

Research findings on the development of a preconception health brochure

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Introduction and Overview

Preconception health is defined by the Centers for Disease Control and Prevention (CDC) as interventions that aim to identify and modify biomedical, behavioral, and social risks to a woman's health or pregnancy outcome through prevention and management. It emphasizes those factors that must be acted on before conception to have the greatest impact. Similarly, the March of Dimes North Carolina Preconception Health Campaign works to address the health behaviors that a woman should act upon in order to improve her health and the health of her future baby.

Traditional messages about preconception health behaviors are aimed at women who are planning a pregnancy or who are in-between pregnancies. Other public health materials may address just one or two of the key behaviors, but the effectiveness of bundling several different preconception health messages together remains relatively unexplored.

The goals of this project were: 1) to determine which preconception health messages appeal to non-pregnant, non-parenting women ages 18 to 34 and how women want to receive those preconception health messages, and 2) to create materials appropriate for these women.

A literature review and key informant interviews were conducted to determine potential messages appropriate for bundling. This research revealed that the CDC National Center on Birth Defects and Disabilities was conducting research on the same topic. The CDC was developing materials with pregnancy contemplators and pregnancy non-contemplators ages 18 to 34 and they had developed preliminary ad concepts featuring key preconception health behaviors for each audience. Because the Campaign felt that there are adequate preconception health materials for women who are planning a pregnancy or who are in-between pregnancies, we narrowed the target audience to North Carolina women ages 18 to 34 who were not pregnant, not planning a pregnancy and not currently a parent.

The health behaviors that the CDC included on their ad concepts for non-planners/non-contemplators were:

- Choose behaviors like eating a healthy diet, being physically active and taking folic acid every day.
- Stop smoking, using street drugs and drinking excessive amounts of alcohol.
- Get screened and tested for possible medical problems like infections or diabetes. Talk with your doctor about how to best manage your medical conditions.

- Make sure your vaccinations are up-to-date.
- Get mentally healthy.
- Get regular check-ups at least once a year.
- Use effective birth control to prevent pregnancy.

Using these health behaviors as a starting point for the brochure concepts, we sought to test them with the identified target audience to come up with appropriate preconception health messages for the new brochure.

The Campaign was contracted to create this piece by the Women's Health Branch, Women and Children's Section, North Carolina Division of Public Health.

Methodology

Recruiting

As focus groups allow for only small numbers of participants, the thoughtful selection of sites was essential for providing results that could be generalized across the state. Campaign staff members reached out to their existing networks to recruit eligible women. In some cases recruiting was done using online classified ads, social networking sites like Facebook, and printed flyers that were displayed prominently in the focus group target areas. We worked to ensure that the participants were prescreened to guarantee eligibility, but this was not always possible. Ineligible participants were excluded from the focus groups. Eligible participants were required to be between the ages of 18 and 34, have had no children, not currently pregnant and not planning a pregnancy.

Prior to the sessions, participants were only informed of the general nature of the subject matter (women's health) and that they would be paid for their attendance. As incentives, participants were provided with a meal, a reusable grocery bag stocked with Campaign materials and a \$25 Walmart gift card. Each focus group was about 90 minutes long.

While not statistically projectable, the make-up of the groups was considered to be fairly representative of the target audience for the Campaign in North Carolina. Their responses provided valid direction for moving forward and were suggestive of general reactions to the brochure.

Preliminary testing

The first step of the brochure testing was to develop three brochure concepts to assess the audience's preferences. Using the CDC's concepts for the 18 to 34 year old non-planning audience, the communications coordinator drafted three concepts and modified the health behaviors to be more consistent with existing campaign materials.

The health behaviors in the first set of brochure concepts were:

1. Take a multivitamin with 400 mcg of folic acid every day.
2. Eat healthy foods and get to or maintain a healthy weight.
3. Do something active every day.
4. Stop smoking, using street drugs and drinking excessive amounts of alcohol.

5. Get screened and tested for possible medical problems like infections or diabetes.
6. Reduce stress in your life and get mentally healthy.
7. Get regular check-ups at least once a year and talk with your health care provider about how to best manage your medical conditions.
8. Make a plan for when you want to have children and use effective birth control to prevent pregnancy until you are ready.

Each of the three concepts had the same health behaviors included (in the same order), but the titles, taglines, photos, themes, sizes and descriptive text were all different. Please refer to Appendix 1 for samples of these brochure drafts.

The three concepts were:

1. ***Endless Possibilities***: This brochure focused on the hopes and dreams of women.
2. ***Show Your Love***: This brochure focused on empowerment and showed a woman hugging herself on the cover.
3. ***Take Steps***: This brochure focused on small steps you can take to be at your best.

The communications coordinator then created the focus group guide with a series of questions designed to uncover women's attitudes about their health, how they felt about the above materials, and what types of things they would like to see in a preconception health brochure.

Three focus groups were scheduled to test these concepts. One focus group had to be canceled because of a lack of participants. The remaining two focus groups were conducted and moderated by the Eastern regional coordinator in Goldsboro, NC and the Cape Fear regional coordinator in Rockingham, NC. Both are relatively rural locations. The communications coordinator observed each group, took notes and ran the audio equipment.

Secondary testing

After the results of the first focus groups were compiled, the communications coordinator developed one brochure based on the results. A second focus group guide was created to ask specific questions about the brochure. This brochure was called, *Show Your Love*. It contained the same steps from the first testing, slightly reworded and reordered, as well as a small list under each step that contained an example or two to explain more about the step. Please refer to Appendix 2 for a sample of this brochure draft.

