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Consumers' Perceptions of Preconception Health

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Abstract

Purpose—To inform the development of a preconception health (PCH) social marketing plan, we conducted qualitative research with prospective consumers.

Approach—We present formative findings based on the four Ps of social marketing: product, price, promotion, and place.

Setting—We conducted focus groups with 10 groups of women in Atlanta, Georgia, in fall 2010.

Participants—We classified women aged 18 to 44 into five groups based on their pregnancy plans, and then further segmented the groups based on socioeconomic status for a total of 10 groups.

Method—The focus group guide was designed to elicit participants' responses about the product, price, promotion, and placement of PCH. We used NVivo 9 software to analyze focus group data.

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Results—Women planning a pregnancy in the future had different perspectives on PCH as a product than women not planning a pregnancy. Barriers to PCH included lack of social support, addiction, and lack of awareness about PCH. Participants preferred to think of PCH behaviors as "promoting" a healthy baby rather than preventing an unhealthy birth outcome. Many women in the focus groups preferred to hear PCH messages from a health care provider, among other channels.

Conclusion—The results from this research will inform the development of a social marketing plan for PCH and the development of concepts that will be tested with consumers to determine their viability for use in a national campaign.

Keywords

Preconception Care; Qualitative Research; Social Marketing; Women's Health; Prevention Research; Manuscript format: research; Research purpose: descriptive; Study design: focus groups; Outcome measure: knowledge and attitudes about preconception health; Setting: community; Health focus: preconception health; Strategy: social marketing; Target population: middle to low-income women of childbearing age; Target population circumstances: age, income level

PURPOSE

Each year, about 1 in every 33 babies born in the United States is affected by a birth defect. Not only are birth defects a leading cause of infant deaths, but they also increase the chances of an infant having an illness or long-term disability.[1] Evidence increasingly shows that improving women's health before pregnancy is important for optimizing pregnancy outcomes, including prevention of birth defects.[2] Improving health before pregnancy is commonly referred to as preconception health (PCH). One way to enhance PCH is through preconception health care (PHC). PHC is "a set of interventions that aim to identify and modify biomedical, behavioral, and social risks to a woman's health or pregnancy outcome through prevention and management."[3] PHC comprises a bundle of behaviors and services that includes quitting smoking, obtaining up-to-date immunizations, avoiding alcohol, and maintaining a healthy weight, among others. The main goal of PHC is to provide health promotion and education, screening, and interventions for women of reproductive age to improve their health and to reduce risk factors that might affect future pregnancies.[4] In this article, we will refer to both concepts together as preconception health and health care (PCHHC).

In 2005, the Centers for Disease Control and Prevention convened a Select Panel on Preconception Care. This select panel developed a strategic plan for improving women's health before pregnancy and pregnancy outcomes that included 10 key recommendations to improve PCHHC.[5] Action steps to address awareness of PCHHC include the following recommendations: (1) conduct consumer-focused research necessary to develop messages and terminology for promoting PCHHC and reproductive awareness; and (2) design and conduct social marketing campaigns necessary to develop messages for the promotion of PCHHC knowledge, attitudes, and behaviors among men and women of childbearing age.[5]

For a social marketing campaign to be successful, it must be based on an understanding of the needs and perceptions of the intended audience.[6] To inform the development of a social marketing plan for consumers, we conducted formative research to learn more about consumers' knowledge, attitudes, beliefs, and behaviors regarding the collection of behaviors and services that comprise PCHHC.

Social Marketing Model

Our research was grounded in social marketing, which is "the application of marketing technologies developed in the commercial sector to the solution of social problems where the bottom line is behavior change."[7] At the core of social marketing is research to identify and understand the intended audiences and to develop strategic communication plans and messages that will motivate behavior change.[6,8]

Essential to the social marketing approach is a consideration of the four Ps—product, price, promotion, and place. *Product* refers to what the program is trying to change within the intended audience and what the audience stands to gain.[6] *Price* refers to what a consumer must give up to receive the benefits of the program or product. The costs may be tangible (financial, time) or intangible (psychological, emotional). Costs are also often referred to as barriers. *Promotion* refers to the specific messages and appeals used within the campaign and also the communication format in which the messages will be delivered (e.g., print materials, Web sites, oral communication).[6] *Place* refers to the distribution channels a program uses to reach its audience. Given that PCHHC represents behaviors that women may engage in over the duration of their childbearing years, in this study we focus more on message placement (e.g., mass media, interpersonal). Research questions for this formative research were as follows:

Product

- Do consumers understand the behaviors that fall under the PCHHC umbrella? Do certain groupings of behaviors (e.g., starting health-promoting behaviors vs. stopping health-damaging behaviors) make sense to them?
- How do consumers refer to/think about the terms "PCH" and "preconception care"? What other terms could be used to describe PCHHC? Do certain terms or words make more sense to consumers, or do they use certain terms or words to describe this type of care or set of behaviors? Should this be referred to as a set of behaviors or a set of services?
- How do PCHHC behaviors need to be organized or framed to make them most appealing, persuasive, or effective for consumers?

