HomeIcon

Description automatically generated

Icon

Description automatically generated

**MEPS Website Assessment Report III, Part B**   
Tree Test Analysis

Report prepared on July 28, 2022, by Pantheon and AIR for the Agency for Healthcare Research and Quality.

**Table of Contents**

[Overview 4](#_Toc109859540)

[Introduction 4](#_Toc109859541)

[Methodology 4](#_Toc109859542)

[Sessions 4](#_Toc109859543)

[Recruitment and Participants 4](#_Toc109859544)

[Tasks 5](#_Toc109859545)

[Additional Questions 5](#_Toc109859546)

[Analysis 5](#_Toc109859547)

[Summary of Results 6](#_Toc109859548)

[Task Success Rate 6](#_Toc109859549)

[Time to Complete Each Task 6](#_Toc109859550)

[Clicks to Complete Each Task 7](#_Toc109859551)

[User Navigation Preference 8](#_Toc109859552)

[Task Findings 9](#_Toc109859553)

[Task 1 9](#_Toc109859554)

[Task 2 11](#_Toc109859555)

[Task 3 14](#_Toc109859556)

[Task 4 16](#_Toc109859557)

[Task 5 19](#_Toc109859558)

[Task 6 21](#_Toc109859559)

[Task 7 24](#_Toc109859560)

[Task 8 26](#_Toc109859561)

[Additional Questions 29](#_Toc109859562)

[Question 1 29](#_Toc109859563)

[Question 2 30](#_Toc109859564)

[Recommendations 31](#_Toc109859565)

[Proposed Navigation 31](#_Toc109859566)

[Utility Navigation 32](#_Toc109859567)

[Primary Navigation 32](#_Toc109859568)

[Sublevel Navigation 32](#_Toc109859569)

[Proposed Navigation—Alternate UI 33](#_Toc109859570)

[Conclusions 34](#_Toc109859571)

**Table of Exhibits**

[Exhibit 1: Table of Task Success Rate 6](#_Toc109859572)

[Exhibit 2: Table of Time to Complete Each Task 7](#_Toc109859573)

[Exhibit 3: Table of Clicks to Complete Each Task 8](#_Toc109859574)

[Exhibit 4: Screenshot of Preference Test Results 9](#_Toc109859575)

[Exhibit 5: Screenshot of the Expected Answers for Task 1—Option 1 10](#_Toc109859576)

[Exhibit 6: Screenshot of the Expected Answers for Task 1—Option 2 10](#_Toc109859577)

[Exhibit 7: Results for Task 1 11](#_Toc109859578)

[Exhibit 8: Screenshot of the Expected Answers for Task 2—Option 1 12](#_Toc109859579)

[Exhibit 9: Screenshot of the Expected Answers for Task 2—Option 2 13](#_Toc109859580)

[Exhibit 10: Results for Task 2 13](#_Toc109859581)

[Exhibit 11: Screenshot of the Expected Answers for Task 3—Option 1 15](#_Toc109859582)

[Exhibit 12: Screenshot of the Expected Answers for Task 3—Option 2 15](#_Toc109859583)

[Exhibit 13: Results for Task 3 15](#_Toc109859584)

[Exhibit 14: Screenshot of the Expected Answers for Task 4—Option 1 17](#_Toc109859585)

[Exhibit 15: Screenshot of the Expected Answers for Task 4—Option 2 18](#_Toc109859586)

[Exhibit 16: Results for Task 4 18](#_Toc109859587)

[Exhibit 17: Screenshot of the Expected Answers for Task 5—Option 1 20](#_Toc109859588)

[Exhibit 18: Screenshot of the Expected Answers for Task 5—Option 2 20](#_Toc109859589)

[Exhibit 19: Results for Task 5 21](#_Toc109859590)

[Exhibit 20: Screenshot of the Expected Answers for Task 6—Option 1 22](#_Toc109859591)

[Exhibit 21: Screenshot of the Expected Answers for Task 6—Option 2 23](#_Toc109859592)

[Exhibit 22: Results for Task 6 23](#_Toc109859593)

[Exhibit 23: Screenshot of the Expected Answers for Task 7—Option 1 25](#_Toc109859594)

[Exhibit 24: Screenshot of the Expected Answers for Task 7—Option 2 25](#_Toc109859595)

[Exhibit 25: Results for Task 7 26](#_Toc109859596)

[Exhibit 26: Screenshot of the Expected Answers for Task 8—Option 1 27](#_Toc109859597)

[Exhibit 27: Screenshot of the Expected Answers for Task 8—Option 2 28](#_Toc109859598)

[Exhibit 28: Results for Task 8 28](#_Toc109859599)

[Exhibit 29: Screenshot of Alternate User Interface 34](#_Toc109859600)

[Exhibit 30: Screenshot of Option 1 34](#_Toc109859601)

[Exhibit 31: Screenshot of Option 2 35](#_Toc109859602)

# Overview

For this report, Report III, Part B: Tree Test Analysis, the American Institutes for Research (AIR) and Pantheon (the AIR team) present the methodology and tree test analysis results for the data on the Agency for Healthcare Research and Quality (AHRQ) Medical Expenditure Panel Survey (MEPS) website.

# Introduction

Tree testing is an activity within the user experience design process to test the effectiveness of a new navigation for a website. In a traditional tree test, a proposed navigation site map is shown to the user, and the user is given a list of tasks to complete. For this exercise, we expanded on the traditional tree test by designing a sample interface of the navigation, which allowed for a more realistic experience for the user.

For this tree test, we took the user through a series of tasks for two different navigations to determine which routes were most effective for the user. We were able to compare success rate, time to complete, paths taken, and the number of clicks to reach the goal screen between the two options.

# Methodology

## Sessions

The tree test was performed during a period of 10 days from June 10 through 20 of 2022. Users took the tree test on the [UsabilityHub](https://usabilityhub.com/) platform. For each navigation option presented to the user during the test, the AIR team asked the user to complete eight tasks. The users repeated the tasks for option 2 testing a total of 16 tasks across the two options. After users completed both tasks, we asked the users to give their opinion about which option they preferred to use and any other thoughts they might have had about their experience participating in the exercise.

