INST631 Improved Interface

Communicate Health

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

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PREVIOUS DELIVERABLE RECAP

Based on the results and their analysis, we identified several design considerations that can be applied to the improved interface. Our goal is to make healthfinder.gov more user-friendly for people with low health literacy, facilitate effective scanning, reading and comprehension and reduce skipping. We want users to understand the content and make their journey of finding the answers easy. Based on the findings, we suggest a range of design modifications for enhancing the user's experience of using the website search tools, navigation through the article, and design modifications that focus on the visibility of the content and its optimization.

The two websites search tools that we suggest modification for are the A-Z health topics list and the My Health Finder. The A-Z health topic list was used by many participants to successfully complete the summative tasks. One issue we observed with the search tool is the small font and close spacing of the letters in the list that led the participants to click a letter near the intended letter. As a result of this, the participants landed on a page they did not want. Another issue with the tool is its placement on the homepage. The tool is placed lower down on the homepage; it was left unexplored by some participants as they did not scroll down far enough to reach its point of placement. Participants did not make use of the tool in further tasks as they were unaware of its existence.

The "myhealthfinder" tool was intended to be used for the third summative task. However, none of the participants used this tool and instead reverted to using the search bar or the A-Z health topics list. We found out in out contextual interviews from the INST710 course that those who explored the tool found it helpful. We think the potential reason for this is the search tool gets hidden in the design of the homepage because of its current point of placement (far below on the homepage) and layout. It is not clear from the layout that it is a search tool.

The other frustration participants encountered was when they typed a long search in the search bar, the result either did not seem relevant to their search. In the results, keywords from their search did not show up in the article title or as a small summary saying that the article contains/ doesn't contain certain keywords. Further, the search couldn't correct misspellings as done by Google and other search engines. Better search engine optimization, showing of alternates for misspelled searches, and highlighting if resultant articles contain words could resolve these issues.

Another common issue we observed was the participants had trouble differentiating between normal text and hyperlinked text. We believe that better content visibility or basically clear differentiation between normal and hyperlinked text could resolve the issue. Further multiple issues were observed when the article was selected from the list of articles in the A-Z health topics list. The article that opened did not show the letter of search and had the article header represented in blue color. The use of blue color led to the participants thinking that the header was a hyperlink.

The participants also faced trouble navigating through the content of the article. In the formative task, we asked the participants to look at the article by using "view all" and "view by sections." A few participants shared that the "view all" was helpful as all the information was available at once, while other participants also mentioned that the information was overwhelming. We had a participant who said that the "view by sections" was a hassle as it involved clicking the next section button multiple times. We also observed that when the participant clicked on "view all" it brought them back to the beginning of the page and they had to scroll back down to find the point in the article where they had left reading. We also observed that very few participants used the "browse

sections" drop down menu option to view all the possible sections in the full article.

A few issues were observed with the content of the article and an optimization could resolve the issues. Some of our participants were confused with the content in the article, wanted more information, or wanted a different structure for the information such as a few of the participants felt that the content should include specific details about the disease, such as if the disease is curable or not, to be clearly mentioned.

NEW INTERFACE

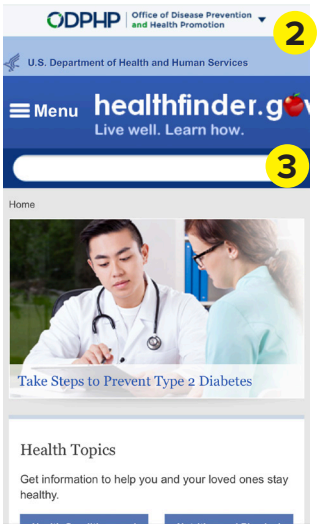
Modifications, Features, Approaches

For the improved interface our team made modifications to the search tools, the homepage layout, the menu on the homepage, the article layout, the article viewing options, and the page showing the list of articles relevant to a participant's search. We chose these areas of the website for design modifications based on the observations during the usability testing and where the participants had the most trouble.

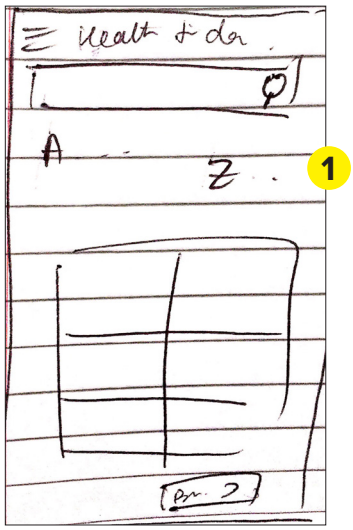
Initial Sketches

The sketches below are the initial design ideas our team drew out to get the improved interface ideas flowing. We started by looking at the landing homepage and what changes we can do to improve it.

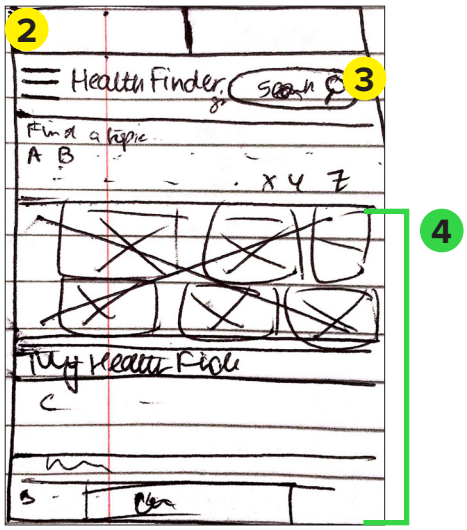
Current Homepage



Homepage Sketch 1



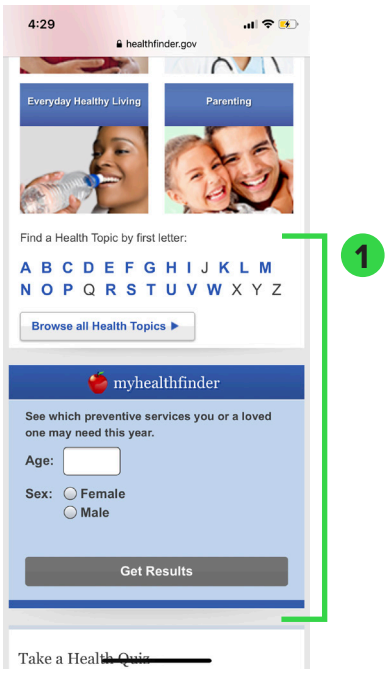
Homepage Sketch 2



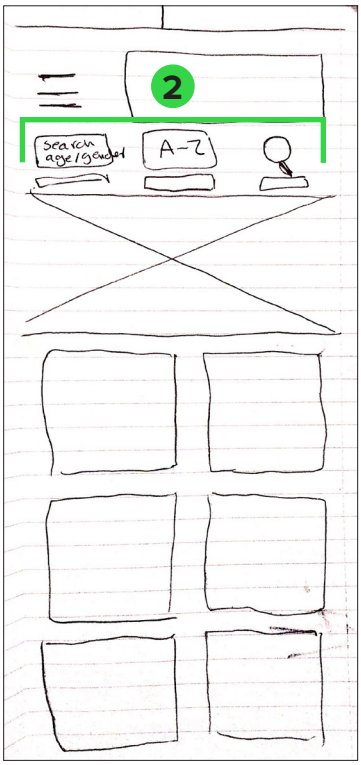
1. **A-Z health topics tool:** In the current homepage the A-Z search health topics tool is not visible until the user scrolls down. We wanted the tool to be visible when the user first opens the page.
2. **ODPHP and U.S Department pf Health and Human Services logos:** We put two logos next to each other so they take up less room on the page. On the homepage they are stacked.
3. **Search Icon:** To optimize the space on the landing page we put it next to the healthfinder logo.
4. The rest of the page would be the same structure order (in this version we took out the suggested health article from the original landing page).

The three search tools on healthfinder.gov are the search bar, A-Z health topics search, and the myhealthfinder tool. The next design consideration our team discussed was how to present these tools so users could find and use them easily.

