



Section

1

**PURPOSE AND CONTEXT  
OF STUDY**

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**1.1  
Purpose of  
Study**

A series of nine focus groups were conducted in June and July of 1998 for the Birth Defects and Pediatric Genetics Branch (BDPG), Division of Birth Defects, Child Development, Disability and Health at the Centers for Disease Control and Prevention (CDC). The primary purpose of the focus groups was to test concepts developed for the Branch's planned health communication campaign to encourage all women of childbearing age to consume adequate amounts of folic acid daily to aid in preventing pregnancies affected by neural tube defects (NTDs). The campaign is based on the following Public Health Service (PHS) recommendation which was issued by CDC in 1992:

All women of childbearing age in the United States who are capable of becoming pregnant should consume 0.4 mg. of folic acid per day for the purpose of reducing their risk of having a pregnancy affected with spina bifida or other NTDs [neural tube defects] (CDC, 1992).

The recommendation was issued in response to a number of years of accumulated research showing that adequate consumption of folic acid before pregnancy can aid in reducing the risk of having a NTD-affected pregnancy. Evidence showing the link between folic acid and decreased prevalence of neural tube defects is detailed in a previous report written by Westat: *Folic Acid and Birth Defects Prevention: Focus Group Research with Women at Risk* (July 1998; available from CDC



at (770) 488-7160). This previous report also describes exploratory research conducted with women at risk to learn about their knowledge levels, attitudes, and behaviors surrounding folic acid and neural tube defects, as well as to identify effective approaches to increasing knowledge and consumption of folic acid among women at risk. Exploratory research is being conducted with women at risk because the campaign is based on the tenets of social marketing, which seeks to increase the acceptability of a social cause and to change behavior by focusing on knowledge of the target audience, their perceptions, and behaviors. A key tenet of social marketing is “consumer” orientation. In other words, members of the target audience (the “consumer”) guide the development of the campaign, and provide feedback both during and after the campaign (Andreasen, 1995).

Because health care providers have the potential to influence women at risk, exploratory focus groups were also conducted with health care providers (physicians, nurses, nurse practitioners, pharmacists, and nutritionists) in order to obtain their advice on communicating the PHS recommendation to women at risk and their perception of their role in that process. Results from these focus groups are outlined in *Folic Acid and Birth Defects Prevention: Focus Group Research with Health Care Providers* (July 1998; also available from CDC at (770) 488-7160).

The concept-testing focus groups discussed in this report are the most recent stage of a multistage formative research effort for CDC’s national health communication campaign that has a planned kickoff in January of 1999. To provide readers a context for understanding the research discussed in this report, the stages leading up to the concept-testing focus groups are summarized below.

## 1.2



## **Context of Study**

The health communication process is an iterative one where results from the first wave of research are used to develop strategies for the next wave. The first phase of research for this campaign employed a variety of ways to learn about and elicit input from the target audience, including a review of existing background information on the target audience's knowledge, attitudes, and behaviors and conducting original research with the target audience through exploratory focus groups. Results from the first phase of exploratory research were used to develop the concepts tested in this phase of the research process.

The specific stages of research conducted prior to the concept testing focus groups follow. Sections 2 and 3 of this report present the methods and findings from the concept-testing focus groups. This report concludes with recommendations for the folic acid campaign based on the focus group findings.

### **1.2.1**

#### **Stage 1: Identify the Audience**

*Stage 1: Define Audience Segments.* Westat worked with BDPG to both identify and profile the target audience(s) based on analyses of existing data from market research and other research databases. This data included information from the 1996 HealthStyles and LifeStyles survey databases, results from the 1995 and 1997 March of Dimes telephone interview surveys, findings from focus group studies previously conducted on similar topics, and data from a National Health Interview Survey. Information on the prevalence of neural tube defects in different segments of the population and information on knowledge about relevant behavioral and cognitive factors (e.g., rates of multivitamin use, pregnancy intention) were used to define the target audience(s).

While all women of childbearing age in the US are at risk of having NTD-affected pregnancies, existing data show that certain segments of this population are at increased risk. Based on the knowledge gleaned from existing databases and with CDC's emphasis on public health, the primary target audience for this campaign was determined to include the



following women at risk:

- Women from various races/ethnicities, with specific emphasis on African-American and Hispanic women (both English- and Spanish-speaking);
- 18-35 years of age (key childbearing years); and
- Lower to middle income (<\$50,000 annual household income, with an emphasis given to women with household incomes less than \$30,000 per year).

Health care providers were chosen as a secondary target audience for the campaign because of the potential significant role they can play in influencing women of childbearing age to increase their consumption of folic acid. This target audience included the following types of health care providers:

- Physicians, nurses, and nurse practitioners working in the fields of obstetrics/gynecology, pediatrics, primary care/family practice, and/or internal medicine;
- Nutritionists; and
- Pharmacists.

## **1.2.2**

### **Stage 2: Talk with the Audience**

#### ***Stage 2: Exploratory Research with the Target Audiences.***

The second stage of the formative research effort was to conduct exploratory research with the target audiences to learn about their knowledge levels, attitudes, and behaviors related to folic acid and neural tube defects, as well as to identify effective approaches to increasing knowledge and consumption of folic acid among women of childbearing age.

Sixteen focus groups were conducted with women at risk (as defined above) in three locations in the U.S: Atlanta, Georgia; Houston, Texas; and Miami, Florida. Women were segmented into groups according to their current vitamin/mineral use (not



taking vs. sometimes taking vitamins/minerals) as well as their pregnancy intentions. These factors were chosen to segment women into groups because research has shown that vitamin/mineral consumption behavior and/or pregnancy intention are likely to influence knowledge, attitudes, and behaviors regarding folic acid and birth defects (HealthStyles, 1996). In addition, six of the 16 groups were conducted with Hispanic women exclusively, because Hispanic women have 1.5 to 3 times the rate of NTD-affected births compared to African-Americans or Whites (as cited in Shaw et al., 1997). Detailed findings from these focus groups are presented in the previously mentioned report *Folic Acid and Birth Defects Prevention: Focus Group Research with Women at Risk* (July 1998). The full report is available from CDC at (770) 488-7160. The key findings that influenced the development of the campaign concepts follow.

- Women across all vitamin-taking behavior groups had similar motivators and barriers to taking a multivitamin with folic acid daily. Participants stated they would take a multivitamin with folic acid daily if it made them feel their best (usually interpreted by the women to mean having more energy), because they did not always eat right, for future pregnancies, and/or for long-term health benefits. Barriers to taking a daily multivitamin for these women included that multivitamins are not a habit, the women experience side effects when they take the pills, they do not like to take pills, or they felt they did not need multivitamins.
  
- Women with different pregnancy intentions, however, reported different motivators to taking a daily multivitamin with folic acid. Women who were currently planning a pregnancy or thought they might become pregnant in the near future were motivated to take a multivitamin with folic acid daily to ready their body for pregnancy or to help prevent birth defects. Not surprisingly, women who did not expect to become



pregnant in the near future were not motivated to take a multivitamin for pregnancy reasons. Instead, they were motivated by the possibility of other benefits such as feeling their best or for protection against heart disease.

- Most women were not aware of the link between folic acid and the reduction of birth defects and were especially unfamiliar with the importance of getting enough folic acid before pregnancy.
- Although most of the women were not surprised that at least 50 percent of all pregnancies are unplanned, they felt that they personally would not have an unintended pregnancy and therefore, would have no need to take a multivitamin with folic acid now if they were not currently planning a pregnancy.
- Many women were not aware or accepting of the fact that it is difficult to obtain sufficient folic acid from dietary sources alone.

In addition to the 16 groups conducted with women at risk, seven exploratory focus groups were conducted with health care providers (physicians, nurses, nurse practitioners, pharmacists, and nutritionists) in order to obtain their advice on communicating the PHS recommendation to women of childbearing age and their perception of their role in that process. Results from these focus groups are outlined in *Folic Acid and Birth Defects Prevention: Focus Group Research with Health Care Providers* (July 1998; available from CDC at (770) 488-7160). In general, findings from this set of focus groups showed that while health care providers experience barriers to counseling women of childbearing age about folic acid (e.g., limited time, other priorities, low likelihood of seeing women before they are pregnant), opportunities do exist for enlisting health care providers in the campaign to increase consumption of folic acid among women of childbearing age.



Finally, informal focus group discussions were held with individuals personally affected by neural tube defects (i.e., parents of children with neural tube defects and individuals with spina bifida) to gain their insight into developing a sensitive and effective communication campaign. Overall, participants in these groups were very positive about CDC's planned folic acid campaign and felt that CDC should make every effort to disseminate information about folic acid and NTDs. A full report of findings from these group discussions can be found in *Folic Acid and Birth Defects Prevention: Informal Focus Groups with Individuals Affected by Spina Bifida* (July 1998; available from CDC at (770) 488-7160).

### 1.2.3

## Stage 3: Describe the Audience

**Stage 3: Develop Audience Profiles.** Based on both the exploratory research using existing databases, as well as focus groups with the target audiences themselves, Westat created audience profiles for several segments of the primary target audience of women at risk. The profiles summarize the audience research findings on knowledge, attitudes, social influences, self-efficacy levels, and communication issues (e.g., sources, messages, channels) surrounding folic acid and neural tube defects. Westat developed the profiles according to eight different audience segments because the exploratory research revealed differences in knowledge, attitudes, and behaviors for each of these segments of women at risk. Appendix A contains the audience profile matrix which presents profiles for the following eight audience segments:

- All women of reproductive age;
- Hispanic women of reproductive age;
- African-American women of reproductive age;
- Women planning to get pregnant within one year;
- Women planning pregnancy in the future;
- Women not planning pregnancy in the future;
- Women not taking vitamins;
- Women taking some vitamins.



## 1.2.4 Stage 4: Tailor Concepts for the Audience

**Stage 4: Concept Development.** The fourth stage of the formative research process involved developing concepts based on the exploratory research and audience profiles. The concepts were developed by CDC's Creative Services Contractor to be used as the basis for the campaign to encourage and motivate women of childbearing age to increase their consumption of folic acid. In general, concepts are designed to be preliminary ideas rather than actual campaign materials and, in this situation, were used to stimulate participants' thinking about what words and pictures would help them and women like them learn about folic acid and NTDs and motivate them to take folic acid daily. Concepts are not meant to stand alone, and the concepts created for this campaign might be used, for example, on the cover of a brochure, or as part of other materials that would contain additional information about folic acid and NTDs.

While the exploratory research and the audience profiles showed that BDPG can implement one common campaign for the primary target audience, the research also showed that elements of the campaign should be tailored to the pregnancy intentions of women. Based upon this research, BDPG divided the primary target audience into two groups for purposes of concept testing and campaign planning. These two groups were defined as *contemplators* and *precontemplators*, (based on Prochaska and DiClemente's Stages of Change Model, 1992) according to their pregnancy intention. Those identified as contemplators were women of childbearing age, 18-35, who were currently trying to become pregnant or were planning a pregnancy in the next year. Those identified as precontemplators were women of childbearing age, 18-24, who were not planning a pregnancy in the near future, or said they never plan to become pregnant.

Precontemplators are an important audience for BDPG to reach because this age group accounts for a large percentage of pregnancies, both planned and unplanned; thus, there is a need for precontemplators to take folic acid to help prevent birth defects. Based on BDPG's analysis of HealthStyles data, more Hispanic women indicated they were planning to get pregnant in



the future. As a result of this, and based on budget issues, women participating in the Hispanic-only groups were designated as contemplators for purposes of the concept-testing research phase.

Because motivators for taking a multivitamin with folic acid differed according to pregnancy intention in the exploratory focus groups, separate concepts were developed by the creative team to appeal to contemplators and precontemplators. Nine concepts were developed; four were specifically designed to appeal to those who were planning pregnancies in the next year (contemplators); four were created for precontemplators. One additional concept was created to test its appeal to both groups. The concepts that were created for each of the two audience segments (contemplators and precontemplators) are described below along with the exploratory research findings that led to the creation of each concept. In addition, the concepts developed for contemplators were created in Spanish as well as English since Hispanic participants in the Hispanic-only groups would be viewing the contemplator concepts only. Appendix B contains 8 ½ x 11-inch copies of all concepts.

