

INST631 Final Report

Communicate Health

Research, Evaluation, Usability Testing, and
Interface Design for a Mobile Interface for
Low Health Literacy Users

Presented by:

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December 17, 2019

TARGET POPULATION

Recruitment

We had five users participate in our usability test to evaluate our prototype for the healthfinder.gov website. Communicate Health (CH) hired a recruiting agency to find participants that met the target user requirements. The participants were recruited using a screener based on certain proxy measures that CH uses to find participants that match the target population.

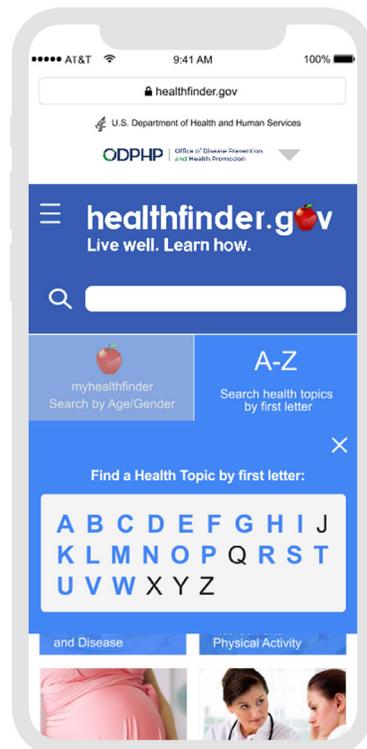
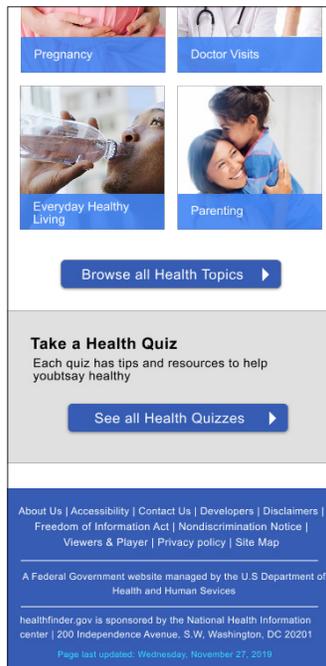
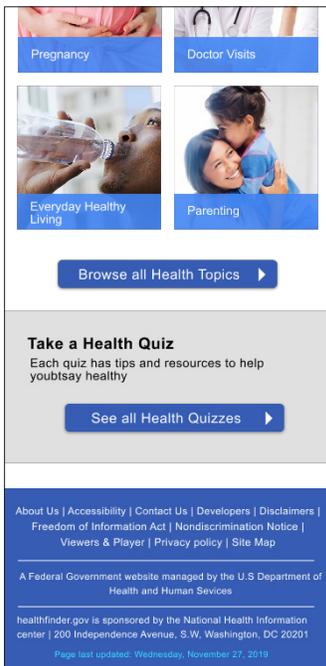
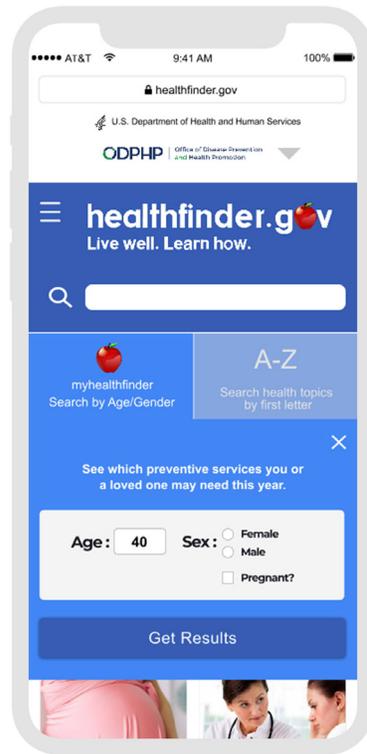
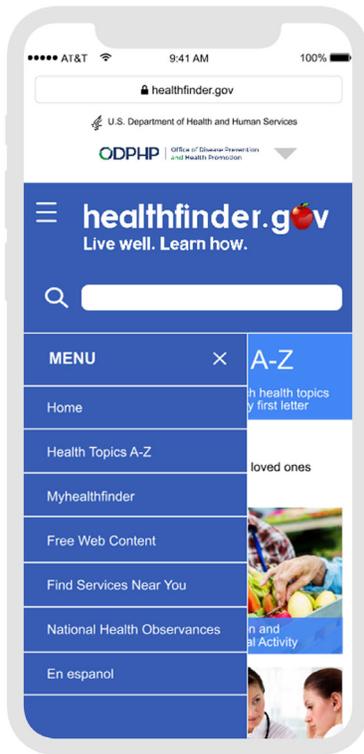
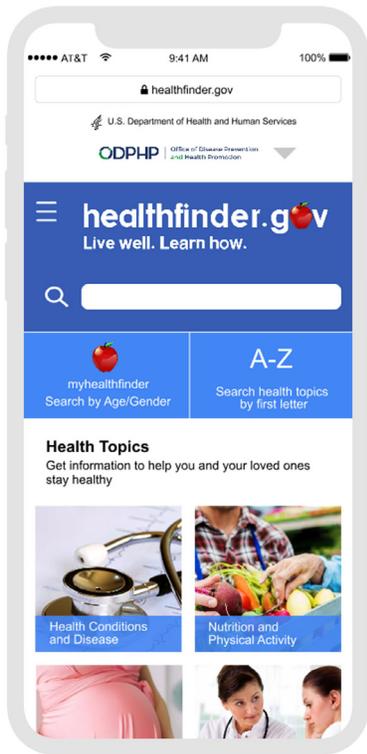
Demographics

The demographic information was taken from the screener. There were a total of five participants in our study, two male and three female. Their age range was 22 to 62 years old. All of the participants were comfortable speaking English. None of the participants worked in market research, none had participation in market research, and none were healthcare experts. Two participants use the Internet weekly and three participants use the Internet daily; two used an iPhone and three used an Android. There were three participants with a high school diploma as their highest education level and two with some college as their highest education level. There were three African American participants and two have not mentioned their race. There were two participants with a household income between 20,000 to 34,000 and one with less than 20,000 and two with a household income between 50,000 to 74,000. There was one participant that seeks health information online weekly, two daily, and two a few times a month.

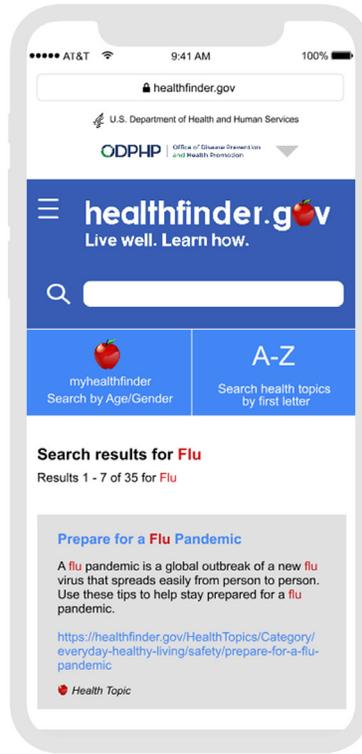
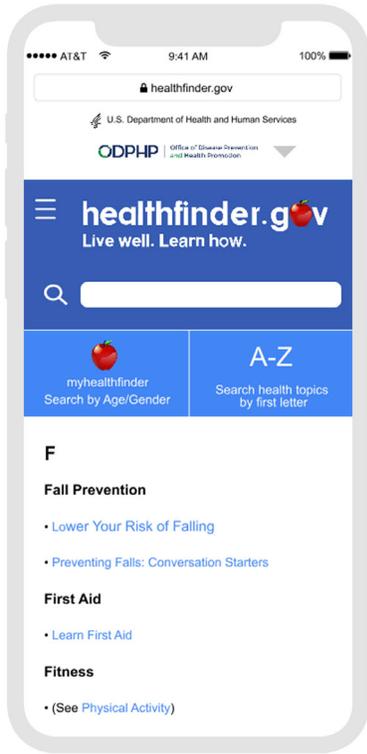
USABILITY TEST INTERFACE

For the second round of usability testing we created our prototype screens and interactions in Invision Studio. We did not have access to the real interface code to make modifications so our prototype and interactions are from our static screens that we created. In order for the participants to complete our formative and summative tasks we created 29 different screens of the website (with limitations on functionality - for example the search bar, the participant cannot type in it. Will be further discussed in the evaluation method section). Below are all of the static screens we used for the testing session. We decided to put the landing page of each screen in a simple iPhone mock-up to show how it would show up on your phone if it was a fully functional website. The following images are what the page would look like if you continued to scroll down.

Homepage Screens



Flu Screens: Search Screens



Flu Search Results Continued

Flu

- Protect Yourself from Seasonal Flu
- Prepare for a Flu Pandemic

Folic Acid

- Get Enough Folic Acid

Food

- (See Nutrition)

Food Safety

- Protect Your Family from Food Poisoning

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Protect Yourself from Seasonal Flu

Everyone age 6 months and older needs to get a flu shot (vaccine) every year. When you get the flu shot, you don't just protect yourself you also protect everyone around you.

<https://healthfinder.gov/healthtopics/category/parenting/doctor-visits/protect-yourself-from-seasonal-flu>

Health Topic

Flu - healthfinder.gov

...Flu Prepare for a Flu Pandemic Prepare yourself and your family for pandemic ...pandemic flu. Review Date: Friday, March 29, 2013 National Health Information Center

<https://healthfinder.gov/findservices/searchcontext.aspx?topic=318>

Get Shots to Protect Your Health (Adults Ages 19 to 49) - healthfinder.gov

...your shots. Get a flu vaccine every year. The seasonal flu vaccine is the best...protect yourself and others from the flu. Get the Tdap shot to protect from tetanus

<https://healthfinder.gov/healthtopics/category/doctor-visits/shotsvaccines/get-important-shots>

Health Topic

Find Services & Information: Find a Facility P - healthfinder.gov

Y P Pancreatic Cancer Pandemic Flu (see Flu) Pap Test (see Cervical Cancer)

<https://healthfinder.gov/findservices/topics.aspx?context=8&keyword=147&letter=p>

Find Services & Information: Find a Facility S - healthfinder.gov

V Y S Screening Tests Seasonal Flu (see Flu)

Find Services & Information: Find a Facility P - healthfinder.gov

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V Y S Screening Tests Seasonal Flu (see Flu) Senior Health (see Older Adult)

<https://healthfinder.gov/findservices/topics.aspx?context=8&keyword=147&letter=s>

Get Your Pre-teen's Shots on Schedule - healthfinder.gov

...about the Tdap shot. Yearly flu shot Getting the flu vaccine every year is the...the best way to protect against the flu. Next section Why Shots Are Important 1

<https://healthfinder.gov/healthtopics/category/parenting/doctor-visits/get-your-pre-teens-shots-on-schedule>

Health Topic

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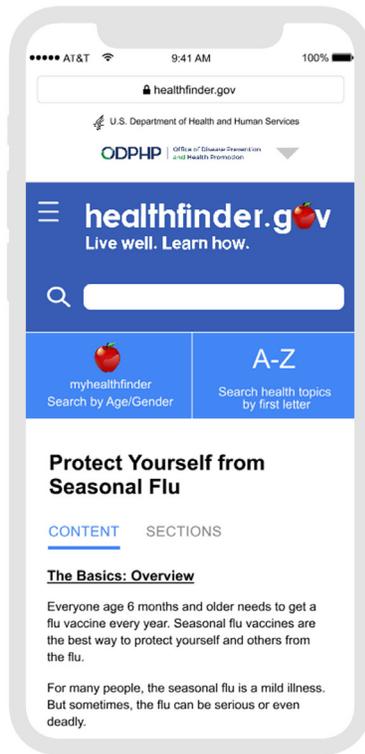
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Flu Screens: Full Article



The flu is linked to serious infections like pneumonia ("noo-MOHN-yah") that can make existing health problems worse (for example, long-term heart or lung disease) and can lead to hospitalization or death.

Flu vaccines can help prevent people from getting sick with the flu – and lower the risk of hospitalization and death caused by the flu.

The flu spreads easily from person to person. When you get a flu vaccine, you don't just protect yourself. You also protect everyone around you.

When do I need to get the seasonal flu vaccine?

Get a flu vaccine by the end of October each year. After you get the vaccine, it takes about 2 weeks for your body to develop protection against the flu. That's why it's a good idea to get the vaccine before the flu starts to spread in your community.

If you don't get the vaccine by the end of October, it's not too late. Getting the vaccine later can still protect you from the flu. Keep in mind that flu season can last as late as May.

The Basics: Flu Symptoms

What is the flu?

The flu is caused by certain viruses that infect your nose, throat, and lungs. It spreads from person to person when someone with the flu coughs, sneezes, or talks. It's also possible to get the flu by touching a surface or object that has flu virus on it and then touching your mouth, nose, or eyes.

Symptoms of the flu may include: Cough, Sore throat, Headache, Feeling tired, Runny or stuffy nose, Muscle or body aches, Fever or feeling feverish, Having chills.

For some people, the flu may also cause vomiting (throwing up) and diarrhea (frequent, watery poop). This is more common in children than adults.

Remember, not everyone with the flu gets a fever.

The Basics: Flu Vaccines

How is the flu vaccine given?

You can get the flu vaccine as a shot or as a nasal

spray.

The best way to protect yourself and others around you is to get a flu vaccine every year.

Are there any side effects from seasonal flu vaccines?

For many people, getting a flu vaccine doesn't cause any side effects. If it does cause side effects, they're usually mild and begin soon after you get the vaccine. Side effects from flu vaccines usually last 1 to 2 days.

Side effects from the flu shot may include: Soreness, redness, or swelling where the shot was given, Low fever, Aches.

Side effects from the nasal spray vaccine may include: Runny nose, Cough, Headache.

These side effects aren't the flu. You can't get the flu from flu vaccines.

The Basics: Am I at Risk?

Am I at high risk for serious complications from the flu?

For some people, the flu is more likely to cause serious illness that can lead to hospitalization or even death.

