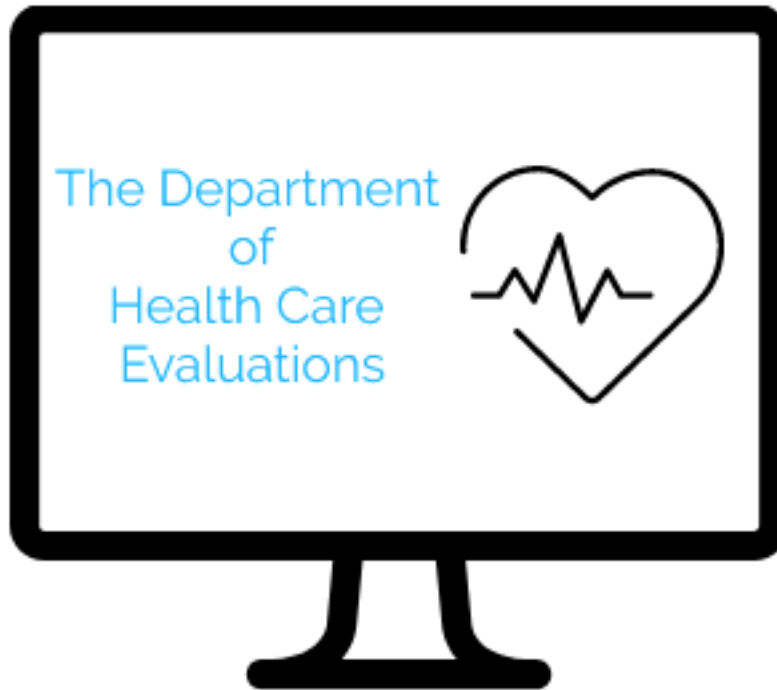


Evaluation of Three Local Hospitals: A Proposal for an Updated Design for UVA Health Systems



Submitted to:

University of Virginia Health System
1215 Lee Street
Charlottesville, VA 22903

Prepared by:

The Department of Health Care Evaluations
433 Longwood Road
Farmville, Virginia 23921

May 1, 2018

University of Virginia Health Systems
Design Department
1215 Lee Street
Charlottesville, VA 22903

April 1, 2018

Nicholas Ryan
Director of Human Resources
The Department of Health Care Evaluations
433 Longwood Road
Farmville, Virginia 23921

Dear: Mr. Ryan

Subject: Evaluation of three hospital website designs

Throughout the past three years, The University of Virginia Health System has conducted a survey that allows the patients to give their input about the hospitals website. Throughout the past three years, it has been a common thread that patients seem to want a more updated/user-friendly site.

As we previously discussed on July 9, 2017, we would like to suggest that your department evaluate and make recommendations from three other hospital websites. The three main categories that we would like to focus on improving are: user-friendliness, content, and design.

We would like to have these changes set in place by June 1, 2018. In order to meet this deadline, we must receive your report by May 1, 2018.

We are greatly looking forward to hearing from you about your recommendations and are excited to see what you have planned for our website. If you have any further questions, please feel free to contact Jim Cantore at 434-555-8907, ext. 234.

Yours sincerely,

Donna Jones

Donna Jones
Chief Designer

The Department of Health Care Evaluations
Design Department
433 Longwood Road
Farmville, Virginia 23921

May 1, 2018

Donna Jones
Chief Designer
University of Virginia Health System
1215 Lee Street
Charlottesville, VA 22903

Dear Ms. Jones

Subject: Three hospital website evaluations complete

I have attached the report for the three hospital websites evaluations that we have chosen to evaluate for you.

We are recommending three websites that have excelled in the three areas of criteria that you are looking at improving.

- Centra
- Duke Health
- Virginia Commonwealth University

We are very confident that these three websites represent very useful information about how a well developed the website should look and also what it should contain. We were able to also find some information that we would suggest to stay away from. This specific information allows us to realize what type of information we should not contain.

We have greatly enjoyed working with you on this report and have had a wonderful time developing this report. Thank you again for allowing our company to assist in your new project as we hope to work with you again in the future.

