service recommends 0.4 milligrams (or 400 micrograms) of folic acid for women of childbearing age. Asked how willing they would be to buy and take daily multivitamins that contain folic acid, 61 percent of women say they would be very willing and another 29 percent report they would be somewhat willing. The proportion of women who say they would be very willing to take multivitamins has not changed substantially since the survey began in 1995.

### WILLINGNESS TO BUY AND TAKE MULTIVITAMINS WITH FOLIC ACID (Based on women ages 18-45)

	1995 %	2000 %	2005 %	2007 %	2008 %	Change in % Points '95-'08
Very willing	57	66	64	61	61	+4
Somewhat willing	32	22	27	30	29	-2
Not very willing/ Not willing at all	10	10	8	9	9	-1
Don't know/Refused	1	2	1	*	1	0
Total	100	100	100	100	100	
Number of Interviews	(2010)	(2013)	(2647)	(2003)	(2003)	

NOTE: Prior to 2004, respondents were given the choice of "not very willing," which has been combined with "not willing at all" in this table.

\* = Less than 0.5%.

# Part 3.

## Motivation to Take a Multivitamin

### Things That Might Encourage Women to Take Multivitamins

Q: 24C

Women who said they currently do not take a vitamin or mineral supplement on a daily basis were asked what, if anything, would make them more likely to do so. Nearly one in three (31 percent) among this group report they would be more likely to do so if their doctor or health care provider recommended they take it. Almost one in ten (9 percent) say they would be more likely to take a multivitamin daily if they experienced a change in health.

**TYPES OF THINGS THAT MIGHT ENCOURAGE WOMEN TO TAKE A MULTIVITAMIN DAILY**  
(Based on women who do not take vitamin or mineral supplements daily)

	2001	2002	2003	2004	2005	2007	2008
	%	%	%	%	%	%	%
If doctor/health care provider advised them to take it	20	34	33	42	26	35	31
If I experienced a change in health	13	11	9	2	9	10	9
If I needed vitamins	-	4	4	1	6	7	8
If lower cost/free	4	2	3	2	3	3	5
If eating poor diet	3	2	3	6	2	7	4
If I felt run down	7	4	4	10	2	4	4
If I had more information about benefits	4	3	3	1	4	3	4
If I had someone to remind me	13	3	4	7	3	4	4
If I could remember to take them	-	4	4	1	4	3	3
If pregnant	3	3	4	4	3	3	3
If they would improve my health	-	-	-	-	-	5	3
Other	7	5	7	2	7	2	4
Nothing	5	2	4	2	6	4	5
Don't Know/ Refused	12	8	7	11	9	7	8
Number of interviews	(1085)	(1035)	(1030)	(1010)	(1400)	(973)	(936)

Table lists mentions of 3 percent or more in 2008.

- = Not available.

NOTE: Question was asked for the first time in 2001.

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## Discussions with Health Care Provider

Q: 6D  
6E  
6F

Eighty-six percent of all women surveyed think it is important for a woman to visit her healthcare provider to plan for her pregnancy before she becomes pregnant. Almost 3 out of 4 women surveyed (73 percent) say that they would not mind if their health care provider spoke to them about having a safe pregnancy and a healthy baby even if their appointment was for other reasons. Nearly nine out of ten women (89 percent) would make an appointment to talk about ways to have a safe pregnancy and a healthy baby if encouraged to do so by their health care provider.

Q: 11

Twenty-nine percent of women who have had children or are currently pregnant report discussing pregnancy with their health care provider before they got pregnant. Among women currently pregnant, 57 percent report seeing their doctor about pregnancy before they were pregnant, up from 39 percent in 2007.

Q: 12

Eighty-six percent of women in 2008 who have had children or are currently pregnant report that their doctor has discussed ways in which they might help to have a healthy baby and reduce their child's risk of birth defects.