## Recruitment and Participants

We recruited users via email and from the AHRQ newsletter. The three audiences that took part in the exercise were AHRQ, AIR, and external users who previously participated during the interview phase of our research. Although responses for the tree test were anonymous, we collected organization data for each user before beginning the test. In total, we had 25 AHRQ participants, 7 AIR participants, and 3 external user participants.

## Tasks

We presented the following tasks to the user during the exercise:

1. Where would you go to find a Household Component dataset for a project on which you are working?
2. Where would you go to find a webinar about analyzing MEPS Household Component data using SAS?
3. Where would you go to find general information about MEPS?
4. Where would you go to find Methodology Reports for the Insurance Component?
5. You’re working with a MEPS variable from the Household Component. Where would you go to find the survey question that it relates to?
6. Where would you go to find general MEPS FAQs?
7. You are a researcher looking to work with MPC data and have landed on the MEPS site. Where would you go to find the latest news?
8. You are interested in any information MEPS has published about “Access to Healthcare”. Where would you go to find information about this topic?

## Additional Questions

After the participants completed the tasks, we asked each participant the following questions:

1. Which navigation did you prefer to use?
   1. Why did you prefer this option?
2. Do you have any additional comments you would like to add about your experience doing the navigation test?

# Analysis

For the analysis phase of the tree test, we used UsabilityHub’s results panel to gather the information needed to understand the paths the user took to complete each task. The results panel gave us an overall number of participants who completed each task successfully, as well as a breakdown for each user that included the number of seconds to complete the task, the number of clicks taken to complete the task, and the paths taken.

## Summary of Results

### Task Success Rate

For each task, we analyzed the paths the user took to complete it. Some tasks had more than one right path to completion, so we made sure to include multiple right answers within the analysis. Overall, we saw a high success rate among both options, with only two of the 16 tasks scoring less than 85%. The overall success rate for option 1 was 88.9%, and the overall success rate for option 2 was 92.1%.

Exhibit 1: Table of Task Success Rate

|  |  |  |  |
| --- | --- | --- | --- |
| **Task** | **Option 1 Success Rate** | **Option 2 Success Rate** | **Winner** |
| Task 1 – Find an HC Dataset | 94.3% | 100.0% | Option 2 |
| Task 2 – Find a webinar about analyzing MEPS HC Data | 74.3% | 94.3% | Option 2 |
| Task 3 – Find general information about MEPS | 85.7% | 100.0% | Option 2 |
| Task 4 – Find Methodology Reports for the IC | 91.4% | 91.4% | Tie |
| Task 5 – Find the Survey Question that relates to a variable | 91.4% | 91.4% | Tie |
| Task 6 – Find general MEPS FAQs | 94.3% | 91.4% | Option 1 |
| Task 7 – Find the Latest News as an MPC user | 91.4% | 71.4% | Option 1 |
| Task 8 – Find information about the topic “Access to Healthcare” | 88.6% | 97.1% | Option 2 |
| **Overall** | **88.9%** | **92.1%** | **Option** **2** |

### Time to Complete Each Task

The time to complete each task gave us good insight into the problems the user had finding the right answer. One goal for this exercise was to reduce the effort and time for users to find what they are looking for on the MEPS website to provide the most pleasant experience. Overall, option 2 scored better in this test, with an average time of approximately 7 seconds less.

Exhibit 2: Table of Time to Complete Each Task

|  |  |  |  |
| --- | --- | --- | --- |
| **Task** | **Option 1 Average Time  (in seconds)** | **Option 2 Average Time  (in seconds)** | **Winner** |
| Task 1 – Find an HC Dataset | 31.9 | 15.8 | Option 2 |
| Task 2 – Find a webinar about analyzing MEPS HC Data | 33.2 | 14.3 | Option 2 |
| Task 3 – Find general information about MEPS | 18.2 | 10.4 | Option 2 |
| Task 4 – Find Methodology Reports for the IC | 21.2 | 32.5 | Option 1 |
| Task 5 – Find the Survey Question that relates to a variable | 30.5 | 18.6 | Option 2 |
| Task 6 – Find general MEPS FAQs | 20.6 | 10.5 | Option 2 |
| Task 7 – Find the Latest News as an MPC user | 16.2 | 27.8 | Option 1 |
| Task 8 – Find information about the topic “Access to Healthcare” | 28.3 | 13.9 | Option 2 |
| **Overall** | **25.0** | **17.0** | **Option** **2** |

### Clicks to Complete Each Task

Clicks users must take to complete a task can be helpful in understanding the effort used to reach their destination. When possible, it is good to decrease the number of clicks to get from screen to screen to avoid user frustration. When looking at the finalized data, we found that option 2 again scored better than option 1, with an average of 2.9 clicks for each task compared with 3.8 clicks for option 1.

Exhibit 3: Table of Clicks to Complete Each Task

|  |  |  |  |
| --- | --- | --- | --- |
| **Task** | **Option 1 Average Clicks** | **Option 2 Average Clicks** | **Winner** |
| Task 1 – Find an HC Dataset | 3.8 | 2.4 | Option 2 |
| Task 2 – Find a webinar about analyzing MEPS HC Data | 5.1 | 2.5 | Option 2 |
| Task 3 – Find general information about MEPS | 2.1 | 2.5 | Option 1 |
| Task 4 – Find Methodology Reports for the IC | 4.5 | 4.4 | Option 2 |
| Task 5 – Find the Survey Question that relates to a variable | 4.6 | 2.5 | Option 2 |
| Task 6 – Find general MEPS FAQs | 1.9 | 1.5 | Option 2 |
| Task 7 – Find the Latest News as an MPC user | 2.9 | 5.0 | Option 1 |
| Task 8 – Find information about the topic “Access to Healthcare” | 5.2 | 2.6 | Option 2 |
| **Overall** | **3.8** | **2.9** | **Option** **2** |

### User Navigation Preference

At the end of the tasks, we asked the users which option they preferred. Although the preferred option might not always align with the option that had the best performance, it is always good to understand each user’s feelings and motivations from the exercise. In this case, the majority of users chose option 1 over option 2 (see Exhibit 4: Screenshot of Preference Test Results). However, the results were close, with only 60% choosing option 1 and 40% choosing option 2. Because the sample size was small (35 users) for this exercise, only four votes were the deciding factor for the winner for this question.