Yours sincerely,

Nicholas Ryan

Nicholas Ryan
Director of Human Resources

Table of Contents

Letter of Authorization.....	ii
Letter of Transmittal.....	iii
List of Figures.....	
List of Tables.....	v
Executive Summary.....	vi
Introduction.....	1
Analysis of Centra Website.....	2
Content.....	2
User-Friendliness.....	2
Visual Appeal.....	3
Analysis of Duke Health Website.....	3
Content.....	4
User-Friendliness.....	5
Visual Appeal.....	5
Analysis of Virginia Commonwealth University.....	6
Content.....	6
User-Friendliness.....	6
Visual Appeal.....	7
Conclusion.....	8
Recommendations.....	8
Appendix A: Survey Questions.....	9
Appendix B: Survey Results.....	12
Appendix C: Minutes.....	14

List of Figures

Figure 1: Steps users take to find the heart risk assessment

Figure 2: Centra Health home page

Figure 3: Duke Health home page

Figure 4: Duke treatment options

Figure 5: VCU home page

List of Tables

Table 1: Content Survey Results

Table 2: User Friendly Survey Results

Table 3: Visual Appeal Survey Results

Executive Summary

The University of Virginia's (UVA's) Health Systems has received feedback from surveys stating that their patients would like to see a more updated and user-friendly website.

UVA Health Systems has specifically reached out to the Department of Health Care Evaluations© for a formal report of what UVA Health System can do to create an updated website. To create this report, the Department of Health Care Evaluations© analyzed three additional health systems websites to identify strengths and weaknesses of each in order to create the most effective recommendations for UVA Health Systems' website.

The Department of Health Care Evaluations© chose to analyze the Centra Health website, Duke University Health website, and Virginia Commonwealth University (VCU) Health website. The Department of Health care Evaluations© chose these specific health care websites because of their regional proximity to UVA; many residents of central Virginia choose to see providers at either Duke, VCU, Centra, or UVA.

Each website was analyzed using the following criteria:

- Visual Appeal: Color, format, use of images
- Content: Credibility, contextual information, and use of language
- User Friendliness: Ease of navigation, reliability of links

Our report includes a set of surveys sent to the public through the social media platform Facebook. These results are found in Appendix B.

The goal of this report is to find key points that can be taken from the other three websites to use as recommendations for the update of the UVA Health website. This is to provide patients with a website that is easy to navigate and has the information that patients would like to see.

Introduction

Hospital websites are one of the initial ways in which patients look to obtain the information that they are searching for about many different subjects. Many patients use hospital websites to search for specialties, doctors, locations, and even treatments. Because the hospital websites play such a crucial part in providing patient information, hospitals want to make sure that they are providing a very user-friendly website for their patients.

When a patient has the opportunity to receive the information that they are searching for online is almost a sigh of relief for them simply because it was so much easier to obtain. When hospitals are updating and designing their websites, it is very important to remember the patients that you are advertising to. For example, hospitals must try to keep in mind that the elders are going to be searching for a great deal of information from the hospital websites. We should want to make the accessibility/navigation of our websites to be as easy as possible for the elderly since technology can often be difficult for this particular age group.

Many hospitals conduct multiple patient surveys throughout the year to receive feedback from their patients about many different aspects of their experience with the hospital. One component that tends to stand out as an important component to a patient's satisfaction is the easy access and the user-friendliness of their websites.

The Department of Health Care Evaluations was asked by The University of Virginia Health System to analyze and recommend three hospital websites that portray excellence in the following three criteria:

- Content
- User friendliness
- Ease of navigation

Analysis of Centra Health

<https://www.centrahealth.com/>

Centra Health is organized so users can find information regarding the systematic information about the branch, the locations of services, the services provided, and the providers,

Content

Centra Health website provides information beyond the services provided at their given facilities. The website uses large font hyperlinks to take users to subcategories to find specific material.

The Centra website has two sets of hyperlinks, both located toward the top of the page. These hyperlinks include:

- Community Health
- Foundation
- Education
- Careers
- Pay a Bill
- About Facilities
- Services
- Providers

While the intention of these hyperlinks is to make the content easier to find, survey reports found that these links didn't give an accurate description of what the page held. For example, users seemed to agree that the "Community Health" hyperlink should take them to a separate page about specific opportunities in the central Virginia region, but instead it directs users to an email address that encourages users to write to if they have any specific questions.

The content of the website is laid out so that users can find information by further being divided into a large category, but the Internet search produces such a minute fraction of the website, making it difficult to find specific content.