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### DISCUSSED WAYS TO HAVE HEALTHY BABY WITH HEALTH CARE PROVIDER (Based on women who have had children or are currently pregnant)

	1995 %	1997 %	2000 %	2001 %	2002 %	2003 %	2004 %	2005 %	2007 %	2008 %
Yes	82	84	87	90	92	92	89	91	85	86
No	16	13	12	9	7	7	9	8	13	12
Don't know/ Refused	2	3	1	1	1	1	2	1	2	2
Total	100	100	100	100	100	100	100	100	100	100
Number of Interviews	(1440)	(1406)	(1423)	(1401)	(1443)	(1461)	(1446)	(1705)	(1248)	(1272)

---

When asked what their doctor had discussed, more than half (54 percent) of the respondents who had a pregnancy said their doctor had discussed taking vitamins to help in having a healthy baby. A balanced diet (46 percent), avoiding smoking (24 percent), avoiding alcohol (19 percent), and moderate exercise (17 percent) are also cited frequently by women who had discussions with their health care provider. Almost one in six (16 percent) name folic acid as something the doctor or health care provider had discussed.

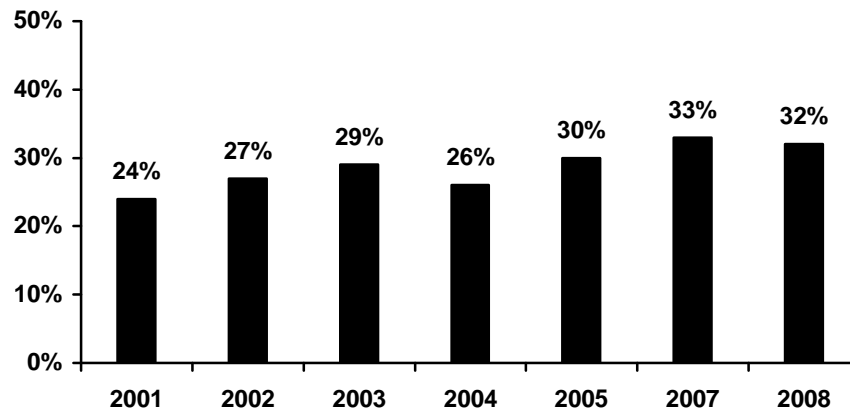
**ADVICE GIVEN BY HEALTH CARE PROVIDER**  
**(Based on women who have had children or are currently pregnant, and had healthy baby discussions with health care provider)**

	1995 %	2004 %	2005 %	2007 %	2008 %
NET: Prenatal vitamins/vitamins	41	46	56	51	54
Proper diet/balanced/healthy diet	46	48	44	39	46
Avoid/limit smoking	54	34	33	25	24
Avoid/limit alcohol	53	29	27	20	19
Moderate exercise	20	22	21	18	17
Folic acid	2	10	12	12	16
Take care of yourself	7	5	6	6	8
Test screening/genetic screen	-	2	4	8	6
Proper rest	6	6	8	7	5
No medications without doctor approval	3	8	6	7	4
Regular doctor visits	6	4	5	4	4
Limit caffeine	3	3	4	3	4
Gave brochure/pamphlet	-	1	3	2	3
Watch weight/moderate weight gain	7	2	4	4	2
Drink a lot of water/keep fluids in the body	2	3	2	4	2
Other	12	6	13	7	6
Don't know/Refused	6	10	4	6	6
Number of Interviews	(1182)	(1293)	(1571)	(1067)	(1114)

Table lists mentions of 2 percent or more in 2008.  
 - = Not available.

About one third (32 percent) of women ages 18-45 surveyed report that their doctor or other health care provider has discussed the benefits of folic acid with them, an increase from 24 percent in 2001. Women most likely to report their doctor or other health care provider has had these discussions include women who are pregnant or have had a pregnancy within the past two years (63 percent among this group) compared to 36 percent among women with a pregnancy five or more years ago. Among women who plan to get pregnant, 24 percent say a health care provider had discussed the benefits of folic acid.