### **1.2.4.1 Contemplator Concepts**

#### **Group 1 -- Contemplators:**

Women in the exploratory groups who were currently trying to or planning to become pregnant in the next year reported being motivated to take a multivitamin with folic acid daily to ready their body for pregnancy or to help prevent birth defects. As a result, four concepts were designed around this key motivator. In addition, participants' self-reported knowledge, attitudes, and behaviors about folic acid and NTDs were addressed in designing each of the concepts. The "names" assigned to the concepts for this report are only used for purposes of clarity here and were not shared with the research participants.

*Concept A: [The Fetus]* – As shown in Appendix B, this concept depicts a fetus, with the text “*Even before you realize you’re pregnant, her little body is growing a spine. Begin taking Folic Acid when you stop taking birth control.*” The main idea of this concept was that women should be taking folic



acid before they conceive. The concept was developed in response to exploratory focus group participants' unfamiliarity with the importance of getting enough folic acid prior to becoming pregnant in order for proper neural tube formation in the fetus.

**Concept B: [Brussels sprouts]**

– This concept displays a picture of many brussels sprouts, with the text “*To protect your unborn child from birth defects, you would need to eat this many brussels sprouts every day. Or, take one of these. Folic Acid. It needs to start when birth control stops*” (see Appendix B). The main idea of this concept was to make women aware that it is very difficult to

get enough folic acid through naturally occurring dietary folate. Several of the women in the exploratory focus groups, even after being informed of the large amount of food they would need to eat (e.g., 4 cups of orange juice, 3 cups of peas) in order to get the recommended daily amount of folic acid, felt that they would still prefer to get folic acid either exclusively from their diet or through a combination of diet and a folic acid supplement/multivitamin. The brussels sprouts concept was developed in response to this finding and could also provide a segue into informing the target audience about the newly released Institute of Medicine’s report stating that “*the amount and form of folate demonstrated to minimize NTD risk is 400  $\mu$ g. of synthetic folic acid/day in addition to food folate*” (IOM, 1998).

**Concept C: [Fooling Around]** – Also shown in Appendix B, this concept depicts a man and woman laughing with each other, while the text printed above them states “*And you thought all you needed to do was fool around.*” At the bottom of the concept, the text states “*Folic Acid. The pill to take when you’re planning.*” This concept was developed to convey the idea that couples have to do more than just have sex when they are planning to have a baby. Similar to concept A: The Fetus, this concept was developed to address women’s lack of

## 1.2.4.2

### Precontemplator Concepts



awareness that folic acid is needed *prior* to becoming pregnant in order for proper neural tube formation in the baby.

**Concept D: [Pill pack]** – This concept depicts a pack of birth control pills at the top and a bottle of folic acid supplements below. The text accompanying the pictures states “*When you stop taking these, [picture of birth control pack], start taking these. [picture of the folic acid bottle] Folic Acid. The other pill.* (see Appendix B). This concept’s main idea is that when a woman is ready and able to become pregnant, she needs to start taking folic acid.

**Group 2 -- Precontemplators:**

Women in the exploratory focus groups who indicated that they were not planning a pregnancy in the near future were not motivated to take a multivitamin with folic acid to ready their body for pregnancy or to prevent birth defects. Instead, they were motivated by the possibility of other benefits of taking a multivitamin with folic acid, such as feeling their best (usually interpreted by the women to mean having more energy), because they did not always eat right, and/or for long-term health benefits (e.g., protection against heart disease). Three concepts were created with these motivational elements in mind, as well as the knowledge, attitudes, and behaviors of the target audience regarding folic acid and NTDs. Because some precontemplators stated that they might become pregnant sometime in the future, one additional concept was created that focused on the benefits of folic acid in preventing birth defects in future or unplanned pregnancies. The concepts developed for precontemplators follow. The “names” assigned to the concepts for this report are only used for purposes of clarity here and were not shared with the research participants.

**Concept A: [Folic Female (African-American woman)]** – This concept depicts a smiling African-American woman sitting in a grassy meadow with the text at the top “*Folic Acid. It brings out the best in you.*” At the bottom of the picture, additional text asks the reader “*Are you a folic female?*” (see Appendix B). The main idea of this concept is that folic acid makes you look and feel your best. The concept was developed in response to a large number of women in the exploratory focus groups reporting that they would be motivated to take a multivitamin with folic acid daily if it made them feel their best. Women in the exploratory groups stated that feeling their best meant having more energy and being able to get everything done that they need to. In addition, some of the Hispanic women participating in the exploratory groups said they would be motivated to take a multivitamin with folic acid daily if it would enhance their appearance (i.e., improve their skin, nails, and hair).



**Concept B: [Folic Female  
(White/Hispanic woman)]** –

This concept depicts a smiling woman who could be interpreted to be White or of Hispanic descent. The words “*The Folic Female*” are printed at the top of the concept and the text “*Folic Acid. It brings out the best in you.*” is printed at the bottom of the picture (see Appendix B). This concept is a variation on concept A described above and is meant to convey the same main idea and appeal to the same motivators. The difference, in

addition to the photograph, is in the placement and punctuation of the text. The text at the top of concept A (“*Folic Acid. It brings out the best in you.*”) is located at the bottom of concept B, and instead of the question in concept A (“*Are you a folic female?*”), concept B states “*The Folic Female.*” Women’s preference for the variation in punctuation and placement of the text were explored in the focus group discussions.

**Concept C: [Penny]** – This concept states “*Bring out your inner beauty for a penny a day.*” The accompanying picture features a penny, and the text underneath the penny states “*Folic Acid. The beauty supplement we can all afford.*” (see Appendix B). The main idea of this concept was that folic acid is an affordable beauty supplement. The concept was developed in response to a number of women in the exploratory groups who stated that one barrier to taking a multivitamin with folic acid every day was

### **1.2.4.3**

#### **Cross-Over Concept**



because of the cost. The concept was also developed to appeal to women in the exploratory focus groups who said they would be motivated to take a multivitamin with folic acid if it would help to make them feel their best and/or enhance their appearance.

**Concept D: [Life Happens]** – This concept focused on the benefits of folic acid in preventing birth defects in future or unplanned pregnancies. This concept shows a teenager/young adult looking shocked with the caption “*Life. It’s what happens to you when you’re making other plans. Folic Acid. It’s what prevents birth defects in babies*” (see Appendix B). This concept intended to convey the main idea that girls/women need to be prepared for an unplanned pregnancy (since 50 percent of all pregnancies in the US are unplanned). The choice of the photograph was meant to appeal to the younger age range of the target audience (18–24 years). The text in this concept was also somewhat more explicit than the text in the other concepts, in that it made the link between folic acid and prevention of birth defects.

**Concept E:[Sanitary Napkin]** – This concept was developed to appeal to both contemplators and precontemplators in that it did not necessarily address planning a pregnancy right now, but focused on the idea of future or unplanned pregnancies. The concept featured a picture of a sanitary napkin (see Appendix B) with the text “*You may not be planning a pregnancy, but your body’s been preparing for many years*” over the picture of the pad. Underneath the sanitary napkin, additional text stated “*Folic acid today. So your body’s ready when you are.*” The main idea of this concept was that women need to take folic acid as soon as their body is capable of becoming pregnant, even if they are not currently planning to have a baby.

## 1.2.5

### Stage 5: Test Concepts with the Target Audience



**Stage 5: Concept Testing** The final stage of formative research for the upcoming campaign involved testing the concepts with the target audience of women at risk. Concept testing is an important step in formative research because it can help determine if potential campaign images and text will appeal to and influence the audience for whom they have been tailored. Nine focus groups were conducted in June and July of 1998 to test if women could identify the main idea of each concept, and to determine if the concepts motivated the target audience to increase their consumption of folic acid. The remainder of this report discusses the methods used and the findings and implications from these concept-testing groups.



Section **2** **METHOD**

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## **2.1 Overview of Focus Group Research**

Focus group research is a qualitative method for gaining insight into participants' awareness, beliefs, motivations, and reactions to a particular topic. In a focus group, a moderator facilitates an interactive discussion among eight to ten participants as they talk about selected topics relevant to the research effort. The moderator ensures that the group covers selected topics, that all group participants are heard, and that unanticipated relevant topics that emerge are explored. Focus groups yield a wealth of information about how participants view a particular topic, what language and tone they select to express that view, and how they influence each other's opinions and comments.

Successful focus group discussions depend in part on participants having some points of similarity among them. For example, they may all be the same gender, all have children at home, or all engage in vigorous physical activity. Having an obvious common ground facilitates group comfort level and openness. For example, one of the commonalities for the focus groups conducted for this study was that all participants were women of childbearing age (defined as ages 18 to 35 years for this study since 85 percent or more of all pregnancies occur among women of this age). In addition, women were assigned to groups based on whether or not they were planning on becoming pregnant in the next year.

Focus groups generate more in-depth information than can be learned using surveys and provide the opportunity for people to clarify or expand on their responses to questions or reactions to concepts. Characteristics of focus group participants usually reflect those of a larger population, although findings are not



statistically representative due to use of convenience samples and small sample sizes. A written summary of findings from a set of focus groups contains a synthesis of the findings from all groups, identifies general themes and patterns, and discusses any contrasts in responses from group to group. These findings can make a valuable contribution to planning effective communication programs by shedding light on the knowledge levels, attitudes, and behaviors of the target audience, as well as their specific reactions to campaign concepts, messages, or materials.

The focus groups conducted for this concept-testing study included the following subgroups of women at risk:

## **2.2 Participant Recruitment and Research Design**

- Women from various races/ethnicities, with specific emphasis on African-American and Hispanic women (both English-speaking and Spanish-speaking) for recruiting;
- Women between the ages of 18 and 35 years; and
- Women in lower to middle income brackets (less than \$50,000 annual household income, with emphasis given to women with annual household incomes less than \$30,000).

BDPG and Westat developed a series of screening instruments (see Appendix C) to ensure that participants would match the criteria of the target audience listed above. A total of nine focus groups were conducted; five of the groups were conducted with women of different races/ethnicities (including African-American, White, and Hispanic women) combined in the same group. The remaining four groups were conducted with Hispanic women exclusively because studies have shown that Hispanic women in the United States have 1.5 to 3 times the risk of delivering babies with neural tube defects as non-Hispanic Whites (as cited in Shaw et al, 1997). Women in the racially/ethnically mixed groups were also segmented based on pregnancy intention. This factor was chosen as the basis to group women because the exploratory research found that motivators for consuming folic acid were different depending on



a woman's pregnancy intention (see Section 1.2.2 pages 5-6 for a discussion of motivators according to pregnancy intention). For purposes of this study, those identified as contemplators were women of childbearing age, 18-35, who were currently trying to become pregnant or were planning a pregnancy in the next year. Those identified as precontemplators were women of childbearing age, 18-24, who were not planning a pregnancy in the near future, or never planned on becoming pregnant.

Professional focus group facilities were chosen to recruit participants based on their experience of working closely with the target audience for this campaign. The facilities used the screeners developed by BDPG and Westat along with their extensive market research databases to recruit women to participate in each of the focus groups.

## **2.3**

### **Focus Group Sites and Schedule**

Table 1 shows the locations, dates, and composition of the nine concept-testing focus groups. The groups were held in three different geographic locations in the US: Miami, Florida; Atlanta, Georgia; and Houston, Texas. These same locations were used for the exploratory focus group research and were chosen based on the demographic characteristics of the local populations, as well as the practicality of convening groups there. For example, Houston was chosen because of its large population of Mexican Americans; Miami was chosen for its large population of Cuban women and women of other Caribbean or South American descent.