The brochure was then tested in two new focus groups. Each group was given about 15 minutes to read the brochure and record their thoughts.

The focus groups were conducted and moderated by the Cape Fear regional coordinator in Pembroke, NC and the Western regional coordinator in Asheville, NC. Pembroke is a rural area and Asheville is an urban area. The communications coordinator observed each group, took notes and ran the audio equipment.

Final testing

After the results of the secondary focus groups were compiled, the communications coordinator developed another version of the brochure based on the results. A final focus group guide was

created to ask specific questions about the brochure. This brochure was called, *Love Yourself*. It contained the same steps from the second testing, slightly reworded and reordered, as well as additional clarification, rewriting or rewording of some of the tips/examples. Please refer to Appendix 3 for a sample of this brochure draft.

The brochure was then tested in one new focus group. The group was given about 15 minutes to read the brochure and record their thoughts.

The focus group was conducted and moderated by the Latino Campaign coordinator in Raleigh, NC. Raleigh is an urban area and some participants came from other cities within the DMA. The communications coordinator observed the group, took notes and ran the audio equipment.

Focus group demographics

Preliminary focus groups

- Total number of participants: 24
- Average age: 24.04
- 96% African-American, 4% White
- Rural
- 35% had some college, 26% had a Bachelor's degree, 22% had a high school diploma or GED
- 25% make less than \$5,000 a year, 20% make \$30,000-39,999 a year
- About half have health insurance
- 87% plan on having children someday; 62% want to have children two or more years from now
- 88% consider their health to be very important

Secondary focus groups

- Total number of participants: 19
- Average age: 22.53
- 53% White, 21% Native American, 16% Hispanic, 5% African-American, 5% multiracial
- Half rural, half urban
- 63% had some college, 11% had a Bachelor's degree, 11% had a high school diploma or GED, 11% had a graduate degree or higher
- 31% make \$5,000-9,999 a year, 21% make less than \$5,000, and 16% make \$10,000-14,999
- 86% have health insurance
- 63% plan on having children someday; 87% want to have children two or more years from now
- 79% consider their health to be very important

Final focus group

- Total number of participants: 9
- Average age: 26.22
- 44% White, 44% African-American, 11% Hispanic
- Urban

- 33% had a Bachelor’s degree, 22% had a high some college or GED, 22% had a graduate degree or higher
- 50% make \$40,000-49,999 a year and 25% make less than \$5,000
- 56% have health insurance
- 44% are not sure if they want to have children someday, 33% plan on having children someday; 22% do not want children
- 83% want to have children two or more years from now
- 79% consider their health to be very important

All groups

- Total number of participants: 52
- Average age: 22.7
- 53% African-American, 30% White, 16% Other
- 64% rural, 36% urban
- 44% had some college
- 25% make less than \$5,000 a year
- 66% had health insurance
- 62% plan on having children someday; 60% want to have children two or more years from now
- 85% consider their health to be very important

Results from the Preliminary Testing

Key Findings

These women addressed the challenges they face when it comes to their health. They mentioned that their busy lives make eating healthfully challenging.

- My thing is like going through the convenience of a drive through or something. – age 23, Goldsboro
- Yeah, we don’t have time to cook. In order to cook healthy, you got to have time. – unknown, Rockingham
- I’m going on availability. Like if you work all day, when do you have time? – age 24, Rockingham

Other challenges mentioned were:

- The cost of healthy foods (especially fast-food salads) or gym memberships
- Not knowing how to cook
- Getting enough rest/sleep
- Eating too much sugar
- Getting enough physical activity/“being active”
- Stress
- Drugs and alcohol

However, these women did identify good health behaviors that they engage in to stay healthy, or at least health behaviors to which they aspired. Those behaviors were taking vitamins, taking

medication for chronic conditions, drinking water, eating healthy foods and being active or going to the gym. It is important to note that engaging in some of these health behaviors is also seen as a barrier to health by these women. In other words, women knew that they needed to engage in these behaviors to be healthy, but the difficulty in carrying out or engaging in the behavior was a barrier.

- And I think most of the time that goes back into the willpower, because you might be on track one day, down pat one week, the next week you fall back off and I think it goes to your willpower, too. – age 24, Rockingham
- Last week I was dieting. I was doing good; had lost weight. But this week, it's over, I'm back to being a big girl. – age 25, Rockingham

Following this discussion, the women were given the three preconception health brochure options. They received a questionnaire to record their feedback on; each item was then discussed out loud using a round-robin format.

Selected comments from *Endless Possibilities*:

- I like the heading for this brochure. It makes me wonder about different things that can be done. The pictures however do not go along with the message. The first picture has the lady looking like she is just relaxing and the picture on the inside has the lady like she is alone just looking out a window. – age 31, Goldsboro
- I like the fact that the brochure talks about the future and how one's health can also affect one's goals the list of ways/steps to be the best "you" was very forward and understandable. Also, providing a website was very beneficial. – age 23, Goldsboro
- Bullets are nice, but a bit wordy depending on who the brochure is designed to target. It may be beneficial to use graphics instead. I like the pictures! – age 31, Goldsboro
- Looks stress free, sky is calming; [the] lady looks like she is in peace. Seems as though the things listed on the brochure are easy to accomplish—easy to be healthy. – age 26, Rockingham
- Pictures aren't personal enough. Not really relative. Points are listed but not exactly backed up. Makes everything seem easy. – age 24, Rockingham
- In my opinion this would be a wonderful guide and or reminder to setting goals you would like to meet short term and long term. Also it makes you think about getting healthy and staying healthy. Many people don't take these things serious when they should especially African-American adults because diabetes and many other infections run in their blood. – age 21, Rockingham
- So what I didn't like was *Endless Possibilities* because it looks like she's uncomfortable sitting on this rock. You know it just looks like she's really uncomfortable and it might be like a feminine product paper or something. But I do like the inside where it says at the bottom, "Your window, your health, your future," because at the end of the day it's all about you and you against the world. So I like it, but I don't like it because of the picture on the front. – age 25, Rockingham