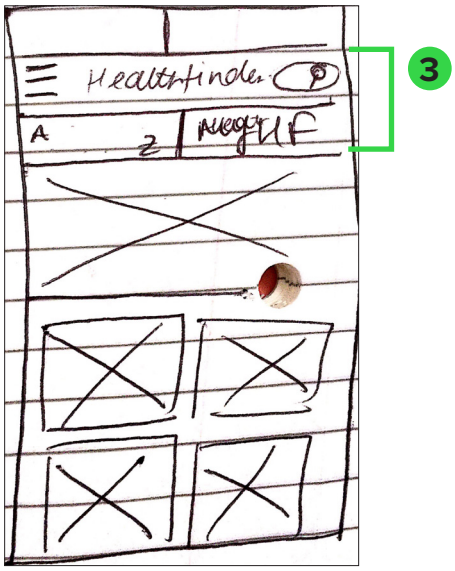
Current Homepage



Search Tools Sketch 1



Search Tools Sketch 2

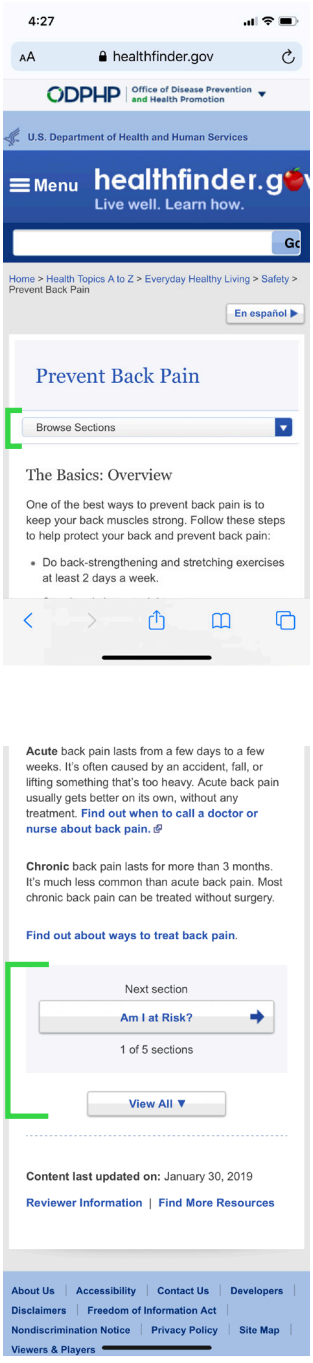


1. In the current homepage the A-Z health topics search tool and the myhealthfinder tool is not within view when the user first lands on the homepage. The user must scroll down to see it.
2. **Search Tools Sketch 1:** We played around with ideas to move these tools to the top of the page for the user to see when they first get to the page. We tried putting the search icon, the A-Z, and myhealthfinder in a row of three at the top underneath the healthfinder.gov logo.
3. **Search Tools Sketch 2:** The second version of the three tools at the top of the page is the A-Z tool and the myhealthfinder tool on the same line and the search icon above it on the same line as the healthfinder logo. This version gives more room for the A-Z and the myhealthfinder buttons.

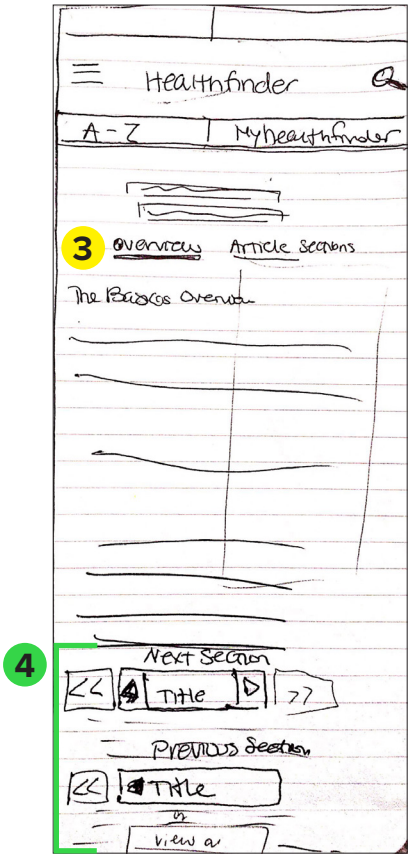
The next design ideas we discussed were first, the “section by section” and “view all” options when the user reads an article. Second, we observed that participants did not use the “browse sections” tool so we ideated a modification that would make that option more visible for users to see and use.

Please find below on the next page the sketches and call outs

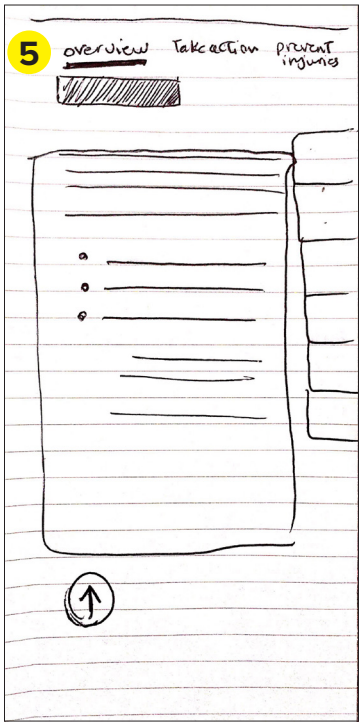
Current Article View

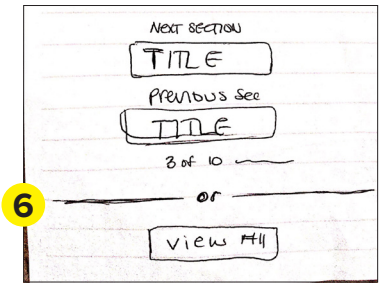


Article View Sketch 1



Article View Sketch 2



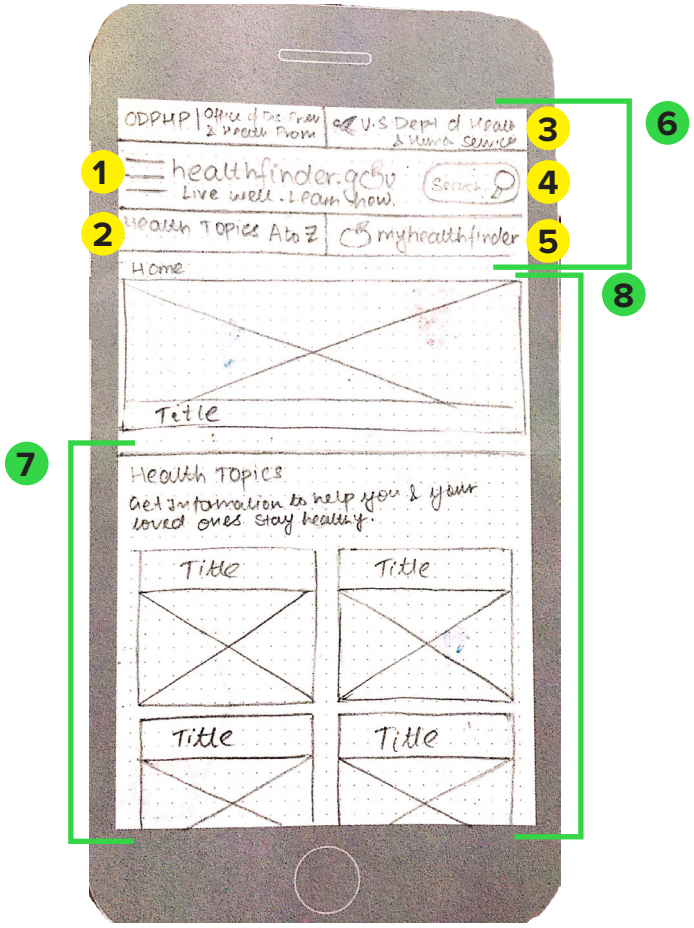


1. The current website “browse sections” drop down menu.
2. The current website “section by section” and “view all” options.
3. In our design we wanted the “browse sections” option on the same line as the overview header so they are in the same line of vision in the hopes that users don’t miss it.
4. We played with the idea of having another set of buttons that would allow the user to go back to the first or last section in addition to navigating to the next or previous section.
5. Another idea was to have all the section headings written at the top and not in a drop down menu.
6. We wanted to get rid of the light blue box behind the view by sections option and find a different way to separate “view by section” and “view all.”