**Table 1. Location, Dates, Times, and Composition of the Focus Groups**

<b>Location</b>	<b>Date (1998) &amp; Time</b>	<b>Number of Groups</b>	<b>Women at Risk Segment</b>	<b>Pregnancy Intention</b>
Miami, Florida	June 8 6:00 pm	1	Racially/Ethnically Mixed	Precontemplators
	June 8 8:00 pm	1	Spanish-speaking Hispanic	Contemplators <sup>1</sup>
	June 9 10 am	1	Spanish-speaking Hispanic	Contemplators <sup>1</sup>
Atlanta, Georgia	June 16 6 & 8 pm	2	Racially/Ethnically Mixed	Precontemplators
	June 17 6 & 8 pm	2	Racially/Ethnically Mixed	Contemplators
Houston, Texas	July 16 6:30 pm	1	English-speaking Hispanic	Contemplators <sup>1</sup>
	July 16 8:30 pm	1	Spanish-speaking Hispanic	Contemplators <sup>1</sup>
<i>Total Groups</i>		9	3 Spanish-spkg Hisp. 1 English-spkg Hisp. 5 Racially/Ethnically Mixed	3 Precontemplators 6 Contemplators

1. As explained in Section 1.2.4, women participating in Hispanic-only groups were designated as contemplators for purposes of this study.

All groups were held at a professional market research facility in each of the three locations. In each facility, observers were seated behind a one-way mirror, and participants were informed that observers were present in an adjacent room. Each group was also audiotaped and videotaped to aid researchers in recollection of the discussion; again, this activity was disclosed to participants at the beginning of each discussion. For the three groups that were conducted in Spanish, an interpreter sat in the observation room and simultaneously translated the discussion for the observers. Two audiotapes were made of the groups conducted in Spanish; one recorded the participants' and moderator's comments in their native language; the other recorded the interpreter's English translation. Each group lasted from 1.5 to 2 hours and all participants received a \$50.00



incentive payment for attending. The incentive money was offered to assist participants with any travel or family care expenses incurred as a result of attending the group, as well as to compensate them for their time.

## **2.4**

### **Participant Characteristics**

A total of 79 women participated in the nine focus groups that were conducted for this study. Table 2 on the following page summarizes demographic information for participants in all nine groups as well as according to ethnicity. All numbers and percentages were derived from a brief demographic questionnaire given to participants at the conclusion of each group (see Appendix D).

As Table 2 shows, slightly more than half of all participants were between the ages of 25 to 35, with another 35 percent in the age range of 21 to 24. Slightly more than half of the women were married and slightly more than half did not have any children living at home. Education levels were evenly distributed across three levels: a high school diploma, some college or vocational school, and a college degree. Finally, in looking at income levels, the largest number of women (n=30) had an annual household income level between \$10,001 and \$30,000; another 24 women had an annual household income level between \$30,001 and \$50,000. Initially, only women with lower to middle income levels (<\$50,000 annual household income) were to be included in the research study. However, due to recruiting difficulties in some locations, the income level restriction was increased to ensure full participation in all groups. As a result, 16 of the women had an annual household income over \$50,000.



**Table 2. Number (Percentage<sup>1</sup>) of Participants with Selected Characteristics**

	<b>All groups<sup>2</sup></b> N=9	<b>Mixed race/ ethnicity groups<sup>2</sup></b> n=5	<b>Spanish- speaking Hispanic groups</b> n=3	<b>English- speaking Hispanic group</b> n=1
<b>Number of participants</b>	79	44	26	9
<b>Age</b>				
18 – 20	11 (14%)	4	5	2
21 – 24	27 (35%)	17	8	2
25 – 30	20 (26%)	11	6	3
31 – 35	19 (25%)	10	7	2
<b>Marital Status</b>				
Single	35 (45%)	19	12	4
Married	41 (53%)	23	13	5
Divorced/Separated	1 (1%)	--	1	--
<b>Race/ethnicity</b>				
White	17 (22%)	17	--	--
African-American	18 (23%)	18	--	--
Engl-spkg Hispanic	14 (18%)	5	--	9
Span-spkg Hispanic	26 (34%)	--	26	--
Other	2 (3%)	2	--	--
<b>Education</b>				
< High school	1 (1%)	--	--	1
High school diploma	23 (30%)	7	12	4
Some college/voc.	28 (36%)	15	10	3
College degree	23 (30%)	18	4	1
Some graduate school	2 (3%)	2	--	--
Graduate degree	--	--	--	--
<b>Income</b>				
< \$10,000	3 (4%)	1	2	--
\$10,001 - 30,000	30 (39%)	7	16	7
\$30,001 - 50,000	24 (31%)	17	6	1
\$50,001 +	16 (21%)	14	1	1
Don't know/unsure	4 (5%)	3	1	--
<b>Number of Children at Home</b>				
None	42 (55%)	25	13	4
1 or 2	32 (42%)	17	10	5
3	2 (3%)	--	2	--
4 or more	1 (1%)	--	1	--

1. All percents have been rounded.
2. Two women in the racially/ethnically mixed groups did not complete demographic questionnaires. As a result, percentages reported in the 'All groups' column are based on a denominator of 77 women, not 79.



Demographic information broken down by participants' pregnancy intention is presented in Table 3 since women were grouped according to this behavioral intention. As shown in Table 3, six of the nine groups were conducted with contemplators (those currently trying to become pregnant or those planning pregnancy within the next year); four of those were conducted with Hispanic women exclusively. The remaining three groups were conducted with precontemplators (those not planning pregnancy in the next year).

Precontemplators and contemplators differed in a number of ways including age range, marital status, education levels, and income levels. By definition for this study, precontemplators were younger (18-24 years old) than contemplators (18-35 years old). As shown in Table 3, almost two-thirds of the women recruited for the precontemplator groups fell between the ages of 21 to 24, while almost two-thirds of the women in the contemplator groups fell between the ages of 25 to 35. In addition, the majority of precontemplators were single with no children living at home. Contemplators, on the other hand, were mostly married, and more than half had children living at home.

In addition, almost half of precontemplators had some college or vocational school training; education levels of contemplators were more evenly spread among three levels of education: a high school diploma, some college or vocational school training, or a college degree. In terms of income, almost half of precontemplators had an annual household income level between \$30,001 and 50,000. Conversely, almost half of contemplators had an annual household income level between \$10,001 and \$30,000.



**Table 3. Number (Percentage<sup>1</sup>) of Participants in *Contemplator* and *Precontemplator* Groups with Selected Characteristics**

	<b>Contemplators<sup>2</sup></b> n = 6 groups	<b>Precontemplators</b> n = 3 groups
<b>Number of participants</b>	53	26
<b>Age</b>		
18 - 20	7 (14%)	4 (15%)
21 - 24	11 (22%)	16 (62%)
25 - 30	14 (27%)	6 (23%)
31 - 35	19 (37%)	--
<b>Marital Status</b>		
Single	17 (33%)	18 (69%)
Married	33 (65%)	8 (31%)
Divorced/Separated	1 (2%)	--
<b>Race/ethnicity</b>		
White	5 (10%)	12 (46%)
African-American	11 (22%)	7 (27%)
Engl-spkg Hispanic	9 (18%)	5 (19%)
Span-spkg Hispanic	26 (51%)	--
Other	--	2 (8%)
<b>Education</b>		
< High school	1 (2%)	--
High school diploma	17 (33%)	6 (23%)
Some college/voc.	16 (31%)	12 (46%)
College degree	15 (29%)	8 (31%)
Some graduate school	--	--
Graduate degree	2 (4%)	--
<b>Income</b>		
< \$10,000	2 (4%)	1 (4%)
\$10,001 - 30,000	23 (45%)	7 (27%)
\$30,001 - 50,000	12 (24%)	12 (46%)
\$50,001 +	13 (25%)	3 (12%)
Don't know/unsure	1 (2%)	3 (12%)
<b>Number of Children at Home</b>		
None	25 (49%)	17 (65%)
1 or 2	23 (45%)	9 (35%)
3	2 (4%)	--
4 or more	1 (2%)	--

1. All percents have been rounded.
2. Two women in the racially mixed contemplator groups did not complete demographic questionnaires. As a result, percentages for the contemplator groups are based on a denominator of 51 women, not 53.



## **2.5**

### **Focus Group Moderators**

In many focus group studies, groups are held where the participants and the moderator share the same gender, ethnicity, or other characteristics. Having this commonality can help foster comfort and openness among participants in their discussions. Moreover, for some topics that can be directly related to race, ethnicity, and culture, such grouping is vital to obtaining frank, reliable input from participants. This can be particularly true among recent immigrants to the United States. For this reason, all four Hispanic groups were moderated by a native speaking Spanish moderator, with over 14 years of experience working within the Hispanic community and moderating focus groups. In addition, the three Hispanic groups that were conducted in Spanish were translated for observers by a Hispanic interpreter skilled in simultaneous interpretation.

BDPG made the decision to combine African-American, White, and English-speaking Hispanic women in the remaining group discussions. The participants had a number of important characteristics in common that facilitated comfortable discussion, including age range, income level, and pregnancy intention. A White female moderator with over 20 years of experience moderating focus groups in the health field conducted all five racially/ethnically mixed groups.

## **2.6**

### **Discussion Guides**

Two discussion guides were developed for the focus groups; one for use in groups with contemplators (those currently trying to become pregnant or those planning to become pregnant in the next year), the other for groups with precontemplators (women not planning on becoming pregnant ever in the future, or women not planning on becoming pregnant in the next year, but possibly sometime in the future). The main reason for developing two different discussion guides was that the concepts to be tested in the groups were tailored to a precontemplator or contemplator target audience. The specific questions included in the guide that were related to the concepts, however, were the same across groups. For example, all participants were asked



what they perceived the main idea of each concept to be, and if it had any personal relevance or motivational effect for them.

The guides were created by Westat staff, with input from BDPG, the moderators, and the creative contractor. The guides were designed so that information could be gleaned from participants related to BDPG's objective of creating campaign concepts that will appeal to the target audience, capture their attention, and motivate them to increase their daily consumption of folic acid. Draft guides were reviewed and revised to ensure that the content met the research objectives and that the questions were appropriately designed to solicit feedback on the concepts. The moderator of the Hispanic groups received the final versions of the discussion guides several weeks prior to the groups so that she could become familiar enough to easily interpret the guides into Spanish while conducting the groups, although no formal translation of either guide was undertaken. Appendix E contains a copy of each of the discussion guides.

## **2.6.1 Welcome and Introductions**

The welcome and introductions section of each guide was the same for both contemplators and precontemplators. This section provided a general outline for the moderator to start the groups by putting participants at ease, introducing the topic area for the discussion, and explaining how focus groups work. For example, the moderator used the opening minutes of the group discussion to:

- thank participants for attending and to introduce herself;
- identify the purpose of the discussion and emphasize that the planned campaign is a public health campaign sponsored by CDC and not by a company trying to sell something;
- stress that comments are kept confidential (names do not appear in any report) and there are no right or wrong answers; and



- explain the presence and purpose of recording devices and observers seated behind the one-way mirror.

When participants introduced themselves, they were asked to give their first names only, state whether or not they had previously participated in focus group research, and discuss something they try to do to take care of themselves. Questions like this can help establish rapport because they have no right or wrong answers nor do they establish a hierarchy within the group as readily as other types of questions (e.g., employment).

The majority of this section of the guide was used to introduce and garner reactions to the concepts. The moderator started each discussion by displaying a foam core-mounted statement which gave participants some background information about the topic for discussion. For the contemplator groups, the moderator started by displaying the following scientific statement.

## 2.6.2 Topical Discussion

**Folic acid is a vitamin that can prevent birth defects. Most women don't get enough of this vitamin. CDC wants to talk with you about what might help convince you to take more folic acid.**

This statement was specifically presented to contemplators because women who were planning pregnancies in the exploratory focus groups said they would be motivated to take more folic acid if it would help prevent birth defects. The statement was kept on display throughout the discussion so that participants could refer to it while viewing the potential campaign concepts. This was important so that the women could provide their opinions about whether or not they felt the concepts conveyed the information presented in the scientific statement.