Selected comments from *Show Your Love*:

- The title makes the brochure seem more personal. It's like the person is taking time out for herself. The image makes you think about what you can do to set yourself headed on a

healthy track. I like it because it's to the point and there is nothing to take away from what is being said in the brochure. – age 31, Goldsboro

- I like how it highlights the importance of focusing on your mind, body and spirit. This is my favorite of the three because it is about loving yourself. I feel like this is the beginning of it all. If you don't even love yourself, why would you want to live a healthy lifestyle or take care of yourself? – age 23, Goldsboro
- I like the brochure and its simplicity! Because the graphic is that of a young black girl, then I think mostly young African-American women would be drawn to this brochure. – age 31, Goldsboro
- Easy to read and happy looking girl on the front. Lacks contrasting colors. I like how the model is not stick thin, but still considered healthy. – age 27, Rockingham
- I didn't like this one, the *Show Your Love*. It's ok, I mean she looks happy, you gotta be happy, but it's just kind of boring, you know. – age 26, Rockingham
- I love the catch phrase and how it shows a female who shows herself love by taking care of herself. I just wish it had more. – age 26, Rockingham
- I think that this brochure isn't appealing as the other ones. The steps [don't] just jump out at you. – age 21, Rockingham

Selected comments from *Take Steps*:

- I like how the steps are numbered with pictures beside each step. Very colorful! Stands out more than the other brochures. Grabs my attention. Pictures with different races are a plus, too. – age 30, Goldsboro
- This brochure was OK. It basically just gave you the steps you can take to get and stay healthy. I thought the design was a little too much. – age 31, Goldsboro
- I think showing more of the shoe on “the step” could help in determining what the brochure is saying. I had to really focus in at first. The colors and symbols are creative it helps to make the reading more fun. It covered a lot of information without being overwhelming. Again, the social media icons are a plus. It may provoke more of an urge to search out information through everyday means. – age 27, Goldsboro
- Good brochure for teenagers and it outlines the viewpoints that are helping you to progress to be at your best. Don't like the front cover. Should have showed the whole person. – age 24, Rockingham
- I like the *Take Steps* better because to me, it's different women from different walks of life who are doing things to actively get healthy. So I think it's more relatable to different groups. I also like the catch phrase. – age 26, Rockingham
- I don't really like this because it's too much. For me, you know I'm a get to the point. This I gotta go through all of this, read, too many colors and stuff going on. I like the drawings kind of stuff, but I don't want to read it. That just didn't interest me. – age 24, Rockingham
- And *Take Steps* was my favorite because just like when I go to a restaurant, I like to see pictures, so you got to put it on the menu for me. I don't like to read. I'd rather look at pictures than read. – age 22, Rockingham
- I like the *Take Steps* because it grabs young girls'—my age—attention and it has varied information. So that would be the best out of the three for me. – age 18, Rockingham

It is clear from these selected comments and others that *Show Your Love* and *Take Steps* were almost equally favored, and *Endless Possibilities* was the least favorite brochure.

After the groups reviewed each individual brochure and selected their most and least favorites, the moderators asked them questions about content, pictures and steps. There was a great deal of consensus among the group. One of the most contentious areas, however, was the amount of information to include. Some thought there was too much, that the brochure was too wordy, while others thought it was just right.

When asked about what to include on the brochure the most common answers were: a website link, examples of people modeling the corresponding steps, and tips on how to achieve the steps. Additional suggestions included adding more specific information about folic acid and what it does; adding information about condoms and STI prevention; including coupons; and designing the brochure with a break-away card that would serve as a reminder.

Things that were unclear to the participants were: 1) What does Step 5 (“Get screened and tested for possible medical problems like infections or diabetes”) mean?; 2) Is the brochure for pregnant women or non-pregnant women?; 3) What age group is the brochure for?; and 4) How does planning a pregnancy relate to health?

One of the more noteworthy findings was that the women attempted to group and “rebundle” the main messages in the brochure. While the messages were already bundled into like groups, the focus group participants had some ideas of how to rearrange the steps. They also thought that the steps should be ordered appropriately and suggested that steps 2 and 3 should be first (“Eat healthy foods and get to or maintain a healthy weight” and “Do something active every day”). Additionally, the participants thought the brochure should only have 7 or 8 steps total and did not want to see additional steps added.

Some of their bundling suggestions were:

1. Combine steps 1 and 2 (“Take a multivitamin with 400 mcg of folic acid every day” and “Eat healthy foods and get to or maintain a healthy weight.”)
2. Combine steps 2 and 3 (“Eat healthy foods and get to or maintain a healthy weight” and “Do something active every day.”)
3. Combine or reword steps 5 and 7 (“Get screened and tested for possible medical problems like infections or diabetes” and “Get regular check-ups at least once a year and talk with your health care provider about how to best manage your medical conditions.”)
4. Combine steps 7 and 8 (“Get regular check-ups at least once a year and talk with your health care provider about how to best manage your medical conditions” and “Make a plan for when you want to have children and use effective birth control to prevent pregnancy until you are ready.”)
5. Combine step 6 with either step 2 or 3 (“Reduce stress in your life and get mentally healthy,” “Eat healthy foods and get to or maintain a healthy weight,” and “Do something active every day.”)