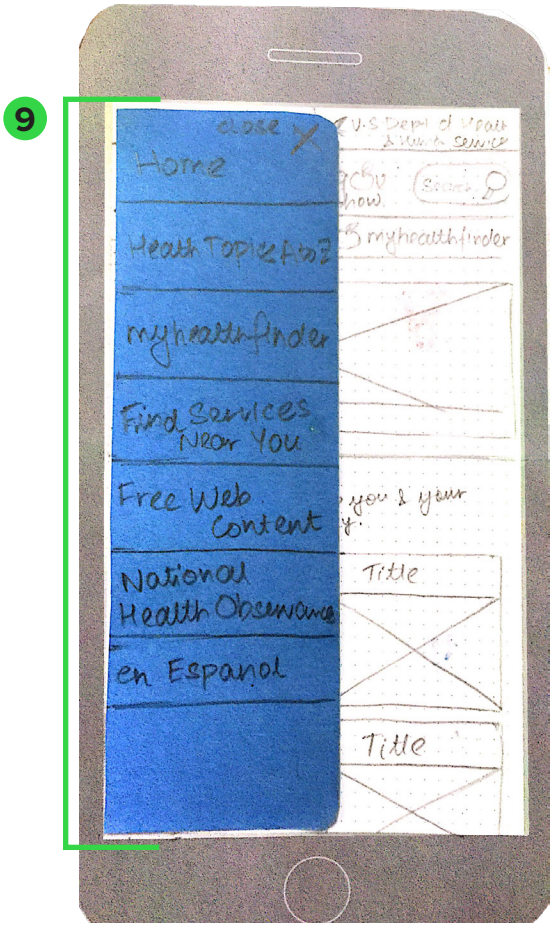
Refined Low Fidelity Sketches

The sketches below are based on the initial sketches. We took each of the ideas and expanded it further and draw out a more clear sketch to help guide us in our later wireframe. We started with the homepage.

Homepage Sketch



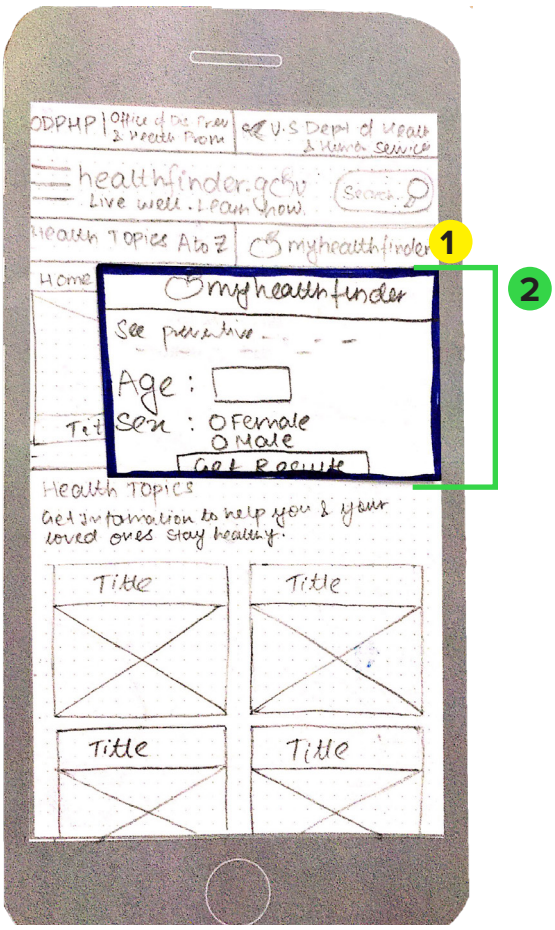
Homepage Menu



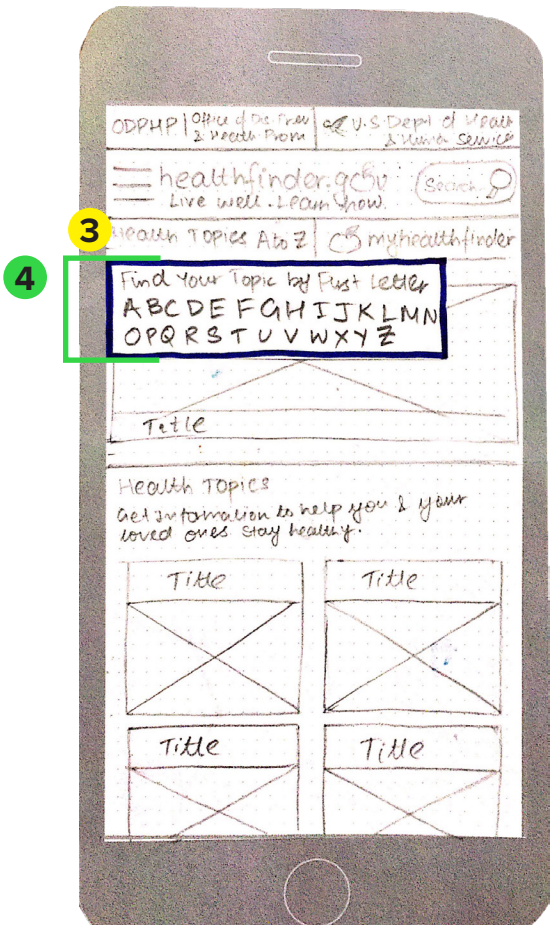
1. Hamburger menu
2. The A-Z health topics list shorthand (button - when clicked will drop down to view the alphabet)
3. Both header logos merged into 1 row to save space
4. Search bar
5. myhealthfinder (by age and gender). Short search option similar to the A-Z search
6. The website header stays throughout all the pages
7. List of popular health topics
8. The rest of the homepage structure stays the same like the original interface (everything after scrolling down also stays the same)
9. The menu opens up by pressing the hamburger menu icon. The menu closes using the “x” button on the top right corner.

Homepage sketches continued: After looking at the layout and menu of the homepage we discussed further ideas for the search tools.

Homepage Sketch



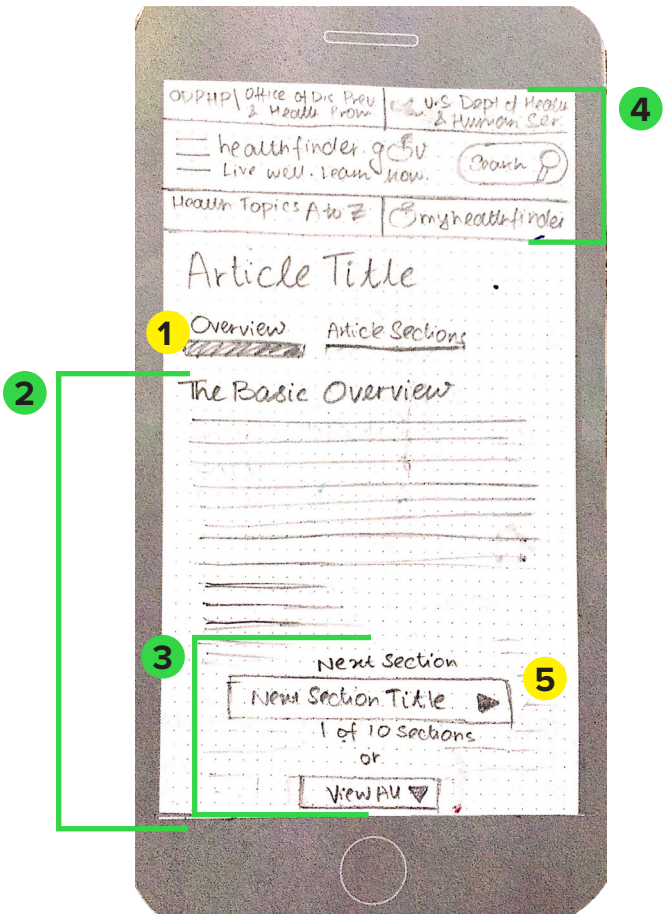
Homepage Menu



1. myhealthfinder button at the top of the homepage so users don't miss it. We decided to make it a button on the top of the page and included in the constant header on every page to make it easily accessible.
2. This is the pop up view of the myhealthfinder tool. It is activated when the user presses the button. The pop up is the same content in the new sketch as it is in the original website.
3. A-Z Health Topics search tool button also at the top of the homepage. Same as the myhealthfinder, this button is on the constant header on every page to make it easy for users to use the A-Z method without having to go back to the homepage.
4. This is a pop up of the A-Z Health Topics search tool. It is activated when the user presses the button. The content design is the same as the original website.

