Medicaid and Children's Health Insurance Program (CHIP) Quality Rating System (MAC QRS) Design Guide Module 2: Using Human-Centered Design to Inform Website Prototypes

September 24, 2025

Centers for Medicare & Medicaid Services
Medicaid & CHIP
Quality Rating System

Background

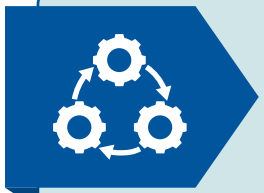
- CMS's Medicaid and CHIP Quality Rating System (MAC QRS) requires states to display quality ratings for Medicaid and CHIP managed care plans (MCPs). These ratings aim to help beneficiaries make informed plan selections by offering clear, accessible, and comparable information on MCP performance.
- CMS engaged states, MCPs, and other interested parties to support implementation. This collaborative process and its findings are summarized across three Design Guide Modules.

Module 1	Key Findings from User Testing
Module 2	Using Human-Centered Design to Inform Website Prototypes
Module 3	How States Can Use Human-Centered Design to Build Their MAC QRS Website

Centers for Medicare & Medicaid Services
Medicaid & CHIP
Quality Rating System

Purpose of Module 2

Present the key drivers CMS considered when developing MAC QRS guidance.



Provide an overview of the Human-Centered Design framework, including its three phases— Discover, Design, and Test.

Explain how CMS implemented each Human-Centered Design phase to develop the MAC QRS website prototypes.

Centers for Medicare & Medicaid Services
Medicaid & CHIP
Quality Rating System

Overview of Module 2

- **To inform the design of the MAC QRS website prototypes, CMS applied a Human-Centered Design framework.**
- **This approach helped ensure that the websites meet the needs of users—Medicaid and CHIP beneficiaries and their caregivers—by presenting MCP quality information in a clear, understandable, and meaningful way.**
- **This module (Module 2) provides an overview of the Human-Centered Design framework and how CMS applied it during prototype development, from stakeholder engagement to iterative testing and refinement.**
  - Module 3 highlights the benefits of user testing, provides examples of when states may consider conducting user testing, and outlines key considerations for applying Human-Centered Design principles to MAC QRS website development. Module 3 is available at https://www.medicaid.gov/medicaid/quality-of-care/medicaid-managed-care-quality/quality-rating-system.

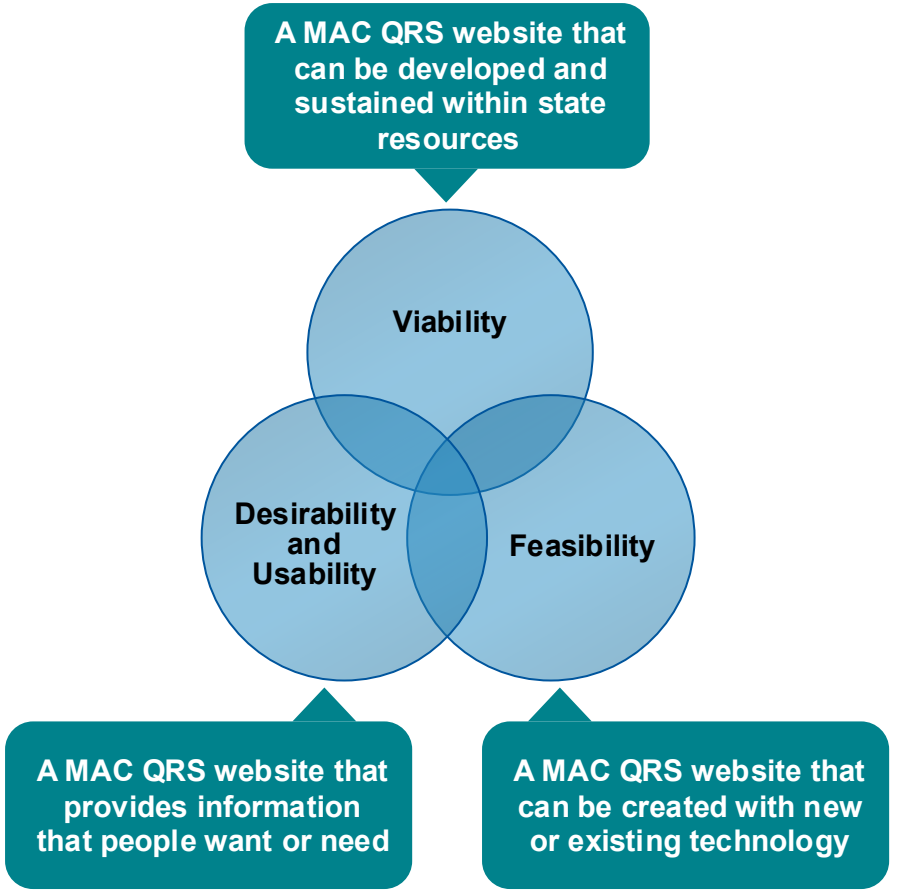
Centers for Medicare & Medicaid Services
Medicaid & CHIP
Quality Rating System