The moderator also began the precontemplator groups by showing them a statement mounted on a foam core board. However, because the motivators for taking a multivitamin with



folic acid differed for precontemplators, the statement differed. Three of the concepts created for this group were developed around motivators of feeling and looking your best, not always eating right, and preventing long-term illnesses (concepts A, B, and C). As a result, the following statement was shown to precontemplators.

**Folic acid is a vitamin that everyone needs for good health. Your body is producing new cells all the time and folic acid is important for this development.**

This statement was also displayed throughout the group discussion so that participants could refer to it when discussing if the concepts conveyed the information presented in the statement.

After the precontemplator groups viewed the three concepts created around motivators of feeling and looking your best, they were then shown the same scientific statement developed for the concepts targeted to contemplators. This was done because the next two concepts (concepts D and E) shown to

precontemplators were created around the motivator of taking folic acid to prevent birth defects.

After showing each group the initial statements, the moderator proceeded by obtaining reactions to each concept one by one. Each concept was printed in color and mounted on a large (20 by 30 inches) foam core board. Before actually viewing the concepts, participants were told that the concepts may be used to develop materials for communicating the statement they had just seen, but at this point, were preliminary ideas, not finished words or artwork. For each of the concepts, participants were asked the following questions.

- What they perceived the main idea of each concept to be;



- Their thoughts and opinions on the words and images used in each concept;
- About the personal relevance and motivational effect of each concept;
- Suggestions for changing the concept.

The concepts were presented in a different order in each group to guard against any bias that might occur due to order effects. Appendix F contains a table that presents the order in which the concepts were presented during each group.

### **2.6.3**

## **Closing and Departure**

After participants had viewed each of the concepts created for their group, they were asked to compare the concepts by ranking them on a sheet of paper. Although participants had discussed the concepts as a group, they ranked the concepts individually. Each concept had a small label with a letter on it (A through E) which corresponded to the five letters listed on the sheet of paper (see Appendix G). Participants were asked to write a #1 next to the concept letter that would most motivate them to take folic acid, a #2 next to the second most motivational concept and so forth. Participants were also told that if none of the concepts motivated them, they should leave the sheet blank.

After a discussion of how participants had ranked each concept, they were then asked their thoughts on having a logo, such as for the CDC, the National Task Force on Folic Acid, a charitable organization, or a pharmaceutical company, displayed on each concept. Finally, participants were asked about places or channels where they might notice messages like these.

After the group finished discussing potential channels, the moderator excused herself briefly to check on departure arrangements for participants as well as to see if researchers in the observation room had any outstanding questions for the group in its final minutes. Upon the moderator's return, participants were asked any additional questions if necessary for



clarification and were offered an opportunity to make any final comments. The moderator then thanked the women for their time and gave them information about obtaining their incentive money following the group.

After all sessions, a subject matter expert from BDPG or a local public health expert who spoke fluent Spanish was available to answer any questions that participants had about folic acid or birth defects, and to hand out pamphlets on folic acid.

The next section of this report details findings across all nine groups' discussions related to the concepts that were designed to motivate women to increase their consumption of folic acid.



Section

3

FINDINGS

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**3.1**  
**Process for**  
**Analysis and**  
**Interpretation of**  
**Findings**

The value of focus group findings is dependent on researchers examining results systematically since focus group research is qualitative rather than quantitative. The procedures used to analyze focus group results are not standardized, and the absence of a uniform approach heightens the importance of this systematic assessment.

Westat researchers employ a notes-based analysis process similar to that recommended by Krueger (1994). Krueger emphasizes that any process for analyzing focus group findings must be systematic and verifiable. He recommends processing each group briefly at its conclusion, then developing a total picture of all groups, and finally considering particular groups and responses to specific questions. This process was carried out thoroughly by implementing the following steps in order to identify key themes and findings for this report.

*Step 1*

Once the nine focus groups were completed, records from each of the groups were gathered together. This included observers' notes, topline summary reports prepared by the group moderators (included in Appendix H), and transcripts of each of the group discussions (included in Appendix I). All records were then carefully reviewed by the Westat research team; trends across and contrasts between groups were noted and discussed.

*Step 2*

Following this overall assessment, the findings from *each group* were more closely considered one at a time to discern how they



reflected, differed from, or illuminated tentative observations made during Step 1. The examination of individual groups was designed to continue the overview process while adding more in-depth detail.

### ***Step 3***

The third step was to examine findings one discussion *topic* at a time. Summaries of the findings on each topic across groups were compiled and compared, and are presented in Sections 3.2 through 3.5. Participant quotes were extracted from transcripts and are used to illustrate key points made by women participating in all groups. Quotes from

discussions conducted in Spanish reflect the interpreter's translation of the discussion and not the exact words of the participant.

### ***Step 4***

The last step in the process involved writing and reviewing the research conclusions and implications (Section 4) to assure that they flow logically from the actual findings of the groups and that they are presented in terms of implications for health communication strategies.

Because women were shown different concepts in the contemplator and precontemplator groups, results are presented according to the type of group in which women participated. Results from the contemplator groups are discussed first, followed by results from the precontemplator groups. Because certain discussion topics did overlap between the two types of groups (e.g., use of logos and channels for the concepts), Sections 3.4 and 3.5 present the results from both the contemplators' and precontemplators' discussions combined.

## **3.2 Contemplators**

### **3.2.1 Knowledge of Science Statement**



Contemplators were defined as women aged 18 to 35, who were currently trying to become pregnant or were contemplating pregnancy in the next year. Six groups were conducted with contemplators, all of whom viewed concepts that had been tailored toward women who might be motivated to take a multivitamin with folic acid daily to help prepare their body for pregnancy or to help prevent birth defects. Results from the contemplator groups are discussed in the order that the discussion topics were presented (see Appendix E for a copy of the contemplator discussion guide). After briefly discussing a background science statement about folic acid, contemplators discussed each of the five concepts at length and then compared them to each other. The groups then discussed alternate logos that could appear on the concepts as well as places and channels where they might expect to see the concepts.

Participants were shown the following scientific statement about folic acid and asked if they were familiar with this information and where they had heard it.

**Folic acid is a vitamin that can prevent birth defects. Most women don't get enough of this vitamin. CDC wants to talk with you about what might help convince you to take more folic acid.**

At least a few of the women in each group were familiar with the information conveyed in the statement. Participants said they had heard the information from their doctors during past pregnancies; others had seen information about folic acid in an orange juice commercial; yet others had read about folic acid in articles in women's magazines. A few of the women even knew that folic acid should be taken *before* pregnancy because of what they had read or heard. Finally, some of the Spanish-speaking Hispanic women said that folic acid was given to pregnant women by doctors in their native countries.



## 3.2.2 Individual Concepts

Women in the contemplator groups were shown five concepts that were created to potentially appeal to their desire to have a healthy pregnancy and help prevent birth defects. Discussion around each of the following topics is presented for each concept.

- Participants' perception of the main idea of each concept;
- Their thoughts and opinions on the words and images used in each concept;
- The personal relevance and motivational effect of each concept;
- Any suggestions for changing and improving the concept.

The concepts were presented in a different order during each group (see Appendix F for presentation order of the concepts in each group). However, they are discussed below in the order which they were labeled for participants to rank (i.e., concept A through concept E) when comparing the five concepts.

Participant quotes that are used throughout Section 3 were extracted from the transcripts (see Appendix I) and are used to illustrate key points made by women participating in all groups. Quotes from discussions conducted in Spanish reflect the interpreter's translation of the discussion and not the exact words of the participant. After each quote, there is a parenthetical clause used to designate the type of group from which the quote was taken.

- **(Mixed)** – The quote is from a participant in one of the five racially/ethnically mixed groups (two contemplator groups; three precontemplator groups).
- **(Spanish-speaking Hispanic)** – The quote is from a participant in one of the three Spanish-speaking Hispanic groups. (These groups were designated as contemplators only; quotes from these groups appear only in the contemplator discussion of Section 3).



### 3.2.2.1

#### Concept A “The Fetus”

- **(English-speaking Hispanic)** - The quote is from a participant in the one English-speaking Hispanic group. (This group was designated as a contemplator group; quotes from this group appear only in the contemplator discussion of Section 3).

As shown in Appendix B, this concept depicts a fetus, with the text “*Even before you realize you’re pregnant, her little body is growing a spine. Begin taking Folic Acid when you stop taking birth control.*” Many of the women reacted very positively when they initially saw this concept. They felt this concept would capture their attention because they were planning a pregnancy and were very much in tune to anything with pictures of babies on it. Others stated that the concept conveyed a warm, tender feeling because of the picture of the fetus.

When asked what they thought the main idea of the concept was, most of the women responded that the message was that a woman needs to be taking folic acid when planning a pregnancy. Some of the women understood this to mean they need to take folic acid both before and during their pregnancies.

*The message is...from the moment you are pregnant, you need folic acid.* (Spanish-speaking Hispanic)

*When you decide to have a baby, then you need to take folic acid.* (Spanish-speaking Hispanic)

*Before you even realize it, start now. When you stop taking those pills and you’re sexually active and you know you want the kid, take it.* (Mixed)

*For the healthy development of the baby, take folic acid.* (English-speaking Hispanic)

*To me...you’re emphasizing when you are pregnant, take folic acid.* (English-speaking Hispanic)

While most participants liked the concept overall, they did feel it was sending a mixed message as to when it was important to



start taking folic acid. They felt the statement at the top of the concept (“*Even before you realize you’re pregnant, her little body is growing a spine*”) and the picture of the fetus conveyed the idea that women should either be taking folic acid all the time because of unexpected pregnancies, or that women should be taking folic acid *once* they become pregnant. The statement at the bottom of the concept (“*Begin taking Folic Acid when you stop taking birth control*”), however, conveyed the idea that women should begin taking folic acid only when they stop taking birth control. Participants’ comments about the text follow.

*To me one is kind of contradictory to the other cause it sounds like the top [statement] is saying you should always be taking folic acid and the bottom [statement] is saying you should take it when you stop taking the birth control. (English-speaking Hispanic)*

*For me, it can imply that it might be a little late, ‘Before you realize your pregnant, her little body’s growing a spine,’ they might think like if it’s in there, why worry about taking folic acid now? Then it says at the bottom, ‘Begin taking folic acid when you stop taking birth control’ so it’s contradictory....(Mixed)*

In addition, some of the women did not understand why there was a picture of an already developing fetus if CDC’s message is to consume adequate folic acid *before* becoming pregnant. Several women suggested it would be more relevant to depict something that does not suggest that the woman is already pregnant. Women suggested using pictures such as an egg and sperm, a woman taking a vitamin, or the couple that is portrayed in concept C: Fooling Around (this suggestion was made only in groups that had viewed concept C before concept A). Participants’ said the picture of the fetus conveyed the following messages.

*The image is: you’re already pregnant. (English-speaking Hispanic)*



*Because of the fetus, what I understood is if you plan to become pregnant, or are pregnant, you should start taking folic acid. (Spanish-speaking Hispanic)*

*I guess because I see a baby...it's already formed, but it should be something maybe a little smaller. (Mixed)*

While some of the women in all six contemplator groups reacted positively to the picture of the fetus, a few women in the English-speaking groups (Hispanic and racially/ethnically mixed) said the picture reminded them of a 'right to life' or anti-abortion ad and they probably would skip over it because of this. This reference to an anti-abortion ad did not come up in the discussions with any of the Spanish-speaking Hispanic women.

Several of the women also felt the statement "*Begin taking folic acid when you stop taking birth control*" gave the impression that birth control has folic acid in it, therefore when a woman stops taking birth control, she needs to get folic acid from another source. Others were confused as to whether or not they could take birth control *and* folic acid at the same time. Many of the women felt that the concept was clearly stating that one should not take them at the same time. Comments reflecting these viewpoints follow.

*What it is saying is that you cannot take it [folic acid] until you stop taking birth control. (Spanish-speaking Hispanic)*

*It implies that you don't take it together. (Mixed)*

*What I am understanding from this is that they are not recommending that I take both together. (Spanish-speaking Hispanic)*

*My question is, what if I'm not taking birth control pills? ...am I OK not taking folic acid? (Mixed)*

Overall, most participants felt the concept was attention-getting, targeted toward them, and that it therefore motivated them to take folic acid since they are planning on having a baby now. Others, however, felt this concept did not speak to them at all,



because they were not currently taking birth control and they felt that the last part (“...when you stop taking birth control”) of the bottom statement only addressed women who were currently taking birth control pills. Many women suggested that this line should be changed or deleted for this reason.