People at high risk for serious flu complications include: Children under age 5 – and especially children under age 2, Pregnant women and women who have had a baby in the last 2 weeks, Adults age 65 and older, People with some long-term health conditions (like asthma, diabetes, or heart disease), People with a weakened immune system (for example, people with HIV), People who live in long-term care facilities (like nursing homes), American Indians and Alaska Natives, People with extreme obesity.

If you're at high risk for serious flu complications, it's especially important to get the vaccine before the flu starts to spread in your community. And if you care for or spend time with someone at high risk for serious flu complications, the flu vaccine can protect you both.

[Learn more about who's at high risk for flu complications.](#)

The Basics: Flu Medicine

Is there medicine that can treat the flu?

Yes. If you get sick with the flu, your doctor may prescribe medicines called antiviral drugs. Antiviral drugs can help you feel less sick and shorten the time that you're sick. They can also help prevent serious flu complications.

If you're at high risk for serious flu complications and you get flu symptoms, tell your doctor about your symptoms right away.

Antiviral drugs work best if you start taking them in the first 2 days after you get sick. But they may still help if you take them later on, especially if you're very sick.

[Get the facts about antiviral flu medicines.](#)

Take Action: Get a Flu Vaccine

Flu vaccines are offered in many locations. You can get a flu vaccine at a doctor's office, health clinic, pharmacy, or your local health department. Your employer may also offer flu vaccines.

Find out where to get a flu vaccine near you.

[Use this vaccine locator](#) to find out where you can get a flu vaccine near you.

What about cost?

Under the [Affordable Care Act](#), most private insurance plans must cover seasonal flu vaccines. This means you may be able to get a flu vaccine at no cost to you.

Check with your insurance provider to find out what's included in your plan. For information about other services covered by the [Affordable Care Act](#), visit [HealthCare.gov](#).

If you have Medicare Part B, you can get a flu vaccine at no cost to you. [Learn more about](#)

drugs can help you feel less sick and shorten the time that you're sick. They can also help prevent serious flu complications.

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If you don't have insurance, you can still get a flu vaccine.

[Find a free or low-cost vaccination program in your state.](#)

[Find a health center near you](#) and ask about affordable flu vaccines.

Take Action: Protect Yourself

Protect yourself and others from the flu.

Getting a flu vaccine is the first and most important step in protecting yourself from the flu.

Here are some other things you can do to help protect yourself and others from the flu: Stay away from people who are sick with the flu. If you have the flu, stay home for at least 24 hours after your fever is gone. (Your fever should be gone without using a fever-reducing medicine.) Cover your mouth and nose with a tissue when you cough or sneeze – whether or not you have the flu. Throw the tissue in the trash. Wash your hands often with soap and water. If soap and water aren't available, use an alcohol-based hand sanitizer. Try not to touch your nose, mouth, or eyes. This helps keep germs from spreading. Clean surfaces and objects that may have flu germs on them, like doorknobs. Use hot, soapy water or a household cleaner.

Adults with the flu can spread it to others starting the day before they first feel sick – and up to 5 to 7 days after they first feel symptoms. Children may be able to spread the flu for even longer than 7 days.

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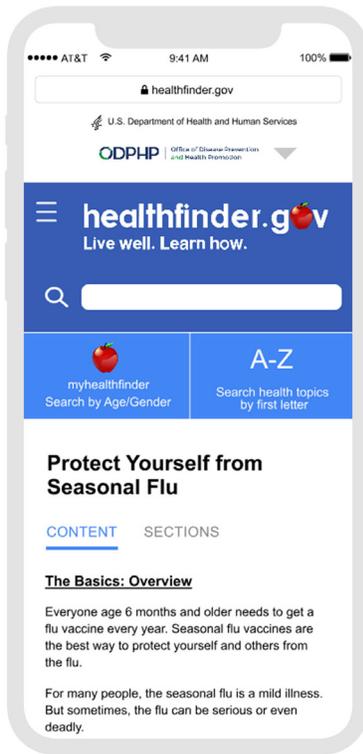
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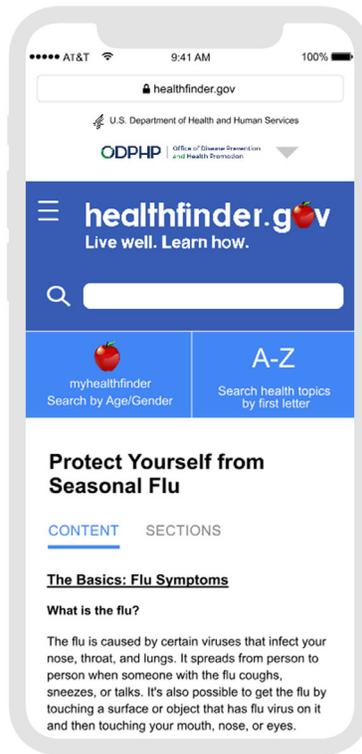
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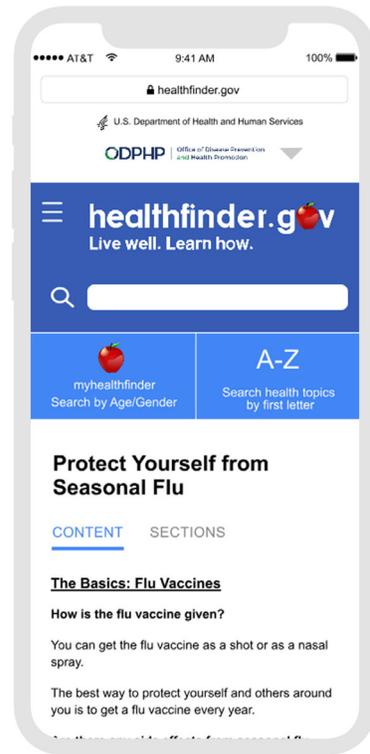
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Section 2



Section 3



The flu: Is linked to serious infections like pneumonia ("noo-MOHN-yah") Can make existing health problems worse (for example, long-term heart or lung disease) Can lead to hospitalization or death

Flu vaccines can help prevent people from getting sick with the flu – and lower the risk of hospitalization and death caused by the flu.

The flu spreads easily from person to person. When you get a flu vaccine, you don't just protect yourself. You also protect everyone around you.

When do I need to get the seasonal flu vaccine?

Get a flu vaccine by the end of October each year. After you get the vaccine, it takes about 2 weeks for your body to develop protection against the flu. That's why it's a good idea to get the vaccine before the flu starts to spread in your community.

If you don't get the vaccine by the end of October, it's not too late. Getting the vaccine later can still protect you from the flu. Keep in mind that flu season can last as late as May.

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Symptoms of the flu may include: Cough Sore throat Headache Feeling tired Runny or stuffy nose Muscle or body aches Fever or feeling feverish Having chills

For some people, the flu may also cause vomiting (throwing up) and diarrhea (frequent, watery poop). This is more common in children than adults.

Remember, not everyone with the flu gets a fever.

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Are there any side effects from seasonal flu vaccines?

For many people, getting a flu vaccine doesn't cause any side effects. If it does cause side effects, they're usually mild and begin soon after you get the vaccine. Side effects from flu vaccines usually last 1 to 2 days.

Side effects from the flu shot may include: Soreness, redness, or swelling where the shot was given Low fever Aches

Side effects from the nasal spray vaccine may include: Runny nose Cough Headache

These side effects aren't the flu. You can't get the flu from flu vaccines.

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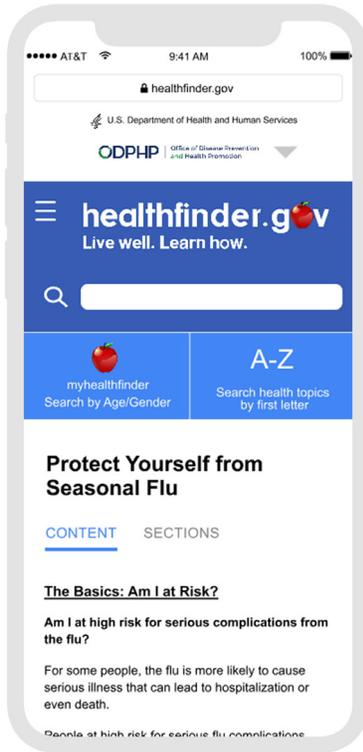
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Flu Screens: Section Wise

Section 4



People at high risk for serious flu complications include: Children under age 5 – and especially children under age 2; Pregnant women and women who have had a baby in the last 2 weeks; Adults age 65 and older; People with some long-term health conditions (like asthma, diabetes, or heart disease); People with a weakened immune system (for example, people with HIV); People who live in long-term care facilities (like nursing homes); American Indians and Alaska Natives; People with extreme obesity.

If you're at high risk for serious flu complications, it's especially important to get the vaccine before the flu starts to spread in your community. And if you care for or spend time with someone at high risk for serious flu complications, the flu vaccine can protect you both.

[Learn more about who's at high risk for flu complications.](#)

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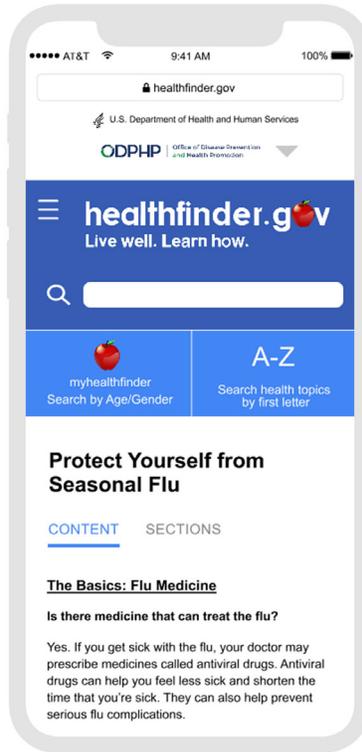
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Section 5



If you're at high risk for serious flu complications and you get flu symptoms, tell your doctor about your symptoms right away.

Antiviral drugs work best if you start taking them in the first 2 days after you get sick. But they may still help if you take them later on, especially if you're very sick.

[Get the facts about antiviral flu medicines.](#)

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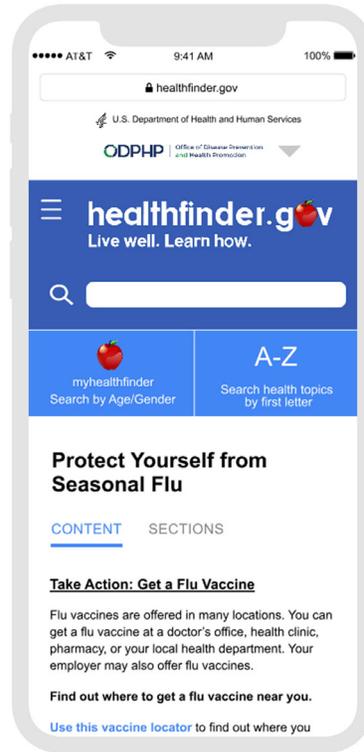
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Section 6



can get a flu vaccine near you.

What about cost?

Under the [Affordable Care Act](#), most private insurance plans must cover seasonal flu vaccines. This means you may be able to get a flu vaccine at no cost to you.

Check with your insurance provider to find out what's included in your plan. For information about other services covered by the Affordable Care Act, [visit HealthCare.gov](#).

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If you don't have insurance, you can still get a flu vaccine.

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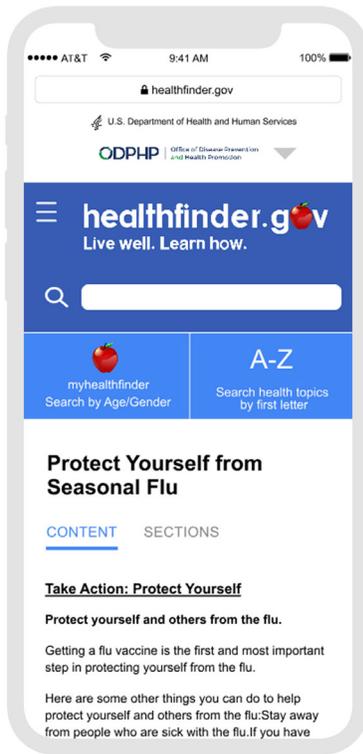
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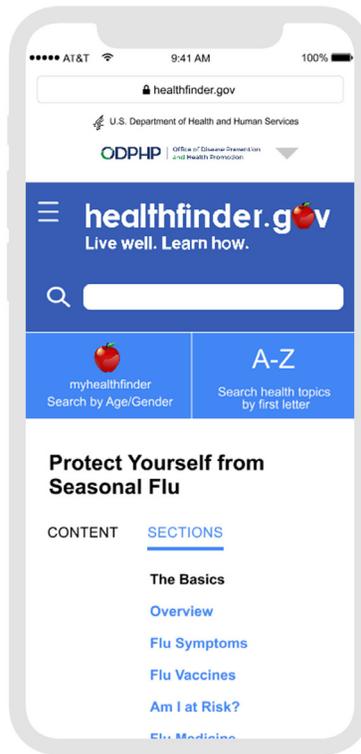
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Adults with the flu can spread it to others starting the day before they first feel sick – and up to 5 to 7 days after they first feel symptoms. Children may be able to spread the flu for even longer than 7 days.

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◀ Get a Flu Vaccine

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[Flu Medicine](#)

Take Action!

[Get a Flu Vaccine](#)

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The Basics: Overview

Everyone age 6 months and older needs to get a flu vaccine every year. Seasonal flu vaccines are the best way to protect yourself and others from the flu.

For many people, the seasonal flu is a mild illness. But sometimes, the flu can be serious or even deadly.

The flu is linked to serious infections like pneumonia (“noo-MOHN-yah”) Can make existing health problems worse (for example, long-term heart or lung disease) Can lead to hospitalization or death

Flu vaccines can help prevent people from getting sick with the flu – and lower the risk of hospitalization and death caused by the flu.

The flu spreads easily from person to person. When you get a flu vaccine, you don't just protect yourself. You also protect everyone around you.