**DOCTOR OR HEALTH CARE PROVIDER DISCUSSED FOLIC ACID BENEFITS**  
(Based on women ages 18-45, n=2003 in 2008)



**DOCTOR OR HEALTH CARE PROVIDER DISCUSSED BENEFITS OF FOLIC ACID**  
(Based on women ages 18-45)

	Yes %	No %	DK/RF <sup>1</sup> %	Number of Interviews
TOTAL	32	66	2	(2003)
AGE				
18-24	7	92	1	(308)
25-34	43	56	1	(619)
35-45 <sup>#</sup>	39	59	3	(1076)
PREGNANCY				
Last pregnancy less than 2 years ago/ currently pregnant	63	35	2	(365)
Last pregnancy 3-4 years ago	69	27	4	(187)
Last pregnancy 5 years or more ago	36	61	3	(737)
Plan to get pregnant	24	76	*	(612)

\* = Less than 0.5%.

<sup>1</sup> Answered don't know/refused.

<sup>#</sup> Row sums to more than 100 due to rounding.

Q: 24B

Almost one third (31 percent) of women who said their physician or other health care provider discussed folic acid benefits with them report they had been told folic acid helps to prevent birth defects. Three in ten (30 percent) among this group state their health care provider told them it was beneficial for the baby during pregnancy, while 13 percent report that they were told to take it before they became pregnant.

**DISCUSSIONS WITH HEALTH CARE PROVIDER**  
**(Based on women who said doctor/health care provider discussed folic acid benefits)**

	2001 %	2002 %	2003 %	2004 %	2005 %	2007 %	2008 %
Prevents birth defects	33	31	29	36	30	28	31
Beneficial for baby during pregnancy	21	16	20	17	22	21	30
It is important/need to take it	12	12	18	4	13	10	13
Take it before you get pregnant	-	5	8	3	7	11	12
Check if folic acid is in multivitamin	-	-	-	-	-	10	3
Helps with brain development	-	1	3	3	2	5	3
Helps prevent miscarriages/ strengthens uterus	-	-	-	-	-	3	3
Just said it would be good for you	5	5	-	3	2	6	2
Other	9	8	5	5	7	2	3
Don't know/Refused	18	19	15	26	15	18	14
Number of Interviews	(493)	(576)	(648)	(556)	(829)	(763)	(811)

Table lists mentions of 2 percent or more in 2008.  
 - = Not available.

Q. 5-5

More than four in ten (41 percent) women ages 18-45 report that a doctor or other health care provider has recommended they take a multivitamin. Among women 18-24 years, 31 percent say a doctor or other health care provider has recommended a multivitamin. Almost half (47 percent) of women ages 25-34 report their doctor had recommended that they take a multivitamin.

Among women who take a multivitamin daily, more than half (56 percent) report that a doctor had recommended they take a multivitamin.

In contrast, 74 percent of women who do not take any vitamins say a doctor or other health care provider has never recommended they take a multivitamin.

**DOCTOR EVER RECOMMENDED A MULTIVITAMIN  
(Based on women ages 18-45)**

	Yes %	No %	DK/RF <sup>1</sup> %	Total %	Number of Interviews
TOTAL	41	58	1	100	(2003)
AGE					
18-24	31	66	3	100	(308)
25-34	47	52	*	100	(619)
35-45 <sup>#</sup>	42	56	1	100	(1076)
MULTIVITAMIN USE					
Take a daily multi-vitamin/ prenatal/ folic acid	56	43	1	100	(881)
Do not take any	25	74	1	100	(560)

\* = Less than 0.5%.

<sup>1</sup>Answered don't know/refused.

<sup>#</sup> Row sums to less than 100 due to rounding.