Article Sketches: After looking at the homepage the next important page to make design considerations was the interface for the health articles.

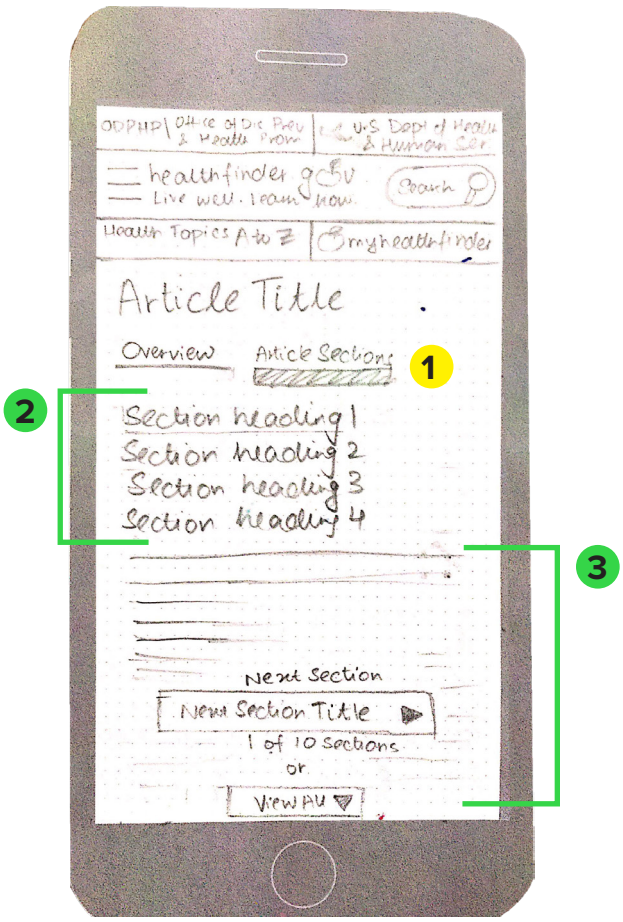
Article Layout



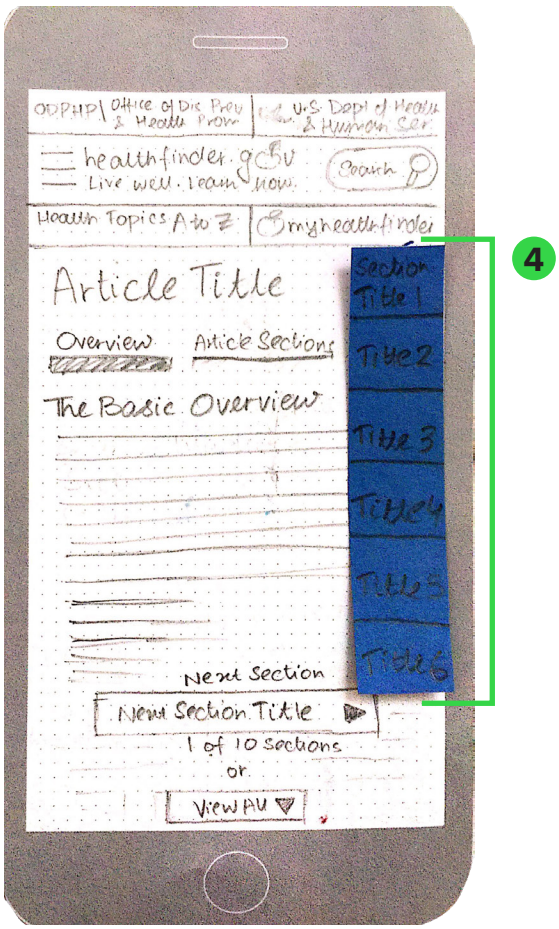
1. Option to view overview
2. The rest of the article underneath
3. Next section button with sufficient explanation and position indicator
4. Header stays constant on all pages
5. Fading lines of text, subtly prompting user to click on “view all” content view if they want to see the full article at once.

Article Sketches Continued: Brainstorming and sketching different ideas to best show the different article sections instead of the original drop down menu on the current website.

Sections 1 Sketch



Sections 2 Sketch

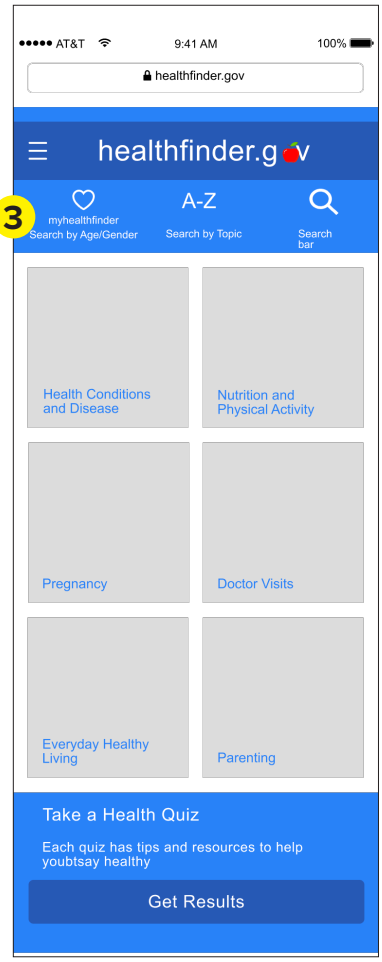


1. Bread crumb / underline indicating which view is selected (Shown here is the article section view).
2. Section headings show which are hyperlinked to the respective section pages.
3. The text of the article (particular section) starts.
4. When the user scrolls down the article (in the “view all” option) a translucent section heading menu shows up so the user knows which section that are reading and they can click on the side menu to easily get to another section at any point in the article not scrolling to the top or bottom.

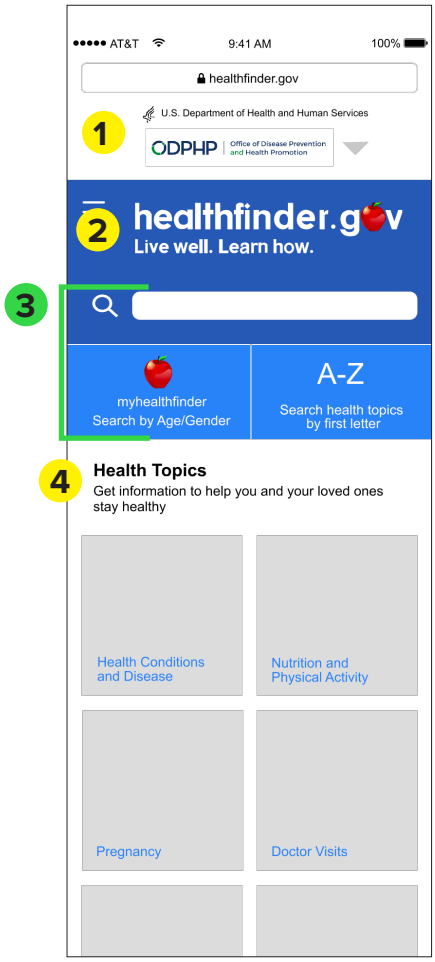
Wireframe Mockups

The wireframes below are based on the refined sketches from the above section. These wireframes will be used for our second usability testing and we will be creating live interactions for the users to navigate through the mockups. Below is the homepage exploration.