When do I need to get the seasonal flu vaccine?

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If you don't get the vaccine by the end of October, it's not too late. Getting the vaccine later can still protect you from the flu. Keep in mind that flu season can last as late as May.

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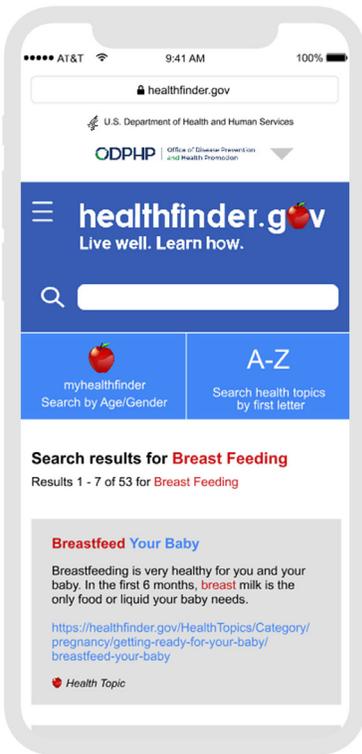
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Breast Feeding Screens

Search Results Page



Eat Healthy While Breastfeeding: Quick Tips

Breastfeeding has many health benefits for moms and babies. By making healthy food choices, you'll help you and your baby get the nutrients you both need.

<https://healthfinder.gov/HealthTopics/Category/parenting/nutrition-and-physical-activity/eat-healthy-while-breastfeeding-quick-tips>

Health Topic

Breast Feeding - healthfinder.gov

...break time for an employee to express breast milk for her nursing child for up to...24, 2011 U.S. Department of Labor Breast Milk: How to Pump and Store It Learning.

<https://healthfinder.gov/findservices/searchcontext.aspx?topic=129>

Baby and Toddler Health - healthfinder.gov

...on the levels of such substances in breast milk and infant blood, and the possible...Healthy Babies Coalition Feeding Your Newborn How you feed your newborn is the first

<https://healthfinder.gov/findservices/searchcontext.aspx?topic=1317>

Hepatitis - healthfinder.gov

...information about tests, vaccinations, breast feeding, labor and delivery guidelines

<https://healthfinder.gov/findservices/searchcontext.aspx?topic=399>

Maternal Nutrition - healthfinder.gov

Department of Agriculture Feeding Your Newborn How you feed your newborn is the first... guidelines for breastfeeding and bottle-feeding so you can make an informed decision.

<https://healthfinder.gov/findservices/>

Results 1 - 7 of 53 for Breast Feeding

Breastfeed Your Baby

Breastfeeding is very healthy for you and your baby. In the first 6 months, breast milk is the only food or liquid your baby needs.

<https://healthfinder.gov/HealthTopics/Category/pregnancy/getting-ready-for-your-baby/breastfeed-your-baby>

Health Topic

Eat Healthy While Breastfeeding: Quick Tips

Breastfeeding has many health benefits for moms and babies. By making healthy food choices, you'll help you and your baby get the nutrients you both need.

<https://healthfinder.gov/HealthTopics/Category/parenting/nutrition-and-physical-activity/eat-healthy-while-breastfeeding-quick-tips>

Health Topic

Breast Feeding - healthfinder.gov

...break time for an employee to express breast milk for her nursing child for up to...24, 2011 U.S. Department of Labor Breast Milk: How to Pump and Store It Learning.

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Maternal Nutrition - healthfinder.gov

Department of Agriculture Feeding Your Newborn How you feed your newborn is the first... guidelines for breastfeeding and bottle-feeding so you can make an informed decision.

<https://healthfinder.gov/findservices/searchcontext.aspx?topic=528>

How to Use - Search API - healthfinder.gov

About the API The healthfinder.gov feed is provided in XML and JSON formats...t=0 The query below returns a JSON feed containing all of the topics and tools

https://healthfinder.gov/freecontent/developer/how_to_use.aspx

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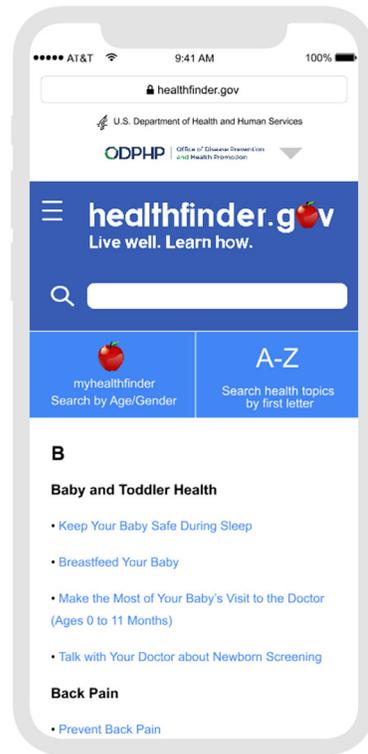
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B Page



B

Baby and Toddler Health

- [Keep Your Baby Safe During Sleep](#)
- [Breastfeed Your Baby](#)
- [Make the Most of Your Baby's Visit to the Doctor \(Ages 0 to 11 Months\)](#)
- [Talk with Your Doctor about Newborn Screening](#)

Back Pain

- [Prevent Back Pain](#)

Bed Bugs

- [Prevent Bed Bugs: Quick tips](#)

Bicycle Safety

- [Ride Your Bike Safely](#)

Birth Control

- [Choose the Right Birth Control](#)

Blindness

- [\(See Eye Health\)](#)

Blood Pressure

- [Get Your Blood Pressure Checked](#)

Bone Health

- [Get a Bone Density Test](#)
- [Get Enough Calcium](#)
- [Preventing Osteoporosis: Questions for the doctor](#)

Breast Cancer

- [Genetic Testing to Learn about Your Risk of Breast and Ovarian Cancer: Questions for the doctor](#)
- [Get Tested for Breast Cancer](#)
- [Mammograms: Questions for the doctor](#)
- [Talk with a Doctor If Breast or Ovarian Cancer Runs in Your Family](#)

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Breast Feeding Screens

B Page

Breastfeeding

- [Breastfeed Your Baby](#)
- [Eat Healthy While Breastfeeding: Quick tips](#)

Bug Bites

- (See [Insect Bites](#))

Bullying

- [Prevent Bullying: Quick tips for parents](#)

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Breast Feeding Article

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Eat Healthy While Breastfeeding: Quick Tips

Breastfeeding has many benefits for moms and babies. For example, breastfeeding can:

- Help protect your baby from infection and illness
- Lower your risk of some diseases like heart disease, type 2 diabetes, ovarian cancer, and breast cancer
- Save your family money

Making healthy food choices while you're breastfeeding will help you and your baby get the nutrients you both need.

breastfeeding will help you and your baby get the nutrients you both need.

Most people can get all the nutrients they need by following a healthy eating pattern. If you are worried about getting enough nutrients while breastfeeding, ask your doctor about taking a multivitamin.

Follow a healthy eating pattern.

To get the nutrients you need while breastfeeding, [follow a healthy eating pattern \[PDF - 505 KB\]](#). For example, include these foods in your diet:

- A variety of vegetables and fruits
- Seafood, lean meats and poultry, eggs, beans, peas, unsalted nuts and seeds, and soy products
- Fat-free or low-fat milk, yogurt, and cheese – or soy milk with added calcium and vitamins A and D
- Whole grains like brown rice and 100% whole-wheat bread
- Fortified cereals (cereals with added iron and folic acid)

Check the Nutrition Facts label and choose foods and drinks with less added sugars, saturated fats, and sodium (salt). [Learn more about eating healthy.](#)

Eat 8 to 12 ounces of seafood each week.

Fish and shellfish have healthy fats that are good for you and your baby. But some fish is high in mercury, a metal that can hurt your baby's development. It's a good idea to eat seafood that is high in healthy fats but lower in mercury.

Best choices

These choices are lower in mercury, so you can eat 8 to 12 ounces a week.

- Canned light tuna
- Catfish
- Cod
- Herring

- Chilean sea bass or striped bass
- Grouper
- Halibut
- Mahi-mahi
- Snapper
- Yellowfin tuna

Fish to avoid

Don't eat bigeye tuna, king mackerel, marlin, orange roughy, shark, swordfish, or tilefish. They are high in mercury.

[Learn more about choosing fish that is healthy and safe to eat \[PDF - 308 KB\]](#).

Drink plenty of fluids.

Your body needs extra fluids when you are breastfeeding to stay hydrated. Try drinking a glass of water every time you breastfeed.

Limit drinks with caffeine and added sugars.

- Talk to your doctor about how much caffeine is safe for you to drink.
- Limit drinks with added sugars like sodas, sports drinks, and energy drinks.

Not drinking alcohol is the safest option for breastfeeding mothers.

If you choose to drink alcohol, follow these safety tips.

- Drink only in moderation – for women, this means no more than 1 drink a day. In general, 1 drink is equal to a bottle of beer, a glass of wine, or a shot of liquor. [Learn more about what counts as a standard drink.](#)
- If you are going to have a drink, do it just after breastfeeding or pumping, not before.
- Wait at least 2 to 3 hours after having a drink to breastfeed or pump. This gives your body time to break down the alcohol so there will be less alcohol in your breast milk.

If you have questions, talk to your doctor.

Content last updated on: February 21, 2019

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For more information on eating healthy while breastfeeding, visit:

<http://www.choosemyplate.gov/moms-pregnancy-breastfeeding>

<https://www.womenshealth.gov/breastfeeding/breastfeeding-home-work-and-public/breastfeeding-and-everyday-life>

You May Also Be Interested In:

-  [Breastfeed Your Baby](#)
-  [Eat Healthy](#)
-  [Make the Most of Your Baby's Visit to the Doctor \(Ages 0 - 11 months\)](#)

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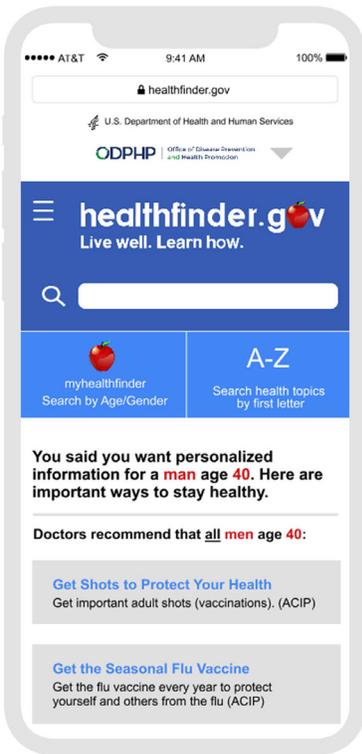
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Blood Pressure Screens

Myhealthfinder search results



Talk to Your Doctor about Taking Medicine to Lower Your Risk of Heart Attack and Stroke
If your doctor says you are at a high risk for heart attack and stroke, ask about taking a medicine called statin to lower your risk (USPSTF)

Talk with a Doctor about Your Alcohol Use
If you are concerned about your drinking, ask your doctor about screening and counseling (USPSTF)

Get Tested for HIV
Get tested for HIV at least once. You may need to get tested more often depending on your risk. (USPSTF)

Get Your Blood Pressure Checked
Get your blood pressure checked once a year (USPSTF)

Get Help to Quit Smoking
If you smoke, ask your doctor about services to help you quit. (USPSTF)

Talk with Your Doctor about Depression
Talk with your doctor about how you are feeling if you have been sad, down, or hopeless. (USPSTF)

Based on family history and other risk factors, doctors recommend that some men age 40:

Get Tested for Type 2 Diabetes
If you are overweight or have other risk factors for type 2 diabetes (like a family history of diabetes), ask your doctor to test you for diabetes. (USPSTF)

Watch Your Weight
If you are obese, ask your doctor about counseling for obesity. (USPSTF)

Get Help with Healthy Eating
If your doctor has told you that you are at risk for heart disease or diabetes, ask about dietary counseling. (USPSTF)

Get Tested for Hepatitis B
If you have risk factors for hepatitis B (like any injection drug use or if you were born in a country where hepatitis B is common), talk to your doctor about getting tested. (USPSTF)

Get Tested for Hepatitis C
If you have risk factors for hepatitis C (like any injection drug use or if you had a blood transfusion before 1992), talk to your doctor about getting tested. (USPSTF)

Get Tested for Syphilis
If you have HIV or another risk factor for syphilis (like having sex with other men), ask your doctor about testing and prevention counseling. (USPSTF)

Ask Your Doctor about Preventing STDs
If you are sexually active, ask your doctor about prevention counseling for sexually transmitted diseases like chlamydia and gonorrhea. (USPSTF)

Get Tested for Latent Tuberculosis Infection (LTBI)
If you are at risk for LTBI – for example, if you have lived in a country where TB is common – ask your doctor about testing. (USPSTF)

Take Action
For Help finding a doctor or other health care provider, [use these resources to find services near you.](#)

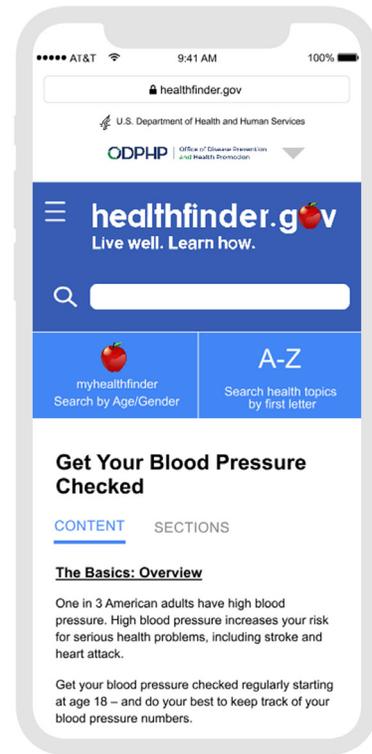
About These Results
The myhealthfinder recommendations come from the U.S. Preventive Services Task Force (USPSTF), the CDC Advisory Committee on Immunization Practices (ACIP), and the Health Resources and Services Administration (HRSA) as advised by organizations including the American Academy of Pediatrics (through the Bright Futures cooperative agreement) and the National Academies of Sciences, Engineering, and Medicine (formerly the Institute of Medicine). The Affordable Care Act requires most insurance plans to cover these preventive services at no cost to you. The myhealthfinder tool is maintained by the Office of Disease Prevention and Health Promotion (ODPHP) in collaboration with the Agency for Healthcare Research and Quality (AHRQ).