## Likelihood of Taking a Multivitamin Daily if Advised by Health Care Provider

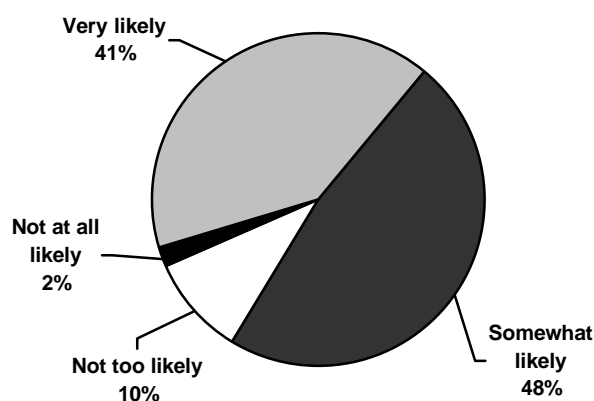
Q: 5A

A majority (89 percent) of women, ages 18 to 45, who do not currently take any vitamins or mineral supplements on a daily basis, say they would be likely to take a daily multivitamin if advised to do so by their physician or other health care provider, including 41 percent who say they would be very likely to do so.

Q: 5B

Twelve percent say they would not be likely to take a daily multivitamin, even if advised to do so. When asked why they would not take them, 22 percent feel they would forget to take them, 13 percent feel vitamins make them feel ill, and 12 percent say they have no need for vitamins.

### LIKELIHOOD OF FOLLOWING HEALTH CARE PROVIDER'S RECOMMENDATION FOR DAILY MULTIVITAMIN (Based on women who do not take vitamin or mineral supplements daily, n=936)



Does not total to 100% due to rounding.

### REASONS FOR NOT FOLLOWING HEALTH CARE PROVIDER'S RECOMMENDATION TO TAKE DAILY MULTIVITAMIN

(Based on women who report they are not too or not at all likely to follow health care provider's advice)

	2002 %	2003 %	2004 %	2005 %	2007 %	2008 %
Would forget to take	19	22	14	24	19	22
Makes me feel ill	-	-	-	4	8	13
No need for vitamins	10	6	18	11	14	12
Dislike taking pills	19	20	14	14	26	9
Do not trust advice	8	5	2	7	8	9
Too expensive	6	5	4	5	4	6
Lazy	-	-	-	1	*	6
Not a habit	-	-	-	2	10	6
I eat a healthy diet	-	-	-	-	5	5
Other	27	38	21	9	6	18
Number of interviews	(98)	(108)	(107)	(181)	(121)	(123)

Table lists mentions of 4 percent or more in 2008.

- = Not available

\* = Less than 0.5%.

# Appendix A:

## Profile of Women Surveyed

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### Children/Pregnancy

- Six in ten (59 percent) report having children.
- Three percent are currently pregnant.
- Thirty-five percent plan to get pregnant.

### Education

- Thirty-two percent have not attended college or a vocational school.
- Six percent attend trade school or technical or vocational training.
- Sixty-two percent have attended college (33 percent attended but did not graduate college, 17 percent graduated and 12 percent have completed post-graduate work / post-graduate degrees).

### Age

- Twenty-four percent are between the ages of 18-24.
- Thirty-three percent are between the ages of 25-34.
- Forty-three percent are between the ages of 35-45.

### Marital Status

- Fifty-nine percent are currently married.
- Eight percent say they were either divorced, widowed or separated.
- Thirty-three percent have never been married.

### Employment Status

- Forty-four percent are employed full-time.
- Twenty-one percent are employed part-time.
- Eight percent are temporarily unemployed.
- Twenty percent describe themselves as full-time homemakers.

### Race/Ethnicity

- Eighty-eight percent identify themselves as white.
- Four percent identify themselves as African-American/Black.
- Four percent identify themselves as Asian, American Indian or some other race.
- Six percent describe themselves as being of Hispanic descent (White or Black).

### Income

- Sixteen percent report their annual household income as less than \$25,000.
- Sixteen percent report their annual household income as \$25,000 – 39,999.
- Nine percent report their annual household income as \$40,000 – 49,999.
- Fifty-four percent report their annual household income as \$50,000 or more.