### **3.2.2.2**

## **Concept B “Brussels Sprouts”**

This concept displays a picture of many brussels sprouts, with the text “To protect your unborn child from birth defects, you would need to eat this many brussels sprouts every day. Or, take one of these. Folic Acid. It needs to start when birth control stops” (see Appendix B). Many participants felt that the main idea of this concept was to take folic acid when pregnant or when planning a pregnancy to protect the unborn child, and that they can get folic acid by eating a lot of vegetables or by taking a pill.

*It’s giving you your choice, eat your vegetables or you can take one pill and be done with it. (Mixed)*

*It is the idea to protect your baby from birth defects, you can take folic acid. You can vary all the vegetables that are up there for only one pill. (Spanish-speaking Hispanic)*

*Eat a lot, or take one pill. (Mixed)*

Some of the Spanish-speaking Hispanic women were not familiar with brussels sprouts. As a result, when they first saw the picture, many thought it was a picture of cabbage or lettuce. Although other groups were familiar with brussels sprouts, they still mistook the picture to be of cabbage or lettuce. In addition, confusion existed about the exact amount of brussels sprouts that was being portrayed. Some of the women felt that it was a huge amount of brussels sprouts, others thought they could count 12 to 15 brussels sprouts in the picture and felt that was a manageable amount to eat. Although the women who thought a large amount of brussels sprouts was depicted said they would rather take a pill than eat all those vegetables, they also felt the picture was exaggerated. As a result, they tended to not believe the information in the concept. Comments reflecting the picture



of brussels sprouts follow.

*I'm not looking at it and saying, 'they want me to eat 60 brussels sprouts a day.' I'm looking at it and saying, '15 brussels sprouts, no problem.'* (Mixed)

*...I think it is a bit exaggerated that I will need so many brussels sprouts in one day.* (Spanish-speaking Hispanic)

*I thought [that picture was] lettuce.*(English-speaking Hispanic)

Some of the women also felt that they might not stop to read the concept because of the picture. They said it would not capture their attention because they would assume it was an ad for a health food store or produce.

*If I just looked at it and not read the caption...I would think it would be talking about some type of health food store....* (Mixed)

*It would make me think it [is] something for vegetarians.* (Spanish-speaking Hispanic)

*If I saw the picture, I would think about being healthy, not getting pregnant or relating the folic acid to pregnancy. It's more [a] health and nutrition ad...*(English-speaking Hispanic)

Similar to concept A: [The Fetus], many participants found the text "*It needs to start when birth control stops*" to be confusing or contradictory to the statement at the top of the concept ("*To protect your unborn child from birth defects...*"). They felt the top statement was telling them to take folic acid *while* pregnant, and the bottom statement was telling them to take it *before* becoming pregnant.

*Because the first statement says to protect your unborn child and then the last statement says start when birth control stops. You haven't conceived when your birth control stops...do you want me to start when I stopped [birth control] or when I start having the baby?* (Mixed)



*It's not telling me to take it before I'm pregnant. It's telling me to take it now while I'm pregnant. (Mixed)*

*All women who would like to have a child...will read this message and...will be interested because it is advising them of the need to take folic acid during their pregnancy. (Spanish-speaking Hispanic)*

### 3.2.2.3 Concept C “Fooling Around”

Also shown in Appendix B, this concept depicts a man and woman laughing with each other, while the text printed above them states “*And you thought all you needed to do was fool around.*” At the bottom of the concept, the text states “*Folic Acid. The pill to take when you're planning.*” This concept was found to be confusing by many of the women. When asked about the main idea, many of the women felt the concept conveyed the message that folic acid could help make them more fertile or that they could become pregnant sooner by taking folic acid. Conversely, some of the other women thought the concept conveyed the idea that folic acid is another form of birth control and can help prevent pregnancy. Quotes reflecting both perspectives follow.

*[Folic acid is] some form of birth control? (Spanish-speaking Hispanic)*

*...is it saying it's [folic acid] going to help me get pregnant?... (Mixed)*

*[In response to above quote.] Or prevent pregnancy? Like it's a birth control pill more than it is a vitamin. (Mixed)*

*It leads me to think that taking folic acid, my husband and I, that I could get pregnant quicker. (Spanish-speaking Hispanic)*

Some of the women really liked the depiction of the couple; they commented that they looked very happy together. Others, however, felt the picture was not serious enough to convey such an important message, or they were confused because the picture included both the woman and the man. Did the depiction of



both mean that the woman and man who are planning to have a baby should both take folic acid? As one woman said:

*If my husband sees that, he would start taking folic acid...because they have both of them [the man and the woman in the picture]. (Spanish-speaking Hispanic)*

The text at the bottom of the concept: “*The pill to take when you’re planning*” was also found to be very confusing. A number of the women asked what the planning referred to. Did it mean planning to fool around or planning to stop birth control? In addition, it was not clear to many women when they should start taking folic acid.

*Well, it tells you if you are planning a pregnancy, but it does not say specifically when a woman should start taking it. (Spanish-speaking Hispanic)*

*I have a problem with it because it’s telling me, well, when I think I’m planning but sometimes you don’t necessarily plan to have a baby, but you do. If you want a healthy baby [and] are sexually active, you need to be taking folic acid, because you never know when you might get pregnant. (Mixed)*

Few participants found the concept to be motivating. They felt it did not tell them why they needed to take folic acid – there was no mention of birth defects prevention, or healthy development of the baby. Because this concept generated a lot of confusion and was not found to be motivating in the first four contemplator groups, it was not shown in the final two Hispanic contemplator groups in Houston. Thus, quotes given above are taken from the four contemplator groups (two Spanish-speaking Hispanic groups and two racially/ethnically mixed groups) conducted in Miami and Atlanta.

### **3.2.2.4**

#### **Concept D “Pill Pack”**

This concept depicts a pack of birth control pills at the top, and a bottle of folic acid supplements below. The text accompanying the pictures states “*When you stop taking these, [picture of birth control pack], start taking these [picture of the folic acid bottle].*”



*Folic Acid. The other pill*” (see Appendix B). Two very different ideas surfaced when participants were asked what they thought the main idea of this concept was. Many stated that the concept made it seem as though folic acid was another type of birth control, while others thought that folic acid might increase their fertility. In addition, several participants thought the main idea was that they need to take folic acid when they stop taking the birth control pill, because they are no longer getting folic acid from the pill. Quotes reflecting these interpretations of the main idea follow.

*If I just looked at it right on a commercial, I would think, ‘Oh, OK, folic acid also prevents pregnancy.’ (Mixed)*

*I have never heard of folic acid or what it is good for, [so the message is] instead of taking these pills, I take this [folic acid] – oh, they are birth control. (Spanish-speaking Hispanic)*

*Basically, what this says [is] ‘Stop taking these [birth control pills] which is keeping you from being fertile, and take this [folic acid] which will make you fertile. (Mixed)*

*It just says when you stop [taking birth control pills]. I may want to stop because they’re making me sick, so does that mean I need to take folic acid because the pills took folic acid out of my system? (Mixed)*

Most of the Spanish-speaking participants recognized the top picture as a pack of birth control pills, however, it took some of them a minute or two to figure this out because they said the packaging is different in their native countries. Many participants across all groups felt this concept was targeted only toward women who were taking birth control pills because of the picture of the pill pack. Therefore, they said they would pass right over the concept in a magazine or at a doctor’s office if they were not taking birth control pills themselves. Others felt that the concept was targeted toward women planning pregnancies now, so again, if they were not planning to become pregnant now, they would not pay attention.



*Not every woman uses birth control pills...so people on other types of contraceptives would say 'I don't have to take it cause I was never on a pill.'* (Mixed)

*...they are assuming that everyone takes those pills to protect themselves and there are people who do not use pills, they use something else.* (Spanish-speaking Hispanic)

*If I was thinking like two years down the line, I'm going to have a kid, I wouldn't start taking folic acid [now].* (Mixed)

Overall, participants did not feel the concept was very attention getting and did not make them concerned about getting folic acid. Many of the women said the concept was not motivating because it did not convey why they need to be concerned about getting enough folic acid – again, no mention of preventing birth defects or of having a healthy baby. Several women felt there was a step missing in between the picture of the birth control pills and the picture of the bottle of folic acid. As one woman said:

[It should have] *When you stop taking these [picture of birth control pills] and you want one of these [picture of a baby]...[take folic acid].* (Mixed)

Because this concept, like concept C: “Fooling Around,” generated a lot of confusion and was perceived negatively in the first four contemplator groups, it was also not tested in the final two groups in Houston. Thus quotes given above are taken from the four contemplator groups (two Spanish-speaking Hispanic groups and two racially mixed groups) conducted in Miami and Atlanta.

### **3.2.2.5**

#### **Concept E “Sanitary Napkin”**

This concept was developed to appeal to both contemplators and precontemplators in that it did not necessarily address planning a pregnancy right now, but focused on the idea of future or unplanned pregnancies. The concept featured a picture of a sanitary napkin (see Appendix B) with the text “*You may not be*



*planning a pregnancy, but your body's been preparing for many years"* over the picture of the pad. Underneath the sanitary napkin, additional text stated *"Folic acid today. So your body's ready when you are."* When the concept was first shown, participants exhibited very strong reactions which included laughter, grimaces, and/or looks of disgust. Many of the women felt that the sanitary napkin was too personal of an item and they did not want it "in their face." They felt the picture of the pad was "offensive," made them "uncomfortable," and was "embarrassing" and said they might pass over it because they did not want to look at a picture of an open sanitary napkin, or because they would assume it was an ad designed to sell feminine hygiene products.

*That is really nasty.*  
(Mixed)

*...I think they should not show such vulgar things.*  
(Spanish-speaking Hispanic)

*The pad captures your attention, but then it is a total turnoff.* (Mixed)

*At first glance, you might wonder if they're trying to*

*advertise a tampon or sanitary napkin.* (Mixed)

*In the Latin market, for Hispanics, this is too strong.*  
(Spanish-speaking Hispanic)

*It is too vulgar.* (Spanish-speaking Hispanic)

When it came to the main idea and the text however, participants felt this concept conveyed an extremely clear message and provided an immediate "call to action." They said that the message clearly stated to take folic acid *before* pregnancy, and many thought the concept conveyed the idea that when a girl starts menstruating, that is when she needs to start taking folic acid.

*You need it way before, because it says that your body has been preparing for years, so in order to become pregnant,*



*you should prepare yourself way in advance. (Spanish-speaking Hispanic)*

*Start taking it early. It will be in your system. (Mixed)*

*[You should start taking folic acid] when you get your first menstrual cycle because at that point, you can become pregnant. You need to be prepared just in case. (Spanish-speaking Hispanic)*

*You cannot wait until you are pregnant to start to take care of yourself. It's preventative measures. (English-speaking Hispanic)*

### 3.2.3

## Comparison of Concepts

Although most contemplators really liked this message and felt they were part of the target audience for the concept, many felt the picture overshadowed the text, and therefore, they might not pay attention to the concept. Women suggested several alternative images that could be used including a depiction of a girl going through the stages of maturing. Others suggested using pictures such as a box of tampons or pads, a woman with a baby, or a woman of childbearing age.

*I was thinking you could set up the stages of a girl's life. Show her as a child and then maybe a picture of a training bra and a box of maxi pads and along beside them...folic acid...needs to go along when you start this. (Mixed)*

*Show a box of tampons, a box of pads. I think that would be more aesthetically pleasing. (Mixed)*

*Why don't you show a girl who is developing into a woman and make it understood that because she is developing, she needs folic acid. (Spanish-speaking Hispanic)*

After discussing each concept in-depth, participants were asked to rank the five concepts on a sheet of paper (see Appendix G) from most motivating (#1) to least motivating (#5). Results for the first four contemplator groups are shown in Table 4. Because the final two contemplator groups were only shown three of the original five concepts, results from these groups are presented separately in Table 5. As seen in Table 4, the largest



number of participants chose concept A “The Fetus” as the concept that would most motivate them to take folic acid. For those women who chose concept A as the most motivating, they gave the following reasons.