Surveyors found that, overall; the headings of the hyperlinks didn't match up well with the content of each webpage. This suggests that Centra Health has unclear content on their page, as it is difficult for users to locate the information that they are searching for.

User Friendliness

Centra Health website makes use of hyperlinks to allow users to navigate through the different aspects of the facility.

Clearly, Centra Health attempts to make its website user friendly by implementing hyperlinks to be directed to an entirely new page within the website when searching for a specific topic. However, the format that Centra Health uses makes it more difficult to find specific information because of the multiple hyperlinks that are available to a user.

When surveyed, users agreed that Centra Health was relatively easy to navigate, but that it was difficult to find specific information on the website. The surveyors were asked to find the contact information for the Internship and Program Coordinator by just using the hyperlinks, and results showed it was difficult for users to locate this information.



Figure 1

Figure 1: The steps a user of Centra Health website would have to take to find a heart risk assessment. Surveyors were in agreement that they would have never guessed a heart risk assessment would be found under a “community health” heading.

Overall, users were in agreement that Centra Health was not very user friendly because of the lack of seemingly coherent information. The surveys provided unanimous clarity that the overuse of the hyperlinks added to the confusion of the website and made it more difficult to navigate.

Visual Appeal

The visual appeal of Centra Health was rated as relatively strong; the users found the overall teal/ blue scheme attractive and not tiring on the eyes. However, the surveyors noted that the large picture on each webpage of Centra Health seemed relatively distorted and took up too much of the screen. Furthermore, the picture didn't necessarily correlate with the topic page, which could overall reduce the visual appeal of the website.



Figure 2
Figure 2: Centra Health homepage

Analysis of Duke Health

<https://www.dukehealth.org>

The Duke Health corporation uses their website to advertise all of the available services and specialist that are readily available to the public community. The Duke Health website is organized in a way in which it is easy to navigate for families and patients.

Content

The Duke Health website contains a great deal of informational content for adults and also children. A portion of the information that is displayed on the website is divided up into adult services and also child services that are provided at the hospital. Along with the different services/doctors available, there are links to all of the Duke Health facilities located in North Carolina along with directions to all. All of the listed locations are also divided up into child or adult care on the website. When looking for a location for a Duke facility, the patient is able to select whether they are looking for a children's specialist or adult. Once they have chosen adult or child, they are able to choose the specialty and then all of the available locations will appear on the screen.

The website contains all of the available services that a patient may receive as a Duke facility. Along with the services, there is also a list of doctors that specialize in those specific fields. When a patient chooses a certain service/specialty that they are interested in, they patient will then be able to see all of the available doctors that specialize in that field. When looking at the available doctors for certain specialties, the doctors biography is also available so the patient is able to learn more about who they could possibly be working with.

Along with the specializations and doctors, the Duke Health website also

contains a patient/visitor information guide that includes a great amount of information regarding billing, clinical trials, etc. Another component that is found in this particular section is titled events and classes. This portal allows for patients to see what kinds of classes are offered at the different Duke facilities.

The Duke Health website also contains a portal for patients titled Duke MyChart that allows patients to log in and look at appointment times, and results from testing.

User Friendliness

When looking at the user friendliness of the Duke Health website, this specific site is very easy to navigate and very user friendly. When you first enter the homepage of the website, at the top of the page there is a information bar that contains a list of doctors, treatments, locations, patient/visitor information, and the Duke MyChart portal. When a patient wants to click on one of these tabs, there is a drop down box for all of them that allows for easy access and it is all very organized.