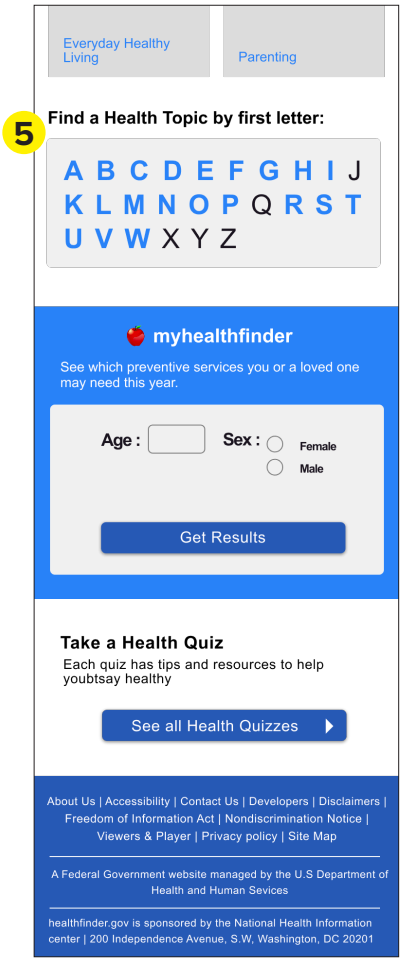
Homepage Version 1



Homepage Version 2

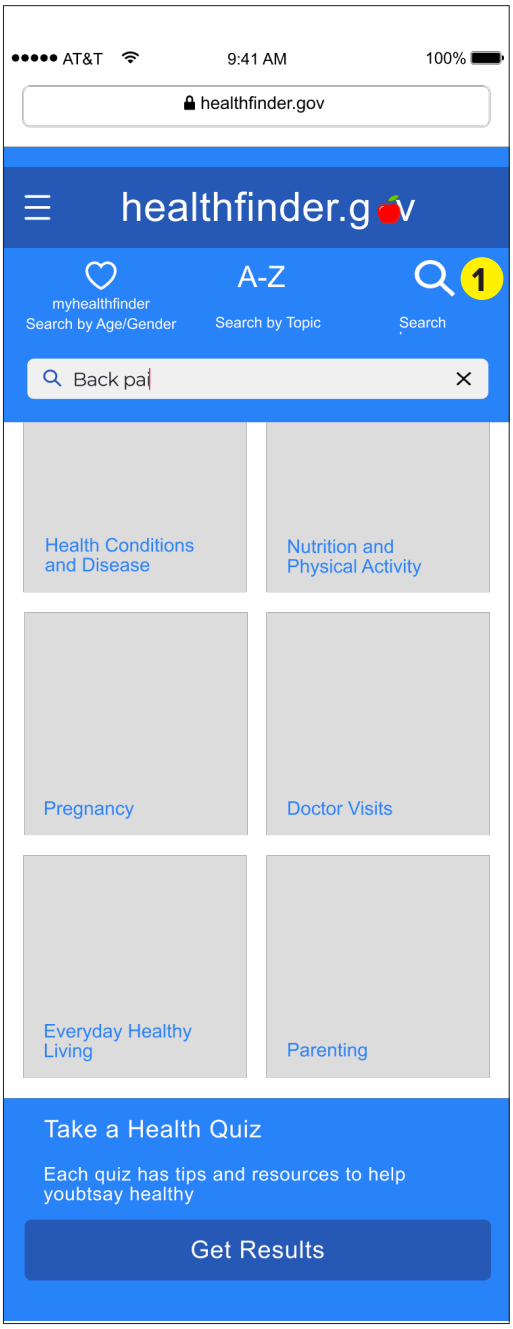


Homepage Version 2

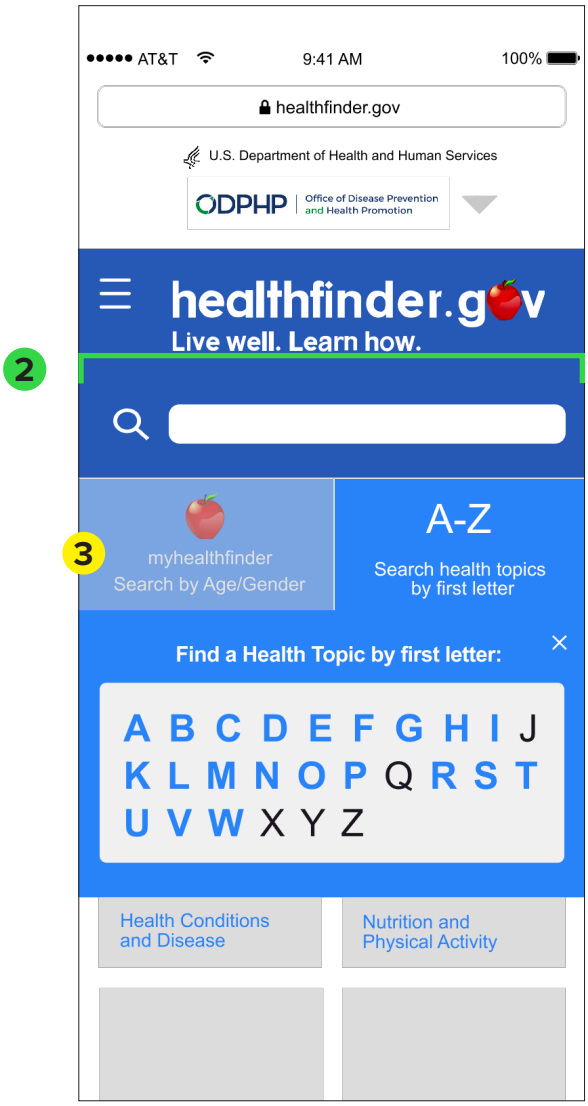


1. Added the other two logos at the top
2. Made the healthfinder logo bigger
3. In the homepage version 1 the three search options were at the top which made them a bit squishy. Also since the search bar is so frequently used, changed it so the user can still see the whole search bar. Underneath are the other two search options unique to this site.
4. Took out the suggested article to read from the original website (it seemed unnecessary and took up space).
5. The letters are more spaced out than the original website to help people make less errors clicking on a letter.
6. The buttons are the same style with a slight drop shadow so user's know it is a button and not just text in a blue square.