*Basically...it shows the baby and the life and then the words, even before you realize you're pregnant...so it really makes you think this is really important. It's a powerful statement. It really is. (Mixed)*

*It motivated me because of the visual...I always read about things that have to do with children because I want to have a child. So it really captured my attention. (Spanish-speaking Hispanic)*

*It is more tender. You see a baby and that is when all your maternal feelings come to you and you begin to think about your baby and the fact that you want a healthy baby. It leads you to believe that if you want a healthy baby, then you need to take folic acid. (Spanish-speaking Hispanic)*

The concept that received the second largest number of votes as most motivating was concept E “Sanitary Napkin.” Although most participants did not like the picture of the sanitary napkin, they felt the text conveyed the clearest message of all -- that it is important to take folic acid *today*.

*I think that's the reason we thought it was the best as far as the message because it implied that you take it all along, not just when you stop [birth control], so it's built up in you. (Mixed)*

*The one I liked the best was A [The Fetus], but the most motivating to go out and buy it [folic acid] was E [Sanitary Napkin].*

As Table 4 shows, none of the women chose concepts C or D as their first choice. For this reason, and because both concepts generated confusion and were perceived negatively (see Sections 3.2.2.3 and 3.2.2.4), they were not shown to the final two contemplator groups.



**Table 4.** Number of Participants in the First Four Contemplator Groups Who Ranked Each Concept as Most Motivating (#1) through Least Motivating (#5).

<b>Contemplators</b> (N=4 groups; 33 women)					
<b>Ranking</b>	A. The Fetus	B. Brussels sprouts	C. Fooling around	D. Pill pack	E. Sanitary Napkin
#1	18	6	0	0	9
#2	7	8	4	3	9
#3	2	7	7	8	6
#4	3	8	12	5	2
#5	3	2	8	13	6
No vote*	0	2	2	4	1

\* Women in each group were told they did not have to rank any of the concepts if they found them to not be motivating at all.

Table 5 shows participants' ranking of the three concepts that were shown to the final two contemplator groups. These two Hispanic-only groups also chose concepts A and E as their top two choices, although the largest number of women in these two groups chose concept E "Sanitary Napkin" as the one that would most motivate them to take folic acid. The following reasons for choosing these two concepts were given by the women:

*I like the two of them, but because I am not planning a pregnancy [now] and I am not married...[concept E] makes me realize that I have to start preparing today for the future so that if I do want a child, I will be ready. (Spanish-speaking Hispanic)*

*I have children and I think it [concept A] would catch my attention. If I was to get pregnant again, I think that would motivate me to take the folic acid. (Spanish-speaking Hispanic)*



**Table 5.** Number of Participants in the Final Two Hispanic Contemplator Groups Who Ranked Each Concept as Most Motivating (#1) through Least Motivating (#3).

Ranking	Contemplators (N=2 groups; 18 women)		
	A. The Fetus	B. Brussels sprouts	E. Sanitary Napkin
#1	5	3	10
#2	7	8	3
#3	6	7	5

Table 6 presents the results from all six contemplator groups combined, for the three concepts that were shown to all six groups. Across all groups, the “Fetus” concept received the largest number of votes (n=23) as the concept that would most motivate participants to take folic acid. Concept E (Sanitary Napkin) received the second largest (n=19) number of votes as being the most motivating concept.

**Table 6.** Number of Participants in All Six Contemplator Groups Who Ranked Each of Three Concepts as Most Motivating (#1) through Least Motivating (#3).

Ranking	Contemplators (N=6 groups; 51 women*)		
	A. The Fetus	B. Brussels sprouts	E. Sanitary Napkin
#1	23	9	19
#2	14	16	12
#3	8	14	11

\* Total votes do not always add up to 51, because 33 of the women voted for two additional concepts which are not shown in this table.



## **3.3 Pre- contemplators**

Precontemplators were defined as women aged 18 to 24 who were not planning a pregnancy in the next year, or never planned on becoming pregnant. Three concepts were created for precontemplators based on the results of the exploratory groups with women not planning pregnancies in the near future. The three concepts were created around motivators of feeling one's best, because women did not always eat right, and/or for long-term health benefits. Because some of these women in the exploratory groups said they might become pregnant at some point in the future, two additional concepts were developed and tested with precontemplators that were based on the benefits of folic acid in preventing birth defects in future or unplanned pregnancies.

A total of three groups were held with precontemplators. All three groups were conducted with White, African-American, and English-speaking Hispanic women participating in the same group.

### **3.3.1 Individual Concepts and Science Statements**

Precontemplators were first shown a scientific statement about the benefits of folic acid in promoting good health in general. After briefly discussing this statement, the group discussed at length three concepts that were designed to convey the information in the statement.

The moderator then presented a second scientific statement about the benefits of folic acid in helping prevent birth defects. Precontemplators were then shown two additional concepts, both of which had been created to convey the information about the role of folic acid in birth defect prevention. Discussion around all five concepts focused on the following questions.

- Participants perception of the main idea of each concept;
- Their thoughts and opinions on the words and images used in each concept;



- The personal relevance and motivational effect of each concept;
- Any suggestions for changing and improving the concepts.

Precontemplators then compared the five concepts to each other and ranked them according to which concept would motivate them most to actually take folic acid. Finally, the groups discussed possible logos that could appear on the concepts as well as places and channels where they would notice them.

The concepts were presented in a different order during the groups (see Appendix F for the presentation order of the concepts at each group), although the three concepts (concepts A through C) designed to convey the benefits of folic acid in promoting good health in general were always shown first in each group; the two concepts designed to convey the benefits of folic acid in helping prevent birth defects were always shown last in each of the precontemplator groups. The five concepts are discussed in the order in which they were labeled for participants to rank (i.e., concept A through concept E) when comparing.

Participant quotes that are used throughout this section were extracted from the transcripts (see Appendix I) and are used to illustrate key points made by women participating in all groups. There are no parenthetical clauses after each quote used throughout this section since all three precontemplator groups were conducted with White, African-American, and English-speaking Hispanic women participating in the same group.

### **3.3.1.1 Science Statement about Folic Acid and Good Health**

The moderator started each group by showing the following scientific message which stated the role of folic acid in promoting good health in general.

**Folic acid is a vitamin that everyone needs for good health. Your body is producing new cells all the time and folic acid is important for this development.**



Three concepts that had been designed to convey the information presented above were then shown to each group:

- Concept A: Folic Female (African-American woman);
- Concept B: Folic Female (White or Hispanic woman);
- Concept C: Penny.

### **3.3.1.2**

#### **Concept A “Folic Female” (African-American woman) and Concept B “Folic Female” (White or Hispanic woman)**

Concepts A and B are two versions of the same concept and were meant to convey the same main idea and appeal to the same motivators. As a result, they were shown simultaneously to precontemplators. As shown in Appendix B, concept A depicts a smiling African-American woman sitting in a grassy meadow with the text at the top “*Folic Acid. It brings out the best in you.*” At the bottom of the picture, additional text asks the reader “*Are you a folic female?*” Concept B shows a smiling woman who could be White or Hispanic. The words “*The Folic Female*” are printed at the top of the concept and the text “*Folic Acid. It brings out the best in you*” is printed at the bottom of the picture.

Many of the women perceived the main idea of both concepts to be that folic acid promotes good health and beauty by giving them energy and making them feel and look good.

*They're kind of trying to tell you with folic acid you can be carefree and kind of happy and just better off.*

*[They] look really energized and you're wondering well...what is making them feel so good? I guess that's what they're trying to make you think. That you'll feel real good and real happy.*

*...both pictures look like the females are both energetic and very healthy. Like they're just really enjoying life. I guess they're saying to get the best out of life, full of energy, take folic acid.*

*I think they're basically just promoting health. I don't see it as like beauty, you know,...it's more like to feel better. It's all about health.*



Some of the participants noted differences between the two versions. They commented that the woman in concept A looked healthy and relaxed; the woman in concept B looked healthy and full of energy. Although they were characterized differently, participants liked both pictures of the women. Several of the women in one group, however, felt that the pictures were dated because of the clothing, hair, and/or jewelry worn by each woman and suggested that more contemporary, younger looking women should be portrayed. Other groups suggested that it might be better to show a woman being active (e.g., working out at the gym, rollerblading) if the intent was to convey that folic acid can give you energy, and help you look and feel your best. Positive and negative comments about the pictures follow.

*If I saw this in a magazine, either one would be appealing because it's natural, it's not like they have a super model.*

*[They] look real energized.*

*It [concept A] looks like a picture from the 70s...and this one's [concept B] from the 80s.*

*If they had somebody like jogging or like you know working out or something, feeling more energetic.*

When asked what they thought “*Folic Acid. It brings out the best in you*” meant, many of the women said that it meant being happy, healthy, and being energetic enough to get everything done they have to do. However, they either disliked the term “*Folic Female*” or found it be confusing. Participants’ comments about the text follow.

⇒ About “*Folic Acid. It brings out the best in you*”:

*[It means]...like you're going to feel better physically and mentally and you're going to feel...healthier.*

*Kind of, if it brings out the best in you, then you're always going to be happy, you're always going to be lively, sociable. You want to go out and do things.*



*It would probably mean I can do everything, do all the chores and stuff like that during the day and not feel tired.*

⇒ About “*The Folic Female*”:

*This is corny.*

*It doesn't say anything. Why would you want to be a folic female if you didn't even know what a folic female is?*

*It sounds cheesy.*

In comparing the text between the two concepts, women in two of the three groups preferred the format of a question in concept A (“*Are you a Folic Female?*”). They felt that a question was more attention-getting and made them stop and think. Women in one group, however, preferred the statement in concept B (“*The Folic Female*”). They commented that it was difficult to answer the question in concept A when they did not know what a ‘folic female’ was.

Finally, women were divided when asked if the concepts were targeted toward them. Some of the women said they were the target audience if folic acid could really increase their energy. Others did not find the concepts believable because they did not feel that folic acid alone could bring out their best. They also felt that if they took folic acid to feel or look better, and then did not experience this, they would discontinue taking the vitamin. Instead, the women wanted more information about the specific benefits of folic acid and exactly how it could bring out their best.

*...there are a million things out there, everyone thinks they have something to make you beautiful, remove cellulite...’ I don't believe that, but that [one] I do believe.’ Even if that's true,...you have all these choices, how are you going to know which ones are right and which ones are wrong?*

*You can't believe it [the beauty/health changes] unless you experience that.*



### 3.3.1.3

#### Concept C “Penny”

This concept states “*Bring out your inner beauty for a penny a day.*” The accompanying picture features a penny, and the text underneath the penny states “*Folic Acid. The beauty supplement we can all afford*” (see Appendix B). The main idea that came across to most participants was that folic acid gives beauty benefits at a low cost. However, many of the women across all three groups did not find the concept to be very believable. They were skeptical that folic acid could really be that inexpensive, and that folic acid could really bring out their “inner beauty.” Comments reflecting participants’ skepticism about concept C follow.

*It’s kind of like, get a free car, you know. It’s too good to be true...People are just conning you into trying it.*

*With just that penny, it makes you think, ‘what’s the catch?’ Nothing is that cheap without a catch, nothing.*

*How are you going to get folic acid for a penny a day? Is that if you go out and get the supplement or whatever the health care program is, they subsidize it?*

*I’m kind of confused about whether it’s supposed to help your inner beauty or they’re just tricking you with that and it’s really supposed to be preparing [you] for a baby.*

Participants were also confused about the use of the term “inner beauty.” Many of the women felt that inner beauty was more reflective of one’s personality and that a “beauty supplement” could not help improve inner beauty. They also felt inner beauty was not related to health, or they had heard of folic acid’s benefits during pregnancy but were confused as to what it had to do with inner beauty. Comments reflecting all of these perspectives follow.