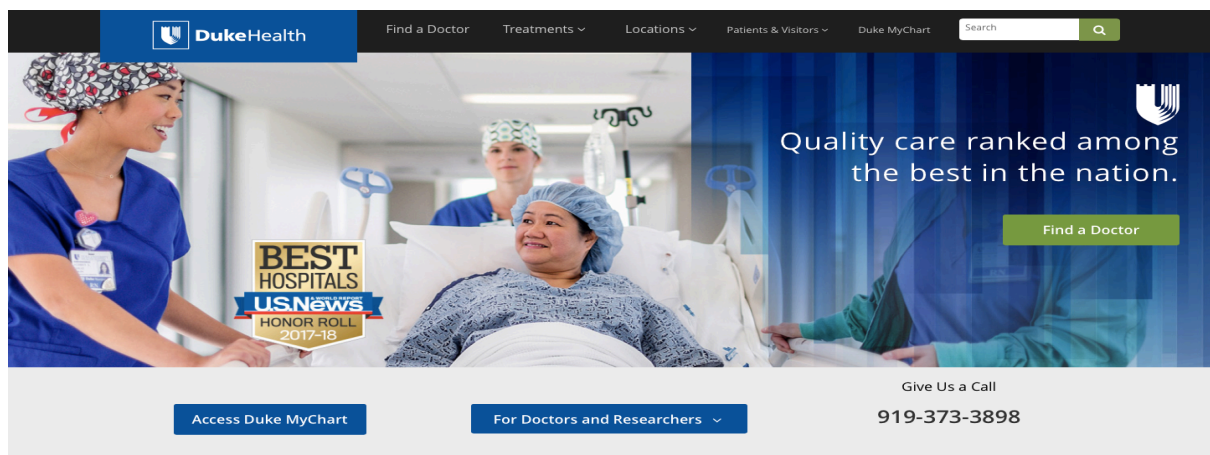


Figure 3: Duke Health home page

Visual Appeal

The Duke Health website has a great deal of visual appeal. The website is not cluttered at all and it is organized very well. The organization is very crucial for visual appeal in which Duke Health has done an excellent job when looking at the organization.

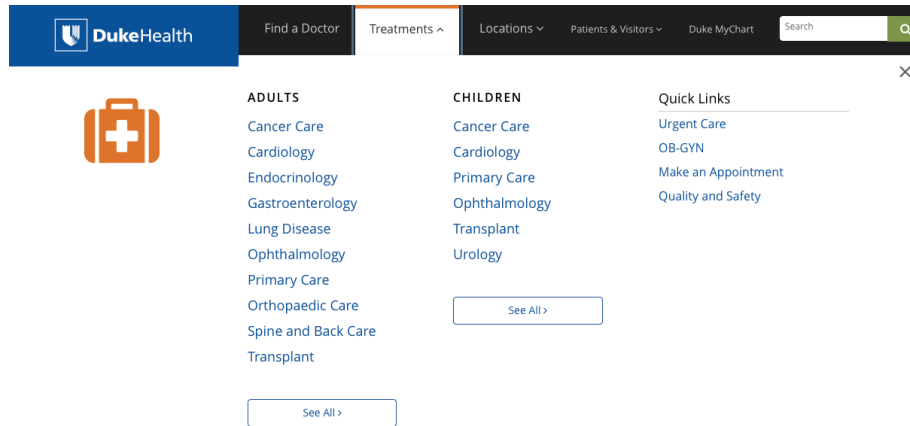


Figure 4: Duke treatment options

Analysis of VCU Health

<https://www.vcuhealth.org/>

VCU Health uses their website to bring attention to the services they provide to the public.

Content

VCU Health's website holds information from the kind of cancer centers they provide to the research they are doing daily. At the bottom of their homepage they have their social media posted with activity logs.

There is a separate section of their website dedicated to their mission statement and how they are changing the future of medicine daily. By the hospital being connected to the university it gives them the ability to conduct research constantly.

VCU provides a health patient portal that allows patients to request a prescription refill, view and request appointments, view medications, allergies, immunizations, health issues and selected lab results, send a secure message to their health care provider and view and download their depart summaries.

User Friendliness

The overall user friendliness of VCU Health's website is adequate. It provides a lot of information for patients, employees, volunteers, and prospective patients all over the website. There are links to lists of providers and locations for the hospital that are reachable within a few clicks.