Exhibit 4: Screenshot of Preference Test Results

Graphical user interface

Description automatically generated with low confidence

## Task Findings

During this phase, we analyzed each individual response. For each task, we looked at the following:

* **Success rate:** Percentage of users who completed the task successfully
* **Average time to complete:** the average amount of time, in seconds, to complete the task
* **Average number of clicks:** the average number of clicks the user took to complete the task
* **Percentage of perfect paths taken:** the number of users who completed the task successfully without making a mistake
* **Number of extra clicks:** the number of mistakes, measured in extra clicks, a user has made before successfully completing a task
* **Average number of extra clicks per user:** the number of extra clicks averaged per user

### Task 1

**Scenario:** Where would you go to find an HC data set for a project on which you are working?

For this task, the expected answer was to go into the *Data* section to find *HC Data Files* or *Data Tools*.

**Correct paths taken**

**Option 1** (see Exhibit 5: Screenshot of the Expected Answers for Task 1—Option 1):

* HC—Data & Tools—Data Files (33 users)

**Option 2** (see Exhibit 6: Screenshot of the Expected Answers for Task 1—Option 2):

* Data & Tools—HC—Data Files (33 users)
* Data & Tools—HC—Data Tools (2 users)

**Incorrect paths taken**

**Option 1**

* HC—IC—MPC—Publications—Resources (1 user)
* HC (1 user)

**Option 2**

* No incorrect paths taken

Exhibit 5: Screenshot of the Expected Answers for Task 1—Option 1

**Graphical user interface, timeline

Description automatically generated with medium confidence**

Exhibit 6: Screenshot of the Expected Answers for Task 1—Option 2

**Graphical user interface, application

Description automatically generated**

**Results**

The table below shows the results for Task 1 by metric (See Exhibit 7: Results for Task 1).

Exhibit 7: Results for Task 1

|  |  |  |  |
| --- | --- | --- | --- |
| **Metric** | **Option 1** | **Option 2** | **Winner** |
| **Success Rate** | 94.3% | 100.0% | Option 2 |
| **Avg. Time to Complete** | 31.9 | 15.8 | Option 2 |
| **Avg. Number of Clicks** | 3.8 | 2.4 | Option 2 |
| **Percentage of Perfect Paths** | 85.7% | 94.3% | Option 2 |
| **Number of Extra Clicks** | 9 | 3 | Option 2 |
| **Avg. Number of Extra Clicks per User** | 0.3 | 0.1 | Option 2 |

**Summary:** Option 2 was the clear winner for this task, with 100% successful completion, as well as better performance across the board in all other categories. For option 2, users found the *Data & Tools* section and then selected the appropriate subpage under the menu. The average time to complete this task was half of what it was for option 1, and it had one third of the extra clicks.

### Task 2

**Scenario:** Where would you go to find a webinar about analyzing MEPS HC data using SAS?

For this task, the expected answer was to go into the *Resources* section to find webinars.

**Correct Paths Taken**

**Option 1** (see Exhibit 8)

* Resources—Webinars & Presentations (26 users)

**Option 2** (see   
Exhibit 9)

* Resources—Webinars & Presentations (31 users)
* Resources—Events & Webinars Landing Page (2 users)

**Incorrect paths taken**

**Option 1**

* HC—About HC—HC News—About HC—Survey Information—About HC—HC News (1 user)
* HC—IC—MPC—Publications—Resources (1 user)
* HC—About HC—About—Survey Information—About HC—HC News (1 user)
* HC—About HC—HC News (1 user)
* HC—Data & Tools—About HC—About—Data & Tools—HC Data Tools (1 user)
* HC—About HC—Data & Tools—HC Data Tools (1 user)
* HC—Data & Tools—HC Data Files—Data & Tools—Data Tools—Survey Information—Data & Tools—HC Data Files—Restricted Data Request (1 user)
* HC—About HC—About—About HC—About—About HC (1 user)
* HC—Survey Information—News (1 User)

**Option 2**

* About—News (1 user)
* Data & Tools—HC Data Tools (1 user)

Exhibit 8: Screenshot of the Expected Answers for Task 2—Option 1

**Graphical user interface, application, Teams

Description automatically generated**

Exhibit 9: Screenshot of the Expected Answers for Task 2—Option 2

Graphical user interface, application

Description automatically generated

**Results**  
The table below shows the results for Task 2 by metric (See Exhibit 10: Results for Task 2).

Exhibit 10: Results for Task 2

|  |  |  |  |
| --- | --- | --- | --- |
| **Metric** | **Option 1** | **Option 2** | **Winner** |
| **Success Rate** | 74.3% | 94.3% | Option 2 |
| **Avg. Time to Complete** | 33.2 | 14.3 | Option 2 |
| **Avg. Number of Clicks** | 5.1 | 2.5 | Option 2 |
| **Percentage of Perfect Paths** | 34.3% | 82.9% | Option 2 |
| **Number of Extra Clicks** | 51 | 12 | Option 2 |
| **Avg. Number of Extra Clicks per User** | 1.5 | 0.3 | Option 2 |

**Summary:** Option 2 again was the clear winner for this task with the better performance in all categories. Although option 1 had less than three quarters of the users successfully completing the task, option 2 had nearly 100% completion, with 33 of 35 finding the right screen in the test. Option 2 also greatly outperformed option 1 in the other areas as well, with half the number of clicks, half the average time to complete, more than 80% of perfect paths taken, and approximately 80% fewer extra clicks taken.

The stark difference between the options was surprising considering the user interface (UI) for this section within the navigation is exactly the same. When we looked at the data for option 1, most users who failed the task first clicked on the HC section. This leads us to the conclusion that they thought they would be able to find specific webinars for the HC within the HC section, causing frustration when they were unable to find it there.

### Task 3

**Scenario:** Where would you go to find general information about MEPS?

For this task, the expected answer was to go to the *About MEPS* page or the *FAQs* page to learn more about MEPS.