*My only problem with that is I think of inner beauty as more a personality type thing and that you can’t really take something to make your inner beauty better.*

*I think it’s contradictory. Inner beauty for me is like somebody’s personality. Inner beauty is not what you see in*



*somebody's face. [It's] how they act and if they're trustworthy and if they're good people.*

*I personally would not say that something that brings out my inner beauty directly relates to something that's healthy for me.*

*I didn't understand what folic acid had to do with beauty, inner beauty...When I was pregnant, they told me I needed to take lots of folic acid because it helps your baby develop.*

Participants also felt the top statement reflecting the idea that folic acid brings out their 'inner beauty' was contradictory to the bottom statement which said that folic acid is a 'beauty supplement.'

*It's confusing to me. It says inner beauty up there, inner beauty – I don't think of anything on the outside. And then it says a beauty supplement we can all afford.*

*When you hear beauty, you don't think of inner beauty, you think of what you see. I didn't think it tied together real well.*

Although participants felt that using a picture of a penny did convey affordability, they also thought the picture was dull and boring and would not capture their attention. They also felt that the concept did not give them enough information to make them concerned about getting adequate folic acid. In order for the concept to motivate them to take folic acid, the women felt that actual and true benefits of folic acid should be included on the concept, even when it was explained that the concept would be on the cover of a brochure or pamphlet which provides further information.

*...I'm not going to take anything when I don't know what it does...I have no clue what it [folic acid] does.*

*I still don't get 'Bring out your inner beauty.' I mean if it's inner, how can you bring it out? I'd rather just have it say what it does. Makes your skin more beautiful, your hair shinier.*



*...not everybody knows what folic acid does for you besides your inner beauty. Your idea of inner beauty might be different than my idea of inner beauty. Everybody knows what calcium does, it helps your bones and the milk commercials, they just have milk on their mustache...but not everybody knows what folic acid does ...I guess they need to get the word out ..to let everybody know exactly what folic acid does...*

### **3.3.1.4**

#### **Knowledge of Science Statement about the Benefits of Folic Acid in Birth Defects Prevention**

After commenting on concepts A through C in depth, participants were shown the following scientific statement about the role of folic acid in birth defects prevention and were asked if and how they were familiar with the information presented in the statement.

**Folic acid is a vitamin that can prevent birth defects. Most women don't get enough of this vitamin. CDC wants to talk with you about what might help convince you to take more folic acid.**

As with contemplators, at least some of the women in each group were familiar with the information presented in this statement. Some of the women had heard the information in an orange juice commercial they had seen on television and others had heard about it from their doctors during past pregnancies. One woman commented that she was told about folic acid during her annual physical exam. Her doctor asked if she was planning on getting pregnant soon, and if so, recommended that she start folic acid now.

### **3.3.1.5**

#### **Concept D “Life Happens”**

This concept focused on the benefits of folic acid in preventing birth defects in future or unplanned pregnancies. The concept shows a teenager/young adult looking shocked or surprised with the caption “*Life. It's what happens to you when you're making other plans. Folic Acid. It's what prevents birth defects in babies*” (see Appendix B). When asked what they thought the main idea was, participants stated that a woman should be



prepared because unplanned pregnancies happen; in other words, folic acid prevents birth defects.

*I think they're saying she's young, she has other plans in life, she had plans to party or do something else and she got pregnant. And life, now she has to worry about taking folic acid to make the baby good.*

*Maybe that you never know when you might get pregnant. She looks young and like she's surprised. She was making other plans and all of a sudden, she might have a birth defect in the baby, so she should have been taking folic acid.*

*I like that, it's good. It tells you exactly what it does and the look of shock tells you [that you] should take it now, not just 'oh look, I'm*

*pregnant,' I should have taken it. I think the folic acid, it's what prevents birth defects...it tells us exactly what it does.*

Most participants had negative reactions to the picture of the young woman and commented that she looked tired and scared. They also said that the picture made them think the concept was directed at a younger audience, therefore, they were not part of the target audience.

*That would probably appeal more to younger girls. I think it's a different audience [than us].*

*My idea is that girl looks like a girl who's been clubbing all her life. She's been taking drugs all her life. She's worrying about now she got pregnant all of a sudden and she's worrying about the kid she is going to have is going to have birth defects.*

*...if they're trying to reach our group, then the girl's the wrong age.*

Some of the participants did not understand the statement at the top of the concept (“*Life. It's what happens to you when you're making other plans*”) or thought that it did not go with the statement at the bottom of the concept (“*Folic Acid. It's what prevents birth defects in babies*”). Many of the women, however, liked the latter statement because it gave them

### **3.3.1.6**

#### **Concept E “Sanitary Napkin”**



concrete information about what folic acid does. Participants' views on the text in concept D follow.

*Again, the top statement means nothing to me. I do not understand what they're trying to tell me...I like the bottom statement...I'm like, wow, that's great, I had no idea that folic acid did that.*

*The top part doesn't really have anything to do with what they want to convey as far as folic acid goes. Making other plans could be anything, going out or having dinner or being with your spouse...and then on the bottom is where they talk about folic acid...so the top and the bottom really don't go.)*

Participants understood the concept to mean, however, that folic acid should be taken during pregnancy, but not necessarily beforehand.

*...what stage or trimester should you really increase your folic acid?*

*...it's [the concept] really more saying that now I'm pregnant, I should take folic acid.*

This same concept was shown to the contemplator groups. It was developed to appeal to both groups in that it did not specifically address planning a pregnancy right now, but focused on the idea of future or unplanned pregnancies. The concept featured a picture of a sanitary napkin (see Appendix B) with the text "*You may not be planning a pregnancy, but your body's been preparing for many years*" written on top of the pad. Underneath the sanitary napkin, additional text stated "*Folic acid today. So your body's ready when you are.*"

Precontemplators' reactions to this concept were similar to reactions of contemplators. That is, when the concept was first shown, participants exhibited strong reactions to the picture that ranged from hysterical laughter to grimaces of disgust. Again, many of the women felt that sanitary napkins are a personal issue and even though they use them, they did not want to look



at pictures of them in advertisements or on brochures. Many of the women also said they would probably pass over a message with this picture because they did not want to see a picture of an open pad, or because they would assume it was an ad for a sanitary napkin product. Some of the women's initial reactions follow.

*Oh my God!*

*That's insulting.*

*I'm not too comfortable with that 'in your face' pad.*

*I have no idea [what they are trying to say]. I can't get past the picture.*

*My first reaction is... 'Always with Wings.' OK, it's another advertisement.*

Participants in each of the groups suggested using a picture that would not generate such amusement or disgust. They suggested ideas that were similar to the contemplators' ideas. Their suggestions included showing a young girl growing through the stages of life: starting at puberty, continuing into late teens, early womanhood, and then a pregnant woman; or showing a woman looking at a negative pregnancy test, but portraying the idea that she should be taking folic acid so that when the test does come out positive, she will be ready.

When it came to the main idea and the text however, participants felt that a very clear and concise message was delivered. It was clear to them that they needed to take folic acid *before* pregnancy.

*[It] tells you it's healthy to take it. Go out and start now.*

*It definitely says today. That means take it now.*

*[The message is] to start taking [it] now, even if you don't plan on having a baby right now.*



*I guess if you take folic acid daily, whenever you decide you want to have a child, you're already taking enough folic acid, it's already there, so just continue on.*

In addition, women really liked the message and felt they were part of the target audience for this concept. They felt the message was speaking to them and for that matter, any woman who has her menstrual cycle. Several comments reflecting how these women identified with this concept follow.

*I think every woman relates to that.*

*Like that would definitely make me want to get folic acid because it's [the concept] more like for me.*

*Well you may not be planning a pregnancy which I'm not, but well my body's ready; I might as well take folic acid now.*

*I would think it's talking to anyone who's within childbearing age.*

*I think everybody that's not pregnant has their period and so you're going to see that [the concept] and say...that's appealing to pretty much all women that are that age.*

### 3.3.2

## Comparison of Concepts

After discussing each concept at length, participants were asked to rank the five concepts they had just seen from most motivating (#1) to least motivating (#5). Results for the three precontemplator groups are shown in Table 7. As shown in Table 7, the largest number of participants chose concept E "Sanitary Napkin" as the concept that would most motivate them to take folic acid. As with contemplators, most precontemplators did not like the picture of the sanitary napkin, however, they felt the text conveyed the clearest and most motivational message: that it is important to take folic acid today.

*I think that's the best one [Sanitary Napkin], cause like it explains everything.*



[Concept] E motivates me most because I'm not thinking about having a child right now but maybe within the next 2-3 years I will be interested and I think that if I knew it would help my unborn child, that would motivate me more.

...even though I don't like the picture, it [Sanitary Napkin] tells me kind of what folic acid might be doing for me. I know that it has to do something with pregnancy...the other ones [concepts] don't really tell you what it's doing for you...other than that one with the birth defects [concept D]. I don't like that one at all.

None of the other concepts had nearly as many votes as the Sanitary Napkin concept did for being the most motivating concept. However, when

looking at participants' second choice, a total of 16 women combined chose concept A or B, which were two versions of the same concept. Women participating in the precontemplator groups said that concept E would most motivate them to take folic acid if they were planning on a future pregnancy. If they were not, however, they were more likely to be motivated to take folic acid for beauty and good health reasons. As a result, they felt concepts A or B would motivate them most of all the concepts designed to appeal to feeling and looking their best.

*Because maybe every day I'm not thinking about having a baby...but I'm thinking about my health. I might choose A and B first.*

*I would go with the health approach also because some people...really don't want to have kids. You might eventually want to have them but that's not in my mind or my plans right now so you will go with the health ad.*

*I think the first approach [health approach] is better because it's more targeting on me and improving myself, but maybe if it said help yourself and your inner beauty and by the way, if you happen to get pregnant it's going to help out your kid.*

**Table 7.** Number of Participants in the Precontemplator Groups Who Ranked Each Concept as Most Motivating (#1) through Least Motivating (#5).

Precontemplators (N=3 groups; 26 women)					
Ranking	A. Folic female (African- Amer.)	B. Folic female (White/ Hispanic)	C. Penny	D. Life happens	E. Sanitary Napkin
#1	4	3	1	4	14
#2	8	8	0	6	6
#3	5	5	6	3	2
#4	2	6	6	5	1



#5	6	2	9	7	2
No vote*	1	2	4	1	1

\* Women in each group were told they did not have to rank any of the concepts if they found them to not be motivating at all.

## 3.4 Campaign Sponsorship

After comparing the concepts, the moderator asked all groups (contemplators and precontemplators) about potential sponsors for this health communication campaign. Groups were asked how they would feel about four different types of potential campaign sponsors (government, charities, the National Task Force on Folic Acid, and pharmaceutical companies), and were specifically asked about CDC as a sponsor. Responses were similar across precontemplator and contemplator groups. When participants who were not familiar with CDC were told what the CDC does, most participants felt this organization's logo would add credibility to the campaign and make the information believable. The women felt that the CDC is dedicated to the public's health rather than making a profit, and would therefore be a credible source of information. Participants gave the same reason for supporting charities as sponsors of the campaign. The women felt that organizations such as the March of Dimes, the Spina Bifida Association, and/or the United Way would be credible sponsors since they exist to promote the health of the public, and not for organizational profit.



*It's more credible, you believe it [CDC]...because they are worried about the public's health. (Spanish-speaking Hispanic)*

*...I think that [CDC logo] makes it that much more serious. You really respect what they say. (Mixed)*

*...a charity, they don't really have a political or financial agenda...They [are] more working on trying to improve children's health...whereas a vitamin company would be like 'hey, I'm trying to sell this to make money.' (Mixed)*

*When I think of a task force, [it's] like the police. (Spanish-speaking Hispanic)*

*...When I think of [a] task force, I think of...the army (Mixed)*

*It's [The National Task Force on Folic Acid] like 'take your vitamins, you have to do it.' (Mixed)*

*Everyone is trying to sell something and you're like, 'it's another vitamin ad or whatever, someone trying to sell vitamins.' it's not that serious...you want the seriousness out there. (Mixed)*

*...they [pharmaceutical companies] just want to take your money. (Spanish-speaking Hispanic)*

On the other hand, participants were not very supportive of the idea of having the National Task Force on Folic Acid or pharmaceutical companies sponsor this campaign. Many of the Hispanic women said that a “task force” sounded too much like some type of policing organization. Others said they were not familiar with this organization, so it would not add much credibility to the campaign. Pharmaceutical companies, while supported by a few participants, were generally voted down by participants because they are viewed as being motivated by profit.