As far as the presentation of the brochure, many participants expressed a desire to see different body types and races represented. Showing women having fun and enjoying themselves was also

a desire. The participants thought that it was important to have the pictures relate to the steps and to avoid using drawings or cartoons. Many participants expressed their distaste with the squiggles, designs and notebook paper-look of *Take Steps*.

Most participants agreed that the brochure size should remain small, although there were some differences as to whether it should remain as a rack card or a tri-fold. There was also consensus that lots of color, specifically pink, green, blue and purple should be used, although a couple of the participants expressed a desire to see more white space.

And finally, the moderator ended the focus groups by asking the women what piece of information was the most important to include in a brochure. Their top three responses were: 1) Eating healthy foods and getting to or maintaining a health weight, 2) Being active every day, and 3) Reducing stress and getting mentally healthy.

Brochure revision

Based on the results from the primary testing, a new brochure for testing was developed. This concept merged *Show Your Love* with *Take Steps*, and it did not take any elements from *Endless Possibilities*. The size chosen was a 4" x 6" tri-fold brochure, just like *Take Steps*. The brochure was titled, *Show Your Love*.

Unfortunately, a potential problem with the Campaign's funder required us to replace all of the pictures included in the first set of brochures. Because of this issue, there may be some problems comparing the picture choices of the two groups. As a general observation, participants from the preliminary focus groups much preferred the pictures they were shown compared to the participants from the secondary testing.

Additionally, tips and examples were added to correspond with each step in order to provide the information that the participants requested in the preliminary focus groups. The brochure was also reworded and a few of the steps were reorganized as suggested by the preliminary testing groups. Please refer to Appendix 2 for a mock-up of this brochure draft.

Results from the Secondary Testing

Key Findings

Much like the first set of focus groups, the women addressed challenges they face when it comes to their health. They mentioned that their busy lives make eating healthfully a challenge. However, overall this round included women with higher levels of education and who are more likely to engage in healthy behaviors.

- I do some sort of physical activity every day. – age 20, Pembroke
- I try not to stress out that much; I try to take a second and breathe. – age 22, Pembroke
- Eat a lot of healthier foods. Like fruit. – age 18, Pembroke
- I try to do something active everyday and I try to shop around the exterior of the grocery stores, and eat stuff that's not as processed. – age 28, Asheville

- I recently started Zumba, which is really fun. It's really fast and it gets you moving. It's kinda like dancing but you're exercising. – age 21, Asheville
- I try to drink more water and take vitamins right now. But I plan to do some type of Weight Watchers. I am in school, so I am really busy. – age 31, Asheville

When asked what challenges they faced, the women responded with:

- Quitting smoking. – age 22, Pembroke
- Actually doing exercise and making the time to do it. – age 22, Pembroke
- Sometimes we don't see the results we want right away so we give up. – age 21, Pembroke
- Right now it's just my schedule, like I know straight after class I have to work, and after class I am just like exhausted mentally and physically. – age 31, Asheville
- I think my challenge for my health is sleep. I know that sounds silly, but I feel like if you don't let your body recuperate and reenergize, then you just get worn down and that affects your health. – age 21, Asheville

Following this discussion, the women were given the revised version of the preconception health brochure, *Show Your Love*. They were given a blank sheet of paper on which to record their feedback, and then the brochure was discussed out loud using a round-robin format.

The results from this brochure were more varied than the preliminary focus groups. The most common feedback was that the participants didn't feel that the title *Show Your Love* matched the image on the front of the brochure. A few participants even thought the use of "love" was clichéd. Furthermore, they found a disconnect between the cover and the information inside the brochure, meaning that it was not obviously apparent to many participants that the brochure was about their health.

The participants also expressed an interest in seeing a broad range of races represented, although most of the participants did not request to see a variety of body types represented as did the previous groups. They mostly reacted positively to the color scheme of the brochure, although a few participants suggested alternatives. There was less of a consensus on the font styles used.

Since the new version of the brochure contained tips and examples below each step, the Campaign was able to get additional feedback from the participants. They commented positively on the addition of the examples/tips and asked for clarification on portion sizes, how much sleep to get, what kind of check-ups are needed and how to quit smoking. A majority wanted the brochure to include more information in the examples/tips section for step 2 ("Eat healthy foods and get to or maintain a healthy weight" and step 8 ("Take a multivitamin with 400 mcg of folic acid every day").

Their comments on the folic acid piece were particularly interesting, as many of the participants in the Pembroke focus group had never heard of folic acid before and they did not know why they needed it. On the other hand, the Asheville group had a higher level of understanding about folic acid, yet they still expressed an interest in having the brochure explain why it is important for women.

The participants also suggested their own bundling of certain messages. In this case, they wanted steps 4 and 7 combined (“Get regular check-ups at least once a year and talk with your health care provider about how to best manage your medical conditions” and “Get screened and tested for possible medical problems like infections or diabetes.”) Additionally, the groups suggested ways to reorder the steps so that they flow in a more appropriate order.

