Family Caregiver Resource of Maui County

A Usability Study

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LEARNING DESIGN AND TECHNOLOGY
Agenda

Motivation

Methodology

Results

Discussion

Family Caregivers of Maui County Resource
1 Motivation: My Why...

Melanie & Guy Vinoray, Maui, HI 2016
Who are family caregivers?

Non Health Care Professionals
Informally arranged caregiving relationship

Involved in Cancer Patient Care
Through every phase of cancer trajectory

Family Caregivers Overlook Personal Self-Care
Prioritize other’s care needs first
Not assessed by professionals - cancer care trajectory

(Given, Given, & Sherwood, 2012; Osse, Vernooij-Dassen, Shade, Grol, 2006; Girgis and Lambert, 2017).
**Reality:** Caregiver self-care resources are scattered across numerous sites.
eHealth Initiatives Benefits

Self-Care Interventions = Reduce Caregiver Burden

(Badr and Krebs, 2013)

Provide Timely and Convenient Support

2 Clinical Studies: Web Applications for Family Caregivers & Cancer Patients

+ Increased Family Caregiver Confidence: Caregiving and Self-Care


+ Improved Symptom Management, Quality of life, & Emotional Well-Being

Why create a Family Caregivers Resource site for caregivers & supporters of cancer patients in Maui County?

**Facilitate Connection**
Consolidating relevant information & resources
Disease progression increases social isolation

**Improve Awareness**
Self-care, caregiver strategies & resources

**Responsive Design & Growing eHealth Initiatives**
Resources & information available on any device
Silva, Rodrigues, de la Torre Díez, López-Coronado, & Saleem, (2015)
Purpose of the Study

To assess the ease-of-use of the family caregiver resource site's navigability, ensure there were no critical errors, and assess the feelings of user self-efficacy after viewing and using the site content.

*Think-aloud, task-based scenarios, interview*
Target Audience

Family caregivers & supporters of cancer patients
Lana‘i, Molokai, Maui Islands

Time Constraints demand a Responsive Design
Support interventions effective in reducing caregiver burden

Mobile Device is Primary Tool for Internet Access
Haskell and Schroeder, (2011)
Research Questions & Task-Based Scenarios

**RQ1:** How easy is it for users to navigate the website and find resources or suggested ideas for self-care in their local area?

**RQ2:** How do users perceive the value of helpfulness of the resource website?

**Tasks**

1. Find information about self-care
2, 3, 7 - Find information about local, face-to-face resources & online resources

**Tasks**

4, 5, 6 - Assess the value of online family caregiver self-care & caregiver supporter resources that address physical, social, spiritual & emotional needs
Design Approach

Cognitive Domain

**Visual Design Elements**
- Simplicity, Unity, Emphasis, Color
  Fulford, (2015)
- Clear Visual Hierarchies
  Krug, (2014)

**Micro Cycles of Mobile Learning**
Continual Cycle of Inquiry, Access, Learning, Sharing & Reflecting
  Haskell & Schroeder, (2011)

**Cognitive Theory of Multimedia Learning**
Mayer, (2014)
Maintain attention through relevant content
Clark & Harrelson, (2002)
Technology

Design Considerations
Maui County Family Caregivers

Photos: Unsplash, Wix Media Library

Content: Existing websites-local, state, national
2nd Prototype

Design Considerations

Maui County Family Caregivers

A Resource Website for Cancer Caregivers & Supporters in Maui County

Methodology
Current Iteration

Design Considerations

Methodology

Types of Self-Care

Read more about types of self-care and mental health - from Mighty blog post by Shelby Franklin

EMOTIONAL  SOCIAL  PHYSICAL  SPIRITUAL
Methodology
Cognitive Domain

**UHManoa Internal Review Board Approval**
January 2020

**Evaluation Instruments**
Pre-questionnaire, think-aloud, observation, interview, post-questionnaire

**9/11 In-Person 1:1 Interviews**
2/11 conducted virtually on Zoom
8 Female, 3 Male
8/11 Maui Residents... 0 Molokai, 0 Lana'i
6 out of 11 Participants

- 6 of 11: Primary Caregiver
- 2 of 11: Not a caregiver of a cancer patient
- 2 of 11: Family supporter of a primary caregiver
- 1 of 11: Supporter & professional health worker
Age & Education

Methodology - Recruitment

Participant Age, n = 11

Educational Background, n = 11

- Bachelor's degree
- High school diploma or equivalent (e.g. GED)
- Master's degree
- Some college, no degree
When Using a Mobile Device What Activities Do You Usually Do?

