Usability of COVID-19 Dedicated Public Health Websites: A Heuristic Evaluation

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Motivation

• COVID-19 has forced government health agencies at all levels in the US to create COVID-19 dedicated sites
• Public health sites have served as the main source for information for emergency response
• COVID-19 dedicated sites are being used by:
  o General Public
  o Healthcare Professionals
  o Decision makers and workers in businesses
  o Educational institutions
Methods

• Heuristic evaluation was completed on 16 public health sites based on geographical location (Northeast, Midwest, South, and West)

• Criteria was based on the US Department of Health and Human Services website usability criteria including:
  o Search
  o Language
  o Navigation
  o Organization
  o Risk Perception
  o Page Layout
  o Homepage
### Data Collection

- First all 5 evaluators evaluated each of the 16 websites individually.

- In a series of one-hour long meetings we reconciled our individual ratings to develop a consensus rating on the websites’ usability.

### Severity Scale
- 0: not a usability problem
- 1: cosmetic problem
- 2: minor usability problem
- 3: major usability problem
- 4: Usability catastrophe

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<th>Process and Evaluation</th>
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<td>Provide Useful Content</td>
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<td>1.2</td>
<td>Understand and Meet User’s Expectations</td>
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<td>1.3</td>
<td>Easily Found in the Top 30</td>
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<td>2.1</td>
<td>Do Not Display Unsolicited Windows or Graphics</td>
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<td>2.12</td>
<td>Develop Pages that Will Never Return</td>
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Findings

• The reconciled consensus ratings were averaged across all states and the following website elements emerged as major usability problems
  1) Poorly designed search functionality within the website
  2) Poor conveyance of overall risk information and indicators for situational awareness of the state of urgency in the state
  3) Language options to view the website
  4) Navigation
Search Functionality
Conveyed Risk

Summary

Number of Cases: 240,122
Number of Deaths: 5,891
Number of COVID-19 Tests: 2,040,752

- Number of New Cases reported today*: 1,157
- Number of New Deaths reported today*: 16
- Number of New Tests reported today*: 11,941

- Rate of cases, per 100,000 population: 3,940.1
- Rate of fatalities, per 100,000 population: 81.94
- Total Percent Positive**: 9.7%

Total COVID-19 Diagnostic Tests***: 1,704,647
New Diagnostic Tests reported today*: 9,841
Diagnostic Tests Percent Positive***: 10.2%

Total COVID-19 Serology Tests: 316,145
New Serology Tests reported today*: 2,100
Serology Percent Positive***: 6.5%

*Counts of new cases, deaths, and numbers tested reflect increases in the total numbers compared to the previous day.

**Percent positive is defined as number of people with a positive test result, reported electronically out of all people with COVID-19 testing reported electronically completed in AZ.

Week 42: 10/11/2020 Through 10/17/2020

New Cases Per 100,000
- Case rate reported Sun-Sat (Target: less than 50 per 100,000): 188 per 100k
- Death rate reported Sun-Sat (Target: decreasing or stable): 31

Test Positivity (%)
- (%) positive tests reported Sun-Sat (Target: less than or equal to 8%): 7.1%
- Tests performed: 79,584

CLIN ED Visits (%), Adults
- Emergency Department visits for COVID-19-like illness (Target: decreasing or stable Sun-Sat): 3.9%
- Number of CLIN Admissions: 251
Health and Safety

To control the spread of COVID-19, you need the latest information.

These health guidelines will help you stay safe and vigilant during the State’s Coronavirus response.

What is COVID-19? COVID-19 is caused by a coronavirus called SARS-CoV-2. It is spread mainly from person to person, particularly through respiratory droplets produced when an infected person coughs or sneezes. Symptoms can range from mild (or no symptoms) to severe illness.

Everyone is at risk of getting COVID-19. Older adults and people of any age who have serious underlying medical conditions may be at higher risk for more severe illness.
Conclusions

• Search functionality is important given the volume of information the health agencies post to the sites everyday

• While all websites include data dashboards with updated statistics, the risk of infection was poorly conveyed on most websites alluding to the need for a risk index

• Options to view the websites in different languages is important given the diversity of people seeking information relating to COVID-19

• Navigation is important given many of the states seemed to use the site as a repository for information/documents shifting the burden to the user
Thank You,
Any Questions?