Selected comments:

- This brochure is very informative on staying healthy and how to take care of yourself. Each step is very clear to the reader, which is a good thing. All of the steps are great ways to maintain a healthy life and to love yourself. I like how each step is explained. – age 20, Pembroke
- I got confused with the title. I thought at first it was “Show Your Self” or like “Show for Your Self;” I got confused. – age 22, Pembroke
- The colors make you want to pick it up; it’s just the title that throws it off. – unknown, Pembroke
- Well, when I read about talking to your health care provider, I know a lot of people don’t even go to the doctor. I don’t want to encourage people not to go to the doctor, but maybe put more because nowadays people can self diagnosis. So maybe someone might be more interested on getting more information on how to be healthy from that phone number. – age 22, Pembroke
- With the check-ups and everything it doesn’t have anything about like STDs and stuff and awareness and stuff they should be checked-up on. – age 22, Pembroke
- I had no idea what folic acid is, and what it could do for me. If I took it what would it do for me? And um, the little generic vitamin thing, I don’t think it went with the actual vitamin thing. It just says generic vitamins are cheaper, and what does that have to do with taking your vitamins? – age 20, Pembroke
- I think it’s good with trying to reach, you know, the target age. Because this is kind of what I like, starting and knowing the decisions we make now can affect us for the rest of our life. I like how it says, it gets us thinking well, and maybe this is true. What I do today can affect me ten years from now. So I think that’s good, because even though there’s a bunch of demands, you still should do certain things, these eight steps. – age 22, Pembroke
- I like the title, *Show Your Love*, but I don’t think it really tells what the brochure is about. It needs a more descriptive title so I know from the first page what its about. – age 21, Asheville
- I really like how finding the contact information was very easy, many brochures don’t have contact information very visible and that is incredibly frustrating. – age 23, Asheville
- The first thing I noticed is that the person on the front looks like someone you’d actually see on a daily basis. It’s not like someone you’d see on a magazine, or who’s airbrushed. – age 21, Asheville
- I noticed that, for a lack of a better word, that everyone displayed on the brochure are skinny people. I think that can be a form of discrimination because there are plus size people that do healthy things, it could be a medical condition or it could just be a life struggle, but they are taking the necessary steps. – age 31, Asheville

- When you pick these up, you want to get as much information as you can without having to do anything else. You want to keep this maybe with you because you have this information. Like she said, I think I would want more information so that I didn't have to go there. – age 23, Asheville
- I think it's a big difference from coming from twenty year olds and thirty year olds. Like me who's thirty it's kind of I'm thinking more about my future. In your early twenties you're not there yet. And I'm not married. – age 30, Asheville
- So I feel like even though we're getting different opinions, it's going to be more biased than if you got information from a more diverse group, I guess, that's not as educated. Cause I mean a lot of people have said they're in health care or nutrition majors or things like that. So I just kind of feel like coming from an educated group, we all already knew these things. – age 22, Asheville

Overall, the group liked the brochure, but their main concerns had to do with the title and providing more information under some of the steps. As one participant in Asheville put it, "I feel like it's a very strong foundation, and with just a little bit of tweaking it will be really good."

Brochure revision

After the secondary focus testing, a final mock-up of the brochure was designed. This version was renamed *Love Yourself*. Showing a woman hugging herself, the design was a derivative of one of the earliest mock-ups of the brochures, as many of the women in the secondary focus groups did not like the cover of the brochure. Changes to the font and design of the brochure were made, but the size remained a 4" x 6" tri-fold brochure. The Campaign was still unable to use our usual set of photography, so we used mock-up images that may have impacted the participants' feedback.

Results from the final testing

Key findings

While this group echoed previous focus groups concerns about lacking the time and energy it takes it stay healthy, they were the most diverse group in terms of their physical activity choices. Participants engaged in triathlons, Wii Fit, tennis, yoga, Zumba and dog walking. Many of these participants were already engaged in some sort of health behavior to improve their health such as eliminating soda from their diet and taking a multivitamin along with other dietary supplements.

Following this discussion, the women were given the revised version of the preconception health brochure, *Love Yourself*. They were given a blank sheet of paper on which to record their feedback, and then the brochure was discussed out loud using a round-robin format.

Overall this group had mixed feelings about the brochure. They had similar concerns about the cover not clearly reflecting the inside of the brochure, even with the new fonts, photos and title. This group also had a lot of specific concerns about the graphic design elements and pictures used in the brochure. They spent considerable time critiquing the brochure's layout and design.

Additionally, the Campaign observed the same kind of differences in attitudes, behaviors and beliefs among the different ages, races and educational levels of the participants. The older the participant was, the less likely they were to have learned new information from the brochure or consider it relevant to them. The more educated participants said the brochure was too general and it needed more specific information.

One important finding was that the participants thought the brochure should contain information for women at certain ages and suggested ways to separate it out by age group. This is an important consideration to be taken into account when developing new preconception health pieces.

The same lack of knowledge of about folic acid's role in preventing birth defects was also apparent during this round of focus testing. The newest version of the brochure included a bullet point that explained why a woman needs to take folic acid and participants responded positively to it. Some said that they had heard of folic acid, but did not know why they should take it, and others said that the folic acid piece was the only piece of new information they learned while reading the brochure.

Like the previous focus groups, the participants also suggested their own bundling of certain messages and in this case, they wanted steps 4 and 7 combined ("Get regular check-ups at least once a year and talk with your health care provider about how to best manage your medical conditions" and "Get screened and tested for possible medical problems like infections or diabetes"). They also suggested including additional information about things like, blood panels, BMI, condoms, HIV/AIDS, human papillomavirus (HPV), omega 3 fatty acids and Pelvic Inflammatory Disease (PID).