Price

- What are consumers' perceived benefits to engaging in PCHHC behaviors?
- What are the barriers/challenges to engaging in these behaviors?

Promotion

- What types of messages would be most effective to help women increase their awareness about PCHHC (e.g., reduced rates of birth defects vs. healthy bodies vs. healthy babies)?
- What messages do consumers believe could be effectively grouped or bundled?

Place

- What are consumers' preferred channels for receiving information about PCHHC?
- What venues would be most effective to promote these messages?

METHODS

To answer these research questions, we conducted focus groups with consumers. Focus groups were selected as the method of data collection because they provide formative insights into subjects or topics about which little is known, and they elicit opinions from similar groups of people at the same time.[9] Before focus groups were developed and convened, we identified an audience segmentation strategy.

Audience Segmentation

To help determine how to segment such a large target audience, we reviewed the literature on consumers' knowledge, attitudes, and behaviors related to PCHHC. Our review indicated that future pregnancy plans and parity were likely to be the most salient factors in receptivity to PCHHC messages.[10–12] Evidence clearly shows that pregnancies that are unintended, mistimed, or unwanted have increased odds of resulting in a low-birth-weight or preterm baby.[13]

To validate that planning a pregnancy and parity could be used to segment women of childbearing age, we analyzed data from Porter Novelli's HealthStyles 2007,[14] a mail panel survey administered to approximately 4000 adults. HealthStyles is a subset of a multi-wave consumer-mail panel study administered annually by Synovate, Inc., to ascertain perspectives on consumer health attitudes, beliefs, and behaviors. HealthStyles is a follow-up survey that is mailed to respondents who complete ConsumerStyles, which collects data on the use of media, consumer products and services, and personal interests. Details on methods can be found in a 2012 article by Mitchell et al.[15] The HealthStyles 2007 survey was fielded from July through August. A total of 6600 surveys was mailed one time to potential respondents, with a response rate of 66.6% (n = 4398). HealthStyles data are drawn to be nationally representative and were poststratified and weighted on the basis of sex, age, income, race, and household size to reflect 2006 U.S. Census estimates.

We classified female survey respondents who were 18 to 44 years old into four segments based on their pregnancy plans and whether they had a child (Table 1). We compared the segments on sociodemographic factors and health behaviors that were included in the HealthStyles survey. We found significant differences among the four groups on age, marital status, current involvement in a sexual relationship, employment status, home

ownership, and alcohol use. In addition, we developed an active pregnancy planning scale using response to questions about specific topics related to a respondent's planning a pregnancy or discussing having children (e.g., timing, number of children) with her partner. Cronbach α on this scale was .83.[16] We compared the mean scores on the scale by segment. We found significant differences in pregnancy planning scale scores among the four groups, which supported our segmentation strategy (Table 2).[17]

When developing the research plan for the focus groups, we added a fifth group: women who had had a baby in the past year (irrespective of their pregnancy plans), referred to as the "interconception period." Research has shown that interventions provided during the interconception period may reduce risks in subsequent pregnancies.[18] Because this might become an important group to target in a campaign, we wanted to explore differences in attitudes, beliefs, and channels that might effectively reach these women. We also further segmented these five groups based on socioeconomic status (SES) (Table 3). A combination of education, income, and health insurance coverage was used to identify women with a lower and middle SES. Middle or higher SES participants had two out of three of the following screening criteria: annual income between $30,000 and $75,000, private/employer-based insurance, and some or more college. Lower SES participants had a combination of annual income less than $30,000, public or no insurance, and high school education or below. This strategy was based on previous consultation with an epidemiologist from the National Cancer Institute, who indicated that three measures used in combination were good surrogate measures of SES and health disparities. Researchers have suggested that there is not one best approach for measuring SES.[19]

Data Collection

Using this segmentation strategy, we developed a screener that identified eligible participants for this study. A professional recruitment firm recruited women from their consumer panel and assigned eligible participants into groups using the screener we developed. Participants were compensated $75 for their participation. For screening purposes, when asked about their pregnancy plans, women who indicated they were planning to become pregnant in the next year or so were classified as planners. Women who said they were not planning on getting pregnant in the next year or so, but plan to at some time in the future, or who said they did not plan to get pregnant at any time in the future were classified as nonplanners.