You may also be interested in these health topics:

- [Eat Less Sodium: Quick Tips](#)
- [Keep Your Heart Healthy](#)
- [Reduce Your Risk of Stroke](#)

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Blood Pressure Article



How often do I need to get my blood pressure checked?

- If you are age 40 or older, or if you are at higher risk for high blood pressure, get your blood pressure checked once a year.
- If you are age 18 to 40 and you aren't at increased risk for high blood pressure, get your blood pressure checked every 3 to 5 years.

What puts me at higher risk for high blood pressure?

Your risk for high blood pressure goes up as you get older. You are also at increased risk for high blood pressure if you:

- Are African American
- Are overweight or have obesity
- Don't get enough physical activity
- Drink too much alcohol
- Don't eat a healthy diet
- Have kidney failure, diabetes, or some types of heart disease

[Learn more about your risk for high blood pressure.](#)

What is blood pressure?

Blood pressure is how hard your blood pushes against the walls of your arteries when your heart pumps blood. Arteries are the tubes that carry blood away from your heart. Every time your heart beats, it pumps blood through your arteries to the rest of your body.

What is hypertension?

Hypertension is the medical term for high blood pressure. High blood pressure usually has no symptoms, so it's sometimes called a "silent killer." The only way to know if you have high blood pressure is to get tested.

Article continued on the next page

Blood Pressure Screen & Breast Cancer Screens

Blood Pressure Article Con't

Learn more about your risk for high blood pressure.

What is blood pressure?

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What is hypertension?

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Search results for Breast Cancer

Results 1 - 7 of 53 for Breast Cancer

Get Tested for Breast Cancer

Mammograms can help find breast cancer early. You have a better chance of surviving breast cancer if it's found and treated early.

<https://healthfinder.gov/HealthTopics/Category/doctor-visits/screening-tests/get-tested-for-breast-cancer>

Health Topic

Cancer - Health Conditions and Diseases - Health Topics - healthfinder.gov

Health Conditions and Diseases **Cancer** Colorectal **Cancer** Screening: Which test would...colorectal **cancer**. Screening saves lives because it can help catch **cancer** early.

<https://healthfinder.gov/healthtopics/category/health-conditions-and-diseases/cancer/>

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Talk with a Doctor If Breast or Ovarian Cancer Runs in Your Family

Talk with your doctor or nurse if your family has a history of breast or ovarian cancer. You may be at higher risk for developing these types of cancer.

<https://healthfinder.gov/healthtopics/category/parenting/doctor-visits/protect-yourself-from-seasonal-flu>

Health Topic

Breast Cancer - healthfinder.gov

...Breast Cancer Genetic Testing for Breast and Ovarian Cancer: Questions for the...have a family history of breast or ovarian cancer, use this list of questions

<https://healthfinder.gov/findservices/searchcontext.aspx?topic=126>

October is National Breast Cancer Awareness Month - healthfinder.gov

National Breast Cancer Awareness Month Sponsor:
National Breast Cancer Awareness...Awareness Month March - Colorectal Cancer Awareness Month April - Alcohol Awareness

<https://healthfinder.gov/nho/octobertoolkit.aspx>

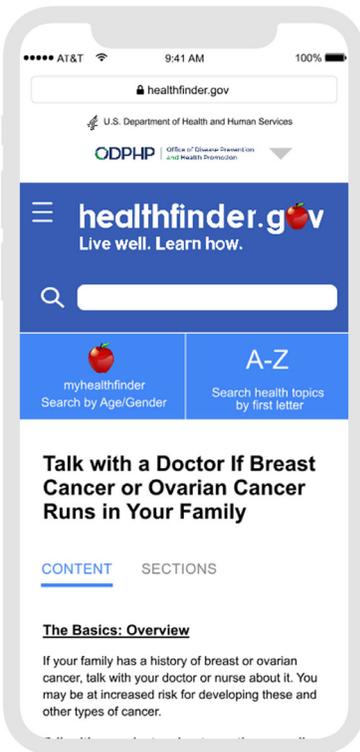
Genetic Testing to Learn about Your Risk for Breast and Ovarian Cancer: Questions for the Doctor - healthfinder.gov

Learn about Your Risk for Breast and Ovarian Cancer: Questions for the doctor...understand your risk for some kinds of cancer. Genetic tests help doctors look for

<https://healthfinder.gov/healthtopics/category/doctor-visits/screening-tests/genetic-testing-for-breast-and-ovarian-cancer-questions-for-the-doctor>

Health Topic

Breast Cancer Screens: Full Article



Talk with your doctor about genetic counseling and genetic testing.

Genetic counseling and genetic testing can help you understand your risk for certain types of cancer that can run in families.

Doctors don't recommend genetic testing for all women. But you may want to talk about testing with your doctor if you have:

- A family member who had breast cancer before age 50
- A family member who had cancer in both breasts
- A family member who had both breast cancer and ovarian cancer
- A male family member who had breast cancer
- 2 or more family members who had breast cancer or ovarian cancer
- Eastern European (Ashkenazi) Jewish heritage

You may also want to ask about genetic testing if you've already had breast or ovarian cancer.

Genetic testing can't tell you whether or not you'll get cancer – or whether you'll get cancer a second time – but it can show if you have a genetic change that increases your risk. If you do, you and your doctor can discuss options for managing your risk.

The Basics: Counseling and Testing

What is genetic counseling?

Genetic counseling is when a trained health professional talks with you about your family health history and helps you decide if genetic testing makes sense for you.

[Find out more about genetic counseling for breast and ovarian cancer.](#)

What is genetic testing?

Genetic tests help doctors look for certain harmful mutations (changes) in genes that get passed down in families.

If you have one of these mutations in certain genes, like BRCA1 or BRCA2, you're more likely to

If you have one of these mutations in certain genes, like BRCA1 or BRCA2, you're more likely to develop breast cancer and ovarian cancer. You're also more likely to develop these cancers at a younger age. And you may also be at increased risk for developing some other kinds of cancer.

To learn more, check out:

- [Frequently Asked Questions about Genetic Testing](#)
- [BRCA Mutations: Cancer Risk and Genetic Testing](#)

The Basics: Managing Risk

Talk with your doctor about early screening for breast cancer.

Some women with an increased risk of breast cancer start getting screened at a younger age – or get screenings more often than women with normal risk. This can help catch breast cancer early, when it's easier to treat. Talk with your doctor about when and how often to get screened.

Ask if medicine or surgery could lower your breast cancer risk.

Scientists are studying certain medicines to find out if they can lower breast cancer risk in women with BRCA1 and BRCA2 mutations. Taking medicines to lower cancer risk is called chemoprevention. [Learn more about medicines that may reduce breast cancer risk.](#)

Some women with an increased risk of breast or ovarian cancer can have surgery to lower their risk. [Learn more about surgery to reduce breast cancer risk.](#)

There are side effects and possible harms from both surgery and chemoprevention, so it's important to talk with your doctor or nurse about your cancer risk and the different options.

Take Action: Talk with Your Doctor

Start by talking with a doctor or nurse about your cancer risk.

Talk with a doctor about your family health history.

[Use this family health history tool](#) to keep track of the diseases that run in your family. Share the information with your doctor or nurse.

[Take this list of questions about genetic testing](#) to your next doctor's appointment.

Ask about ways to lower your risk.

All women can take steps to lower their risk for breast or ovarian cancer. Ask your doctor for advice. You can also learn more by checking out these resources:

- [Breast cancer prevention](#)
- [Ovarian cancer prevention](#)

Take Action: Ask Questions

Make a list of questions for the doctor or genetic counselor.

You may want to ask your doctor or a genetic counselor these questions:

- Based on my health history and my family's health history, do you recommend genetic testing for me?

What are my chances of having a mutated (changed) gene that could increase my risk for cancer?

Besides mutated genes, what else can increase my risk for breast and ovarian cancer?

If I decide not to do genetic testing, what types of cancer screenings are recommended to check for breast and ovarian cancer?

If I get a genetic test, who will be able to see my test results?

Before you get tested, think about how you may feel.

Your doctor or counselor can help you think about what you will learn and how the results will affect you and your family.

Here are some questions to think about:

- Will finding out about a genetic mutation just make me more worried about getting sick? Or will I consider taking action to lower my risk?
- Will I share the test results with my spouse or partner? My children and other relatives? Family and friends?
- What will people say when I tell them about my results?
- Are my children and other relatives (like siblings) ready to learn new information about their risk of getting cancer?

Take Action: Get Regular Checkups

You and your doctor can decide whether genetic counseling and testing makes sense for you. But whatever you decide, remember that all women still need regular cancer screenings and checkups.

Get tested for breast cancer.

If you're age 50 to 74, [get tested for breast cancer](#) every 2 years. If you're age 40 to 49, talk with your doctor about when and how often to get tested.

Get your well-woman visit.

[Get a well-woman visit every year.](#) Use this visit to talk with your doctor or nurse about important screenings and services to help you stay healthy.

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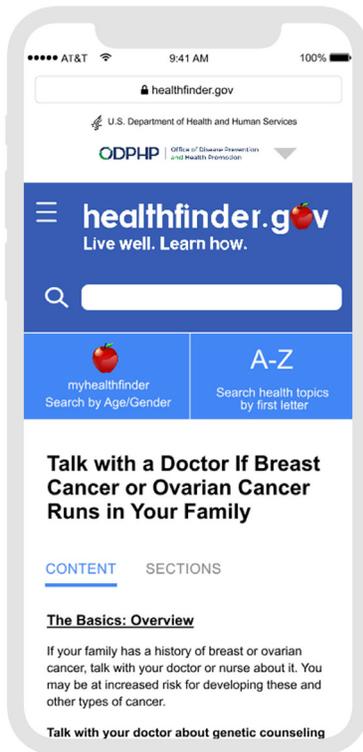
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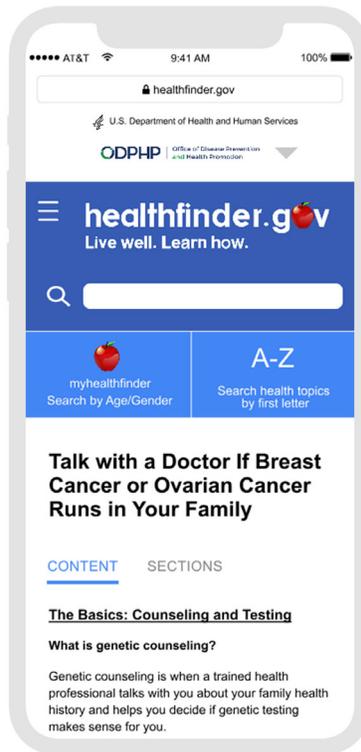
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Breast Cancer Screens: Section Wise

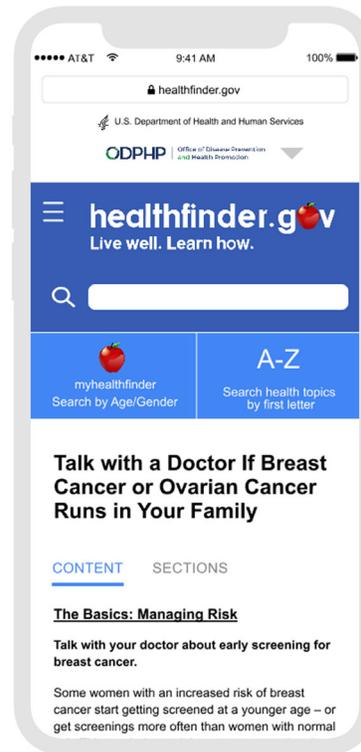
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Section 2



Section 3



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To learn more, check out:

- [Frequently Asked Questions about Genetic Testing](#)
- [BRCA Mutations: Cancer Risk and Genetic Testing](#)

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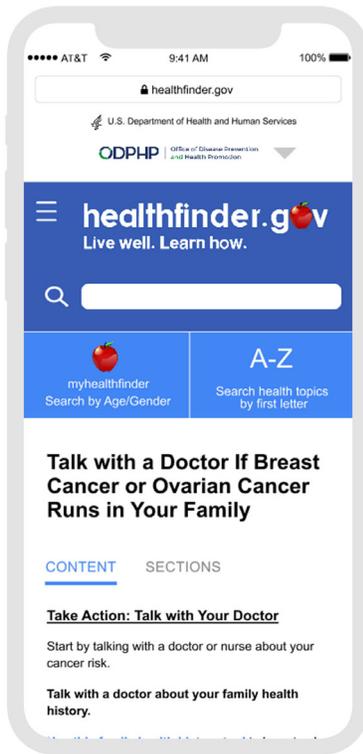
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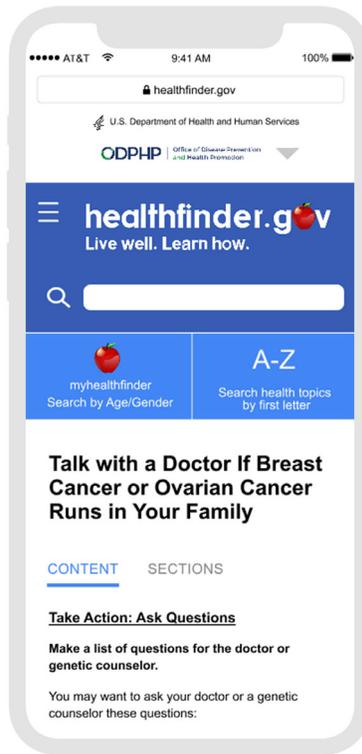
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Breast Cancer Screens: Section Wise

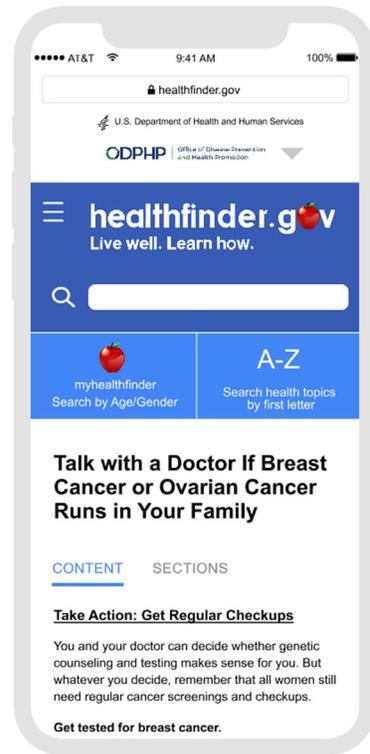
Section 4



Section 5



Section 6



Use this family health history tool to keep track of the diseases that run in your family. Share the information with your doctor or nurse.