**Correct Paths**

**Option 1** (see Exhibit 11)

* About MEPS in the utility navigation (27 users)
* Resources—FAQs (3 users)

**Option 2** (see Exhibit 12)

* About—About MEPS (31 users)
* MEPS FAQs in the utility navigation (3 users)
* Resources—FAQs (1 user)

**Incorrect paths taken**

**Option 1**

* Resources—HC—About HC—Survey Questionnaires—HC Survey Background Information (1 user)
* Resources (1 user)
* About MEPS—Publications (1 user)
* HC—Survey Information—Survey Background (2 users)

**Option 2**

* No incorrect paths taken

Exhibit 11: Screenshot of the Expected Answers for Task 3—Option 1

**Graphical user interface, application, Teams

Description automatically generated**

Exhibit 12: Screenshot of the Expected Answers for Task 3—Option 2

Graphical user interface, application, Teams

Description automatically generated

**Results**  
The table below shows the results for Task 3 by metric (See Exhibit 13: Results for Task 3).

Exhibit 13: Results for Task 3

|  |  |  |  |
| --- | --- | --- | --- |
| **Metric** | **Option 1** | **Option 2** | **Winner** |
| **Success Rate** | 85.7% | 100.0% | Option 2 |
| **Avg. Time to Complete** | 18.2 | 10.4 | Option 2 |
| **Avg. Number of Clicks** | 2.1 | 2.5 | Option 1 |
| **Percentage of Perfect Paths** | 62.9% | 91.4% | Option 2 |
| **Number of Extra Clicks** | 18 | 5 | Option 2 |
| **Avg. Number of Extra Clicks per User** | 0.5 | 0.1 | Option 2 |

**Summary:** In five of the six metrics, option 2 outperformed option 1 for this task. With a 100% successful completion rate and close to 100% perfect paths taken by the users, option 2 clearly is the superior navigation for this task. One noticeable difference in option 2 is the *About* section within the primary navigation to find information about MEPS, which 31 of 35 users took to complete the task. In option 1, users had to search a little harder to find the *About* section, which was only a small link in the utility navigation. The addition of the global *About* section within the primary navigation was extremely beneficial for the user in finding general information easily and quickly.

### Task 4

**Scenario:** Where would you go to find Methodology Reports for the IC?

For this task, there were a few different avenues the user could have taken to find the correct answer. The user could have looked either within the *Survey Information* section for *Methodology Reports* or within the *Publications* section.

**Correct paths taken**

**Option 1** (see Exhibit 14)

* IC—Survey Information—Methodology Reports (22 users)
* IC—Survey Information—Methodology Landing Page (6 users)
* Publications – Methodology Reports (4 users)

**Option 2** (see Exhibit 15)

* Survey Information—IC—Methodology (18 users)
* Publications—Methodology Reports (13 users)
* Survey Information—IC Landing Page (1 user)

**Incorrect paths taken**

**Option 1**

* Publications Dropdown (no final screen selected—1 user)
* IC—Survey Information Dropdown (no final screen selected—1 user)
* IC—About—About IC—Data & Tools—About—Data & Tools—IC Data Tools (1 user)

**Option 2**

* Publications—Publications by Type: Methodology Reports—Data & Tools—IC Data & Tools—Publications—Search for Publications—Publications by Type: Methodology Reports—Data & Tools—Survey Information Dropdown (no final screen selected—1 user)
* Data & Tools—About—Data & Tools—Survey Information—Publications—Topics—Publications—Survey Information Dropdown (1 user)
* Data & Tools—IC Data Tools (1 user)

Exhibit 14: Screenshot of the Expected Answers for Task 4—Option 1

**Graphical user interface, website

Description automatically generated**

Exhibit 15: Screenshot of the Expected Answers for Task 4—Option 2

Graphical user interface, application

Description automatically generated

**Results**  
The table below shows the results for Task 4 by metric (See Exhibit 16: Results for Task 4).

Exhibit 16: Results for Task 4

|  |  |  |  |
| --- | --- | --- | --- |
| **Metric** | **Option 1** | **Option 2** | **Winner** |
| **Success Rate** | 91.4% | 91.4% | Tie |
| **Avg. Time to Complete** | 21.2 | 32.5 | Option 1 |
| **Avg. Number of Clicks** | 4.5 | 4.4 | Option 2 |
| **Percentage of Perfect Paths** | 54.3% | 37.1% | Option 1 |
| **Number of Extra Clicks** | 32 | 62 | Option 1 |
| **Avg. Number of Extra Clicks per User** | 0.9 | 1.8 | Option 1 |

**Summary:** Other than a slight difference in the average number of clicks, option 1 provided the better experience for the user for this task. Although the success rate among both options was the same, option 1 had a higher percentage of users who did not make a mistake. One reason why option 1 was superior to option 2 in some areas is because of the depth of the menu choices under *Survey Information*. In option 1, the user can easily find *Methodology Reports* through the menu, whereas in option 2, *Methodology Reports* is not visible in the dropdown and one would have to click on the parent page, *IC Methodology*, to look for the reports for that section.

Because of the way option 2 is structured showing all components under one dropdown, it would not make logical sense to add a third level of navigation because there would be an overwhelming number of links and options displayed. One way to improve option 2 would be to be more specific with the terminology. Instead of using the word *Methodology*, we could use a more descriptive term, such as *Methodology Information and Reports*, to give users a better idea of what to expect when they click on the link.

### Task 5

**Scenario:** You are working with a MEPS variable from the HC. Where would you go to find the survey question that it relates to?

For this task, the expected answer was to find questionnaires within the HC section.

**Correct paths taken**

**Option 1** (see Exhibit 17)

* HC—Survey Information—Questionnaires by Section and Year (24 users)
* HC—Survey Information—Questionnaires Landing Page (8 users)

**Option 2** (see Exhibit 18)

* Survey Information—HC—Questionnaires (32 users)

**Incorrect paths taken**

**Option 1**

* HC—Data & Tools Dropdown (1 user)
* HC—Survey Information—HC Survey Background Information (1 user)
* HC—Survey Information Dropdown (1 user)

**Option 2**

* Data & Tools—HC Data Files (1 user)
* Data & Tools—HC Data Tools (1 user)
* Data & Tools—HC Data & Tools—Survey Information—HC Survey Information (1 user)