We conducted one focus group with each audience segment, for a total of 10 focus groups (see Table 3). The focus group guide was designed to elicit participants' responses about the product, price, promotion, and placement of PCHHC. As part of product research, participants were specifically asked about their knowledge of and reactions to specific terms (e.g., PCH, reproductive life plan) and about possible ways to group the numerous PCHHC behaviors (e.g., healthy lifestyle, screening and testing, manage and monitor, prevention and treatment, do's and don'ts, with the doctor, and on your own). A list of PCHHC behaviors was distributed to participants after the moderator asked introductory questions about knowledge and awareness and prior to questions about motivation, promotion, and placement (see Table 4 for PCHHC behaviors). A female moderator trained in group

facilitation led the focus groups while a research assistant took notes to capture nonverbal cues. Each focus group was held in Atlanta, Georgia, and lasted approximately 90 minutes. All discussions were audio recorded and professionally transcribed. At the end of each group, participants completed an 11-item form containing basic demographic information. All research was approved by RTI International's institutional review board and all other appropriate clearance was obtained. Informed consent was obtained from all participants prior to the groups.

Analysis

We used NVivo 9 software (QSR International, Doncaster, Victoria, Australia) to analyze focus group data. Using a process adapted from Krueger and Casey,[20] we first coded the focus group transcripts according to a set of predeveloped codes that represented research questions within the four Ps. We then developed and assigned emergent codes for responses that did not fit the preexisting coding scheme. We conducted a coding comparison on 20% of the transcripts, resulting in a κ statistic of 97%. Using both the preestablished and emergent codes, we identified the key themes and determined the degree of consensus or discordance with a particular view. Because the number of focus groups was limited, we reduced the five planning segments (10 focus groups) to three segments during analysis—planners (4 focus groups), nonplanners (4 focus groups), and interconception (2 focus groups)—and compared coded responses among the combined segments to better see emergent patterns and themes.

RESULTS

Participants

A total of 65 women participated in the 10 focus groups. Twenty percent were between 18 and 24 years of age, 35% were between 25 and 34 years of age, and 45% were between 35 and 44 years of age. Fifty-one percent of participants were white, 42% were African-American, and the remainder were from other racial and ethnic groups. Fifty-seven percent had annual incomes over $30,000 but less than $75,000, and 43% had annual incomes of $30,000 or less. Twenty-one percent had given birth in the past 12 months. Seventy-eight percent had private or employer-based insurance, 9% had Medicaid or other public programs, 12% were uninsured, and 1% had TRICARE (a health care program for Uniformed Service members) (Table 5).

Highlights from the focus group findings, organized by the four Ps of social marketing, are presented in detail below. A summary of findings by planning status and four Ps can be found in Table 6.

Product

Understanding of PCHHC Behaviors—Focus group participants had a general understanding of the actions that constitute PCHHC behaviors and the importance of practicing them before pregnancy. Participants, especially those planning a pregnancy in the next year, were most aware of the recommendations to take prenatal vitamins, abstain from alcohol, and quit smoking; they were least aware of the rubella vaccine recommendation.

The greatest awareness of these behaviors tended to be in the interconception groups, presumably because they had recently been through the preconception and prenatal periods. Some nonplanners were skeptical of some of the PCHHC lifestyle behaviors, such as abstaining from alcohol. This may have been because the behaviors were presented as PCH behaviors and not as general health guidelines. Some participants who reported having chronic health conditions had an increased awareness of PCHHC behaviors, because they understood the importance of managing their health concerns prior to pregnancy.

When asked to describe what PCHHC behaviors were, participants referenced talking to a doctor before getting pregnant and generally taking care of one's health before conception. One participant described the PCHHC behaviors as "making sure you're healthy enough and you have all the, I guess, essential vitamins and make sure your blood pressure and everything, that you're healthy enough to carry a child."

Understanding of PCHHC Terms—Participants generally disliked the use of the word "preconception" to describe PCHHC behaviors. They commented that the term was too clinical and thus off-putting for many women. Participants also pointed out that some women, particularly teens and younger women, may not understand the term. One woman summed it up by saying "I'm just looking at it going, if I was to say that to one of my friends, they would just look at me and go 'Huh?' Because, I mean, it's just not something that I would use in my everyday vocabulary."

