Physician, Heal Thy Site:

A Heuristic Evaluation of the Website for The Center for Cancer and Blood Disorders

Finally, a wide range of cancer treatment at a single location

“Brady's cancer is a challenge for him and our family. It helps to have chemotherapy, radiation, and everything else to help him all in one place at The Center." - Jim, father of Brady

Request an Appointment or Call 817.759.7000

Krissy R. Carlson
The Website
The Center for Cancer and Blood Disorders (The Center) is a network of cancer treatment facilities in North Texas. The Center has 19 physicians on staff who treat a variety of cancers and other blood disorders. For physicians at The Center to effectively communicate with their current patients, attract new patients, and supply them with information, they have created a website. The website (www.thecentertx.com) has about 60 web pages.

The Purpose of the Evaluation
To attract new patients and easily communicate with existing patients, most medical facilities today need a website. However, one “critical challenge facing the health profession is how to develop a computer presence that is not only compelling to the user, but also establishes trust” (Usher, 2009, p. 43). To establish trust and provide a user-friendly experience, medical facilities should develop websites that not only provide all of the necessary information, but also establish that immediate feeling of trust.

Because “health information seekers evaluate the usefulness and trustworthiness ... when they first interact with the website’s user interface” (Usher, 2009, p. 43), website design and usability is very important to maintain the integrity of the medical facility and its website. For The Center to establish a high level of integrity and usability with their website’s users, our Research Methods class (led by Dr. E. Friess) conducted usability testing on www.thecentertx.com.

The Methods
Our class evaluated the website in three phases:
- **Phase 1.** We each evaluated the website on our own.
- **Phase 2.** We each developed a script and user protocol and tested 1–2 users.
- **Phase 3.** We created a final collaborative script and protocol, and we each tested it on 2 users.

Phase 1 Testing
Phase 1 testing consisted of each student evaluating the website on his or her own. During this phase of the process, we were free to look around the website, click buttons, explore options, and evaluate the website based on our personal criteria of what we expected to find on a medical facility website. Each student then documented his or her opinions and user experience results.
Phase 2 Testing
Phase 2 testing consisted of each student developing his or her own testing script and protocol and testing 1–2 users. During this phase of the process, we tested our users using the script and protocol (See Appendix A) we each created and documented the users’ opinions and user experience results.

Phase 3 Testing
Phase 3 testing consisted of each student using the final collaborative script and testing 2 users. During this phase of the process, we tested our users using the script and protocol (See Appendix B) we created (as a class) based on our experiences with our previous scripts and protocols.

The Results
The results of the three phases of testing indicated that, overall, the website is accessible, but users had difficulty navigating the website and finding the information they needed. When users have a hard time finding what they need on a medical facility website, they may become frustrated and,
- Existing patients may avoid using the website
- Potential patients may avoid using the medical facility

What Worked
The information below reflects the results of my evaluation and the evaluations of the users I tested.
- The layout and colors of the website are warm and inviting. One tester said, “The style, the look, the colors—visually, it’s very attractive.”
- The Our Physicians link takes users to a page that has the names and pictures of all of The Center’s physicians. If the user clicks on the physician’s name or picture, the user can see that physician’s information page. Users stated that they liked having the physicians’ friendly-looking photos and background information because it may help ease the anxiety when selecting a cancer doctor. They also liked the pop-up videos of the physicians talking because, as one tester said, “you can get a feeling about the doctors before you meet them.”
- The images and quotes from patients are inspirational and make users feel as if the physicians at The Center care about their patients. One tester said, “it’s like they’re saying ‘we’re here to get you through this—to help you and treat you.’”
- The Cancer Treatment link takes users to a page that explains the different types of cancer treatments and where those treatments are available.
- The list of support groups helps users feel as if they are not alone. Having a date on which it was last updated makes the information more credible.
### Areas That Need Improvement

The following table examines the problems and identifies possible solutions:

<table>
<thead>
<tr>
<th>Problem</th>
<th>Significance</th>
<th>Possible Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>The animations on the Home page are not user-friendly.</td>
<td>For users who do not have high-speed internet, these could pose significant problems with loading the web page.</td>
<td>Users do like these, but not when they continue to pop up every time they go back to the page. Replace them with a video link that the user can choose to click.</td>
</tr>
<tr>
<td>- talking doctors</td>
<td>Additionally, the pictures with quotes change quickly. This could be frustrating for users who do not read very quickly, thus alienating them from using the site.</td>
<td>Slow down the transitions between the pictures with quotes.</td>
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<tr>
<td>- changing pictures with quotes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The list of locations on the Home page is arranged awkwardly.</td>
<td>Because the locations list does not seem to follow any understandable pattern, users could improperly assume that one location higher in the list takes precedence over another location.</td>
<td>List the locations by a pattern: alphabetically, by distance from the central (main) location, by location on a map, by length of the name, etc.</td>
</tr>
<tr>
<td>On the Home page, the word ‘Locations’ looks like a title for a link to a separate page, but it is not a clickable link.</td>
<td>Users expect titles at the top of a page to be clickable links, especially something like the word ‘Locations.’</td>
<td>Link the word ‘Locations’ to the separate Locations page.</td>
</tr>
<tr>
<td>The Home page contains a false bottom.</td>
<td>Users could miss out on the information below the curved line because they could assume the page stops there.</td>
<td>Reformat the page so that it is obvious that the page continues below the curved line.</td>
</tr>
<tr>
<td>When mousing over the Patient Information link, a box pops up for a link to Inspirational Stories.</td>
<td>By clicking on this link, users go to a uniflip.com online publication. As a new patient, users need immediate access to information, not stories that make them cry.</td>
<td>Link to Inspirational Stories from somewhere else on the site, perhaps the Cancer Resources page.</td>
</tr>
<tr>
<td>The titles on the website’s pages are not consistent.</td>
<td>Users could read the title and become confused, thinking that the center treats only breast cancer or one of the other cancers listed in the various titles on the pages.</td>
<td>Use only one title throughout the website and use html meta tags for search engine purposes.</td>
</tr>
<tr>
<td>Issue</td>
<td>Description</td>
<td>Solution</td>
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<tr>
<td>Some of the names of the links on the top navigation bar do not match the names of the links on the bottom of the page. Also, some page headers do not match the link names.</td>
<td>Link and header name changes could confuse the user about where he/she is on the site.</td>
<td>Make sure all link names and header names are consistent throughout the site.</td>
</tr>
<tr>
<td>The website does not have a search box.</td>
<td>Users typically expect to find a search box on most professional websites so they can quickly find what they are looking for.</td>
<td>Install a search feature on the website.</td>
</tr>
<tr>
<td>The pages do not contain copyright dates at the bottom.</td>
<td>Most experienced web users expect to see when a website was last updated so they know that the information is current.</td>
<td>Add copyright and update dates on the bottom of the page.</td>
</tr>
<tr>
<td>When users click on the Request an Appointment link on the Home page (and others), it takes them to a page which prompts them to choose a physician.</td>
<td>Patients may think they must choose a physician before trying to set up an appointment.</td>
<td>Clearly explain the appointment-making process.</td>
</tr>
<tr>
<td>From the Request an Appointment page, when users click on a location, they are taken to a form to fill out. However, at the bottom of this form, there is a section that says ‘For physician only.’</td>
<td>This could confuse users about who can set up appointments through the site.</td>
<td>If this function is for patients, remove this information from the patient area and set up and separate area that physicians can use when setting up appointments for their patients. If this function is for physicians, make sure that it is obvious to patients that they cannot set up appointments through this function.</td>
</tr>
<tr>
<td>On the New Patient Information page, when users mouse-over the pdfs, the alt text tags are inaccurate.</td>
<td>This could confuse the user, especially if the user is visually or otherwise impaired.</td>
<td>Apply correct alt text tags for the pdfs</td>
</tr>
<tr>
<td>Under Locations, the maps are not to scale and are not large enough to see where these locations are in respect to the entire Metroplex.</td>
<td>Users could have trouble finding a location close to their homes.</td>
<td>Have one big map that shows all of the locations throughout the Metroplex.</td>
</tr>
<tr>
<td>The site contains no information about payment options or insurance providers they accept.</td>
<td>Users need to know how much medical care is going to cost or if the facility takes their specific insurance.</td>
<td>If the center does not want to post payment or insurance information, provide a phone number or email to contact for those questions.</td>
</tr>
</tbody>
</table>
On the Cancer Treatment page, under Cancer Treatment—Radiation Oncology, it lists the locations, one of which is Fort Worth. However, The Center has 3 Fort Worth locations, and it is not clear which facilities offer which treatments.

Users need to know what treatments are available at each facility. Make a separate page that lists the treatment are available at each location.

The site does not have a virtual tour or pictures of each facility.

If they can, users want to ‘see’ a facility before they go there. This allows them to feel more comfortable and at ease when actually visiting the location. It also ensures that users can get a ‘feel’ for the environment of the facility.

Install a virtual tour feature or include pictures of each facility on that location’s page.

The site looks pretty, but the information is buried in too much text or missing completely.