Homepage Search Option Version 1

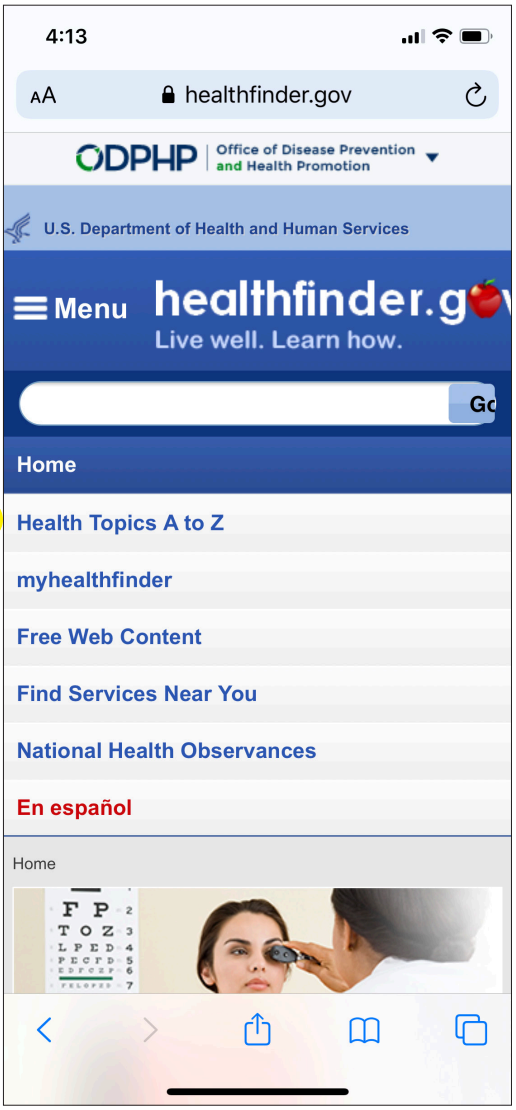


Homepage Search Option Version 2

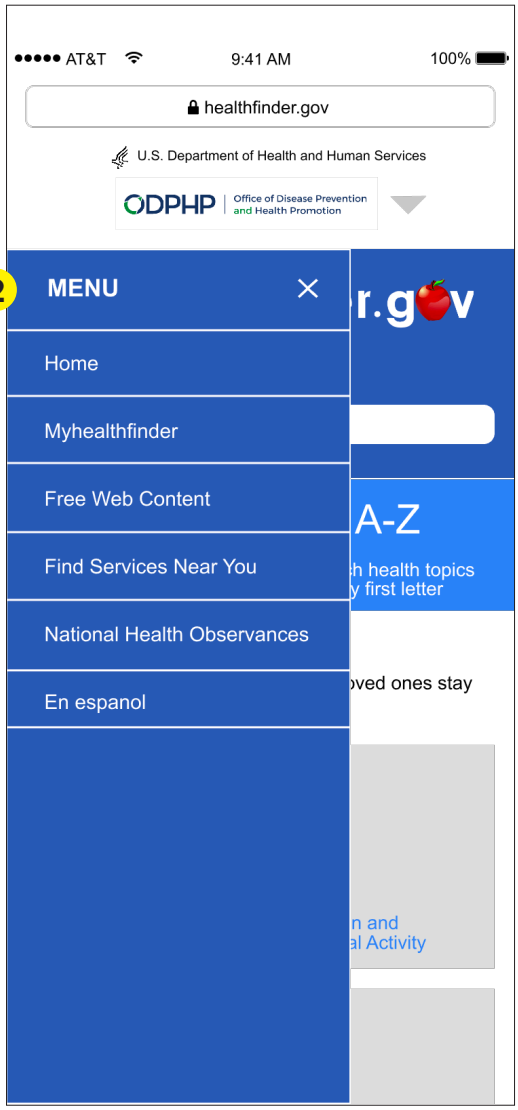


1. Example of the three search options at the top. The user has to click on the search button to use it.
2. In the second view the search bar is always present and the user clicks on the A-Z or the myhealthfinder tool as a pop up.
3. The myhealthfinder tool was not selected so it is slightly faded out so the user knows which selection they made.

Homepage Menu Current

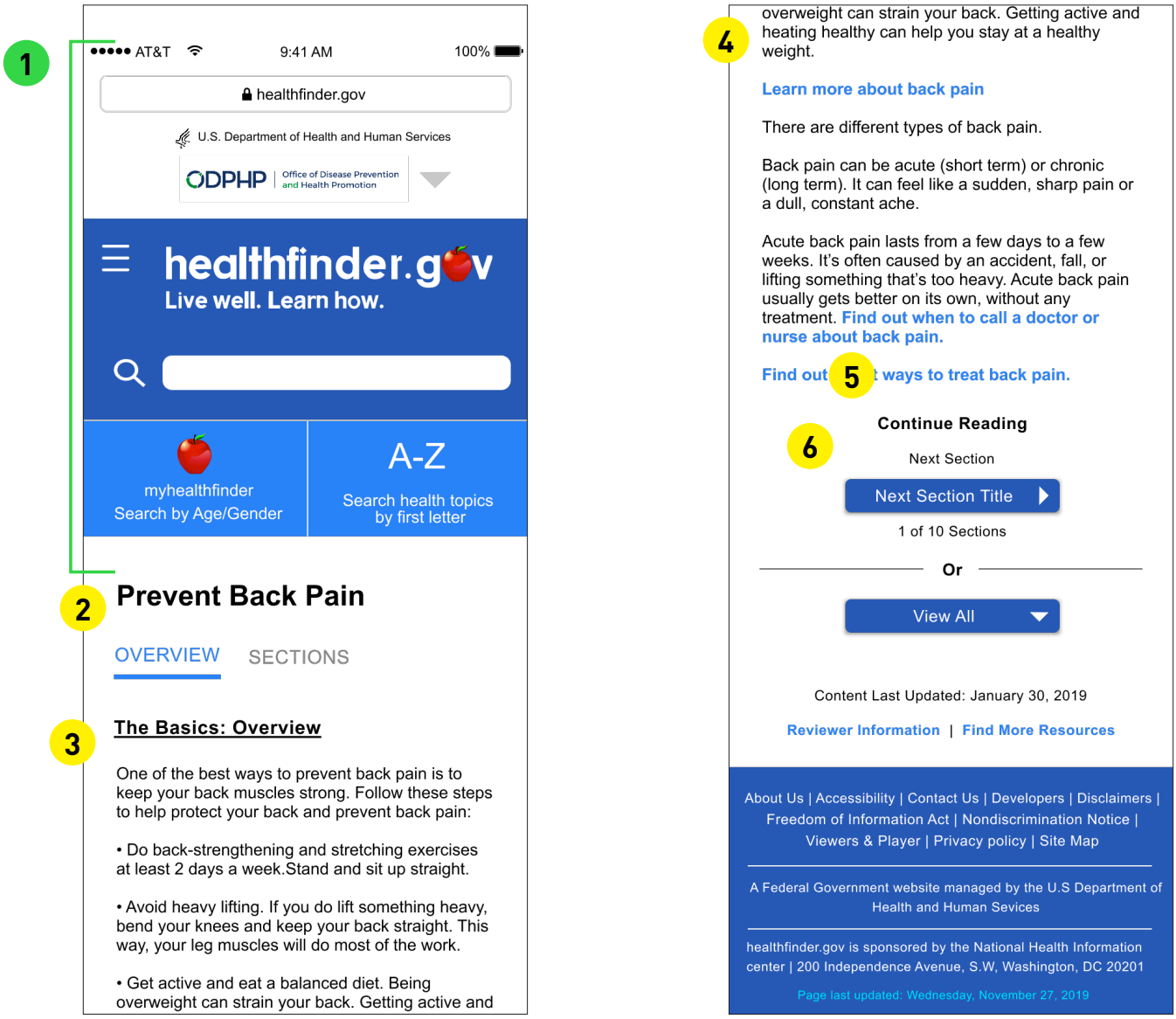


Homepage Menu Wireframe



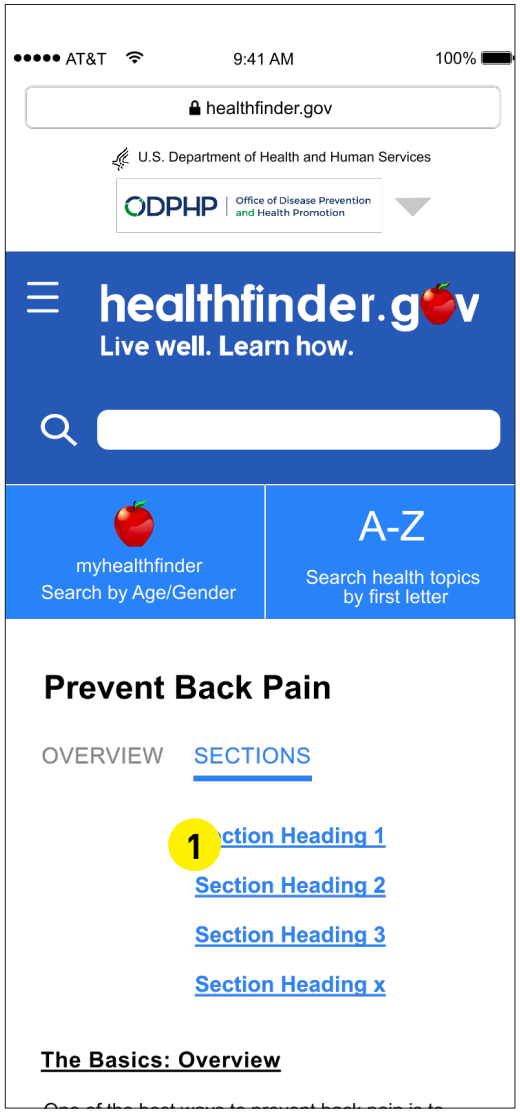
1. The menu drops down and shifts all of the content down. It may not be obvious where the menu options end.
2. In the updated interface the menu slides out from the left in a blue box. This visual helps the user know exactly what is in the menu bar.