Selected comments:

- I really like the cover and all the different ethnic people in the pictures. It kind of feels like there is too much going on. When you first stare at it its overwhelming. Makes me not want to read it. I really like the pictures and the slogan. – age 20
- I really like the photo on the front as well as the slogan on the bottom of the cover. When I open it, the photos really stand out and I like how colorful everything is. I like the examples under each step to help assist you in taking care of yourself. – age 30
- Info-wise it's very detailed. I think it's too much crammed into a small space, so my eye easily jumps between numbers...I like the main point and then the after-thought bullets after it. I think that's really wonderful. – age 34
- Well, when look at stuff like this, to be honest, I always look and see how many races are represented on the brochure, because I'm like that.... I like the info, but I just think the title should just be really quick, like I should be able to read this whole thing in like 45 seconds. – age 30
- Honestly, I don't know that I would have ever read this. And so I would assume this cover was for a mental health brochure. My thought when I read it was not health at all. It was more about you have some mental health issues you need to realize you are in poor health. So I never would have even sitting with a brochure and I never would have known it was health. – age 30

- Well, I didn't like it at all. It's cheap and it's just boring. I mean there's no creativity. It's just like I could do this in Microsoft Word. Get a few clipart photos and just paste them in there. – age 27
- It is a lot in a small space. It's kind of hard to follow, but it's just, like, okay. It overwhelms it, but there's a lot of information. But it isn't a lot of information that you didn't guess. I mean I know I need to eat right, go to the doctor yearly, exercise. It wasn't a lot of information that we all don't know. – age 26
- I tend not to read a pamphlet unless it directly has to do with me. So if I'm sitting in a doctor's office and I'm about to pick up the heart attack or prostate cancer pamphlet it's because I'm insanely bored. And I wouldn't think this applies to [me]. So there is nothing here that makes me want to say "oh this applies to me let me go look at it". This could apply to the neighbor next door and the 4 year-old that they have. I don't know that. – age 34

Final edits

After the results from all of the focus groups were compiled and analyzed a final version of the brochure was made. Fortunately, the photo use issue was resolved and the Campaign had access to its existing photo library for this brochure. The final version of the brochure includes images that tested well in the preliminary focus groups. Other changes to images and graphic design were made as well, such as replacing the cover image with a woman engaging a health behavior so that it was apparent that the brochure was about health. Pictures and fonts were also changed to reflect the preferences of the focus group participants.

The concept of "show your love" or "love yourself" was removed entirely from the brochure due to the mixed results it received in testing. Instead the brochure was retitled, *Take Care of Yourself*. This, along with the addition of a new picture, should indicate the nature of the brochure immediately.

The steps were also reworded and reordered to reflect the focus groups' preferences. The final steps and tips from the brochure are as follows:

1. Be active for at least 30 minutes every day.
 - Take a walk.
 - Ride your bike.
 - Dance to your favorite music.
 - Choose the stairs instead of the elevator.
 - Park farther away and walk.
 - Vacuum the house.
2. Eat healthy foods and get to or maintain a healthy weight.
 - Control portion sizes.
 - Swap sweetened tea and soda for water.
 - Eat more fruits and veggies
3. Reduce stress in your life and get mentally healthy.
 - Get 7 to 9 hours of sleep every night.
 - Talk to someone you trust if you feel blue.

- Schedule some down time.
4. Get regular checkups as recommended by your healthcare provider.
 - Get tested for possible medical problems like sexually transmitted infections (STIs), diabetes or high blood pressure. Make sure your vaccinations are up to date.
 - Talk with your healthcare provider about:
 - How to best manage any medical conditions.
 - How to get to and maintain a healthy weight.
 - Your family health history.
 5. Stop smoking, using street drugs or misusing prescription drugs. Avoid drinking too much alcohol.
 - Call 1-800-QUIT-NOW to get help quitting smoking.
 - Call the Alcohol and Drug Council of NC at 1-800-688-4232 for help stopping alcohol or drug use.
 - For help, talk to your healthcare provider.
 6. Choose an effective form of birth control and use it regularly until you're ready to start a family. Then make sure you are as healthy as possible before becoming pregnant.
 - Talk to your healthcare provider about the best birth control method for you.
 - Use condoms to prevent STIs.
 - Make a plan for when and how many children you want to have. Tell your provider when you're ready to get pregnant.
 7. Take a multivitamin with 400 mcg of folic acid every day.
 - Folic acid may help prevent certain birth defects of the brain and spine.
 - Take a multivitamin as part of your daily routine.

Refer to Appendix 4 for the final version of this brochure.

Conclusions

Overall, non-pregnant women of childbearing age who are not planning a pregnancy and who are not parents are receptive to preconception health messages bundled together in the form of a women's health brochure. However, the intended target audience for this project may have been too broad to create a preconception health brochure that appeals to all segments of the audience. The resulting brochure is not as specific to any one demographic. Additional brochures might be needed to target age groups and races/ethnicities more effectively.

Furthermore, in spite of general consensus around the messages themselves, there was little consensus about how this content should be presented in a brochure. Participants had strong, yet often opposing, ideas of how the messages should be worded and ordered, as well as the level of detail required. Women with higher income and/or higher education were more likely to have heard of the preconception messages and some thought the brochure did not apply to them. Race/ethnicity also played a role; black and Hispanic women generally felt like the messages were relevant. Photo and title preference also differed by race/ethnicity.