[Take this list of questions about genetic testing](#) to your next doctor's appointment.

Ask about ways to lower your risk.

All women can take steps to lower their risk for breast or ovarian cancer. Ask your doctor for advice. You can also learn more by checking out these resources:

- [Breast cancer prevention](#)
- [Ovarian cancer prevention](#)

Continue Reading

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[Ask Questions](#)

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[Managing Risk](#)

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- Based on my health history and my family's health history, do you recommend genetic testing for me?

What are my chances of having a mutated (changed) gene that could increase my risk for cancer?

Besides mutated genes, what else can increase my risk for breast and ovarian cancer?

If I decide not to do genetic testing, what types of cancer screenings are recommended to check for breast and ovarian cancer?

If I get a genetic test, who will be able to see my test results?

Before you get tested, think about how you may feel.

Your doctor or counselor can help you think about what you will learn and how the results will affect you and your family.

Here are some questions to think about:

- Will finding out about a genetic mutation just make me more worried about getting sick? Or will I consider taking action to lower my risk?
- Will I share the test results with my spouse or partner? My children and other relatives? Family and friends?
- What will people say when I tell them about my results?
- Are my children and other relatives (like siblings) ready to learn new information about their risk of getting cancer?

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If you're age 50 to 74, [get tested for breast cancer](#) every 2 years. If you're age 40 to 49, talk with your doctor about when and how often to get tested.

Get your well-woman visit.

[Get a well-woman visit every year.](#) Use this visit to talk with your doctor or nurse about important screenings and services to help you stay healthy.

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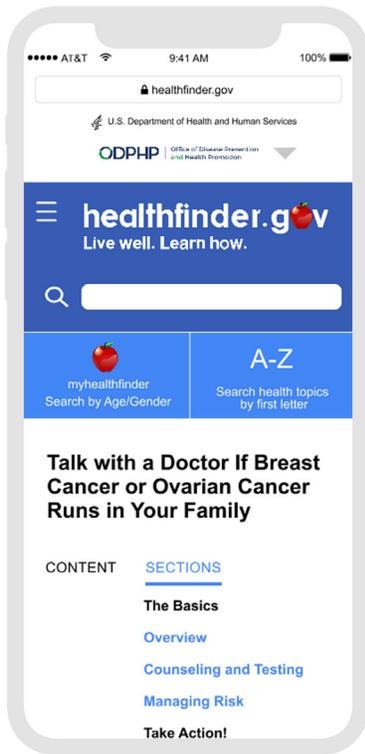
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Breast Cancer Screens: Section Menu



[Talk with Your Doctor](#)
[Ask Questions](#)
[Get Regular Checkups](#)

The Basics: Overview

If your family has a history of breast or ovarian cancer, talk with your doctor or nurse about it. You may be at increased risk for developing these and other types of cancer.

Talk with your doctor about genetic counseling and genetic testing.

Genetic counseling and genetic testing can help you understand your risk for certain types of cancer that can run in families.

Doctors don't recommend genetic testing for all women. But you may want to talk about testing with your doctor if you have:

- A family member who had breast cancer before age 50
- A family member who had cancer in both breasts
- A family member who had both breast cancer and ovarian cancer
- A male family member who had breast cancer
- 2 or more family members who had breast cancer or ovarian cancer
- Eastern European (Ashkenazi) Jewish heritage

You may also want to ask about genetic testing if you've already had breast or ovarian cancer.

Genetic testing can't tell you whether or not you'll get cancer – or whether you'll get cancer a second time – but it can show if you have a genetic change that increases your risk. If you do, you and your doctor can discuss options for managing your risk.

Continue Reading
 Next Section
[Counseling and Testing](#)

women. But you may want to talk about testing with your doctor if you have:

- A family member who had breast cancer before age 50
- A family member who had cancer in both breasts
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[Counseling and Testing](#)

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EVALUATION METHOD & TASKS

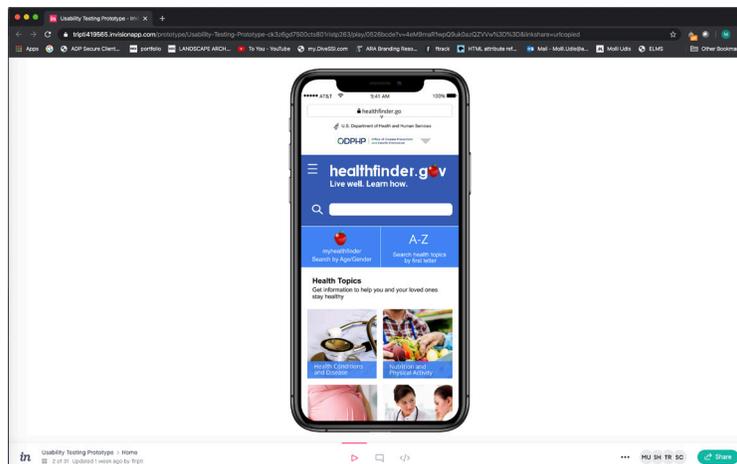
Usability Test Pre-Plan

We worked with CH to set a date to conduct all of our usability tests in one day. On the day of testing, Tuesday December 9th, we started our first test at 10:15 am and the last test at 3:15 pm. We had a total of five users participate in our usability session. Each test lasted for about 45 minutes with a 30-minute break in between each participant's session. All of the tests were conducted in the usability lab space at the CH office. We decided to do lab-based testing instead of in the wild testing because we recorded the usability tests through Zoom. The usability test consisted of 7 sections: Welcome and introduction, preliminary questions, site free explore, formative tasks, summative tasks, reflection/closing questions, and thanking the participants.

The methods we used to collect data were observation, interview, think-aloud, and performing tasks from our task list. All of the sessions were video recorded (participants were made aware of the video recording in the informed consent form). In the usability test room, just the moderator and user were present and in another room, the other team members signed onto the Zoom meeting to observe the user's behavior. Each moderator had a copy of the moderator guide to use in the testing room.

Evaluation Method

The Evaluation was done using the prototype of the website that was built in Invision Studio and using a computer with the projection of the Invision Studio link, which created the same view and size of the website as it would on the phone. The reason behind using the computers and not the phone for testing of the prototype was that getting the prototype up and active on each of the participants phone would not have been convenient as it would either require the participant to download the InVision application, which we did not have permission to ask users to download an app. The participants could have used our link to access the interaction, however when we tested this link we found many bugs with the Invision technology and it did not create smooth interactions and some of our styling and interactions disappeared. Furthermore, the response of the camera of the iPhone and the Android phone using the Invision app and link differed. In order to maintain consistency in the interface of testing and the prototype we restricted it to using the computer which had the projection of the website in the same way as it would on the phone. The major difference between the first and the second evaluation was that for the first evaluation the participants could type the healthfinder.gov website URL into their phones. For the second evaluation we loaded the website in a mobile view on the computer (as seen in the image below). Although ideally we would have liked for participants to use their phones there were too many factors that had the potential to make our interaction not work as intended. We tested the interaction on our computer and the CH computer and it worked smoothly and was more reliable. The design considerations included in the prototype were the reflections of the usability testing round one.



TASK LIST

After the first round of evaluations, we modified the design of the website based on the feedback of the participants. Our goal for the second evaluation was to test these modifications and note the user experience. The modifications included the change in the position and structure of the different elements of the website used to search. Some items we changed (but not limited to) were the search bar, myhealthfinder.gov tool and the A-Z list menu option. We aimed at evaluating and understanding the user's experience of navigation through the website, searching using the different search elements and getting their feedback on the content structure of the article. Our team chose a combination of summative and formative tasks to evaluate the above stated measures. The capability of these tasks were slightly different from the ones used in the round one of the evaluation where we evaluated a fully functional website whereas for the second evaluation we tested our semi-functional prototype. The reduction in the duration of the interview resulted in reducing the count tasks to be performed by the participant. The free exploration task for round two of evaluations differed from that of round one because in round one the participant could explore an entire website, whereas our prototype had limitations in functionality. In the second round of usability testing in the free explore section we encouraged the user to comment on the look and feel of the page they were on, and if they wanted to press a button that was not functional, we asked them what they might expect to see.

The purpose of the formative tasks was to collect data from the think aloud method and understand what the users find useful or confusing while finding and reading an article. Like round one of evaluations, and even for round two we had a moderator guide for each member do use. This would ensure that each task was completed, and each moderator presents the task in the same manner.

There were two formative tasks for the participants to complete. The tasks asked the user to find and read through two different articles. The participant could either use "view all" or "by section" navigation option to browse the content of the articles. Depending on the choice made by the participant for the first task, the moderator asked the participant to choose the second option for the next task. For example, if the participant used section by section option to view the contents of the article for task one then the moderator asked the participant to use view all option to browse the contents of the article for task two to browse the content of the second article. We did so do understand if the participants preferred method to read the article, either "by section" option or "view all" option. After each formative task we asked a series of follow up questions, and after the participant completed both formative tasks we asked which viewing option they preferred and why.

Formative Tasks list:

"For this section, I'd like for you to use this prototype as you would do on your own. As a reminder, it is not a fully functional website so some of the buttons will not work. As you use the site, I would like for you to think aloud [make sure you explain what that is if you haven't already done that earlier in the session]. Please remember, we want to learn more about your experience, so we may ask you questions throughout your exploration."

Task 1:

Read the article about Flu titled " Protect yourself from Seasonal Flu" using the "view all" or "section by section" option.

Task 2:

Read the article about Breast Cancer titled “ Talk to a Doctor If Breast or Ovarian Cancer Runs in Your Family” using the “view all” or “Next Section” option (whichever was not used in Task 1).

Follow Up Questions After Each Task:

- Describe in your own words what the article meant to you
- Can you tell me about any questions you have after reading the article?
- Can you tell me about your experience going through the content of the article
- (If needed) What, if anything, did you like about what you read in this article?
- (If needed) Did you learn anything new that you didn’t already know from reading this article?
- (If needed) What, if anything, was confusing or complex?
- (If needed) What, if anything, is currently missing from this webpage?

The second part of our usability test focused on summative task with one correct solutions for each task. The purpose of this task was to evaluate if the participants could navigate through the website easily to find the information using the search tools. There were a total of 2 tasks; each instructed the participant to use the website to find the answer to the task question. This did not involve think aloud because we wanted to test time and task performance. The tasks were created with the intention that the data collected could inform us where the points of success and frustrations were while navigating through the website.

Summative Task list:

“Please go to the homepage of the healthfinder.gov website on your smartphone. We will ask you to complete a set of tasks using the website.”

Task 1

Find a list of seafood items that a mother should include in her diet when she is breastfeeding.

- Solution: Canned light tuna, catfish, cod, herring, oysters, salmon, shad, shrimp, tilapia, trout

Task 2

Find, using the prototype, for a 40-year old male, how often should they get their blood pressure checked? Also, since our prototype isn’t fully function, please avoid using the search bar for this task.

- Solution: Once a year

RESULTS

Formative Tasks

Below are notes taken during the formative test to capture the users’ actions and thought process:

Task 1: Find and read the article titled “Protect Yourself from Seasonal Flu”

TASK 1

P1 indicated that he wanted to use the “browse all health topics” picture menu to find the article indicated. When prompted to use one of the buttons that is functional, P1 used the A-Z health topics menu on the homepage to click on the letter F and find the required article on flu. He used the “by sections” option to go through the article and started reading it aloud. When he came to the end of the article, he noticed that he had finished the content and he could see that the button at the bottom was to go back to the previous sections. He did not explore the sections menu. He was able to summarize the content of the article well and had no questions about the topic. He liked the flow of the article and said that he did not find anything confusing.

P2 used the search bar to find the list of articles related to flu. She went to the relevant article and finds it to be a lot of text, but then said that it is necessary because there is a lot to talk about the topic. Throughout the task, she kept emphasizing on how the text is a lot and people may not read it and that variety on the article page in the form of more color, more images, and links could be beneficial. She used the “by sections” option to go through the article and finds the subheadings throughout the article to be helpful. On seeing the paragraph on “Protect Yourself” she noted that it is rather long. She felt that the main point of the article is about informing people about how to prevent the flu. She liked the flow of the article, conciseness of the text, and drop down sections menu for looking up the different sections of the article without going through each page. She said that she didn’t learn anything new from the article as she was pretty much aware about the flu. She expressed to not dislike anything.

P3 used the search bar to look up flu. On opening the article, he used the “by sections” option to go over it. He even attempted to view the drop down sections list on each page (which isn’t linked for each page in the semi-functional prototype) to navigate to different sections of the article. He then used both “view all” and “by sections” option to view the content. He gave a good summary of the main point of the article and found his experience overall good and good going over the article as he liked how it was broken down into sections instead of being one very long page. He found the information good and easy to understand.

P4 used the A-Z health topics menu to navigate to the required article. She talked about how she liked that the article has everything from the basics and overview to symptoms and answers all the questions that people may have. She used both the “by section” and “view all” option to view the content. While she began by using the “by section” view, she shifted to the “view all” article content view and scrolled through the entire article. She found the article to be a good resource that even doctors can use. She further emphasized how it would be good to have other treatment alternatives to the flu vaccine, such as home remedies, to be a part of the article. She liked how the article was easy to read and understand and suggested that it may be good to have age specific advice for flu treatments. She mentioned that it may be good to have links to other related articles as a part of the main article.