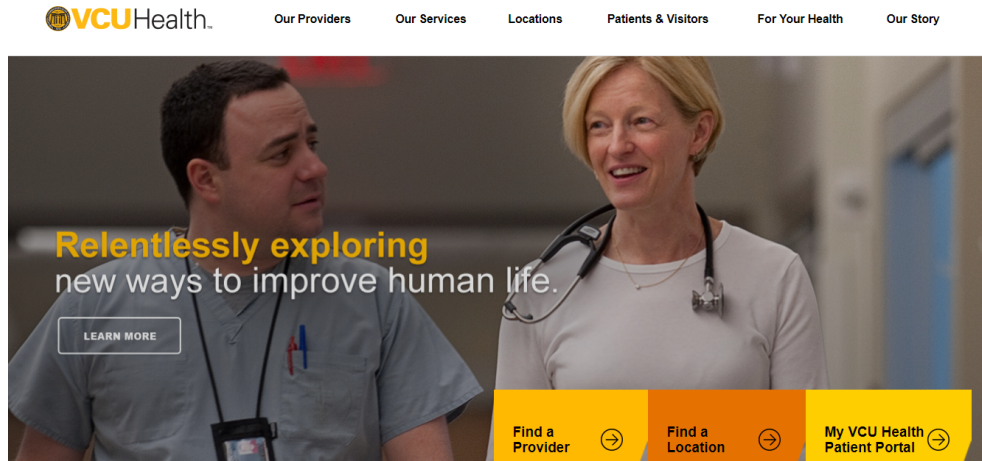


Figure 5: VCU home page

Visual Appeal

VCU Health has a website that is bright and captures the viewers' attention. There's photos of the inside of the facilities, the hospital campus and happy people giving the site the friendly appearance it needs.

Conclusions

We analyzed three hospital websites based on their content to the public, visual appeal and user-friendliness. To aid in our research, we sent out a survey to evaluate the quality of each aspect for each website (see Appendix A). The results were that Duke was overall the most successful at creating a website that fit all of the criteria we were looking for. VCU was a close second lacking mainly in its visual appeal. Centra did well in its visual appeal but lacked in user friendliness and overall content. Our analysis concluded that Duke Health had the most overall appealing website and that UVA should follow in their footsteps.

Recommendations

- After analyzing the three hospital websites, our recommendations for UVA are as followed:
 - Avoiding using color combinations that are unappealing such as yellow and black
 - Add information for pricing of medical treatment
 - Add more information about health insurance providers
 - Keep the size of photos within the homepage small enough to not distract from the content
 - Use less hyperlinks on the homepage
 - Provide enough content but keep it short and informative

Appendix A: Survey Questions

1. The following questions require internet access to review <https://www.centrahealth.com>. Please rank your opinion of the following questions using our Likert Scale, with 1 as Strongly Disagree, 2 as Disagree, 3 as Neutral, 4 as Agree, 5 as Strongly Agree:

Content:

- a. Centra Health has a link entitled: "Community Health". Without opening the link, I believe this link will take me to a page to learn of specific opportunities in my specific community.
- b. The headings of each hyperlink on Centra Health match up with the content of each page.

User Friendliness:

- c. The Centra Health website is easy to navigate.
- d. It was easy to find specific topics on Centra Health.
- e. I could easily find the contact information for the Internship and Program Coordinator on the Centra Health website.
- f. Centra Health uses too many hyperlinks.
- g. If I were to want to find the specific web page for "Centra Nurse Aide Education Program Requirements", it would be easier to find this through an Internet search rather than attempting to navigate through Centra Health's website to find this specific information.

Visual Appeal:

- h. The teal/ blue color scheme of Centra Health website is attractive.
- i. The teal/ blue color scheme of Centra Health website is tiring on the eyes.
- j. Every specific page on the Centra Health website has a large picture. This picture seems large and distorted and takes up too much of the screen.
- k. Every specific page on the Centra Health website has a large picture. This picture correlates well with the topic page.

Overall:

- l. The Centra Health website has content appropriately placed within each subheading.
 - m. The Centra Health website is user friendly.
 - n. The Centra Health website is visually appealing.
2. The following questions require internet access to review <https://www.dukehealth.com>. Please rank your opinion of the following questions using our Likert Scale, with 1 as Strongly Disagree, 2 as Disagree, 3 as Neutral, 4 as Agree, 5 as Strongly Agree:

Content:

- a. Duke Health has a link entitled: "Find a Doctor". Without opening the link, I believe this link will take me to a page to find a doctor to fit my needs.
- b. The headings of each hyperlink on Duke Health match up with the content of each page.

User Friendliness:

- c. The Duke Health website is easy to navigate.
- d. It was easy to find specific topics on Duke Health.
- e. I could easily find Duke Health's information on treatment recommendations for dry eyes in adults.
- f. Duke Health uses too many hyperlinks.
- g. If I were to want to find the specific web page for the "Ronald McDonald Family Room at Duke", it would be easier to find this through an Internet search rather than attempting to navigate through Duke Health's website to find this specific information.