## 3.5 Channels



When asked where they might notice messages like the ones they had just seen, participants across all groups (precontemplator and contemplator groups) suggested placing brochures, pamphlets, and posters at the following locations:

- General doctors' offices/gynecologists' offices
- Health clinics
- Pharmacies and drugstores (especially in the feminine hygiene aisle)
- At childcare facilities
- At high schools

In addition, women across all groups said they would notice messages about folic acid in the following media:

- Billboards
- Women's magazines (Spanish-speaking Hispanic women specifically mentioned Spanish-language publications such as *Vanidades*, *TV y Novelas*, and *Cosmopolitan en Espanol*)
- Television and radio
- Public transit (e.g., bus ads)
- The internet/Specific websites

The next section of this report presents conclusions and implications from the research findings that can help CDC in planning its educational campaign to increase knowledge and consumption of folic acid among women of childbearing age.



## Section **4** CONCLUSIONS AND IMPLICATIONS FOR CAMPAIGN PLANNING

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**Women who are planning pregnancies will be motivated by a message outlining folic acid's role in a healthy pregnancy.**

Findings from this series of focus groups suggest several implications for further refinement of messages persuading all women of childbearing age to consume more folic acid even if they are not specifically planning a pregnancy. This section of the report discusses key findings in the context of implications for decision-making about the concepts tested in the focus groups.

Messages telling women to take folic acid to prepare their bodies for pregnancy and to help prevent birth defects are salient and compelling to women who are planning a pregnancy now or expect to become pregnant in the next year.

*Contemplators*, women who are planning to become pregnant in the next year, were highly motivated by messages that informed them both about the link between folic acid and preventing birth defects and the importance of getting enough folic acid *before* pregnancy. They were interested in learning about and doing anything that will help ensure that the babies they hope to conceive will be healthy -- and to help them feel their best during pregnancy.

Two concepts seemed to convey this information best:

**Concept A: [The Fetus]** was well-received as attention-getting and informative. Many participants found the image of the fetus warm and appealing. However, there were some



concerns about the concept. First, several women in the non-Hispanic groups associated the fetus image with anti-abortion campaign materials. Participants also felt that the fetal image conflicted with the message to take folic acid *before* pregnancy because the picture of the fetus implied that the woman was already pregnant. Some participants recommended substituting an image that would better suggest the importance of taking folic acid *prior* to conception. Participants were also concerned about a message to “*begin taking folic acid when you stop taking birth control,*” when they understood from the discussion and from other concepts that it is important for a woman to take folic

**Women who are *not* planning pregnancies will be motivated by a message outlining the benefits of folic acid other than its role in a healthy pregnancy.**

acid throughout her reproductive years, not just when planning a pregnancy.

**Concept E: [Sanitary Napkin]** shocked many participants, but definitely commanded their attention and was clearly understood to be saying it is important to take folic acid long before pregnancy. Women often recommended that another image be used, rather than the “in your face” image of a sanitary napkin that could be offensive to some or misconstrued as a product advertisement. For example, participants recommended images conveying a girl or young woman going through the stages of maturing, or a box of sanitary napkins rather than an open napkin.

Some concepts did not work as well because they lacked specific information about when to take folic acid. For example:

Many participants thought that **Concept C: [Fooling Around]** was confusing and might be saying that folic acid improves fertility rather than the fetus development or that folic acid is an alternative form of birth control.

**Concept D: [Pill pack]** caused similar confusion about whether folic acid improves fertility or is another form of birth control. An additional misinterpretation was that birth control pills contain folic acid so when one stops taking birth control pills, an alternative form of folic acid is important.

Messages for *precontemplators*, women who do not expect to become pregnant in the next year, need to address benefits of folic acid other than its role in preventing birth defects.

Findings from this series of focus groups bear out those from the earlier phase of research indicating that women who are not specifically planning a pregnancy now or do not expect to become pregnant in the next year are not likely to be concerned about folic



acid if they perceive that its only benefit is in reducing neural tube defects. They do not believe that they personally could have an unplanned pregnancy, so messages based on this appeal are not compelling.

Messages based on “feeling one’s best,” having more energy, and preventing disease rather than concern about folic acid and preventing birth defects were more compelling for this group. However, *precontemplators* were skeptical about whether folic acid could really make them look and feel their best. They also felt that if they tried folic acid and did *not* notice a difference in how they looked or felt, they might not continue to take it.

Reactions to specific concepts illustrate this point:

**Concepts A and B: [Folic Female]** communicated to participants that folic acid promotes good health and beauty by providing energy and making women feel and look good. In general, participants did not like the phrase “Folic Female,” although most preferred version A which asks a

question, “Are you a folic female?” Some women thought the question would draw their attention to the more compelling content about feeling their best if they take folic acid.

**Messages should inform women to begin taking folic acid now.**

**Messages should make it clear that a woman should take folic acid from the time she is capable of becoming pregnant.**



**Concept C: [Penny]** communicated that folic acid has low-cost beauty benefits. Many participants did not believe that folic acid was really a beauty supplement or could bring out their inner beauty. They were concerned about how something inexpensive could provide such beauty benefits and how a pill could bring out something as complex to them as inner beauty.

If CDC decides to continue its interest in promoting a “health message,” it may be that messages promoting **multivitamins** with folic acid to “bring out the best in you” would be more credible than promoting a folic acid supplement alone for this purpose. The exploratory focus

**Messages should clearly target all women, not just women using, or stopping the use of birth control.**

groups found that women believed there were many benefits to taking multivitamins, including disease prevention, increased energy, and improvement of hair, skin, and nails.

Messages should include a strong “call to action” to begin taking folic acid immediately.

Participants responded very favorably to **Concept E: [Sanitary Napkin]**, in part because it urges women to take folic acid now: “*Folic acid today. So your body’s ready when you are.*” This strong call to immediate action was one of the reasons that concept E was a preferred concept among both contemplators and precontemplators.

Messages should make it clear that a woman needs to take folic acid throughout her life, not just when she stops using birth control or begins to plan a pregnancy. After seeing several concepts, participants were confused about when they should begin taking folic acid. They understood **Concept E: [Sanitary Napkin]** to mean that a woman should begin taking folic acid as soon as she begins menstruating and were confused about why the other concepts referred to taking folic acid only when birth

**Messages need to emphasize that half of all pregnancies are unplanned.**



**Messages should explain why  
folic acid is important.**

control is stopped (**Concept A: [The Fetus]; Concept B: [Brussels sprouts]; Concept D: [Pill pack]**) or when planning a pregnancy (**Concept C: [Fooling Around]**).

Many participants commented that they would not pay attention to the concepts that refer to taking folic acid when you stop using birth control (**Concept A: [The Fetus]; Concept B: [Brussels sprouts]; Concept D: [Pill pack]**) because they are not using birth control and therefore feel the message is not intended for them. It is critical that messages appeal to women not using birth control because, assuming many of these women are sexually active, they are at high risk for unplanned pregnancies.

Messages need to emphasize that half of all pregnancies are unplanned, therefore all women should take folic acid “just in case.” Although many women had heard of folic acid, they were often unfamiliar with what it is and why it is important. In particular, even women who had some idea about the link between folic acid and preventing birth defects were unaware that it is important to take folic acid for several months *before* pregnancy. They are therefore not concerned about taking folic acid now, but think they can begin taking it if and when they become pregnant.

Reactions to **Concept D: [Life Happens]** help to illustrate this. Participants grasped that the main idea was that women should be prepared because unplanned pregnancies happen. However, they also said that an unplanned pregnancy would not happen to them personally, so it was not important for them to take folic acid now.

Messages should also include enough information so that the audience knows why folic acid is important. The importance of specifying the benefits of folic acid was seen in participants’



**Messages tied to the use of birth control must convey that it is safe to take folic acid while taking birth control pills.**

**Messages must convince women that it is difficult to obtain adequate folic acid from food sources alone.**

reactions to several of the concepts. In viewing **Concept D: [Life Happens]**, many women said that they liked that the concept clearly stated the role of folic acid – “*It’s what prevents birth defects in babies.*” In addition, when viewing **Concepts A and B: [The Folic Female]**, and **Concept C: [Fooling Around]**, many participants said that the benefits promoted (“*brings out the best in you,*” or “*the pill to take when you’re planning*”) were too vague. They wanted to know exactly what role folic acid played.

Some participants interpreted the message to begin taking folic acid when they stop taking birth control (**Concept A: [The Fetus]**; **Concept B: [Brussels sprouts]**; **Concept D: [Pill pack]**) to mean that it is unsafe to take the two simultaneously. This confusion can be avoided if messages promote taking folic acid throughout a woman’s reproductive years, rather than only when birth control is stopped. It is essential that women understand that it is safe and beneficial to take folic acid at all times, including while they are using birth control pills, other methods of contraception, or other medications.

As in the earlier exploratory focus groups with women, many participants in this series of groups had a hard time believing that they could not obtain sufficient folic acid from food sources alone (not including fortified cereals). Women who said that they particularly like foods that were identified as good sources of folate — e.g., broccoli and orange juice — were inclined to believe they could consume enough of these foods on a daily basis to avoid taking vitamins.

The importance of this misconception was evident in reactions to **Concept B: [Brussels sprouts]**. Some women understood that the main idea was to take folic acid when planning a pregnancy and that it could be obtained from large quantities of some food or one small pill. However, other women also misinterpreted the message to mean that you truly have a choice



about which source of folic acid to rely on (again, fortified cereals were not depicted in the concept).

**Messages should take into account important cultural and language differences.**

It will be important for messages to take into account some of the cultural and language differences that were apparent in reactions to the concepts between Spanish-speaking women and English-speaking Hispanic, White, and African-American women.

Although motivators and barriers to obtaining more folic acid were similar between Spanish-speaking women and participants in the previous exploratory focus groups, there were some differences in reactions to individual concepts between the Spanish-speaking women and others that could affect the appeal and clarity of the messages if they are not adjusted for different audiences. For example, some of the Spanish-speaking women were not familiar with brussels sprouts, which would make **Concept B: [Brussels sprouts]** difficult to understand unless a different food example was depicted. In contrast, none of the Spanish-speaking women voiced objections to the illustration in **Concept A: [Fetus]** while several participants in the English-speaking groups were concerned that the picture would be mistaken for an anti-abortion campaign.

**CDC was identified as a credible sponsor for this campaign.**

CDC was perceived as an organization which promotes the public's health and is not "out to make money." Charitable organizations such as the March of Dimes, Spina Bifida Association, and United Way were also credible for the same reason.

Participants talked about how different types of organizations' potential sponsorship of the campaign would affect the credibility of the messages. The most important theme in participants' recommendations was that the sponsors not be organizations with a profit motive. They said that they would be less likely to believe these messages if they came from



**CDC may want to consider implementing campaign messages in both media and non-media outlets.**

pharmaceutical or other companies than from CDC or charitable organizations. Participants also had negative reactions to sponsorship by the National Task Force on Folic Acid because the task force was an unfamiliar concept to them and, particularly among Hispanic women, a “task force” suggested a police or military group

Women participating in these focus groups said they would pay attention to the folic acid message in places such as doctors' offices, health clinics, and childcare facilities. In addition, they said they would notice messages in mass media outlets such as women's magazines, on public transit, and on television and radio.



Section  
**5**

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**Section**

**6**

**APPENDICES**

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- Appendix A. Audience Profiles
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- Appendix C. Screeners
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(English and Spanish Versions)
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