P5 used the search option to search for the flu article. She tries to click on the first article that turns up in the search results, however, is slightly confused that the article list from the search results is not the article. She uses the “by section” view to go over the article. She liked the simplicity and presentation of the content. She summarized the main point of the article well. She also thought that the wording of the content is pretty good. She wanted to know the exact constituents of medications and vaccines mentioned in the article.

Task 2 Find and read the article titled “talk to a doctor if breast and ovarian cancer runs in you

family”

TASK 2

P1 tried to use the “browse all health topics” quick access picture menu to find the required article. Since that isn’t fully functional in the prototype, he used the A-Z health topics menu to click on B and found the relevant article under breast cancer. As per the moderator’s request, P1 used the “view all” option to go through this article (since he had used view “by sections” in the previous task). He seemed to scroll relatively fast, skimming quickly through the bolded headers, but also reading some of the natural text. He summarized the main point of the article well without having to revisit the content again as he explained. He said that he found all the topics of the article to be good. He pointed out how it would be important to add to the article that men can also get breast cancer. He didn’t find anything confusing to understand but pointed out that he preferred the “by section” content view.

P2 used the search bar to search to find the article on breast cancer. She said that when she saw the article in the search results, her initial thought was to click on the title because of its text color but then decided to click on the link instead. She used the “view all” option to read through the article and commented on how it was annoying when clicking the view all button, the interaction takes her back to the beginning of the article and not where she had left off. She also expressed that having all the sections on one page is “a lot”, that is, overwhelming and people may tend to skip over a lot of it. She also mentioned how it would be better to have eye-catching images to break the monotony of only text. She further expressed interest in wanting to visit the “learn more” external hyperlinks and learn more about the topic. She found the information of the article to be very helpful and was able to summarize the content of the article well. She says that she didn’t like having all text on one page and would like images and different colors and fonts or something to appear to catch her eye. On being asked about her preference of content views, she said she liked the “by section” view because she felt that the information there felt “short and sweet.”

P3 used the search bar to find the article and started reading it aloud. He used the “view all” view to go through the article. He found the content slightly hard to understand. He summarized the main point of the article in depth. He felt that the “view all” option provided him the condensed version of the article - can see everything together - but he preferred “by section” view because if the article is long, he didn’t need to read it all and could just pick the sections that he was interested in instead of scrolling through. He also liked the flow of the section-by-section view. He felt that having both the view options was a great idea.

P4 wanted to use the “health conditions and disease” picture element from the “health topics” picture menu first; he tries clicking on “browse all health topics” but is unable to since the prototype is not fully functional. She then used the A-Z health topics to search for the required article. When she was on the page with the list of possible articles to click on, she also mentioned that she would have tried to search by using the picture menu and hit “talk to doctors.” She clicks on the “view all” option to view the content of the article. She liked the overview and doctor recommendations part of the article. However, she felt that age-specific suggestions were missing from the article. She also mentioned that she liked that she can see the headings for each section clearly. She summarized the main point of the article effectively but mostly based on her prior knowledge about the topic. She said that genetic counseling was something new she learned about from the specified article. She liked that the article covered a lot of information and liked the “view all” option as she can see all the information at one time and she doesn’t have to click through to see particular information. She mentioned that she found some of the header text to be confusing in terms of their bolding

and said that she liked how most of the information is in the form of bullet points. As for the “by section” view, she felt given the short length of information in each section, it can be good as a quick reference. She also felt that there was some information that was not necessary to be a part of the article (such as the part about talk to your doctor in the risk management section). She also commented on how there might not be a need for 2 tags - sections and content; she got confused that the “sections” tag stood for a section of the article and not a tag which contains the list of all the section titles.

P5 used the “view all” option to go through the content of the article. She scrolled relatively fast through the article and scrolls back to the different sections depending on what she is talking about. She is a little frustrated that the prototype is partially functional. She liked the language of the article; feels that it is simple and direct and not too wordy. She didn’t have any recommendations to improve the interface except create the rest of the interactions. On being asked about her preferred content view, she says that she isn’t sure if she would choose one or another because in view all you can see it all there and find it and on the other hand, in “by section” it is not too overwhelming with small amounts of information given on a single page. She felt that having too many words on the page can become overwhelming and for other people, “by section” view would be better though it doesn’t bother her that much.

Summative Test Results

The below table collects the usability data of summative tasks. Since our data is split up by task, we included an additional table after for task performance rate. We did not include the number of errors made in our table because our interface was a wireframe prototype with limited functions and there is more than one way to reach the solution, so we cannot determine what is an error and what is another way to reach the solution. If there was only one way to reach the solution it would be more appropriate to calculate the number of errors made. We also did not include user satisfaction in this table because we asked for user satisfaction on a scale of 1-5 at the end of the usability session not after each tasks. So putting user satisfaction in this table would not be recording the results accurately.

Table 1: Task 3

Tasks	Participant	Time Performance	Task Performance	Additional information
Task three: Find an article, which provides a list of seafood items that a mother can include in her diet while breastfeeding	P1	1:53 min	successful	He chooses the A-Z list and looks for breastfeeding. He finds the article” eat healthy while breastfeeding and reads the article aloud while scrolling down. He finds the intended list of seafood items.
	P2	1:20 min	successful	She clicks on the search bar and finds the article ”Eat healthy while breastfeeding”. She scrolls down to the bottom of the page and then she finds the intended list.
	P3	1:48 min	successful	He chooses from the A-Z list and clicks on eating healthy while breastfeeding from the topic list. He scrolls down while he is reading the article carefully to find the seafood list.

	P4	0:28 min	successful	She finds the intended article through the A-Z list tool
	P5	0:51 min	successful	She uses the search bar to find articles about breastfeeding. Through navigating to the bottom of the page, she finds her intended article from the topic list. As she reads through the article, she finds the list of seafood.

Table 2: Task 4

Tasks	Participant	Time Performance	Task Performance	Additional information
Task Four: find an article that will tell you for a 40-year old male, how often should they get their blood pressure checked?	P1	3:12 min	successful	He chooses the myhealthfinder section and enters the age and gender to find the intended article. He reads the topic from the top to the bottom and then he comes back to the blood pressure article and clicks on it. He starts reading the article quickly.
	P2	1:15 min	successful	She uses the myhealthfinder tools to find her intended article. As she scrolls down to the bottom of the page she finds the blood pressure article, clicks on it and starts reading.
	P3	-----	unsuccessful (Intervention)	He chooses the article from the myhealthfinder and clicks on the blood pressure form the topic list. He starts reading through the article.
	P4	0:58 min	successful	She finds the intended article through the A-Z list tool and chooses B for blood pressure.
	P5	-----	unsuccessful	She uses the A-Z to find the "Blood Pressure" article. She does not find the answer in the article. Then she uses the myhealthfinder tool. She gave up finding article.

The below table shows each participants' results for the two summative tasks and the last column calculates their task performance rate based on the two tasks undertaken.

Table 3: Task Performance Rate

Participant	Task one (summative task)	Task two (summative task)	Task Performance Rate
P1	Successful	Successful	100%
P2	Successful	Successful	100%
P3	Successful	Unsuccessful	50%
P4	Successful	Successful	100%
P5	Successful	Unsuccessful	50%

The below table shows the user satisfaction based on their overall experience using the website and how likely they will use it in future on a scale of 1-5. (1= least likely to use it in future, 5 is most likely to use it in the future).

Table 4: Task 4

Participant	P1	P2	P3	P4	P5
User Satisfaction (Not satisfied) 1-5 (Satisfied)	3/5	4/5	5/5	5/5	5/5

ANALYSIS

Analysis of Second Usability Test

Google seems to be a good starting point for finding health information online. P1 mentions how he types in the symptoms on Google and uses whatever information that comes up. Google seems to provide a multitude of articles for readers to pick from, correlating health problems with their symptoms and treatments and facilitating self-diagnosis. Participants also mention how they use specific websites such as WebMD and doctors.com for health information because their content is easy to understand, concise, straight to the point, and doesn't require them to read through too much. Participants also search specific health topics on specific websites such as P2 searches for mental health related information on WebMD. P5 also mentioned how she sometimes uses Facebook to find health information online. This can be because of the ease of following health specific pages on the social network or joining specific Facebook groups to discuss about health related topics. P5 also indicated how since her kids go to a private school, they (the parents) are provided with health-related information which she likes to use. Thus, private agencies, too, seem to care about health and provide people with health information that may be relevant to them.

Participants indicate varying frequencies of accessing health information online. This varies from a

couple of times a month to once every three months depending on their needs. While some search for general health topics such as healthy eating, dieting, things related to nutrition, exercise, etc, others look up specific topics such as mental health, knee issues, missed menstrual cycles, and diabetes. We observe how the participants' searches and frequency of search depends heavily on health-related issues they or people close to them face or are likely to face. For example, P1 indicates how he has knee issues so he searches for information related to that. P5, on the other hand, looked up information about scabies online because her mother thought she had it. P4 tells how she missed her period and hence looked up information about why that may have happened.

During the free explore and website observation session, the participants explored the different components of the prototype, things that were working, and gave feedback on what they thought about the website on first sight. Participants explored the A-Z health topics list from the home screen as well as the hamburger menu. P1 further went onto explore the letters that were working in the A-Z menu and said "Searching all health topics by first letter, that would be awesome if that worked, my first reaction is to go to K for knee." Similarly, P4 felt that this was a great search tool to have especially if one did not know the spelling of certain words (medical terms). However, she also indicated that while all the different ways to search (health topics picture menu, search bar, A-Z health topics list, "MyHealthFinder" tool) were good, she felt that she would only keep 2 of them - the search bar and picture menu - and probably leave out the others.

All the participants tried to explore the health topics picture menu on the homepage for which interactions were not created. We observed how almost all the participants were visually drawn to the menu with pictures than any of the other search and explore options on the website. P5 said that "the pictures are very attractive in the sense that even if you were to take the words out I'm the kind of person where your picture should tell a lot...the pictures make it more vivid." Participants further expressed how they liked that the website did not have too many words (apart from some article content) and the text size on the homepage was nice. Although P5 did comment that the text size on the quick access picture menu could be slightly bigger. P3 further expressed how the logos in the header makes the website seem legit. So we see that even the visual elements associated with text make a significant difference. The logos on top make it easy for the users to understand that this is a government website. Participants also commented on the simple color scheme of the website. Further, an inclination to having more visually appealing pages with color, images, external links, etc even for the article pages was expressed by P2, P3, and P5.

Also as they explored the prototype, participants attempted to look up things that related to them. For example, P1 looked up information related to his arthritis and expressed the desire to have access to information about more holistic health remedies based on diet and natural elements.

In general, all the participants appreciated the flow of the content of the articles. Based on the flow, participants were able to identify the end of articles. P1 said that "I liked the way once you get to the end of a part it gave you the previous 7 sections (looking at the last section of the article) and how it went 1-7 and when you get to one you go to the next one. It flowed pretty easily." P5, on the other hand, felt that a little reordering of the homepage to have the picture menu first followed by the "MyHealthFinder" tool and possibly another instance of the "MyHealthFinder" tool at the bottom of the homepage could further improve the visibility of these search options which she found useful.

Almost all the participants were able to summarize well the content of the articles they read as a part of the formative tasks. However, we observed that some participants such as P4 skimmed through the headings, not going through each and every line of the article and gave their views about it. Most of the participants did not find anything confusing in the content they read. The

simple language and words along with the layout and well-defined headings / subheadings seemed to facilitate this. For example, while P2 found the article to contain a lot of text, she found the subheadings helpful for effectively scanning through the content. Similarly P4 likes that she can see the headings for each section clearly in the “view all” content view and also likes the bullet point content which, too, seems easy to understand (and less overwhelming than paragraphs) when quickly going through the webpage.

Another thing that seemed to improve the content scanning and reading process of the participants was the drop down sections menu which gave them an overview of the different section titles before diving deep into the content. While not all participants used this option (partially because it was not completely built into the prototype), a couple of participants such as P2 found it to be a great “shortcut.” However, P4 had some critical feedback on the appearance of this as she did not feel the need to have 2 separate tabs for content and sections, instead said that it would be good to have a list or overview of the different sections at the very beginning of the article.

As for the quality of the content, almost all the participants felt it was spot on. All the participants found the articles informative, easy to read, and easy to comprehend. P2 indicated how the content was concise but could be made more concise, less wordy, and more visually appealing with images. She also indicated how the information on the website seemed credible - probably because it is a government organization - and she liked the organization. P4 particularly found the vocabulary easy to understand. On being asked if there is anything more they would want to add to the articles, we did get a few suggestions. Such as P1 suggested that the breast cancer article should have information about how it can affect men as well, not just women.

We further learned that participants liked having more related articles to read to get a more in-depth understanding of the content. The “learn more” section or the “blue text” (external hyperlinks) attracted many of our participants such as P3 who wanted to know more about certain topics or get clarification about language or details. P4 also indicated how it would be good to have more related information to particular articles.

We observed from our sessions that some participants, such as P4, desired certain content in the articles to be tailored to different genders and age groups; she wanted there to be detailed information about the exact ages one should get tested and reasons why, which age groups are more likely to have a certain disease, etc. This is interesting for us to see because the “MyHealthFinder” age and gender specific search option exists on the website but was not used by the participant. We felt this could be because of 2 reasons. First is low visibility of the search option on the homepage. While in our improved interface, we attempted to improve the visibility of this tool by putting it in the header, participants still seem to not use it as extensively as desired. The second reason we identified from our sessions was that participants didn’t quite understand what the tool was for; the name, icon, and short description didn’t seem to be self-explanatory for the purpose of the tool. This is one avenue we can improve upon to increase the use and understanding of the tool. However, for summative task 2, 3 out of 5 participants used the “MyHealthFinder” search option which was a definite improvement from 0 out of 6 participants using it for the same task in the previous interface. P2 mentioned how she liked the search by age and gender option.