### Table 4
Mean of When using a mobile device, what activities do you usually do?
Likert scale with 1 = never, 7 = always

<table>
<thead>
<tr>
<th>Iteration</th>
<th>Look up health information</th>
<th>Connect with Community Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Round 1</td>
<td>5</td>
<td>3.33</td>
</tr>
<tr>
<td>Round 2</td>
<td>5.25</td>
<td>4</td>
</tr>
<tr>
<td>Round 3</td>
<td>5</td>
<td>4.33</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td><strong>5.09</strong></td>
<td><strong>3.9</strong></td>
</tr>
</tbody>
</table>
Results

Reinforced Mobile Usage Trends & Popularity of eHealth Apps/Sites

(Royston, Hagar, Long, McMahon, Pakenham, and Wadhwani, 2015)
(Silva, Rodrigues, de la Torre Díez, López-Coronado, & Saleem, 2015)

Navigability Needs Improvement. Still.
Clarify naming conventions, visual layout & task verbiage

Participant Comments
Positive Overall
Participant Device Usage, n = 11

7 of 11 = Mobile Device, Accessing the Internet

![Bar chart showing device usage by age group]
Results Post-Survey

Mean, Likert 5 = Strongly Agree,

- Easy to Use
- I found what I was looking for
- Most people would learn how to use the site quickly
Results Post-Survey

11 of 11 participants

Confidence Before Study

Confidence After Study

Participant confidence in Self-Care

Likert scale: 1 = strongly disagree, 5 = strongly agree

Average of My confidence level in understanding self-care before this usability study

Average of My confidence level in understanding self-care after this usability study
Results

"Acts as a hub to guide users to other resources."

"Huge. Especially for Maui."

I wish this resource existed when I was a primary caregiver...I would have taken the time to come to one site to look for resources & information."

"...helpful for me, gives me ideas & ammo to help others as well. There's a lot of information out there and as caregivers, we're busy people. [This site] benefits everyone moving forward."

"...Very informative... Help is listed. You know that you're not alone in this journey."
Lessons Learned

Family Caregiver Resource

Keep It Simple
Visual Hierarchy - Improve Navigation - Stick to the Plan

Include a Broader Range of Participants
Gender, Age, Geographic Location
In-Person Recruitment - Lana'i & Molokai

Recruit & Analyze Early
Set up & organize participants & data, yet be flexible for change
Further Study

Family Caregiver Resource

Share Site with Cancer Resources in Maui County
- Clinics, Hospitals, Doctors, Non-Profit Organizations

Reiterate & Re-Test Navigation Ease-of-Use
Conduct another round - Lana'i & Molokai

Customize naming conventions
Unique yet transparent to users
Further Study

Add a Social Media / Chat Feature - Participant Suggestion

Discussion

Twitter  Facebook  Instagram
Image Credits

Wailea, Maui, HI 2016 - Kristy Copperfield Photography
Hawai’i Island Map: https://thehawaiiadmirer.com/which-hawaiian-islands-should-i-visit/
https://www.cleanpng.com/png-google-drawings-computer-icons-sketch-1950707/
NinjaMock Logo  https://ninjamock.com

Canva Pro "Blue and White Places to Travel' Presentation Template
Sandy Beach Image - element of presentation template
Hourglass photo in Canva Pro
DAPA Images "art with chalks" photo in Canva Pro

Unsplash
mobile phone image by Charles - https://unsplash.com/@charlesdeluvio
Mahalo!

Please unmute your microphone to ask questions or type them in the chat!