Key Drivers Behind CMS' Development of the MAC QRS Guidance

Centers for Medicare & Medicaid Services
Medicaid & CHIP
Quality Rating System

MAC QRS Prototype Design Drivers

- CMS considered three key drivers when developing the MAC QRS prototypes:
  1. Viability
  2. Feasibility
  3. Desirability and usability
- CMS engaged interested parties to give feedback about this intersection.

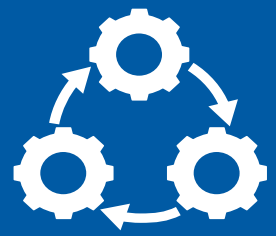


Centers for Medicare & Medicaid Services
Medicaid & CHIP
Quality Rating System

Engaging Interested Parties

	Parties Engaged	Engagement Methods	Topics
Viability: Building a MAC QRS that can be sustained	• State Medicaid and CHIP programs • MCPs • External Quality Review Organizations (EQROs)	• Interviews • Group listening sessions • Workgroups	• Implementation concerns and flexibilities • Technical assistance needs • Current approaches and methodologies for calculating quality measures
Feasibility: Building a MAC QRS that is easy to implement	• State Medicaid and CHIP programs • MCPs • EQROs	• Interviews • Group listening sessions • Workgroups	• Quality measure identification • Data collection and measure reporting feasibility • Measure comparison by plan type and population stratification • Timeline for collecting, calculating, and displaying mandatory measures
Desirability & Usability: Building a MAC QRS that meets user needs	• Beneficiaries • Caregivers • Navigators • Enrollment specialists	• Interviews • Wireframe and prototype testing	• Beneficiary and caregiver values in choosing a health care plan • MAC QRS measures of high-quality care • Navigating the website

Centers for Medicare & Medicaid Services
Medicaid & CHIP
Quality Rating System

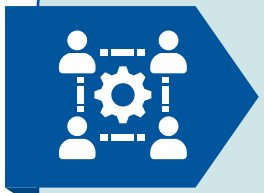


Overview of Human-Centered Design

Centers for Medicare & Medicaid Services
Medicaid & CHIP
Quality Rating System

What is Human-Centered Design?

A creative user-first approach to problem solving that starts with the people who will use the product and ends with a solution tailor-made to meet their needs.