Article View Wireframe

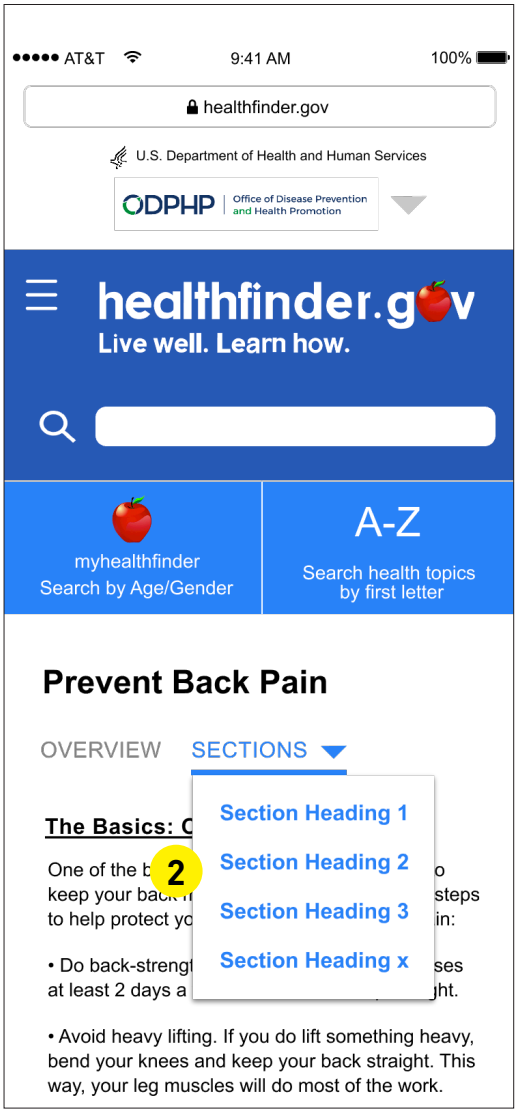


1. This header section stays on every page so the user can easily find the three search options without going back to the homepage.
2. The header of the article is in a bold black, not blue so users do not confuse it with a hyperlink.
3. The basics overview (and other section headers) are bold and underlined so users can easily and rapidly find each section header.
4. The hyperlinks are in blue. Any text that is not a hyperlink is black.
5. Added the text continue reading to show the user there is more in the article.
6. The “next section” and “view all” buttons are the same style as the homepage buttons for continuity.

Section View Version 1

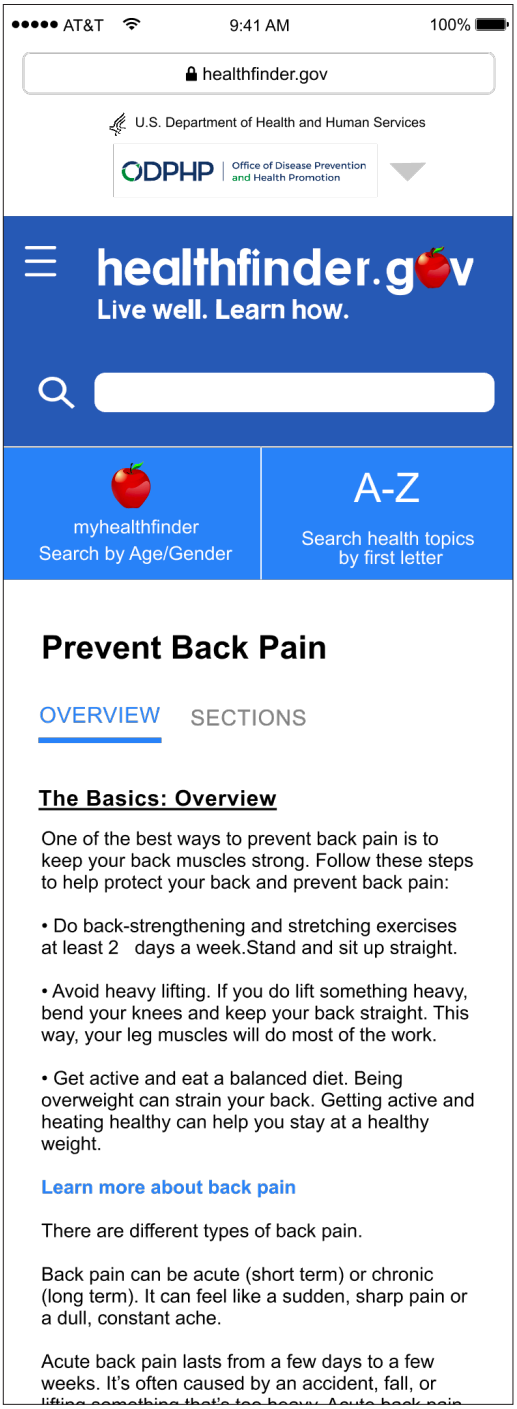


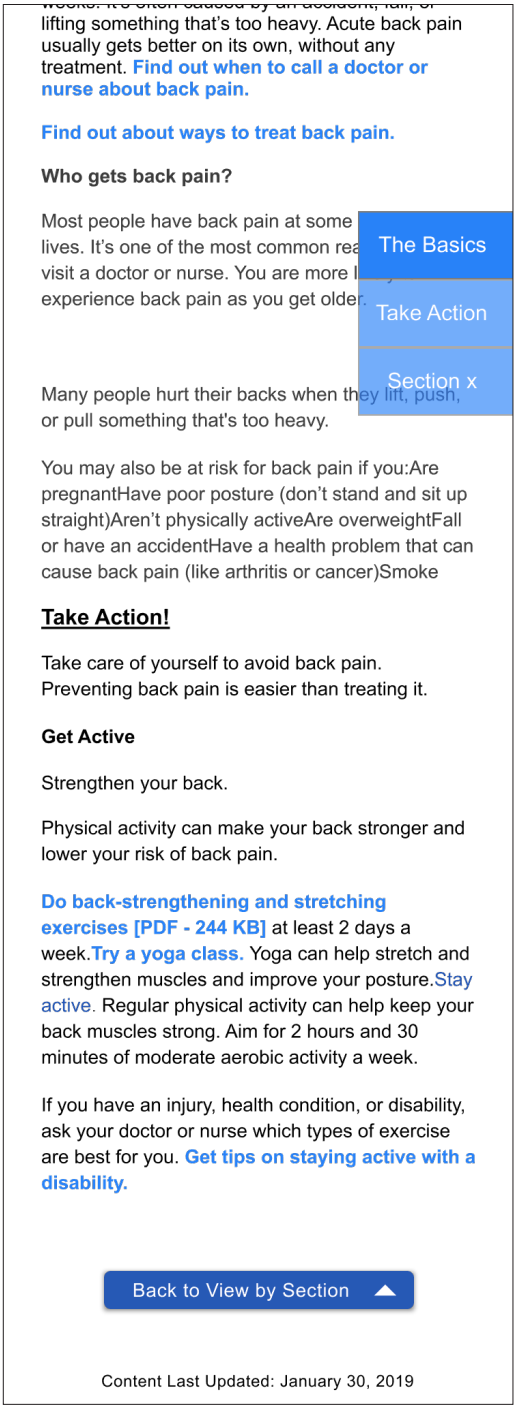
Section View Version 2



1. The first option to present the sections in the article is by clicking “sections” the headings drop down and the text content is shifted down.
2. The second option is to have a drop down menu that goes over the content without moving the content further down the page.