# Appendix B:

## Survey Questions

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- Q1. Do you currently take any vitamin or mineral supplements on a daily basis? (total respondents)
- Q2. Do you take any vitamin or mineral supplements, even though you may not take them daily? (respondents who do not take vitamins or mineral supplements on a daily basis)
- Q2A. Do you take any vitamin or mineral supplements? (total respondents)
- Q3. How often do you take these vitamin or mineral supplements? (respondents who take vitamin or mineral supplements but not on a daily basis)
- Q4. What type of vitamin or mineral supplements do you take? (respondents who take vitamins or mineral supplements)
- Q4. What type of vitamin or mineral supplements do you take? (total respondents)
- Q4A. Why do you take vitamin or mineral supplements? (respondents who take vitamin or mineral supplements)
- Q4B. For what specific health reasons are you taking a vitamin or mineral supplement (open ended)? (said “health reasons” in Q4A)
- Q4C. You say you take a vitamin or mineral supplement because your health care provider recommended it. What did he or she tell you? (said “health care provider recommended it” in Q4A)
- Q5. Why do you not take any vitamin or mineral supplements on a daily basis? (respondents who do not take vitamins or mineral supplements on a daily basis)
- Q5. Why do you not take any vitamin or mineral supplements on a daily basis? (respondents who do not take vitamins or mineral supplements on a daily basis but know folic acid can prevent birth defects)
- Q5-1. For what specific need would you start taking a vitamin or mineral supplement? (said “don’t feel I need them” in Q5)
- Q5-4. You say you don’t take a vitamin or mineral supplement because you eat a well-balanced diet every day. Would you say that you eat a well-balanced diet? (said “eat a well-balanced diet every day” in Q5)
- Q5-5. Has your doctor or health care provider ever recommended that you take a multivitamin? (total respondents)
- Q5A. If your doctor or health care provider recommended that you take a daily multivitamin, how likely would you be to follow your doctor or health care provider’s advice? (respondents who do not take vitamins or mineral supplements)
- Q5B. Why would you not be likely to take your health care provider’s advice to take a daily multivitamin? (those who would not be likely to take health care provider’s advice to take a daily multivitamin)
- Q6B. Which of the following statements best describes your pregnancy plans? (total respondents)
- Q6D. Do you think it is important for a woman to visit her health care provider to plan for her pregnancy before she becomes pregnant? (total respondents)
- Q6E. Would you mind if your healthcare provider talked to you about how to have a safe pregnancy and healthy baby even if your appointment was for other reasons? (total respondents)
- Q6F. If your healthcare provider encouraged you, would you make an appointment to talk about ways you could have a safe pregnancy and health baby? (total respondents)

- Q6G. In your opinion, how serious of a problem is premature birth in the U.S.? (total respondents)
- Q7. Have you ever had any children? (total respondents)
- Q7-1. Which of the following statements best describes you during the three months before your most recent pregnancy?
- Q7A. Were any of these children born prematurely, that is, more than three weeks before your due date? (respondents who have had children)
- Q7B. Some studies have reported that women at very high risk for premature birth may benefit from a treatment using a hormone progesterone, such as Gestiva. Did a healthcare provider ever speak to you about this? (respondents who have had children)
- Q8. When did you deliver your most recent child? (respondents who have had children)
- Q8A. Was this last pregnancy planned? (respondents who have had children, or are currently pregnant)
- Q11. Thinking of your last pregnancy, did you see your doctor or healthcare provider to discuss pregnancy before you got pregnant, or did you wait to see him or her when you thought you were pregnant? (respondents who have had children, or are currently pregnant)
- Q12. During these visits, did your doctor or other healthcare provider discuss ways in which you might help to have a healthy baby and reduce your child's risk of birth defects? (respondents who have had children, or are currently pregnant)
- Q13. What did your doctor or other healthcare provider tell you? (doctor/other healthcare provider discussed ways in which respondent might help to have a healthy baby)
- Q14. Around the time of your last pregnancy, did you take a prenatal vitamin or multivitamin? (respondents who have had children, or are currently pregnant)
- Q15. Did you start taking the prenatal or multivitamin before you knew you were pregnant, or did you start taking it after you knew you were pregnant? (respondents who during their last pregnancy took a prenatal vitamin or multivitamin)
- Q16. Before your most recent pregnancy, did you take prenatal vitamins or multivitamins on a daily basis or less frequently? (took prenatal/multivitamins before pregnancy)
- Q17. Around the time of your last pregnancy, did you take any single vitamin or mineral supplement? (respondents who have had children, or are currently pregnant)
- Q18. Did you start taking (this/these) before you knew you were pregnant, or did you start after you knew you were pregnant? (respondents who have taken single vitamin or mineral supplements)
- Q20. Which vitamins or mineral supplements do you think are very important to women of childbearing age? (total respondents)
- Q21. Which vitamins or mineral supplements do you feel are especially important to women who are pregnant? (total respondents)
- Q22. Have you ever heard or read/seen anything about folic acid? (total respondents)
- Q23. What have you heard, read, or seen about folic acid? (respondents who are familiar with folic acid)
- Q23. What have you heard, read, or seen about folic acid? (total respondents)
- Q24. Where did you learn about folic acid? (respondents who are familiar with folic acid)
- Q24A. Has your doctor or other health care provider ever discussed the benefits of folic acid with you? (total respondents)
- Q24-1. To the best of your knowledge, do multivitamins contain folic acid or not? (total respondents)