Although some participants suggested alternatives, such as "prepregnancy" or "prenatal," others felt that those would not catch the attention of women who were not trying to get pregnant. In particular, nonplanners and women in the interconception groups felt that women not planning to have a baby would be turned off by terms such as preconception and prepregnancy health. To appeal to all women, participants thought a broader, more "global" term should be used and suggested "women's health," "women's health management," or "healthy lifestyles." Other suggestions that were geared more toward women planning to become pregnant included "steps to pregnancy" and "positive planning."

The term "reproductive life planning" was less well understood, and participants' definitions of this term varied. Some defined it as a woman planning her entire reproductive life (e.g., deciding on the number of children she wants to have), whereas others believed it addressed the timing of getting pregnant (planning conception around fertility cycles), financial stability before becoming pregnant, and general family planning.

Participants were least familiar with the term "preconception health promotion" and strongly disliked the term. They felt it was too clinical and had a negative connotation. As one woman explained, "Preconception health [promotion] would be like someone or a company going around and basically promoting what it takes to get pregnant, you know, kind of like in a counseling type position." Another put it simply, "It's just a bunch of big words."

Price

Perceived Benefits to Engage in PCHHC Behaviors—Participants felt that a range of factors could motivate women to engage in PCHHC behaviors. On the one hand,

participants who were planning a pregnancy in the next year and interconception groups cited the health of both the mother and child as primary perceived benefits. During a discussion in a planning group, participants shared this common sentiment:

> "A healthy baby … that's the bottom line right there, that's the whole goal …."
>
> "And they [women] want to feel healthy. I know with my first one … I ate, and I didn't feel hungry and you're tired and you're sluggish and you're big so, [and you eat] just so that they'll feel good, too..."

Nonplanners, on the other hand, found little reason to follow PCHHC behaviors, and some nonplanners were actually "antiplanning" and were against engaging in some of the recommended PCHHC behaviors. In reference to unhealthy behaviors, one respondent said, "[Most people] don't want to stop [smoking, drinking] now, but most people, I mean, they're thinking, 'I'm young, I'm going to have fun, I'm going to do whatever it is I want to do."'; Others felt that PCHHC behaviors would lead to a healthy lifestyle in general and thus were motivated by that goal.

Overall, many felt that age and maturity were key factors in the likelihood of practicing positive PCHHC behaviors. Participants associated being young (e.g., college age or younger) with an unhealthy lifestyle, in contrast to their belief that older women were more likely to be conscientious about having a healthy lifestyle and be more inclined to make healthy decisions for themselves and their babies.

Similarly, many participants said that information about PCHHC behaviors is not readily available and that simply increasing the awareness of these behaviors and their importance would help encourage women to follow these healthy behaviors. The importance of social support was also cited by several participants. Participants said that having a supportive husband or partner, or other support systems such as family and friends, made it easier to follow the recommended behaviors. As an illustration, one participant mentioned that her boyfriend was the one to remind her to take her prenatal vitamins throughout her pregnancy. Access to a doctor was also mentioned as a perceived benefit to engaging in PCHHC behaviors. Several women said that having health insurance gave them consistent access to a doctor with whom these behaviors could be discussed.

Barriers and Challenges to Engaging in PCHHC Behaviors—Although participants were able to identify factors that facilitate engaging in PCHHC behaviors, they also identified several barriers. Addiction to tobacco, alcohol, and illicit drugs was cited as an enormous challenge to practicing those PCHHC behaviors. Because of the difficulties in breaking an addiction to tobacco, alcohol, and/or drugs, women felt that those with true addictions were not likely to change behaviors despite knowing the consequences of their actions. Another notable challenge discussed was the perceived lack of control over birth outcomes, specifically that even if a woman adopts healthy PCHHC behaviors, she is not guaranteed a healthy baby. Several participants shared personal experiences in which healthy women had low birth weight babies and women who smoked and/or consumed alcohol during pregnancy had healthy babies. In response to these examples, some participants felt that PCHHC behaviors had little impact on a newborn's health and gave

them little reason to adopt these behaviors. Lack of adequate finances also was perceived as a barrier to adopting PCHHC behaviors. Participants felt that living a healthy lifestyle was expensive because of the perceived high cost of healthy food and the cost of obtaining screening tests (e.g., human immunodeficiency virus tests).