This can frustrate users, and as one tester said, “I’d end up calling, and I would be frustrated. [I] might be in a bad mood when [I] get to the point and be short with whoever answers the phone.”

Clearly explain the step-by-step processes users need to follow to find the information they seek or set up an appointment.

Conclusions

When users visit a medical facility website, they want to find what they are looking for quickly and easily. When they cannot, they become frustrated, and may choose to go to a different medical facility. As one tester commented, “If they want my business, they need to make it easy for me, the customer, to find what I’m looking for.”

Potential patients often respond to how something ‘feels’ when they are searching for a provider, especially after a cancer diagnosis when the patient is scared. Therefore, establishing the right ‘feeling’ about a medical facility is important. This ‘feeling’ begins with the first impression and subsequent impressions users get from the website. Even if the website initially attracts the potential patient, it must be user-friendly. As one tester put it, “this is a very pretty website, with lots of good stuff, but as far as getting to the meat of the matter, they don’t do a very good job. At this point I am frustrated and think I need to [go] somewhere else [for cancer treatment].”

Creating a user-friendly experience should be the goal of every website, especially a medical facility website. As one tester said, most people looking for cancer treatment want to find a place they can go to that “shows that there’s hope.”
Appendix A—Usability Testing Script and Protocol for Phase 2
This script and testing protocol were designed for the usability testing for www.thecentertx.com.

Facilitator Script
Hi, and thank you for participating in our testing process. My name is __________, and I am going to ask you a few questions today about a website. Your role is in this evaluation process is very important. Your answers will provide valuable insight into the usability of this website and help the business make sure that it caters to its users. Your opinions matter, so please let us know what you’re thinking while you navigate the website.

Today, you will be evaluating the website for The Center for Cancer and Blood Disorders. We will begin by asking you some questions about yourself, your web habits, and your web experiences. Then, we will ask you to complete three (3) tasks on the website.

During those tasks, we would like you to speak aloud and tell us your thought processes while you are completing the tasks. While I know this is sometimes awkward, it will really help us understand how and why users make the choices they do when navigating the website. You can say things like, “I am clicking here because...” or “I like/don’t like...” or “I picked this option because....” Feel free to say whatever is on your mind and tell us the things that influence the decisions you make while performing the tasks and the impressions you get from the website.

During the testing process, I will be sitting next to you, and I may ask you questions from time to time. However, I cannot tell you what to do or where to go on the website. Do you have any questions before we begin?

Before we start, we would like you to fill out this questionnaire to help us get to know you and to understand your experience using websites.

[Participant fills out Pre-Test Questionnaire]

Pre-Test Questionnaire
Thank you for participating in our usability test today. We appreciate your time. Your participation will provide valuable feedback about user experiences with the website. Your feedback and experiences will allow the company to create a more user-friendly website.
Before we begin, we would like you to fill in the following questionnaire so we know more about you and your experiences using websites.

Name (please print):______________________________________________________

1) How often do you visit medical center websites? (please underline one)
   a) Often (20 or more times per year)
   b) Regularly (10-19 times per year)
   c) Sometimes (5-9 time per year)
   d) Rarely (1-4 times per year)
   e) Never

2) What are the five (5) most important features or functions would you expect to find when you visit a medical center website?
   a) __________________________________________
   b) __________________________________________
   c) __________________________________________
   d) __________________________________________
   e) __________________________________________

3) Which three (3) features or functions do you use the most when visiting any website?
   a) __________________________________________
   b) __________________________________________
c)

4) Which three (3) features or functions frustrate you the most when visiting any website?
   a)

   b)

   c)

Thank you for your responses. Now let’s get started. We have prepared three (3) task scenarios for you to complete. Remember, we are not testing YOU; we are testing the website. Nothing you do or say is going to be counted “wrong.” Your opinions matter to us. We also want to know what you think about the website and how and why you make decisions while using the website, so remember to think aloud.

After each task scenario, please let me know that you are finished. I will give you a brief questionnaire to complete, and then we will move on to the next scenario. While you complete the questionnaires, please tell us about the answers you give and the choices you make. The more you tell us, the more we can learn from your experiences. Do you have any questions?

Ok, let’s begin with Scenario One.

[Participant completes Scenario One and S1 Questionnaire]

**Scenario One**
Imagine that you have come to this website while searching for cancer treatment centers. Browse through the website and tell us (by thinking aloud) what your first impressions are.

What do you like about the website?

What is distracting or frustrating?
Is anything noticeably missing?

What do you think about the layout and design?