- Q24B. What did your doctor or other health care provider tell you? (doctor or other healthcare provider discussed benefits of folic acid with respondent)
- Q24C. You mentioned earlier that you do not take any vitamin or mineral supplements on a daily basis. What, if anything, would make you more likely to take a multivitamin on a daily basis? (respondents who do not take vitamins or mineral supplements on a daily basis)
- Q28. From what you have read or seen, what food items are good sources of folic acid? (respondents who are familiar with folic acid)
- Q28A. How often do you look for foods or beverages that contain 100 percent of the daily value of folic acid? (total respondents)
- Q29. From what you know, is there anything a woman can do to reduce her risk of having a baby with birth defects? (total respondents)
- Q30. What can a woman do to reduce the risk of birth defects? (can reduce the risk of birth defects)
- Q31. To the best of your knowledge, can consuming vitamins during pregnancy reduce the risk of birth defects? (total respondents)
- Q32. Which birth defects? (those who said vitamins consumed during pregnancy can reduce the risk of birth defects)
- Q33. Which specific vitamins can help reduce a woman's risk of birth defects in her unborn child? (total respondents)
- Q34. Based on what you have heard, read, or seen, should a woman take multivitamins before her pregnancy or not? (total respondents)
- Q37A. From what you've heard, read or seen, how much folic acid is recommended for a woman of childbearing age to take daily?
- Q38. Healthcare providers, nutritionists, and the U.S. Public Health Service recommend that all women of childbearing age consume 400 micrograms of the vitamin folic acid daily. If consumed prior to and during the first month of pregnancy, folic acid may reduce the risk of specific types of birth defects of the brain and spine by as much as 70 percent. Most multivitamins contain 400 micrograms of folic acid. Knowing this, how willing would you be to buy and take daily vitamins that contain folic acid? (total respondents)
- Q40A. In 1998, federal guidelines required that folic acid be added to all enriched wheat, rice, flour, and corn products in an effort to increase folate levels of women and help reduce specific birth defects. Have you heard or read anything about increasing the amount of folic acid added to these enriched grains or cereals? (total respondents)
- Q40B. Some organizations believe that the amount of folic acid in these products should be increased because women don't get all the folic acid that they need from fortified foods to prevent some serious birth defects. Others believe that increasing the amount may make some people get too much, that is, more than the recommended upper level. Knowing this, how willing are you to support efforts to double the amount of folic acid added to grain products? (total respondents)

# Appendix C:

## Sampling Tolerances

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In interpreting survey results, it should be borne in mind that all sample surveys are subject to sampling error, that is, the extent to which the results may differ from what would be obtained if the whole population had been interviewed. The size of such sampling errors depends largely on the number of interviews.