Visual Appeal:

- h. The simple white, black, and blue color scheme of Duke Health website is attractive.
- i. The simple white, black, and blue color scheme of Duke Health website is tiring on the eyes.
- j. The Duke homepage has a large picture. This picture seems large and distorted and takes up too much of the screen.
- k. The Duke Health homepage website has a large picture. This picture serves as a good picture for a homepage.

Overall:

- l. The Duke Health website has content appropriately placed within each subheading.
- m. The Duke Health website is user friendly.
- n. The Duke Health website is visually appealing.

3. The following questions require internet access to review <https://www.vcuhealth.org/>. Please rank your opinion of the following questions using our Likert Scale, with 1 as Strongly Disagree, 2 as Disagree, 3 as Neutral, 4 as Agree, 5 as Strongly Agree:

4.

Content

- a. Centra Health has a link entitled: "Our Services". Without opening the link, I believe this link will take me to a page where I can see a list of specialties that VCU Health offers.
- b. The headings of each hyperlink on VCU Health match up with the content of each page

User Friendliness

- c. The VCU Hospital website is easy to navigate.
- d. It was easy to find specific topics on VCU Health.
- e. I could easily find VCU Health's policy on Release of Medical Information.
- f. VCU Health uses too many hyperlinks.
- g. If I were to want to find the specific web page for the "Beyond the Walls" community engagement report, it would be easier to find this through an Internet search rather than attempting to navigate through VCU Health's website to find this specific information.

Visual Appeal:

- h. The yellow and black color scheme of the VCU Health website is attractive.
- i. The yellow and black color scheme of the VCU Health website is tiring on the eyes.
- j. The VCU Health homepage has a large picture. This picture seems large and distorted and takes up too much of the screen.
- k. The VCU Health homepage website has a large picture. This picture serves as a good picture for a homepage.

Overall:

- l. The VCU Health website has content appropriately placed within each subheading.
- m. The VCU Health website is user friendly.
- n. The VCU Health website is visually appealing.

Appendix B: Survey Results

Results:

- 40 users took the test. The only questions that were polled for results were the “Overall” questions of each website