Exhibit 17: Screenshot of the Expected Answers for Task 5—Option 1

**Graphical user interface

Description automatically generated**

Exhibit 18: Screenshot of the Expected Answers for Task 5—Option 2

Graphical user interface, application

Description automatically generated

**Results**  
The table below shows the results for Task 5 by metric (See Exhibit 19).

Exhibit 19: Results for Task 5

|  |  |  |  |
| --- | --- | --- | --- |
| **Metric** | **Option 1** | **Option 2** | **Winner** |
| **Success Rate** | 91.4% | 91.4% | Tie |
| **Avg. Time to Complete** | 30.5 | 18.6 | Option 2 |
| **Avg. Number of Clicks** | 4.6 | 2.5 | Option 2 |
| **Percentage of Perfect Paths** | 60.0% | 62.9% | Option 2 |
| **Number of Extra Clicks** | 41 | 11 | Option 2 |
| **Avg. Number of Extra Clicks per User** | 1.2 | 0.3 | Option 2 |

**Summary:** Although both options had the same success rate, all the other metrics indicate that option 2 performed better for the user. In option 2, users can easily see *Survey Information* in the primary navigation without having to dig down to the component level, which helps them reach their goal quicker, as indicated in the scores for the average time to complete. Although in the first option users had multiple options to find the answer, such as *Questionnaires* or *Questionnaires by Section and Year*, the reduced complexity of option 2 having only one option, *Questionnaires*, more than likely helped reduce confusion and second-guessing for the user; the data show only 0.3 extra clicks were made for the second option compared 1.2 extra clicks with the first option.

One thing of note is that both options had approximately 40% of users making mistakes when looking for the answer. After we explored the paths that those users took, most of them first went to the *Data & Tools* section to find a way to crosswalk the variable with the survey question. We believe this supports the idea of adding a *Variable Source Crosswalk* page within the data section.

### Task 6

**Scenario:** Where would you go to find general MEPS FAQs?

The paths for this task were identical for both options in that the user could find *FAQs* from the utility navigation or under the *Resources* dropdown.

**Correct paths taken**

**Option 1** (see Exhibit 20)

* MEPS FAQs in the utility navigation (26 users)
* Resources—FAQs (7 users)

**Option 2** (see Exhibit 21)

* MEPS FAQs in the utility navigation (27 users)
* Resources—FAQs (5 users)

**Incorrect paths taken**

**Option 1**

* HC—About—About HC—About—Data & Tools—Survey Information—HC Survey FAQs—Data & Tools—HC Data Files—Data & Tools (1 user)
* About MEPS (1 user)

**Option 2**

* About—About MEPS (1 user)
* About—About MEPS (1 user)
* No action taken (1 user)

Exhibit 20: Screenshot of the Expected Answers for Task 6—Option 1

**Graphical user interface, application, Teams

Description automatically generated**

Exhibit 21: Screenshot of the Expected Answers for Task 6—Option 2

Graphical user interface, application

Description automatically generated

**Results**  
The table below shows the results for Task 6 by metric (See Exhibit 22).

Exhibit 22: Results for Task 6

|  |  |  |  |
| --- | --- | --- | --- |
| **Metric** | **Option 1** | **Option 2** | **Winner** |
| **Success Rate** | 94.3% | 91.4% | Option 1 |
| **Avg. Time to Complete** | 20.6 | 10.5 | Option 2 |
| **Avg. Number of Clicks** | 1.9 | 1.5 | Option 2 |
| **Percentage of Perfect Paths** | 88.6% | 85.7% | Option 1 |
| **Number of Extra Clicks** | 6 | 4 | Option 2 |
| **Avg. Number of Extra Clicks per User** | 0.2 | 0.1 | Option 2 |

**Summary:** Because the paths to get to the correct answer for each option were the same, we expected to see similar numbers across all the categories, which was the case for this task. However, there was one category in which the numbers were a bit different. The average time to complete was twice as much in option 1 as in option 2. The main difference between the two was that in option 1 the utility navigation had a few other options surrounding *MEPS FAQs* making it harder to find. Option 2 was free from clutter and therefore easier to find the correct text to click on. We believe this was the deciding factor for the much better score for the average time to complete for the second option.

### Task 7

**Scenario:** You are a researcher looking to work with MPC data and have landed on the MEPS site. Where would you go to find the latest news?

The paths taken for this task were different depending on the option. In the first option, the user can filter by component level and view *News* specific to that component. However, in the second option, the only option is to view *News* from a global level.

**Correct Paths Taken**

**Option 1** (see Exhibit 23)

* News (utility navigation) (16 users)
* MPC—About MPC—MPC News (16 users)

**Option 2** (see Exhibit 24)

* About—News (25 users)

**Incorrect paths taken**

**Option 1**

* MPC—Data & Tools—Restricted Data Request (1 user)
* MPC—Resources—MPC—Survey Information—MPC Survey FAQS (1 user)
* MPC—About—About MPC (1 user)

**Option 2**

* Topics (1 user)
* Data & Tools—MPC Data & Tools—Resources—About—Data & Tools—MPC—Topics—Data & Tools—MPC Restricted Data Request (1 user)
* Data & Tools—Resources—Topics—Publications—About—Data & Tools—MPC Data & Tools (1 user)
* Survey Information—Data & Tools—Survey Information—Publications—Resources—Survey Information—MPC Survey Information (1 user)
* Data & Tools—MPC—Data & Tools—About—News—Data & Tools—MPC—MPC Data & Tools (1 user)
* Data & Tools—MPC Data & Tools (1 user)
* Data & Tools—MPC Data & Tools—About—About MEPS (1 user)
* About—Survey Information—Resources—Events & Webinars—Workshops - Webinars & Presentations—Workshops—Data & Tools—MPC Data Release Schedule (1 user)
* Data & Tools—Survey Information—About—News—Data & Tools—Survey Information—Publications—Topics—Resources—Survey Information—MPC Survey Information (1 user)
* Survey Information—Data & Tools—MPC Data & Tools (1 user)

Exhibit 23: Screenshot of the Expected Answers for Task 7—Option 1

**Graphical user interface, application, Teams

Description automatically generated**

Exhibit 24: Screenshot of the Expected Answers for Task 7—Option 2

Graphical user interface, application, Teams

Description automatically generated

**Results**  
The table below shows the results for Task 7 by metric (See Exhibit 25).

Exhibit 25: Results for Task 7

|  |  |  |  |
| --- | --- | --- | --- |
| **Metric** | **Option 1** | **Option 2** | **Winner** |
| **Success Rate** | 91.4% | 71.4% | Option 1 |
| **Avg. Time to Complete** | 16.2 | 27.8 | Option 1 |
| **Avg. Number of Clicks** | 2.9 | 5.0 | Option 1 |
| **Percentage of Perfect Paths** | 34.3% | 34.3% | Tie |
| **Number of Extra Clicks** | 32 | 47 | Option 1 |
| **Avg. Number of Extra Clicks per User** | 0.9 | 1.3 | Option 1 |