Promotion

Content of Message—Focus group participants suggested two sets of messages, one for women planning a pregnancy (planners) and another for those who are not (nonplanners). For planners, participants felt that the message should focus primarily on how these behaviors can help lead to a healthy baby. They felt that spreading a message that describes the consequences of not taking care of oneself during pregnancy and the impact this would have on the baby would help encourage women to take action and adopt healthy PCHHC behaviors. As one woman told us, “I think once women hear that it could directly affect the health of the child, then that will get their, their ear. Even maybe more so than it could directly affect the health of, you know, them themselves, because women tend to think more about protecting the child.”

However, participants said that such a message would not be well received by nonplanners, so for them the message would need to focus on overall health behaviors of the woman and a healthy lifestyle. Participants indicated that the emphasis should be on knowing one’s health history, how to take care of one’s own health, and what to do to have a healthy lifestyle. “I would leave the whole pregnancy part out of it. I would just say ‘This is what keeps you healthy, regardless of whether you’re going to get pregnant or not.’ Because like you said, your mindset at the time was ‘I’m not going to have kids.’ So then it’s going to go in one ear and out the other. Make it about health, not pregnancy.”

Message Framing—Overall, participants felt that loss-framed messages, or messages that focus on the consequences of not following PCHHC behaviors, would be most powerful. They felt that these messages would have a stronger impact than a positive message because of the shock value and their belief that people, especially younger people, are generally more motivated by negative messaging. For example, one woman said, “I’m a visual learner … I want to see a product or, you know, what will happen if I don’t do this.” Some felt that a combination of gain- and loss-framed messages would be beneficial: the loss-framed message could catch the woman’s attention and the gain-framed message could teach them how to have a healthy pregnancy and baby. We found no important differences in opinions on message framing by planning status.

When asked how the collection of PCHHC behaviors should be organized to make them most appealing, persuasive, and effective, most focus group participants expressed the importance of keeping the message clear, unambiguous, and positive, which contradicts their previous sentiment that negative messages would be most powerful. Participants were shown some strategies for grouping the set of PCHHC behaviors (e.g., healthy lifestyle, screening and testing, manage and monitor your health problems, prevention and treatment, do’s and don’ts, with the doctor, and on your own). They found many of the suggested ways of labeling and grouping the behaviors to be too medical and negative. For example,

participants felt the label “manage and monitor your health problems” sounded too negative because of its use of the word “problems.” Similarly, they felt the phrase “prevention and treatment” was too clinical, misleading, and negative because it suggested that a problem already existed. More specifically, women were confused by the use of the word “prevention” because they did not understand what was being prevented. Instead, they preferred to think of PCHHC behaviors as “promoting” a healthy baby rather than preventing an unhealthy baby or birth outcome. Participants had mixed responses to the idea of framing the message as “do’s and don’ts.” Some felt that label was straightforward and simple, whereas others did not like being told what to do in such a commanding manner. The way behaviors were grouped and labeled was important to the focus group participants, and they suggested alternatives such as manage and monitor your health, daily lifestyle vs. medical advice everyone should want to know, and do with doctor vs. do on own.

Place

Although place typically refers to where a target audience engages in the behavior being addressed or receives associated services,[21] PCHHC is unique in that it is a set of behaviors that can be practiced in a variety of different places. As such, we discuss participants’ thoughts on places that women frequent that would provide appropriate associations with PCHHC behaviors and would optimize exposure. In so doing, we described both message placement through specific channels and locations.

Message Placement—Many women in the focus groups preferred to hear PCHHC messages from a health care provider, either at a regular checkup or at an ob/gyn appointment, where issues surrounding a healthy pregnancy might feel more relevant. Some noted that PCHHC topics needed to be delivered by an expanded group of individuals other than health care providers because not all women visit a doctor regularly. Similarly, participants recognized that women not planning a pregnancy might not have these types of discussions with their health care provider, so disseminating the message through more public venues would also be important.

The Internet was frequently cited by participants as a channel that should be used to reach women of childbearing age, and participants suggested specific popular Internet Web sites such as WebMD, Google, and Mayo Clinic. Participants also recommended using Facebook. To deliver PCHHC messages to all women of childbearing age, participants recommended a large campaign. One participated stated, “Can I just say, when they got ready to do this 2010 census, it was huge. It was everywhere. And that’s the way this campaign needs to go out.” Participants also identified television commercials and specific shows such as *Dr. Oz*, *The Doctors*, and *Oprah*, and networks such as MTV; magazines; transit stations; and billboards, because they felt these channels would reach a large number of people.