The website has content appropriately placed within each subheading

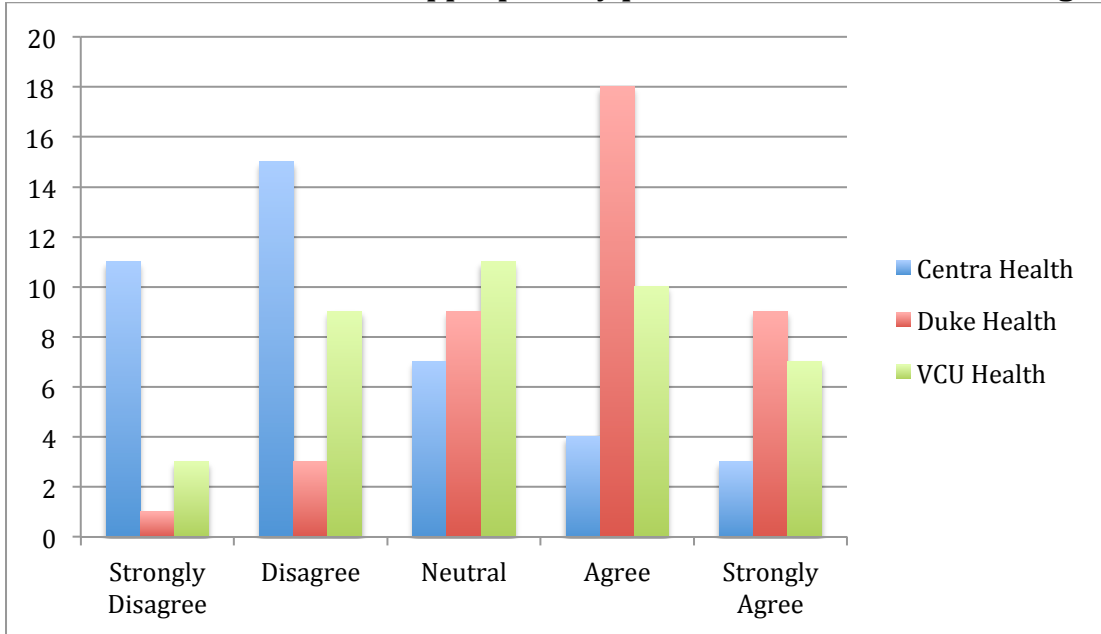


Table 1: Content Survey Results

The website is user friendly

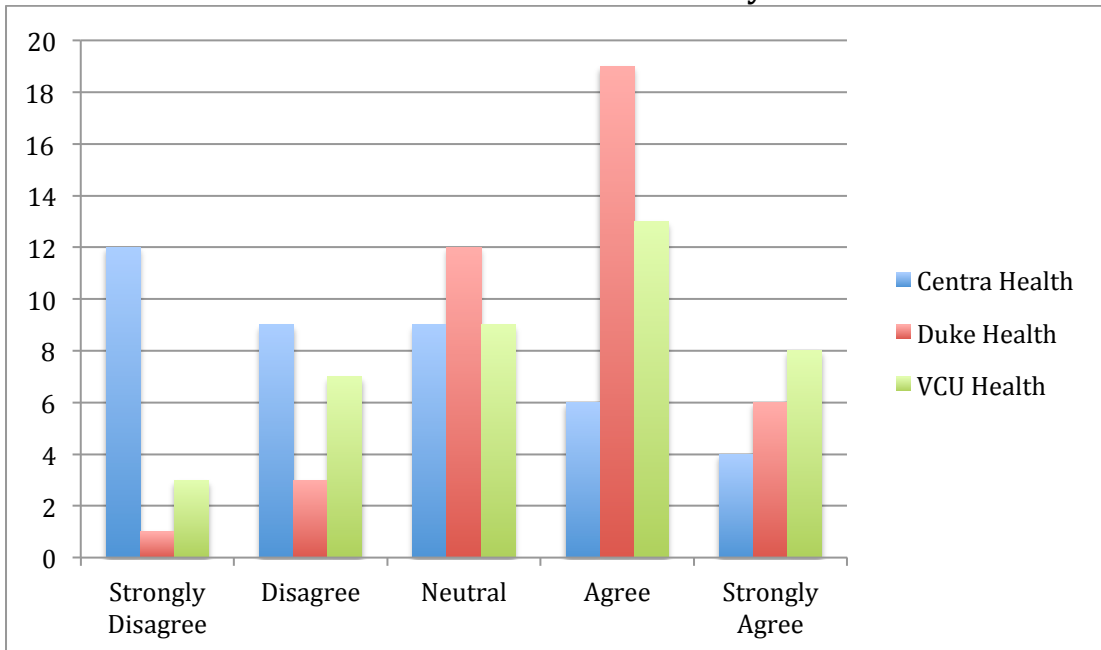


Table 2: User Friendly Survey Results

The website is visually appealing

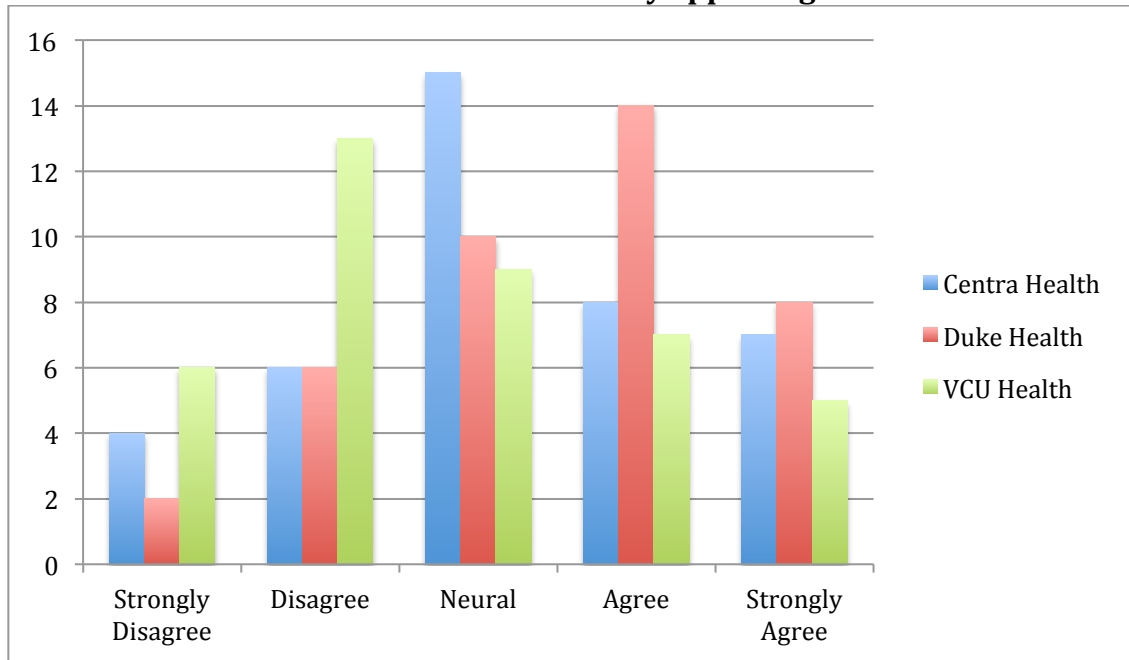


Table 3: Visual Appeal Survey Results

Appendix C: Minutes

The Department of Health Care Evaluations

Weekly Meeting

Library

Monday, April 23, 18, 6:30 PM

AGENDA

1. **Call to Order:** 6:32 PM
 - a. **Present:** Morgan Bohannon, Kaitlyn Pugh, Coralyn Powell
 - b. **Recording Secretary:** Morgan Bohannon
2. **Approval of Agenda:** Morgan Bohannon, seconded by Coralyn. Passed unanimously
3. **Previous minutes:** Approved. Morgan moved. Katy seconded. Passed unanimously
 - a. Items arising from previous minutes: None
4. **Designers report** (Morgan)
 - a. The layout of the formal is complete.
 - b. Will revise layout after final edits
5. **Analyst report** (Katy)
 - a. Looked at the survey results
 - b. Compiled data into graphs
6. **Editor** (Coralyn)
 - a. Has started editing
 - b. Will complete editing by Wednesday morning
7. **Next Meeting** (Morgan)
 - a. Meeting will be held on Monday, April 25th 2018
 - b. The group will present their portions of the project
 - c. The group will finalize all portions of the project
8. **New Business**
 - a. None
9. **Adjournment at:** 7:13 PM

THE DEPARTMENT OF HEALTH CARE EVALUATIONS

Progress Meeting

Wednesday, April 25, 2018, 6:00 PM

AGENDA

1. **Call to Order: 6:04**
 - a. **Present:** Morgan Bohannon, Coralyn Powell, Katy Pugh
 - b. **Recording Secretary:** Coralyn Powell
2. **Approval of Agenda:** Morgan Bohannon moved, seconded by Katy. Passed unanimously