**Summary:** Although option 2 has performed better on most tasks so far, option 1 clearly was the better performing option here. In all areas but one, option 1 had better metrics, indicating a superior user experience. When looking further into why this is the case, the wording of the task may have been confusing to the user. The task read in a way that the user looked for news that was specific to the MPC in the navigation, whereas the intention for the task was to find the latest news for MEPS in general. One other reason option 2 could have performed so poorly is because option 1 was shown before option 2 during the test. Because of this, the user may have expected to see news specific to the MPC somewhere in the navigation as in the first option.

Although we do not think it is necessary to add audience-level sublinks under the *News* section for option 2, it may be helpful to differentiate between news related to the various components on the *News* landing page by allowing the user either to filter by component or to tag news articles with the component with which it aligns.

### Task 8

**Scenario:** You are interested in any information MEPS has published about *Access to Healthcare*. Where would you go to find information about this topic?

Although the expected path was that the user would go through the *Topics* section to find the answer, we also accepted the *Publications* section as an appropriate route to go through to find the answer.

**Correct paths taken**

**Option 1** (see Exhibit 26)

* Publications—Search for Publications (22 users)
* Topics landing page (6 users)
* Publications—Publications by Type (3 users)

**Option 2** (see Exhibit 27)

* Publications—Search for Publications (22 users)
* Topics landing page (11 users)
* Publications—Publications by Type (1 user)

**Incorrect paths taken**

**Option 1**

* Publications Dropdown (no final screen selected—1 user)
* Publications—Research Findings and Highlights (1 user)
* Topics—Publications—Research Findings and Highlights (1 user)
* HC—About—Survey Information—Data & Tools—HC Data Tools—Data & Tools—Survey Information—About—Data & Tools—Publications Dropdown (no final screen selected—1 user)

**Option 2**

* Resources—Topics—Publications Dropdown (no final screen selected—1 user)

Exhibit 26: Screenshot of the Expected Answers for Task 8—Option 1

**Graphical user interface, application

Description automatically generated**

Exhibit 27: Screenshot of the Expected Answers for Task 8—Option 2

Graphical user interface, application

Description automatically generated

**Results**  
The table below shows the results for Task 8 by metric (See Exhibit 28).

Exhibit 28: Results for Task 8

|  |  |  |  |
| --- | --- | --- | --- |
| **Metric** | **Option 1** | **Option 2** | **Winner** |
| **Success Rate** | 88.6% | 97.1% | Option 2 |
| **Avg. Time to Complete** | 28.3 | 13.9 | Option 2 |
| **Avg. Number of Clicks** | 5.2 | 2.6 | Option 2 |
| **Percentage of Perfect Paths** | 71.4% | 80.0% | Option 2 |
| **Number of Extra Clicks** | 48 | 20 | Option 2 |
| **Avg. Number of Extra Clicks per User** | 1.4 | 0.6 | Option 2 |

**Summary:** Option 2 had better metrics across all categories for this task. Easy access to the *Topics* landing page within the primary navigation for option 2 helped boost its performance, with almost twice as many users choosing that landing page on option 2 than on option 1. Option 2 also had fewer than half the number of mistakes, with only 20 extra clicks compared with 48 extra clicks for option 1.

## Additional Questions

### Question 1

**Which navigation did you prefer to use? Why did you prefer this option?**

|  |  |  |
| --- | --- | --- |
| **Options** | **Number of Users** | **Percentage of Users** |
| Option 1 | 21 | 60% |
| Option 2 | 14 | 40% |

When we gave users the option to decide which navigation they preferred, option 1 won with 60% of the vote. This result was a little surprising because option 2 performed better statistically overall for the tasks. When we asked why the user preferred option 1, some of the responses included the following:

* “MEPS-HC and MEPS-IC are entirely independent surveys and when I need to go to the MEPS website I am looking for specific information about only one at a time.”
* “Grouping by data source keeps all related data/information together in one place.”
* “Found it easier to find information.”
* “It was easier to find information about each survey type. The information was organized more logically.”

When we asked why the user preferred option 2, responses included the following:

* “It was easier to find what I needed. I particularly liked that *About* and *Topics* were in the purple bar.”
* “Easier for people unfamiliar with the different components (household, MPC, insurance). Also, I like having *Data & Tools* as a main category.”
* “This view seems more consolidated than the other. When using this view, there are less distractions and options—seems more straightforward.”
* “It looks cleaner and takes less clicks to get to where I need to go.”

Users who preferred option 1 liked the idea of grouping elements by component, and users who preferred option 2 liked the idea of grouping navigational elements by category such as *About* or *Data & Tools*. One reason why the users may have preferred the first option in which elements were grouped by component could be because most of the users surveyed were familiar with MEPS and what they were looking for on the site; therefore, grouping by the component level might have been enticing to them to be able to find everything they needed under one umbrella. User preference can help solidify data in which there is agreement in the better performing options; however, it should not override the data when there is a conflict. [According to research from the Nielsen Norman Group](https://www.nngroup.com/articles/first-rule-of-usability-dont-listen-to-users/), it is best to design by what the users do rather than their opinion of what they like. Therefore, we would recommend going with option 2 instead of option 1, even if the preference test results do not support it.