Specific Locations—Women in the focus groups expressed a need to place PCHHC messages where they would normally find negative influences. One participant said she would like to receive messages during the lunch hour, because that is when women make decisions about whether to eat at McDonalds or order a salad. Another participant suggested messages on beer bottles. A participant stated that TV commercials were particularly useful

because so many commercials advertised bad food. Another participant stated, “You’re bombarded with bad stuff everywhere so you should be bombarded with this stuff everywhere.”

Some participants suggested targeting participants in the waiting rooms of doctors’ offices, either through a pamphlet, an informational video, or even a checklist of healthy behaviors that women could fill out and review with their doctor. Other creative suggestions included messaging on birth control pills at the pharmacy, on tampon boxes, on yogurt container lids, and at women’s lingerie stores.

Comprehensive Sexual Education Curriculum—Participants suggested teaching PCHHC in schools, along with sex education and pregnancy prevention, to introduce the idea to women at an earlier age. The rationale for this suggestion was that habits are already formed by the time women are adults. Others expressed that college would be a more appropriate time to bring up the topic because of the mature nature of the topic.

CONCLUSIONS

The results from this formative research are informing the development of a social marketing plan for PCHHC that focuses on women of childbearing age. In addition, the results are informing the development of concepts that will be tested with consumers to determine their viability for use in national, state, and local campaigns promoting PCHHC.

Our results suggest segmenting the target audience into two primary audiences: planners (women who are planning to become pregnant in the next 2 years) and nonplanners (women who do not plan to become pregnant in the next 2 years). In particular, preconception and pregnancy terms did not resonate with nonplanners. Nonplanners tended not to perceive the prospect of a healthy baby as a benefit, and nonplanners reported not wanting to hear PCHHC messages from a health care provider at a routine visit. Our results did not indicate that those in the interconception period had dramatic differences in their attitudes toward and perception of PCHHC from planners or nonplanners. For the most part, participants in the interconception group had attitudes similar to those of planners given their recent experience with pregnancy.

Additionally, our results support positioning PCHHC as a different product for each audience, particularly because nonplanners tended to be turned off by pregnancy and PCH terminology. For planners, PCHHC should be framed as a positive behavior, and messages should emphasize that planning results in better birth outcomes, as well as an array of other benefits (e.g., peace of mind knowing that a woman is doing all she can to ensure the health of a future baby). Because the results from our research suggest that planners perceived the health of their child as a primary benefit, PCHHC could be positioned as a pathway toward a healthy baby and healthy family. Given that our research identified gaps in knowledge about PCHHC, the campaign will seek to increase planners’ awareness of the preconception time period and also of specific PCHHC behaviors.

Furthermore, our results indicate that distinct messages will need to be developed for nonplanners, who were not motivated by the prospect of becoming pregnant and not

especially receptive to the ideas of stopping unhealthy behaviors that gave them pleasure (e.g., drinking alcohol, smoking). Therefore, PCHHC should be positioned to nonplanners as a way of giving themselves freedom, choice, and control over their lives. Our results suggest that PCHHC should be positioned as overall good health and wellness to nonplanners and that the benefits of this "product" include self-worth and goal achievement. The results suggest that PCHHC should be positioned as an investment that women make in themselves and as a way to shape their futures. Although women did suggest that they would find loss-framed messages compelling, we do not recommend using a loss frame to promote prevention messages. Research has found that for preventive health behaviors, gain-frame messages are more effective than loss-frame messages.[22]

This formative research study did not offer a consensus on a term to use other than PCH. Although some options were offered, participants did not embrace a new label. Practitioners and researchers should recognize that terms such as PCHHC and reproductive life plans may not currently resonate with all women of childbearing age, and find ways to infuse these terms in the vernacular of women's health. Although we explored several message frames, including those originally tested by King et al.,[23] our findings did not result in a new scheme by which PCHHC behaviors can be grouped; consequently, additional work is needed in this area.

The future social marketing plan should include strategies to help women overcome barriers to PCHHC. For example, our results indicate that some women will need to be convinced that there is a direct relationship between PCHHC behaviors and birth outcomes, because some will have friends and family members who did not engage in PCHHC behaviors and yet still have healthy babies. The campaign should develop and test consumer-friendly messages that share evidence (e.g., research findings, stories) that PCHHC can improve the health of a woman and her child.

Other barriers that will need to be addressed include the difficulty of giving up activities such as eating high-fat food, drinking alcohol, and smoking, because they provide both pleasure and stress relief, as well as the perception that living a healthy lifestyle is costly.