While the women did not always agree on the way the messages should be worded or ordered, there were a few key health behaviors that women felt were the most important to include. Those were getting to or maintaining a healthy weight, doing something active every day, and eating

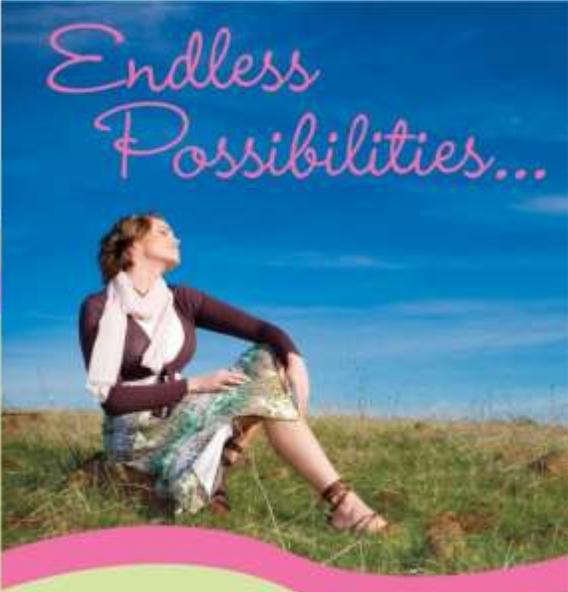
healthy foods. Additionally, two health behaviors were labeled as least important for them: making a plan for when to have children and taking a multivitamin with folic acid everyday. In fact, most women did not know about the importance of folic acid and its role in preventing neural tube birth defects, nor did they associate the importance family planning with their health.

The resulting brochure lists seven preconception health behaviors in order of importance to the women who participated in the five focus groups. Each message contains specific examples of how to achieve that behavior. All of this is designed with colors and pictures that resonate with most of the target audience. However, based on the findings from the focus groups, it appears that the target audience was too large create a specific preconception health brochure.

Race/ethnicity, income levels and education levels should play a bigger role in targeting preconception health brochures for women.

Appendix 1: Preliminary testing

Endless Possibilities:

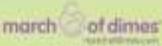


The March of Dimes North Carolina Preconception Health Campaign uses innovative initiatives to educate women about the benefits of folic acid, healthy weight and preconception health.

 EveryWomanNC.com

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With good health, your future is open to endless possibilities.

There's a window in your life when you can see so many possibilities... What you want to be, where you wish to go, and the people you hope will be with you when you get there. Your health is important in achieving the goals and dreams you see for yourself.

What steps can you take to be at your best?

- Take a multivitamin with 400 mcg of folic acid every day.
- Eat healthy foods and get to or maintain a healthy weight.
- Do something active every day.
- Stop smoking, using street drugs, and drinking excessive amounts of alcohol.
- Get screened and tested for possible medical problems like infections or diabetes.
- Reduce stress in your life and get mentally healthy.
- Get regular check-ups at least once a year and talk with your health care provider about how to best manage your medical conditions.
- Make a plan for when you want to have children and use effective birth control to prevent pregnancy until you are ready.

Your health now can affect the woman you become. For more information on how to be your best, talk with your health care provider and visit everywomannc.com.



Your window. Your health. Your future.

Show Your Love:

Show your love.



This is the time in your life when many possibilities lie ahead. And while demands of everyday life may be great, it's important to focus on your mind, body and spirit as well. By loving and nurturing yourself, you'll be ready to take on the world.

What loving steps can you take?

- Take a multivitamin with 400 mcg of folic acid every day.
- Eat healthy foods and get to or maintain a healthy weight.
- Do something active every day.
- Stop smoking, using street drugs, and drinking excessive amounts of alcohol.
- Get screened and tested for possible medical problems like infections or diabetes.
- Reduce stress in your life and get mentally healthy.
- Get regular check-ups at least once a year and talk with your health care provider about how to best manage your medical conditions.
- Make a plan for when you want to have children and use effective birth control to prevent pregnancy until you are ready.

Taking care of yourself now can make all the difference for a full and healthy future. For more information on taking these loving steps, talk with your health care provider and visit everywomannc.com.

Your body will thank you for it.



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Take Steps:

7 Get regular check-ups at least once a year and talk with your health care provider about how to best manage your medical conditions.



8 Make a plan for when you want to have children and use effective birth control to prevent pregnancy until you are ready.



Taking the right steps today lays the path for a healthy future.

EveryWomanNC.com
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 @everywomannc

NORTH CAROLINA PRECONCEPTION HEALTH CAMPAIGN

By taking these healthy steps now, you'll be ready for just about anything. For more information on taking steps to a healthier you, talk with your health care provider and visit everywomannc.com.



Take steps...
to be at your best

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This is the time in your life when many opportunities lie ahead. To take full advantage of these opportunities, there are positive steps that can help you become the best you can be. With attention and care to both the physical and emotional aspects of your health, you'll be better prepared to achieve your goals. There's no better time than now to take steps to a healthy lifestyle.

1 Take a multivitamin with 400 mcg of folic acid every day.



2 Eat healthy foods and get to or maintain a healthy weight.



3 Do something active every day.




4 Stop smoking, using street drugs, and drinking excessive amounts of alcohol.

5 Get screened and tested for possible medical problems like infections or diabetes.



6 Reduce stress in your life and get mentally healthy.




What steps can you take to be at your best?

Appendix 2: Secondary testing

7 Get screened and tested for possible medical problems like infections or diabetes.



- What am I at risk for?
- What's my medical history?

Take a multivitamin with 400 mcg of folic acid every day.

8

- Generic vitamins are cheaper and they work just as well!



Take these loving steps today to lay the foundation for a healthy future.