3. **Previous minutes:** Approval of minutes last meeting. Katy moved, Morgan seconded. Passed Unanimously
4. **Designers report (Morgan)**
 - a. Formatted the entire document to be appealing
 - b. Formatted the table of contents
5. **Analyst report (katy)**
 - a. Formated all survey graphs for the paper
 - b. Updated Centra Health Analysis
6. **Editor Report (Coralyn)**
 - a. Edited all analysis
 - b. Edited the introduction
7. **Next Meeting**
 - a. Monday April 30, 2018
 - b. The group will work together to complete the document
8. **Adjournment at: 6:30 PM**

THE DEPARTMENT OF HEALTH CARE EVALUATIONS

Progress Meeting

Monday, April 30, 2018, 2:30 PM
Greenwood Library

AGENDA

1. **Call to Order:** 2:32 PM
 - a. **Present:** Morgan Bohannon, Coralyn Powell, Katy Pugh
 - b. **Recording Secretary:** Katy Pugh
2. **Approval of Agenda:** Katy Pugh moved, seconded by Morgan. Passed unanimously.
3. **Previous minutes:** Approval of minutes last meeting. Corayln moved. Katy seconded. Passed unanimously.
 - a. Items arising from previous minutes: None
4. **Designers report** (Morgan)
 - a. Restructured Title Page design to appear more attractive
 - b. Formatted all group members' analyses to be in the same font and scheme
5. **Analyst report** (Katy)
 - a. Restructured survey results graphics as suggested by audience after Formal Presentation
 - b. Updated Centra Health analysis to emphasize the flaws found by surveyors
6. **Editor Report** (Coralyn)
 - a. Edited recommendation and conclusions analysis
 - b. Edited the VCU Health analysis to be more concise
7. **Next Meeting** (Katy)

This is the final meeting
8. **New Business**
 - a. Morgan stated she might need help in formatting the document into one coherent font and color scheme. Katy agreed to help.
9. **Adjournment at:** 2:56 PM