There was again a divide between participants who preferred “by section” and “view all” content views, however, the majority inclined more towards the “by section” view due to the following reasons:

The “view all” content view gave all the information in one go on one page and could become

overwhelming for the reader. This was indicated by a couple of participants such as P2 who said that people may tend to skip content when reading so much information on one page.

The “by section” view divided the content to short and sweet chunks which are not too overwhelming for readers. As P3 indicates, one can “go to what section applies to your question instead of having the whole thing to scroll through” all the content. Also, as P1 said “ I feel like I won’t miss anything” when using the “by sections” view.

Conversely, some participants such as P4 preferred the “view all” content view so that they could see all the information in one go.

All the participants were significantly influenced by the limited functionality of the prototype. On being asked how likely they are to use the interface again, the participants clearly indicated that the limited functionality in terms of navigating through the website affected their decision. However, all of them found the content of the website to be of good quality and very useful for them at that moment or in the future.

Comparative Analysis Between the First Usability Test and Second Usability Test

As mentioned above, we saw a definite increase in the use of the “MyHealthfinderTool” for summative task 2 (same as what we used in the first usability test) as compared to the first usability test with the original interface wherein none of the participants used it. This can be because we tried to improve its visibility by placing it in the header of the website than at the bottom of the page. However, we acknowledge that since our prototype was only partially functional, participants could not use the tool to its full power and we used dummy values based on our task requirements.

We observed that while using the new A-Z health topics list which is more spaced out, no participant had problems clicking on the exact letter they wanted to search for. This wasn’t the case in the first usability test on the original interface wherein the letters were very close to each other leading to mis-clicking.

Fewer participants appeared to use the search bar for finding the desired results as compared to the first usability test wherein we observed them type rather long search queries particularly for the summative tasks. However, again, here we must acknowledge that since our prototype isn’t fully functional, we provided stakeholder search values for the users to click on. Yet, we observed less use of the search bar by users, more of the other search options, as compared to the first usability test.

As for the health topics picture menu, though not functional in our improved interface, it still came out to be the popular browsing choice for the participants (as was the case in the first usability testing). It is important to note that we proposed no significant changes in the content of the picture menu except for shifting its placement to the top of the webpage and removing the slider image which felt redundant.

While we changed the view of the main menu in our improved prototype based on feedback from our first usability test, we did not have any direct / dedicated tasks besides the free explore / home page feedback one to test its effectiveness.

Again, similar to the first usability testing, we observed a divide among participants who

preferred the “by sections” and “view all” content views, however, this time, we saw 4 out of 5 participants inclined towards the “by section” view because they found it easier to navigate and not overwhelming. While significant changes weren’t made to the “view all” and “by section” views, a clearer sections list tab was added along with the content view, allowing participants to navigate to different sections directly. While a drop down with the same purpose existed in the original interface, it wasn’t used much as seen in the first usability testing round. Our modification made it more visible to the participants and hence, it was used more. However, we further got constructive feedback in our second round of usability testing and we decided to change the entire “view all” and “by sections” views as can be seen in further sections of this report.

Based on the feedback from the first usability testing, we also changed the look of the search results page. We highlighted the searched keywords in the titles and content of the article using a different color (maroon red) than normal text, headings, and hyperlinks. We received positive feedback about this from our participants who found it easy to identify the keywords in the articles and visually differentiate them from hyperlinks and other text. We also changed how the “health topics” looks and is placed on the article preview box. Based on our findings from the previous usability testing, a few participants tried to click on it as they thought it was a button, which it wasn’t. This time, participants did not appear to have that confusion or misunderstanding.

A key difference that we found between the first usability test session and the second one is in the formative tasks when the participants read the article “by section.” In the first usability session when participants got to the end of the section some were not aware that there was more content in the article and thought after the first section they had finished reading the whole article. We figured this could be due to the low visibility and readability of the “next section” button at the bottom of the article. To improve this, we added the words “continue reading” after each section and before the “next section” button to prompt the user that there are more sections to read. In the second usability test we observed that participants moved through the article sections with more ease and less confusion. When P2 was doing her think aloud she even said out loud “continue reading” when she saw it written at the end of the article section.

Again, it becomes important to acknowledge that the participant’s feedback was heavily influenced by the fact that our prototype was only partially functional. However, we believe that we managed to attain meaningful feedback from what we created from our second round of usability testing.

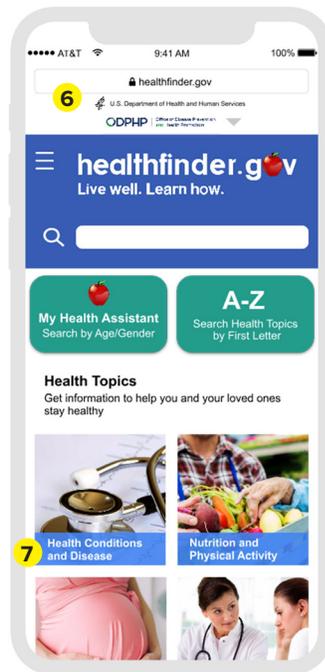
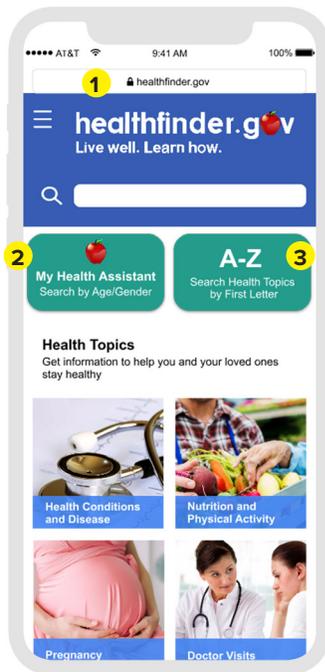
FURTHER INTERFACE CHANGES

Wireframes

Based on the feedback from our participants we identified points of confusion and components that the participants expressed that they wanted to see on the website. Below are the wireframes we designed as an updated version of our interface to address some of the participants’ confusion and feedback.

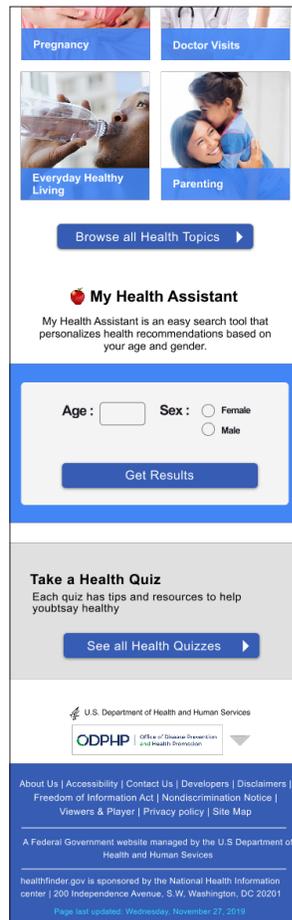
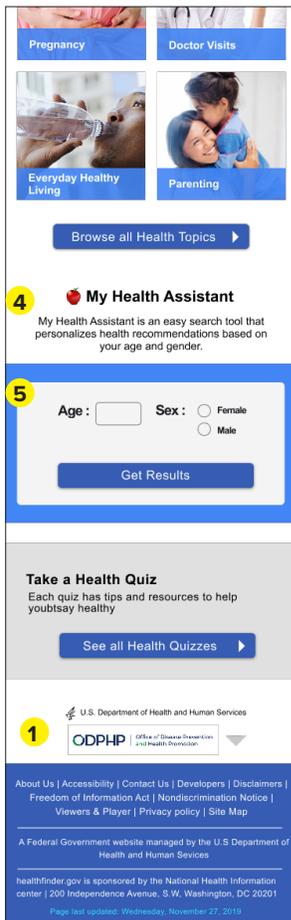
Updated Screens

Homepage



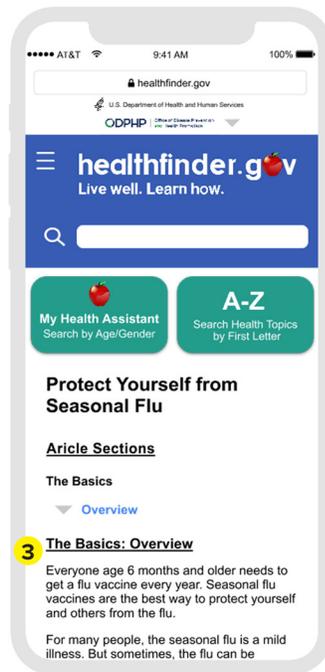
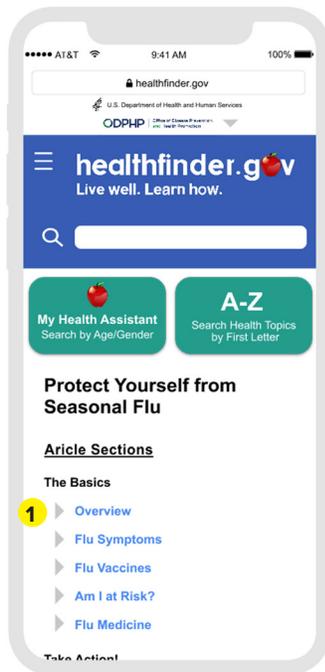
Call Outs:

1. Took out the logos at the top and placed them at the bottom.
2. Changed myhealthfinder to My Health Assistant.
3. Changed the color of the A-Z Health Topics and myhealthfinder search tool and made the buttons more visible and obvious as buttons.
4. Changed the myhealthfinder text to be more descriptive of what the tool is intended for.
5. Put the myhealthfinder tool back on the homepage.
6. Tried making the two logos at the top smaller.
7. Made the font bolder for easier readability.



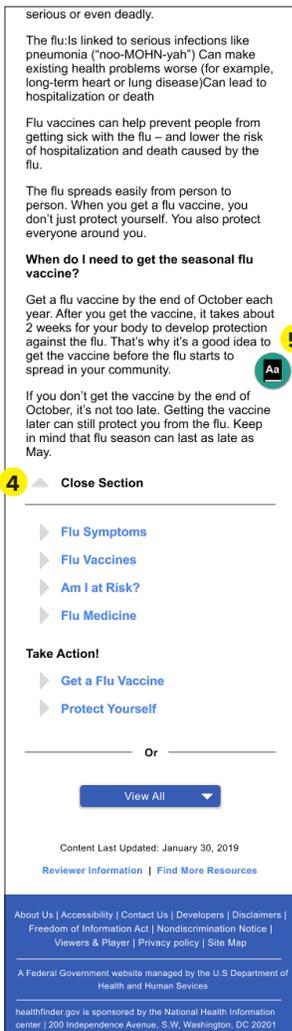
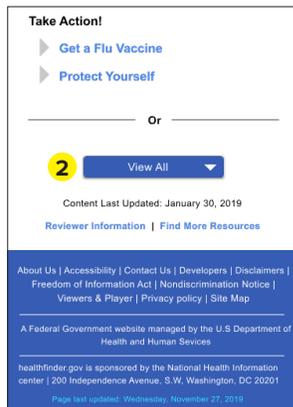
Updated Screens

Flu Article Pt1



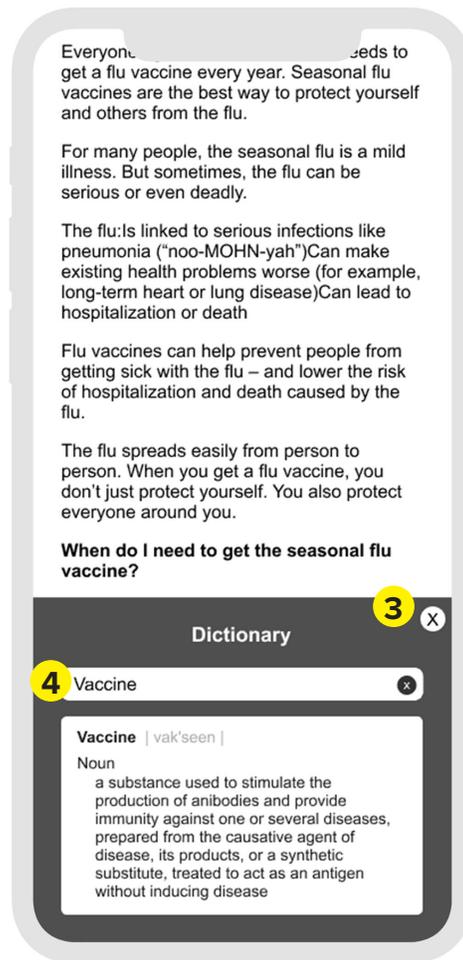
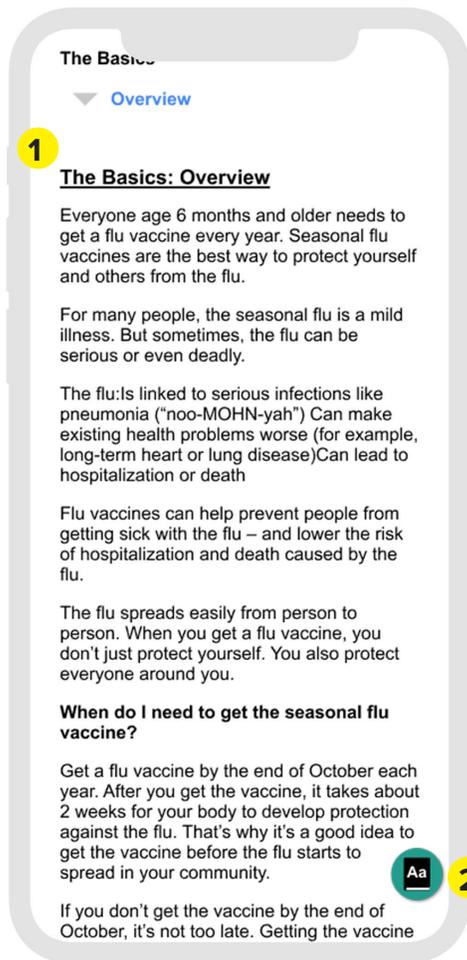
Call Outs:

1. Instead of having a “content” and “sections” button we simplified it to drop down button style to view the article content.
2. Kept the “view all” at the bottom for two preferences.
3. The view when the article is expanded.
4. A close section button at the bottom of the article.
5. A dictionary button (when the user scrolls the button becomes more opaque).