**Questionnaire for Scenario One**

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<tr>
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<td>Understanding the navigation for the website</td>
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<td>Understanding what the purpose of the website is</td>
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<td>Understanding the terminology used on the website</td>
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Excellent, let’s move on to Scenario Two.

[Participant completes Scenario Two and S2 Questionnaire]

**Scenario Two**

Imagine that you have come to this website while searching for cancer treatment centers because your 64-year-old father has been diagnosed with Stage I prostate cancer. You need to know if the medical center treats prostate cancer and, if so, which doctors treat it. You also need to know what kinds of treatment are available close to your father’s home in Flower Mound, Texas.

Does the center treat prostate cancer?

If so, which doctors treat it?
What kinds of treatment options does the center offer for prostate cancer?

At which treatment do they offer those treatments?

Where is the closest treatment center to Flower Mound, TX?

**Questionnaire for Scenario Two**

| Finding out if the center treats prostate cancer |
| Finding doctors in the center who treat prostate cancer |
| Finding what kinds of treatment options are available for prostate cancer |
| Finding the treatment center that offers prostate cancer treatments |
| Finding the closest treatment center to Flower Mound, TX |

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<th>Very Easy</th>
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<th>Neither Easy nor Difficult</th>
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Great! You’re doing a wonderful job. Let’s move on to the final scenario: Scenario Three.

[Participant completes Scenario Three and S3 Questionnaire]
**Scenario Three**
Imagine that you have come to this website because you have been diagnosed with Stage II breast cancer and your family physician has referred you to The Center. You’re understandably scared, and you need to find out as much information about Stage II breast cancer as you can, including treatment and payment options. You assume that you will need chemotherapy and possibly radiation, but you’re not sure where you will need to go to get it. You live in Southlake, TX, but your spouse will be driving you to and from treatments.

Which doctors at the center treat breast cancer?

What does stage II breast cancer mean?

What are your treatment options?

Which treatment centers closest to you offer chemotherapy and radiation for breast cancer?

Can you find any information about support groups for you and your spouse?

**Questionnaire for Scenario Two**

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<tr>
<td>Finding out which doctors treat breast cancer</td>
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<tr>
<td>Finding out what stage II breast cancer means</td>
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<tr>
<td>Finding what kinds of treatment options are available for breast cancer</td>
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<td>Finding the closest treatment center that offers chemotherapy and</td>
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Perfect. Now, we just need to have you fill out one more questionnaire: our Post-Test Questionnaire. Please remember to think aloud when answering these questions because your opinions are valuable to this process.

**Post-Test Questionnaire**
Thank you for participating in our usability test today. We appreciate your time. Your participation will provide valuable feedback about user experiences with the website. Your feedback and experiences will allow the company to create a more user-friendly website.

Please answer the following questions based on your experiences navigating the medical center’s website.

1) What was the biggest problem you had while navigating the website?

2) Was anything missing from the website? If so, what was missing? (List as many as possible.)

3) Did you always know where you were on the website?

4) What would you change about this website? (List as many changes as you can think of.)

Thank you for your opinions! Your experiences will help the center develop a more user-friendly website!

Thank you so much for participating! That was excellent feedback that will surely help the company create a more user-friendly website. We learned a lot from your feedback, and we thank you very much for helping us today.
Appendix B—Usability Testing Script and Protocol for Phase 3

This script and testing protocol were designed for the usability testing for www.thecentertx.com.

Facilitator Script

Hi, and thank you for participating in our testing process. We appreciate you taking time out of your busy schedule to help us today. My name is ___________, and I am going to ask you a few questions today about a website. Your role in this evaluation process is very important. Your answers will provide valuable insight for the design team and will help shape the final version of the site. Your opinions matter, so please let us know what you’re thinking while you navigate the website.

Any information you provide us will be kept anonymous and confidential. You can choose to stop the interview at any time.

[Give the participant the informed consent.]

This informed consent lets you know that we are studying how people interact with everyday websites. It should take about 30-60 minutes of your time. There are no foreseeable risks in this study. The Informed Consent details how we will keep your information confidential and anonymous. Take a minute to read through this and please sign the back if you agree to the terms. Do you have any questions?

I’m here to guide you through today’s session and to ask you questions about your impressions and understanding of the website. Keep in mind that this is not a test of you or your abilities. There are no right or wrong answers to any of the questions. This website is a work in progress. Any information that you give us about your impressions will be used to make it better. I encourage you to express both positive and negative feelings about what you will see today. Both are equally important and valuable.

Today, you will be evaluating the website for The Center for Cancer and Blood Disorders. We will begin by asking you some questions about yourself, your web habits, and your web experiences. Then, we will ask you to complete three (3) tasks on the website.