For more information on taking these loving steps, talk with your health care provider and visit everywomanne.com.



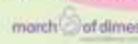
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Show Your Love



Your body will thank you for it.

This is the time in your life when many possibilities lie ahead. And while demands of everyday life may be great, it's important to focus on your mind, body and spirit as well. By loving and nurturing yourself, you'll be ready to take on the world.

What loving steps can you take?

1 Do something active every day.

- Walking
- Biking
- Jogging
- Dancing
- Jump roping!
- Cleaning?



2 Eat healthy foods and get to or maintain a healthy weight.

- Eat more fruits and veggies.
- Right-size my portions.

Reduce stress in your life and get mentally healthy.

- Get plenty of sleep.
- Talk to someone if I am feeling blue.
- Schedule some down time.



4 Get regular check-ups at least once a year and talk with your health care provider about how to best manage your medical conditions.

Choose an effective form of birth control and use it consistently until it's time to start a family. Then make sure you are as healthy as possible before becoming pregnant.

- Talk to my doctor about what the best method is for me.
- Make a plan for when to have how many children I want to have.



6 Stop smoking, using street drugs, and drinking excessive amounts of alcohol.

- Is my drinking getting in the way of my goals?
- Prescription drug abuse is just as harmful as using street drugs.

5

Appendix 3: Final testing

7

Get screened and tested for possible medical problems like infections or diabetes.



- What am I at risk for?
- What's my medical history?

Take a multivitamin with 400 mcg of folic acid every day.

8

- Folic acid may help prevent certain birth defects of the brain and spine.
- Generic vitamins are cheaper and they work just as well!



Take these loving steps today to lay the foundation for a healthy future.

For more information on taking these loving steps, talk with your health care provider and visit everywomannc.com



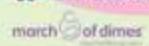
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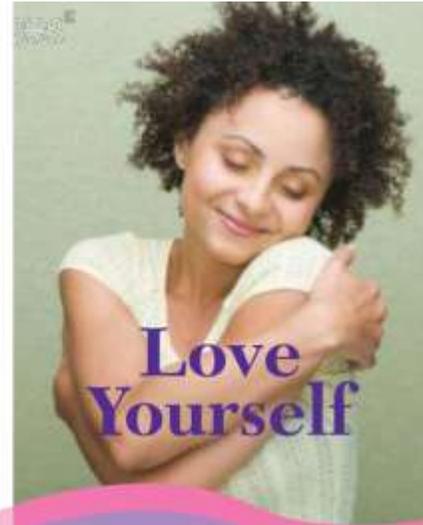
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Your body will thank you for it.

This is the time in your life when many possibilities lie ahead. And while demands of everyday life may be great, it's important to focus on your mind, body and spirit as well. By loving and nurturing yourself, you'll be ready to take on the world.

What loving steps can you take?

1

Do something active every day.

- Walking
- Biking
- Jogging
- Dancing
- Jump roping
- Cleaning



2

Eat healthy foods and get to or maintain a healthy weight.

- Eat more fruits and veggies.
- Control my portion sizes.



3

Reduce stress in your life and get mentally healthy.

- Get plenty of sleep.
- Talk to someone if I am feeling blue.
- Schedule some down time.



4

Get regular check-ups at least once a year and talk with your health care provider about how to best manage your medical conditions.

5

Choose an effective form of birth control and use it consistently until it's time to start a family. Then make sure you are as healthy as possible before becoming pregnant.

- Talk to my doctor about what the best method is for me.
- Make a plan for when & how many children I want to have.



6

Stop smoking, using street drugs, and drinking excessive amounts of alcohol.

- Is my drinking getting in the way of my goals?
- Prescription drug abuse is just as harmful as using street drugs.

Appendix 4: Final brochure

6. Choose an effective form of birth control and use it regularly until you're ready to start a family. Then make sure you are as healthy as possible before becoming pregnant.

- Talk to your healthcare provider about the best birth control method for you.
- Use condoms to prevent STIs.
- Make a plan for when and how many children you want to have. Tell your provider when you're ready to get pregnant.



By taking care of yourself, you'll be ready to take on the world.

For more information on taking these steps, talk with your healthcare provider and visit everywomannc.com.



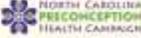
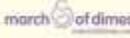


7. Take a multivitamin with 400 mcg of folic acid every day.

- Folic acid may help prevent certain birth defects of the brain and spine.
- Take a multivitamin as part of your daily routine.

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Take Care of Yourself

Your body will thank you for it.

This is the time in your life when many possibilities lie ahead. And while the demands of everyday life may be great, it's important to focus on your mind, body and spirit. There's no better time than now to take steps toward a healthy lifestyle.

What steps can you take?

1. Be active for at least 30 minutes every day.

- Take a walk.
- Ride your bike.
- Dance to your favorite music.
- Choose the stairs instead of the elevator.
- Park farther away and walk.
- Vacuum the house.




2. Eat healthy foods and get to or maintain a healthy weight.

- Control portion sizes.
- Swap sweetened tea and soda for water.
- Eat more fruits and veggies.




4. Get regular checkups as recommended by your healthcare provider.

- Get tested for possible medical problems like sexually transmitted infections (STIs), diabetes or high blood pressure. Make sure your vaccinations are up to date.
- Talk with your healthcare provider about:
 - How to best manage any medical conditions.
 - How to get to and maintain a healthy weight.
 - Your family health history.



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- Get 7 to 9 hours of deep every night.
- Talk to someone you trust if you feel blue.
- Schedule some down time.



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- For help, talk to your healthcare provider.