The following tables may be used in estimating the sampling error of any percentage in this report. The computed allowances have taken into account the effect of the sample design upon sampling error. They may be interpreted as indicating the range (plus or minus the figure shown) within which the results of repeated samplings in the same time period could be expected to vary, 95 percent of the time, assuming the same sampling procedures, the same interviewers, and the same questionnaire.

The first table shows how much allowance should be made for the sampling error of a percentage:

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**RECOMMENDED ALLOWANCE FOR SAMPLING ERROR OF A PERCENTAGE  
IN PERCENTAGE POINTS  
(at 95 in 100 confidence level)\***

	Sample Size					
	2000	1000	750	500	300	100
Percentages Near 10	2	3	3	4	5	8
Percentages Near 20	2	3	4	5	6	11
Percentages Near 30	3	4	5	6	7	12
Percentages Near 40	3	4	5	6	8	13
Percentages Near 50	3	4	5	6	8	13
Percentages Near 60	3	4	5	6	8	13
Percentages Near 70	3	4	5	6	7	12
Percentages Near 80	2	3	4	5	6	11
Percentages Near 90	2	3	3	4	5	8

\* The chances are 95 in 100 that the sampling error is not larger than the figure shown.

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The table would be used in the following manner: Let us say a reported percentage is 33 for a group which includes 2000 respondents. Then we go to row "percentages near 30" in the table and go across to the column headed "2000." The number at this point is 3, which means that the 33 percent obtained in the sample is subject to a sampling error of plus or minus 3 points. Another way of saying it is that very probably (95 chances of 100) the true figure would be somewhere between 30 and 36, with the most likely figure the 33 obtained.

In comparing survey results in two samples such as, for example, men and women, the question arises as to how large a difference between them must be before one can be reasonably sure that it reflects a real difference. In the tables below, the number of points which must be allowed for in such comparisons is indicated.

Two tables are provided. One is for percentages near 20 or 80; the other for percentages near 50. For percentages in between, the error to be allowed for is between those shown in the two tables.

**RECOMMENDED ALLOWANCE FOR SAMPLING ERROR OF THE DIFFERENCE BETWEEN  
20% AND 80% IN PERCENTAGE POINTS  
(at 95 in 100 confidence level)\***

	Sample Size					
	2000	1000	750	500	300	100
2000	3					
1000	4	5				
750	5	5	6			
503	5	6	6	7		
300	7	7	7	8	9	
100	11	11	11	12	12	15

\* The chances are 95 in 100 that the sampling error is not larger than the figure shown.

**RECOMMENDED ALLOWANCE FOR SAMPLING ERROR OF THE DIFFERENCE BETWEEN  
50% AND 50% IN PERCENTAGE POINTS  
(at 95 in 100 confidence level)\***

	Sample Size					
	2000	1000	750	500	300	100
2000	4					
1000	5	6				
750	6	7	7			
503	7	7	8	9		
300	8	9	9	10	11	
100	14	14	14	15	16	19

\* The chances are 95 in 100 that the sampling error is not larger than the figure shown.

## Appendix D: Response Rate

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Gallup's phone management system records the phone record disposition of the sample used for each survey. This standard method has been used by Gallup since 1993. This system also keeps track of many other pieces of information such as failed screeners, soft or hard refusals, type/reason for termination, etc. Using this information, Gallup can calculate and categorize phone records into specific categories. Each of the categories may be affected by any number of factors such as subject matter, target respondent selection, call design, etc. The response rate for the population sample of women ages 18-45 was 50.6 percent.



# Appendix E:

## Regional Identification

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### East

New England: ME, NH, VT, MA, RI, CT

Middle Atlantic: NY, NJ, PA, MD, DE, WV, DC

### Midwest

East Central: OH, MI, IN, IL

West Central: WI, MN, IA, MO, ND, SD, NE, KS

### South

Southeast: VA, NC, SC, GA, FL, KY, TN, AL, MS

Southwest: AK, LA, OK, TX

### West

Rocky Mountain: MT, AZ, CO, ID, WY, UT, NV, NM

Pacific: CA, OR, WA