During those tasks, we would like you to think aloud and tell us your thought processes while you are completing the tasks. While I know this is sometimes awkward, it will really help us understand how and why users make the choices they do when navigating the website. You can say things like, “I am clicking here because...” or “I like/don’t like...” or “I picked
this option because....” Feel free to say whatever is on your mind and tell us the things that influence the decisions you make while performing the tasks and the impressions you get from the website.

During the testing process, I will be sitting next to you, and I may ask you questions from time to time. However, I cannot tell you what to do or where to go on the website.

During the course of the session, you can ask me questions. Sometimes I’ll answer those questions, but in some cases, I’ll defer an answer because it’s important for me to see how you work with the website.

When we finish the tasks, I will ask you a few more questions about your experiences using the document.

Do you have any questions before we begin?

Before we start, I’m going to ask you a few questions to help us get to know you and to understand your experience using websites.

**Pre-Test Questions**

1) What is your age?

2) What is the highest level of education you have completed?
   - Some high school
   - High school diploma
   - Trade school
   - Junior college
   - Some college
   - 4-year university
   - Some graduate school
   - Graduate school

3) How often do you use the internet to find information?
   - Daily
   - Weekly
   - Monthly
   - Never
4) Where do you access the internet most often?
   a) Home
   b) Work
   c) Mobile Device

5) Have you ever searched for cancer information on the web?
   If so, where did you look to find information?

6) How often do you visit medical center websites? (please underline one)
   a) Often (20 or more times per year)
   b) Regularly (10-19 times per year)
   c) Sometimes (5-9 time per year)
   d) Rarely (1-4 times per year)
   e) Never

7) What are some of the most important features or functions would you expect to find when you visit a medical center's website?
   a) 
   b) 
   c) 
   d) 
   e)
8) Which three (3) features or functions do you use the most when visiting any website?
   a)
   b)
   c)

9) Which three (3) features or functions frustrate you the most when visiting any website?
   a)
   b)
   c)

[Pre-Test Questions complete]

Thank you for your responses. Now let’s get started. We have prepared three (3) task scenarios for you to complete. Remember, we are not testing YOU; we are testing the website. Nothing you do or say is going to be counted “wrong.” Your opinions matter to us. We also want to know what you think about the website and how and why you make decisions while using the website, so remember to think aloud.

**Scenarios**
1) I’m about to load the website. Imagine that you have come to this website while searching for cancer treatment centers. Browse through the website and tell us (by thinking aloud) what your *first impressions* are.

What do you like about the website?
What is distracting or frustrating?

Is anything noticeably missing?

What do you think about the layout and design?

[Load thecentertx.com website now]

2) Imagine that you have come to this website while searching for cancer treatment centers because your 64-year-old father has been diagnosed with Stage I prostate cancer. You need to know if the medical center treats prostate cancer and, if so, which doctors treat it. You also need to know what kinds of treatment are available close to your father’s home in Flower Mound, Texas. Finally, your father has Blue Cross Blue Shield health insurance and wants to know if The Center will accept this insurance plan.

Does the center treat prostate cancer?

If so, which doctors treat it?

What kinds of treatment options does the center offer for prostate cancer?

At which treatment do they offer those treatments?

Where is the closest treatment center to Flower Mound, TX?

Will The Center accept his insurance plan?

3) Your physician has diagnosed you with cancer and recommended that you receive IMRT Radiation Therapy. Using the website, find the nearest location that offers IMRT, find a physician at that location who can administer the treatment, find the information required to set up an appointment, and the things you need to bring with you on your first appointment.
Post scenario questions
[Repeat after each scenario]

a. How easy or difficult was it to complete the task?

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<tr>
<td>4</td>
<td>Difficult</td>
<td>5</td>
<td>Very difficult</td>
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</table>

b. Was there anything in particular that caused uncertainty while doing the task?

[Ask any pertinent follow-up question based on the participant’s responses to the scenario task]

Post test questions
Perfect. Now, we have just a few more questions.

1) Overall, do you think this website would be useful for someone who was recently diagnosed with cancer? Why?
2) What do you think about the colors of the website?
3) What did you think about pictures on the website?
4) What did you like best about the website?
5) What did you like least about the website?
6) Was anything missing from the website?
7) Did you always know where you were on the website?
8) Is there anything else you would like us to know about the website or your experience today?

Wrap-up
Thank you so much for participating! That was excellent feedback that will surely help the company create a more user-friendly website. We learned a lot from your feedback, and we thank you very much for helping us today.
Works Cited