Question 2   
**Do you have any additional comments you would like to add about your experience doing the navigation test?**

The last question we asked was to give any additional comments about the exercise. Seven users responded to this optional question with the following answers:

* “Don't create a high-level tab for the medical provider component. It is only used in conjunction with the household component. The more visibility it has, the more people think it's available for their research project.”
* “It's a bit tricky with picking but both options were fairly easy to navigate.”
* “Either way would be good.”
* “You asked to find MPC news. I found all MEPS News, but nothing under MPC.”
* “Cool experience. I couldn't find things on the second option so gave up. The first option was pretty easy to navigate.”
* “This can still be improved, not everything is instinctive. I couldn't locate file documentation and codebook—where would it be placed? Variable source crosswalk? There was a question about finding a variable—I chose the questionnaire, but Variable source crosswalk is the right thing to look at before you know which questionnaire and question number it's referring to.”
* “The Household component is a public use element, while the IC only has public use reports and the MPC is really not for anyone outside to use. While the navigation pane organized by data product is easier to use, there might need to be some way to better funnel outside users looking to access the IC or MPC to a screen about accessing the data center or applying for restricted use elements. I am sure the folks in CFACT [Committee for a Constructive Tomorrow] will be very helpful in what that content would need to be and their expectations for what information users would encounter first. Otherwise, looks very nice!”

In these follow-up comments, two people were concerned about the high-level visibility of the MPC in option 1. This is a valid concern, and perhaps it would be better to include MPC somewhere other than the primary navigation, such as the utility navigation or footer, if moving forward with first option for the navigation.

Another user was concerned about where to find the documentation and codebook information, as well as the variable source crosswalk. We believe the documentation and codebook should be under the *Data Files* section. However, this could be an area to explore further to see whether there is a better place to put it. Regarding where a variable source crosswalk link should be, given the number of mistakes users made with both options completing task 5, this may be good evidence to add a variable source crosswalk option to the *Data* section.

# Recommendations

Because option 2 far outperformed option 1 (33 times outperformed vs 12 times outperformed across the six categories on all tasks), the AIR team recommends going with option 2 for the redesign process of the MEPS website. Option 2 scored very high on most tasks; however, there may be a few areas on which to improve.

* **Distinguish between types of news at the component level:** The worst performing task for the option 2 was task 7, where users were asked to…. The reason this did not perform well was because the users did not know where to go to find news that was specific to the component on which they were working. Although we think this was an issue with the wording of the question, it may be helpful to include an option to filter the latest news on the *News* page by component or to tag each news article with the component it relates to during the redesign to alleviate any concerns.
* **Clarify the context for *Methodology*:** The other task the users did not score as well as they could have for option 2 was task 4. In task 4, we asked the user to find *IC Methodology Reports* by using the navigation. Option 1 had a distinct advantage over option 2 because it had a submenu for *IC Methodology* that included reports. Although option 2 does not allow the space to add a submenu under the *Methodology* link, this link could be improved by adding more context for what users should expect to see once they click on it. One suggestion is to rename *Methodology* to *Methodology Information and Reports* in the submenu.
* **Add *Variable Source Crosswalk* page:** One other task that the users could have scored better on was task 5 in which they had to find a survey question that relates to a data variable. Although the task had more than a 90% success rate, almost 40% of the users made mistakes trying to find the answer. When digging into the data, most of the users first went to *Data & Tools* to find the answer to that survey question. This could be a great opportunity to add a link within this section for a *Variable Source Crosswalk* page.

## Proposed Navigation

**Prototype:** [[Example](https://www.figma.com/proto/O2e86M9FCtg5XK8b0M9XDm/Navigation-Prototype-Option-1?node-id=2%3A14&scaling=scale-down&page-id=0%3A1&starting-point-node-id=2%3A14) link removed – see wireframe\_links document for most updated mockup]

With the findings from the tree test analysis, we have revised the navigation structure for option 2 to include the recommendations mentioned earlier. We recommend the following navigation:

Utility Navigation   
MEPS FAQs | Contact

Primary Navigation   
About | Data & Tools | Survey Information | Publications | Topics | Resources

Sublevel Navigation  
**About**   
About MEPS | News | Contact

**Data & Tools**

Household Component—Data Files | Data Tools | Variable Source Crosswalk | Restricted Data Request | Data Release Schedule

Insurance Component—Data Files | Data Tools | Variable Source Crosswalk | Restricted Data Request | Data Release Schedule

Medical Provider Component—Variable Source Crosswalk | Restricted Data Request | Data Release Schedule

Nursing Home Component—Data Files | Variable Source Crosswalk | Restricted Data Request

**Survey Information**

Household Component—Survey Background Information | Questionnaires | Methodology Information & Reports | FAQs

Insurance Component—Survey Background Information | Questionnaires | Methodology Information & Reports | FAQs

Medical Provider Component—Survey Background Information | Questionnaires | Methodology Information & Reports | FAQs

Nursing Home Component—Survey Background Information | Questionnaires

**Publications**Search for Publications

Publications by Type—Statistical Briefs | Methodology Reports | Chartbooks | Working Papers | Research Findings and Highlights | Case Studies

**Topics**

**Resources**

Events & Webinars—Workshops | Webinars & Presentations | Conferences

FAQs

Mailing List

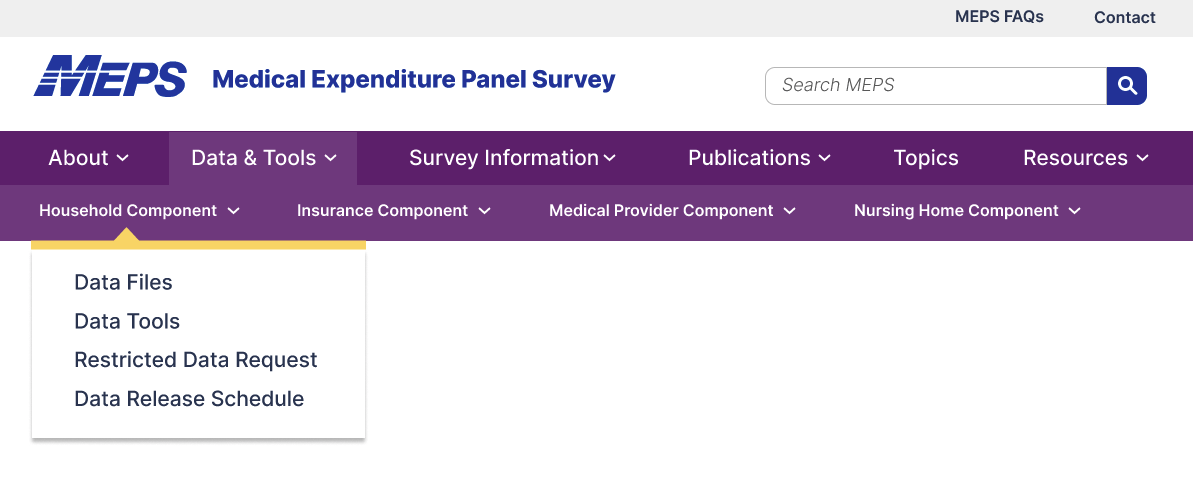
Contact

## Proposed Navigation—Alternate UI

Prototype: [[Example](https://www.figma.com/proto/O2e86M9FCtg5XK8b0M9XDm/Navigation-Prototype-Option-1?node-id=2%3A14&scaling=scale-down&page-id=0%3A1&starting-point-node-id=2%3A14) link removed – see wireframe\_links document for most updated mockup]