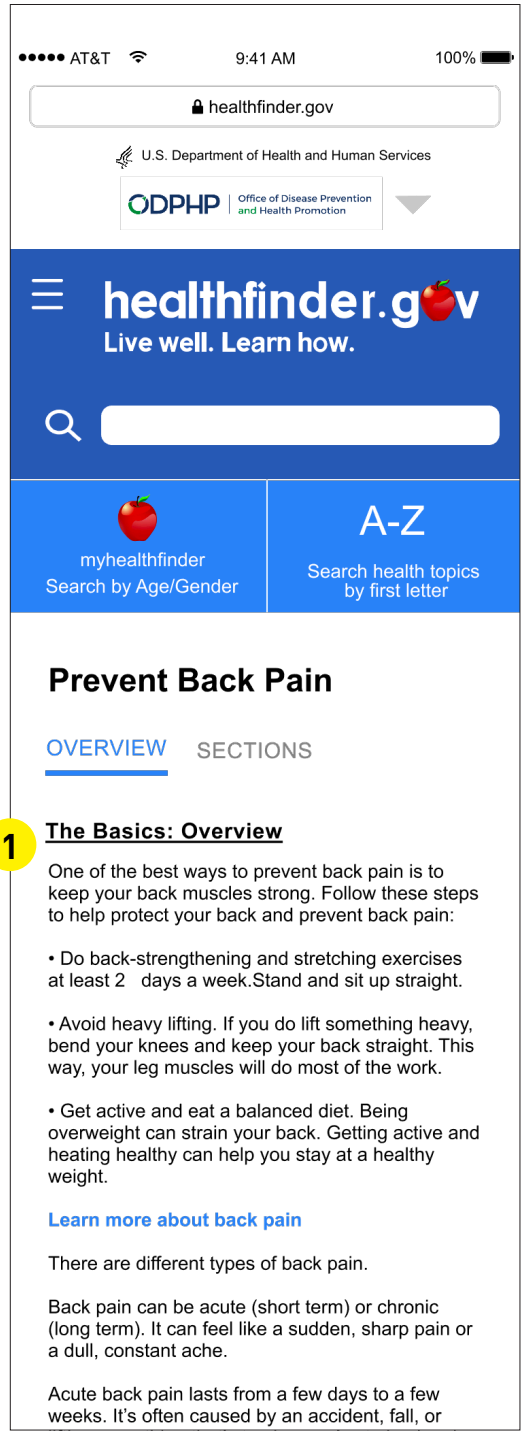
Section View When Scrolling



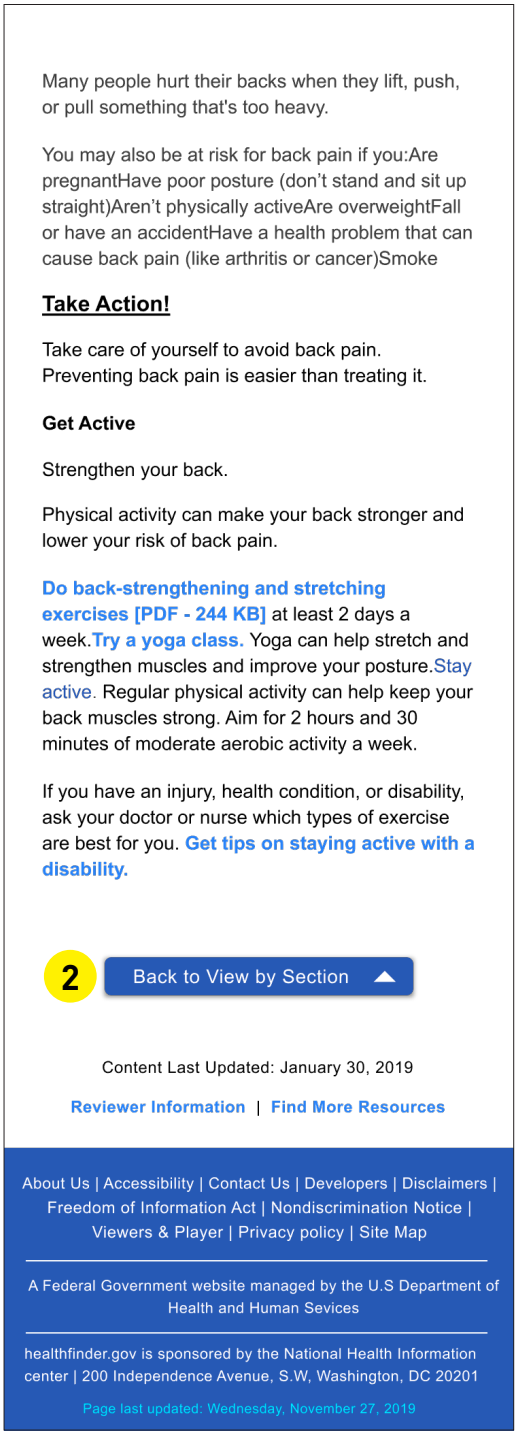


1. When the user scrolls fast down the page (in the "view all" reading option) a side bar will appear to show the user all of the sections in the article and the section they are in will be the 100% opacity and the sections that are in the article but not where the user is currently on the page will have 65% opacity. The user can click on the other sections to get to it faster than scrolling up to the top of the page or trying to find the section header in the article.

View All



View All Continued



1. The first option to present the sections in the article is by clicking “sections” the headings drop down and the text content is shifted down.
2. The second option is to have a drop down menu that goes over the content without moving the content further down the page.

Design Considerations Not Included

Based on our data collection and analysis, we found that for participants who used the search bar and typed a long search request, such as “6 ways to prevent back pain”, the website gave a list of articles about back pain, but the article description did not contain anything specific about a list to prevent back pain. Thus, the users were often unable to identify if that article contained the answer or not. In another example, a user typed “seafood dies for breast feeding mom” (misspelled words) which came up with no results and confused the user. In both cases the user’s search results were not helpful for them to find the answer for the task. One modification we wanted to do is make the search more lenient for spelling errors, and instead of coming up with “no results,” perhaps it could have a message that offers a search option that is closest to what the user typed. For example, if the user typed “seafood dies for breast feeding mom” the result could say “suggested search, ‘seafood diet for breastfeeding mom’”, that is, the search finds the possible error missed by the user. Another modification along the same lines is that when the user gets to the page with the list of articles, there should be something in the article description that tells the user that their search the matches content of a specific article. The reason we did not implement these changes is because they are beyond a static interface design; we would have to figure out the back-end code and optimization requirements for the same.

A common point of feedback from our participants was about the content in the health article. This consideration of optimizing and adding to the content of an article would be a modification we would ideally want to make as part of our project, however, would not be able to. Our focus remains to assess the structure of the content and evaluate what design changes can be made to improve users’ comprehension of the content and not to change the actual content of the article. This, thus, becomes beyond the scope of our current project with CommunicateHealth.

FEEDBACK

User 1

- She likes the design choice of having three search tools on the top of the Home page and she thinks it is more visible compared to the current interface where they are at the bottom of the page.
- She thinks two logos on the top of the pages take up a lot of space and they can be in one line. Also the text of the logos is too small.
- She prefers to see all of the article’s sections as bullet point options after reading the overview section. She thinks it is more visible and that it helps her decide which section is more aligned to her intended search. She also mentions that she finds having a drop down menu to navigate to different sections better than the “view all” or “next section” button.
- She mentions she doesn’t like hidden information. She likes to see all options on the same page.
- She mentions to switch A-Z and myhealthfinder in the header because human’s focus more towards the left side of the page when it comes to reading.

User 2

- The pull down menu is more helpful than the original menu from the current site.
- The graphics on the main menu is helpful to visually see the health topics options she can look through. It makes it so the text is broken up a bit with visuals.
- In the article view the underline underneath the “The Basics: Overview” can be taken out. It seems like the bold and bigger font is enough to find the article headers. The underline seems like too much.
- She liked the Sections Version 2 display because the article content doesn’t get dropped down the page and with a pop up menu it is easy to see. She also said to remove the underline from the article headings. Instead, have the underline show up after the user clicks on the article they want to read.

User 3

- She said the webpage looked more organized when she saw all the search options at a place. She felt the search on the website would be a lot easier with the alignment of the search options at the top.
- She liked how the sections were mentioned at the top. But she added that even now the section menu might get lost and the user may not be able to find it. She suggested to begin the article with the mention of the section headers and their links followed by each section explained in brief. This way the View all button (which she felt was not a great help) could be removed and the entire article would be mentioned at once with the links to the sections of the article at the top of the same page. So, when the user opens the article the sections are mentioned at the top and clicking on a section header will take you to that part of the same page where that section is mentioned. (Just for our understanding: She said we could do something like Wikipedia)
- She said mentioning the content on the same page will also save the users from scrolling across the multiple pages, which might be confusing for elderly users.

User 4

- He liked the “Article Sections” menu on the article page. He suggested that if an article has too many sections, we don’t need to show all the section titles in the list but instead we can have an option which says “view all section titles” which opens up the remaining section list if clicked on.
- He likes the floating menu of section titles that can help navigate between sections in the “view all” view of the article. He says it is much better than having the browse sections drop down list which is there in the original website as that isn’t very intuitive to use and is placed only at the beginning of the page, unlike the floating menu that can help navigate even when in the middle of the article.
- He says that the cross button for closing the A-Z list and myhealthfinder pop-ups that open when accessing the two search options from the header should be made more prominent as currently it looks small and is easy to miss. The user may not see it and won’t know how to close the pop-up.

- He said isn't too sure if the change to Spanish option should be a part of the main menu. He feels that there can be a separate drop down list for changing to different languages.

Based on the feedback we received from our non-target users, we will try to make amendments to our wireframes before the second round of usability tests. We will carefully analyze and discuss the suggested changes and see what we will want to incorporate in our design.