The pregnancy planning scale we developed to help validate the segmentation strategy using the Health-Styles data has not been used in previous research. Having only one focus group per audience subsegment did not allow for data saturation; consequently, the results are not generalizable. However, reducing the five planning groups to three groups—planners, nonplanners, and the inter-conception group—allowed us to identify key thematic areas within these groups. Additionally, we were able to conduct focus groups in only one geographic area.

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SO WHAT? Implications for Health Promotion Practioners and Researchers

What is already known on this topic?

Research has shown that most women of childbearing age are not aware of the importance of preconception health and health care (PCHHC); future pregnancy plans and parity are the most salient factors in receptivity to PCHHC messages.

What does this article add?

Little has been published to guide the development of PCHHC messaging. This study provides some insights on how to position PCHHC for both planners and nonplanners. Findings indicate that messages for planners should focus on how preconception health behaviors can lead to a healthy baby. Messages for non-planners should focus on promoting overall health and wellbeing and what to do to have a healthy lifestyle.

What are the implications for health promotion practice or research

The findings from this research will be used to inform the development of campaign materials, ads, and messages. We anticipate that the campaign, called Show Your Love, will launch in 2013.

Table 1

Results of HealthStyles Analysis: Profile of Audience Segments*

Characteristic	All	Nonplanners With No Children	Planners With No Children	Planners With Children	Nonplanners With Children	*p*
No.	639	78	78	95	388	
Age, No. (%)						
18–24	57 (9)	8 (10)	25 (32)	16 (17)	8 (2)	<0.001
25–34	227 (36)	18 (23)	40 (51)	56 (59)	113 (29)	
35–44	355 (56)	52 (67)	13 (17)	23 (24)	267 (69)	
Race/ethnicity, No. (%)						
White	388 (61)	41 (53)	42 (54)	51 (54)	254 (65)	0.182
Black	102 (16)	15 (19)	18 (23)	15 (16)	54 (14)	
Hispanic	96 (15)	15 (19)	12 (15)	17 (18)	52 (13)	
Other	53 (8)	7 (9)	6 (8)	12 (13)	28 (7)	
Marital status, No. (%)						
Married	451 (71)	32 (41)	37 (47)	70 (74)	312 (80)	<0.001
Not married	180 (28)	45 (58)	40 (51)	21 (22)	74 (19)	
Education, No. (%)						
High school or less	167 (26)	15 (19)	17 (22)	32 (34)	103 (27)	0.078
Some college	260 (41)	31 (40)	32 (41)	42 (44)	155 (40)	
College graduate	208 (33)	32 (41)	29 (37)	19 (20)	128 (33)	
Own residence, No. (%)						
Yes	456 (71)	52 (67)	41 (53)	60 (63)	303 (78)	<0.001
No	179 (28)	26 (33)	35 (45)	33 (35)	85 (22)	
Employment status, No. (%)						
Employed	439 (69)	65 (83)	59 (76)	52 (55)	263 (68)	<0.001
Not employed	198 (31)	13 (17)	19 (24)	42 (44)	124 (32)	
Health status, No. (%)						
Excellent/very good	339 (53)	42 (54)	33 (42)	49 (52)	215 (55)	0.465
Good	216 (34)	23 (29)	33 (42)	34 (36)	126 (32)	
Fair/poor	82 (13)	12 (15)	12 (15)	12 (13)	46 (12)	
Smoke, No. (%)						

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Characteristic	All	Nonplanners With No Children	Planners With No Children	Planners With Children	Nonplanners With Children	*p*
Yes	114 (18)	16 (21)	12 (15)	20 (21)	66 (17)	0.644
No	512 (80)	60 (77)	66 (85)	73 (77)	313 (81)	
Drink alcohol, No. (%)						
Yes	321 (50)	51 (65)	45 (58)	45 (47)	180 (46)	0.012
No	307 (48)	27 (35)	31 (40)	47 (49)	202 (52)	
In a sexual relationship, No. (%)						
Yes	521 (78)	45 (50)	62 (75)	83 (89)	331 (86)	<0.001
No	110 (22)	30 (50)	16 (25)	12 (11)	52 (14)	

*All data are weighted; thus, different numbers of participants may result in percentages being equal. For example, the percentage of nonplanners with no children for those who answered yes and those who answered no to being in a sexual relationship is the same (50%); however, the numbers of participants are different (45 for those who answered yes and 30 for those who answered no).