Updated Screens

Flu Article Pt2



Call Outs:

1. The view of the article when the user expands “The Basics: Overview.”
2. The dictionary icon stays on the page and moves when the user scrolls.
3. Exit the dictionary.
4. Type in the word you would like the definition for.

Suggestions for the Client

Based on the feedback from the second usability testing sessions our team evaluated the interface design choices that were working and the ones that needed improvement. Our suggestions to the client about additional changes to make for next steps for enhancement include suggestions on what elements should be addressed and changed, and a specific element should remain the same. During the testing we discovered certain design choices we made that users responded well to, and believe that in further iterations of this design these choices should stay.

Wireframes Explained

From the participants' feedback we identified seven different common pain points that participants expressed when navigating and using our prototype. These pain points would be our starting point suggestions to the client about additional changes for the next design steps. The six pain points were:

1. The section wise menu of the article is good for reading, but frustrating to keep clicking through all the sections to find one thing.
2. The myhealthfinder search tool name, description, and function is unclear.
3. The buttons for the myhealthfinder and A-Z Health Topics search options are easily overlooked.
4. The font size is too small in the articles.
5. There should be more color on the site instead of just blue.
6. Some of the terms were challenging to understand in the articles and therefore the participant was not able to understand the full content.
7. The logos at the top are distracting, the participant wants to see the Health Topics list when she first opens the page, not a lot of words.

Updated Screens - Homepage

After identifying these pain points we started to implement changes to our interface that would hopefully address and solve these areas. Referring to [call out 1], the first thing we changed was the two logos at the top. One participant stated that the logos were too big on the screen and were a distraction for her. When she first opens the page the first thing she wants to see is not as much text, but instead the images from the "Health Topics" quick access picture menu. To address this we took out the logos at the top and placed them at the bottom. We were unsure if there was a specific reason why those two extra logos were at the top, so if it was for certain measures that healthfinder has to follow, [call out 6] addresses this by making the logos slightly smaller so they are not as much the focal point of the landing page.

Our summative task 2 was intended to guide the participants to find and use the myhealthfinder search tool. Only two participants on their own found the myhealthfinder tool and used it to complete the task. A common comment about this tool was that it was unclear what the tool does and what information will come up if used. [Call out 2] The first change was to change the name from myhealthfinder to possibly My Health Assistant (or another name, this was our suggested name). The idea behind this title is that the tool is acting similar to an assistant that helps people

do things and understand things. The assistant can help the user find information that is curated specifically for their age and gender. [Call outs 4 & 5] In the initial improved interface we decided to remove the myhealthfinder tool from the homepage and just keep it as a button at the top of the page to not make the homepage have so many elements on it. After this usability test we decided to put it back on the homepage with a better description of what to expect when using the tool. The reasoning to keep it on the homepage is since it is a search method that is unique to this website, new users should have a clear description visible on the homepage of what the tool does. Once a user becomes more familiar with the website and website capabilities, it is a possibility that they may opt to use it from the button at the top of the page and not from the homepage (although we cannot say for certain this would be the case, there would need to be further testing to state that hypothesis for a fact).

Additionally we changed the color and shape of the myhealthfinder and A-Z Health Topics search tools to make them more present and obvious on the homepage [call out 3]. Many of the users were attracted more to the quick access picture tool, the browse all health topics button, or the search bar than the myhealthfinder or A-Z Health Topics search tools. These tools blended in more with the healthfinder header blue box and logo. To make them stand out more we changed the color to green (to also get more color on the site than blue) and made them look more like buttons and stand out a bit more. This would be an important screen to test in an additional usability test to see if the changes prompt the users to use these search tools more.

Lastly, participants noted that some of the text was slightly hard to read. One participant commented that the text title for the picture menu seemed a bit small. [Call out 7] In order to make these titles more visible we bolded the font and increased the size from 12pt to 14pt. We chose to increase the font size by 2pts and make it bolder to stand out better, but not making the font size too big that it looks too tightly fit in the blue box.

Updated Screens - Flu Article Pt1

In our formative tasks we asked the participants to read an article using the “view all” option and the “by section” option. Three of the five participants preferred the “by sections” view, one liked the “view all”, and one liked both for different reasons. The participants verbalized that the reason why they prefer “by sections” is because it is not too overwhelming, and if you are looking for something specific it is not too overwhelming. One participant noted that some of the sections in the “by section” view still felt a bit wordy. Our goal for this project was to understand the problem space of how low health literacy users can access and understand health information better. To accomplish this we were limited to accessing the structure and design of the page, not the copy. For additional suggestions, we would recommend that healthfinder.gov access each article and see if any text could be more concise or cut down as one participant mentioned that even in the “by section” view some sections had large paragraphs and was quite a lot.

Aside from the amount of text on the page, our team designed a whole new style and interaction to view the article. [Call out 1] One issue in our interface was that users were confused why you could click on the “sections” button and get a list of sections, but the “content” button did not function in a similar way. Also in our design it was still not obvious that when the user clicks on “sections” a sections menu appears. Users expressed that they like being able to see the sections to find certain information, the “view all” would be too much information and you might miss the information you are actually looking for. In order to solve the problem of making the section options visible, not making the content overwhelming, and making it easy for the user to navigate through the sections we had to rethink a better method to view the article. We redesigned it so the article

landing page is the title and the sections in the article and next to the section titles is a drop down arrow that will expand to show the article content [call out 3] and then can be closed again [call out 4]. This way when the user first lands on the article they immediately know what content they should expect to see in the full article. Also, they can easily choose which sections they want to view without it being too overwhelming, and they still have the option to view all [call out 2]. This screen would be especially imperative to do usability testing on this screen as it is significantly different from the original website and our original improved interface.

[Call out 5] One participant found certain terms in an article that he did not understand (the issue of terminology also came up in our 710 Contextual Inquiry data). Although the text is written in plain language, it does not necessarily mean the user will understand every word. Although some terms have further links the user can click on not all of them do. We first considered an appendix at the end that would have a list of medical terminology, however we decided not to go with this idea as there is no way to 100% determine what words participants will want or not want in an appendix, and furthermore, it would make the article seem longer and possibly more overwhelming. Instead we added a dictionary feature on the side of the article for participants to use if there is a term they are unfamiliar with. The dictionary button is small so it is not too distracting, but green so it stands out enough that the participants will know it is an available feature. When the user scrolls through the icon will become more transparent so it is even less obtrusive to the article content. The button will move as the user scrolls.

Updated Screens - Flu Article Pt2

[Call out 1] This is the screen when a user is scrolling through the article content. [Call out 2] This is showing a closer version of what the dictionary icon would look like on the screen. When the user clicks on the icon a window will appear from the bottom of the screen. [Call out 3] When the user wants to finish their search they can click the X button. [Call out 4] The user can type in any word and get a definition without having to leave the article or article section they are reading.

Element to Keep

Every user either in a specific task or the free explore wanted to click on one of the Health Topics in the quick access picture menu. Participants noted that this was a highlight on the website because it included pictures and it was visually appealing to look at. Each participant identified a category that they would explore further and some attempted to use it to complete the tasks. This is an important element to keep in the interface because it is visually appealing when the user first lands on the homepage. As one participant mentioned, “the pictures are very attractive in the sense that even if you were to take the words out I’m the kind of person where your picture should tell a lot...the pictures make it more vivid.” The pictures are important to enhance the visual experience, especially because the article content is so text heavy, the site needs a balance.

COMPETING INTERFACES

We chose two different health websites to compare our improved interface with. The comparisons and opinions are based on our thoughts of the websites as we did not do usability testing with the three competing websites.

WebMD

WebMD is a popular website to find health information online. When users search for health information this is often one of the first websites that pops up in a Google search. Homepage

comparisons - the homepage on WebMD mobile site has a lot going on. There are advertisements at the top and in the middle of the page. They have a lot of categories of topics for people to browse through such as Trending Videos, Top Stories, Trending Topics, Conversations, WebMD Investigates, Physician Directory, Featured Health Topics, Sign Up box, Living Healthy, and Popular Tools. Individually these categories seem like they would be very helpful, but there are so many on the page and the organization of them feels cluttered and too much to look at. Our improved healthfinder.gov mobile site homepage is very clean, short, and not cluttered. We only included what we felt was necessary to have on the homepage. If we started to add too much we wouldn't want to overwhelm the user with too many options right off the bat. The positive elements of the WebMD homepage that the healthfinder.gov website could implement more is there are a lot of visuals: pictures, videos, icons, and illustration. We don't believe healthfinder.gov needs all of those, but it could use more visuals to help the user to better understand the content.

Searching for the flu - on the WebMD site the search results page is clean and it is easy to see the separate articles that the user can click on. There is a little description underneath the article title that is helpful. As you scroll down through the search results there is a carousel that has "Image results for flu" that are suggested articles to read. This is a nice addition to break up the text and add imagery. Not sure if the middle of the page is the right placement. If it was at the top it is a nice visual to look at first, but if it is in the middle it can also serve to keep your attention as there are a lot of article titles, breaking it up with "image results" may keep the user more interested. On the healthfinder.gov site we have a similar set up of the article title and a short description. To add more visuals we could have the first two or four top articles in the search include pictures with it and be in a grid alignment similar to the homepage so it has a better balance of text and imagery.

Looking at the article - on WebMD the first thing that pops up when you click on an article is a subscribe window to WebMD. This seems slightly irritating if this comes up every time I click on an article because I am not there to sign up, I am there to read information. When you click on the article, the first thing that comes up is a carousel of suggested articles that are related to your search. Underneath it starts with the overview, but this is not visible until you scroll down further. This seems confusing because if that is the first thing I see I might think I am on the wrong page. On our healthfinder.gov site when the user gets to the article it is very clear that they are on the article they clicked on because the title is nice and big and the content starts right away.

Accessibility and U.S. legal requirements - WebMD states that it follows the standards used by the Federal government for technology accessibility for those with disabilities, Section 508 and the Web Content Accessibility Guidelines (WCAG) 2.0. It states that the website is regularly tested to update and ensure that it is truly accessible. In the WebMD Accessibility Statement it states that some documents on the site are made in PDF's and currently they are checking to make sure the PDF used the latest version of Acrobat so they are fully accessible. During a brief free explore of the website using voiceover we found that the logo at the top that should bring the user back to the homepage actually reads aloud the subscribe button. When the voiceover reads the whole page aloud it is reading the hamburger menu options even though they are not opened. It does tell the user if there is a link in the article. I clicked on a link to watch a video and the voiceover read that it was an image. When the video began to play a popup survey appeared, but voiceover did not read aloud the popup. At the end of the video it just says "submit button," which isn't helpful to understand what the user is looking at. In terms of the alt text on images some examples are more descriptive than others, however, none seem descriptive enough for the user to envision what the image looks like. Furthermore, some of the images do not have any alt text. In our wireframe prototype we were not able to implement any accessibility standards as we did not build out and

code the website. However, if we had gotten to that stage of development we would ensure that the website follows WCAG 2.0 and Section 508. We would also make great efforts to implement these standards to the highest level (AAA), because we want to ensure our website is truly accessible.

Health.gov

This site is managed by the Office of Disease Prevention and Health Promotion (ODPHP). The health.gov website is listed as a resource for health information and the home of ODPHP.

Homepage - The homepage has a nice mixture of text and iconography. There is a range of colors to keep the page from looking boring and there are not too many elements on the page that could overwhelm the user. The text, similar to healthfinder.gov is simple and easy to read. It does have 17 different language options, which is helpful for those that English is not their first language. That being said, there are many other issues on the homepage. (1) It is not responsive so in order for the user to see all the content you have to zoom out, and then the text becomes very small and hard to read. (2) The search bar at the top is not easily recognizable as a search option. The icon is placed on top of the logo and it looks like it is part of the logo. When you click on the magnifying glass icon a small bubble (that is the width of one letter in 11pt font I would say) appears and that is where the user can type their search. When the user types in their search the letters don't appear in the search bar, instead a suggestion drops down as a guess as to what you want to search.

Searching - When I type in a search for flu it does come up with a list of articles, but they appear to be projects and presentations rather than information about the topic. It is also unclear to me where I would find this information if the search bar did not exist.

Looking at an article - After clicking on the Physical Activity link on the homepage it brings the user to a page that has a brief call out about physical activity, then News and Announcements, followed by Our Initiatives, and on the right side there is a Physical Activity menu with headings and a drop down menu per heading. Looking at the page there is a lot going on and hard to determine a clear structure of how to find what I want and what order I should be reading the content. There also seems to be about 5 different font sizes and looking at the contents it makes the page feel hectic and hard to read. It is hard to tell what the purpose of this website is. When I click on a link from the homepage it brings me to content to read, so I assume it's informational articles, but then I click further through the section and it is filled with PDFs, so that makes me think it is more online resources than searching and answering health information questions.

Accessibility and U.S. Legal requirements - On the health.gov Accessibility page it states that it complies with the rules and regulations of Section 508 of the Rehabilitation Act and the U.S. Department of Health and Human Services (HHS) Secretary's Section 508 Implementation Policy. The logo at the top of the page is also a drop down menu with other health resources. However, when using voiceover the speaker does not read that and when it is clicked on the voiceover reads the menu bar instead. On the homepage there is a grid that has four topics: Food Nutrition, Physical Activity, Health Literacy, and Health Care Quality. When we click on the Physical Activity illustration the voiceover starts to read the blurb for Health Literacy. When I click on the actual Physical Activity test, voiceover reads the correct text. Voiceover does not describe or say anything when the user clicks on the icon illustrations. The images on the website do not have descriptive alt text, instead it just says that it is an image and a link. Again for our improved interface we did not code it and could not implement voiceover accessibility tools, but moving forward with this project, it is highly recommended to implement WCAG 2.0 and Section 508 standards to its highest level.