This option is identical except it adds a component-level UI interface to the *Data & Tools* section and the *Survey Information* section (see Exhibit 29). This is similar to the UI we tested in option 1 during the tree test. Adding this capitalizes on the advantages we saw that option 1 had within the tree test by having the ability to have a third-level submenu.

Exhibit 29: Screenshot of Alternate User Interface



# Conclusions

In June 2022, we conducted the tree test to compare the effectiveness of two options for the navigation of the MEPS website. Option 1 consisted of grouping elements at a component level (see Exhibit 30) and option 2 consisted of grouping elements at a category level (see Exhibit 31).

Exhibit 30: Screenshot of Option 1

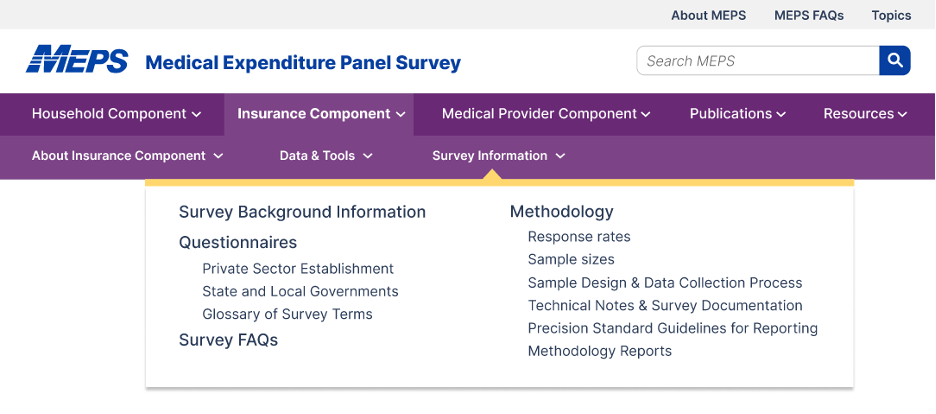
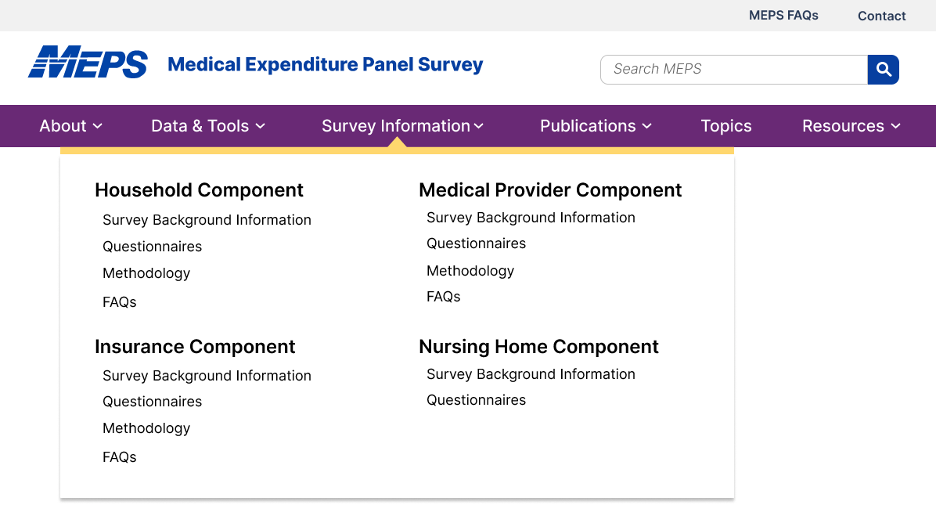


Exhibit 31: Screenshot of Option 2



When comparing the effectiveness of both options, option 2 scored better 33 times within 6 categories across 8 tasks, while option 1 scored better only 12 times. The categories included: Success Rate, Average Time to Complete, Average Number of Clicks, Percentage of Perfect Paths taken, Number of Extra Clicks, and Average Number of Extra Clicks Per User. We believe this data shows that the recommended approach should be to move forward with option 2 in the redesign.

Even with the strong success rates shown by option 2, we still found some issues that need addressing. These findings include the following:

* Users struggled with finding the latest news within the navigation. Although this may have been an issue with the wording of the question as users tried to find news within the component dropdowns, it may be helpful to include an option to filter latest news by component on the news page during the redesign to alleviate any concerns.
* Users made many mistakes when looking for *Methodology Reports* in option 2. This may be because there was no clear option in the *Survey Information* section. Therefore, we recommend renaming the term *Methodology* in the *Survey Information* submenu to something more specific so the user can understand what to expect when clicking on it. One suggestion would be to name it *Methodology Information and Reports*. This wording may be clearer to the user and could help avoid these mistakes. *Methodology Information* would refer to Response Rates, Sample Size, Standard Errors for MEPS Estimates, Price Indices for Expenditure & Income Comparisons.
* Almost 40% of the users made mistakes trying to find a questionnaire that would relate to a data variable. Most of those users first went to *Data & Tools* to find the survey question, whereas the answer was in the *Survey Information* section. This could be a great opportunity to add a link within the *Data & Tools* section for a *Variable Source Crosswalk* page.

Although the preference test results did not align with the data, on the basis of our findings, we believe that option 2 is the superior navigation. The overall scores were impressive, and the AIR team thinks that the tree test demonstrated good insights into how best to move forward with the navigation on the MEPS website. Within the *Recommendations* section, the team has proposed a few tweaks that can be made to the navigation. Making these tweaks will increase the satisfaction for the user and provide an optimal navigation structure.