Table 2

Outcome Measures by Audience Segments

Characteristic	All	Nonplanners With No Children	Planners With No Children	Planners With Children	Nonplanners With Children	*p*
No.	639	78	78	95	388	
Active pregnancy planning scale, mean (SD) (Cronbach α = 0.83)	3.2 (1.3)	2.1 (1.0)	3.4 (1.3)	3.8 (1.0)	3.2 (1.3)	<0.001

Table 3

Audience Segmentation*

Planning Status	Audience Segment	Lower SES, No. of Groups*	Middle SES, No. of Groups
Planners with no children	Women who do not have any children but indicate that they are planning to have children sometime in the future	1	1
Planners with children	Women who have had a child a year ago or more and who plan to have more children in the future	1	1
Nonplanners with no children	Women who do not have any children and do not have plans to have children in the future	1	1
Nonplanners with children	Women who have had a child a year ago or more and do not plan to have any more children in the future	1	1
Interconception	Women who have had a child in the past year (irrespective of their future pregnancy plans)	1	1
Total		5	5

* SES indicates socioeconomic status. Lower SES = mix of annual income less than $30,000, public or no insurance, and high school education or below. Middle SES = mix of annual income between $30,000 and $75,000, private/employer-based insurance, and some or more college.

Table 4

Preconception Health Behaviors

See your doctor to discuss your pregnancy plans and specific ways to improve your health.
Take a multivitamin with folic acid.
Don't use illegal drugs.
With your doctor, develop a plan to manage any chronic health problems you have.
Don't drink alcohol.
Ask your doctor about a healthy weight for you.
Get a flu shot every year.
Exercise 30 minutes on most days of the week.
Eat a healthy diet that includes fruits and vegetables every day.
Make sure you are up to date with your rubella (German measles) vaccines.
Get screened and treated for sexually transmitted diseases.
Don't smoke or quit smoking.
Make sure you are up to date with your hepatitis B vaccines.
Get screened and treated for HIV*/AIDS.
Review with your doctor all medicines you are taking to see if they are safe to take if you are trying to become pregnant.

*HIV indicates human immunodeficiency virus.

Table 5

Demographic Characteristics of Participants (n = 65)

Characteristic	% of Participants
Age	
18–24	20
25–34	35
35–44	45
Race	
Caucasian/white	51
African-American/black	42
Other race	7
Insurance coverage	
Private/employer-based insurance	78
Medicaid/other public program	9
TRICARE	1
Uninsured	12
Had given birth in the past 12 months	
Yes	21
No	79
Annual income	
$30,000 or less	43
$30,001–$75,000	57

Table 6

Summary of Findings by Planning Status and 4 Ps*

	Cross-Segment Findings	Planners	Nonplanners	Interconception
Product	Some participants who reported having chronic health conditions had an increased awareness of PCH behaviors, because they understood the importance of managing their health concerns prior to pregnancy. Participants generally disliked the use of the word "preconception" to describe PCH behaviors. They commented that the term was too clinical and thus off-putting for many women.	Planners were most aware of the recommendations to take prenatal vitamins, abstain from alcohol, and quit smoking, and they were least aware of the rubella vaccine recommendation.	Some nonplanners were skeptical of the PCH lifestyle behaviors (abstaining from alcohol). Nonplanners and women in the interconception groups felt that women not planning to have a baby would be turned off by terms such as preconception and prepregnancy health.	The greatest awareness of these behaviors tended to be in the interconception groups. In particular, nonplanners and women in the interconception groups felt that women not planning to have a baby would be turned off by terms such as preconception and prepregnancy health.
Price	Having a supportive husband or support system would make it easier to follow the recommended behaviors. Addiction to tobacco, alcohol, and illicit drugs; perceived lack of control over birth outcomes; and lack of adequate finances were barriers.	Planners cited the health of both the mother and child as primary perceived benefits.	Nonplanners found little reason to follow PCH behaviors.	Interconception participants cited the health of both the mother and child as primary perceived benefits.
Promotion	Keep the message clear, unambiguous, and positive.	Planners felt that the message should focus on how these behaviors can help lead to a healthy baby.	The message would need to focus on overall health behaviors of the woman and a healthy lifestyle. The emphasis should be on knowing one's health history, how to take care of one's own health, and what to do to have a healthy lifestyle.	
Place	Hear PCH messages from a health care provider; however, not all women visit a doctor regularly. Place PCH messages where women would normally find negative influences.	Planners could hear messages from ob/gyns.	Nonplanners might not have these types of discussions with their health care provider.	

* PCH indicates preconception health.