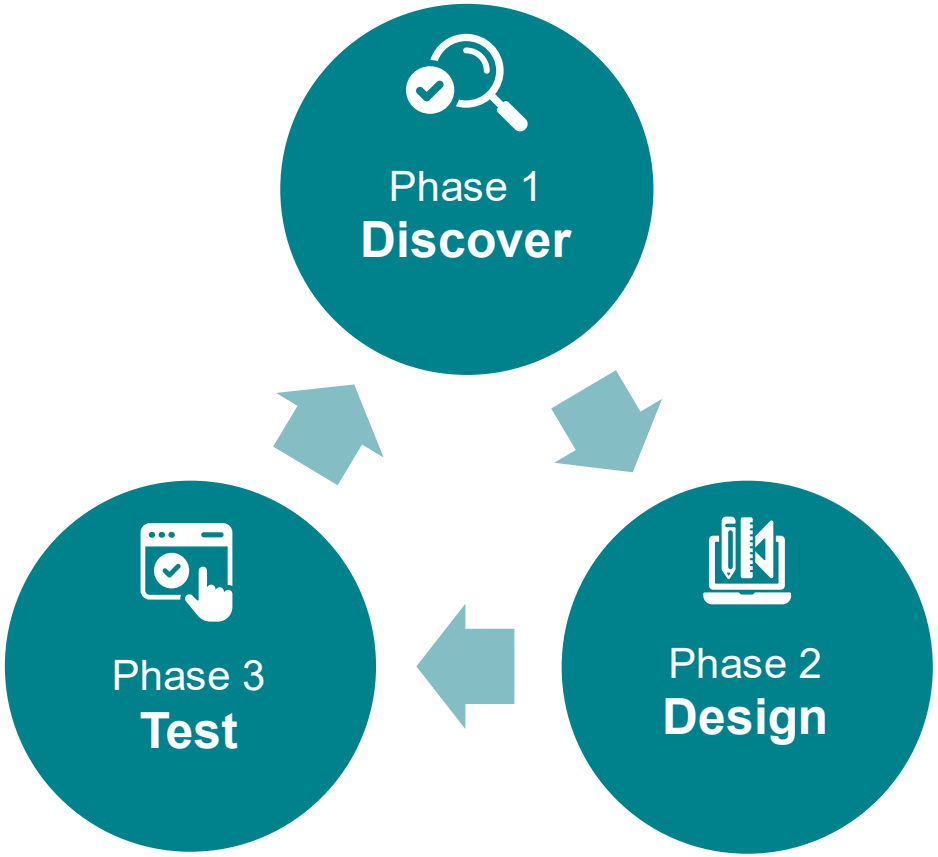
A process that immerses the users of a product in every stage of the design process.

A method for uncovering what is desirable **TO** Medicaid and CHIP beneficiaries, not what others believe is desirable **FOR** them. Only beneficiaries can say what is desirable **TO** them.

Centers for Medicare & Medicaid Services
Medicaid & CHIP
Quality Rating System

Phases of Human-Centered Design

- **Human-Centered Design is an iterative process with three core phases:**
  - **Discover:** Design teams seek to understand the people they are designing for, gathering insights about their needs, values, and preferences.
  - **Design:** Design teams generate and refine ideas based on user insights.
  - **Test:** Design teams evaluate their effectiveness based on original goals and user needs.
- **Solutions are tested, refined, and re-tested—continuously evolving to improve outcomes.**



Note: See Appendix A for resources related to human-centered design.

Centers for Medicare & Medicaid Services
Medicaid & CHIP
Quality Rating System

Using the Human-Centered Design Process to Develop the MAC QRS Website Prototypes

Centers for Medicare & Medicaid Services
Medicaid & CHIP
Quality Rating System

Overview of Phase 1: Discover

- **For MAC QRS, CMS conducted two interview cycles to collect data on the beneficiaries' experiences in selecting an MCP. This exploratory research helped surface the values, needs, and challenges they face- insights that shaped the direction of the website prototype design.**
- **Key activities in this phase included:**
  - **Researching the population:** Engaged beneficiaries to learn what they value, how they make decisions, and how they consume information. CMS included a diverse group that reflected a range of ages, backgrounds, and life circumstances to capture a broad range of perspectives.
  - **Synthesizing insights:** Analyzed the data to identify patterns, validate assumptions, and uncover key user behaviors and needs.
  - **Defining the problem to be solved:** Developed hypotheses and research questions to guide future design efforts.
- **This phase laid the groundwork for the next stage of design, ensuring that CMS's approach to the MAC QRS was informed by the voices of the people it's meant to serve.**

Centers for Medicare & Medicaid Services
Medicaid & CHIP
Quality Rating System

Phase 1 Activity: Researching the Population

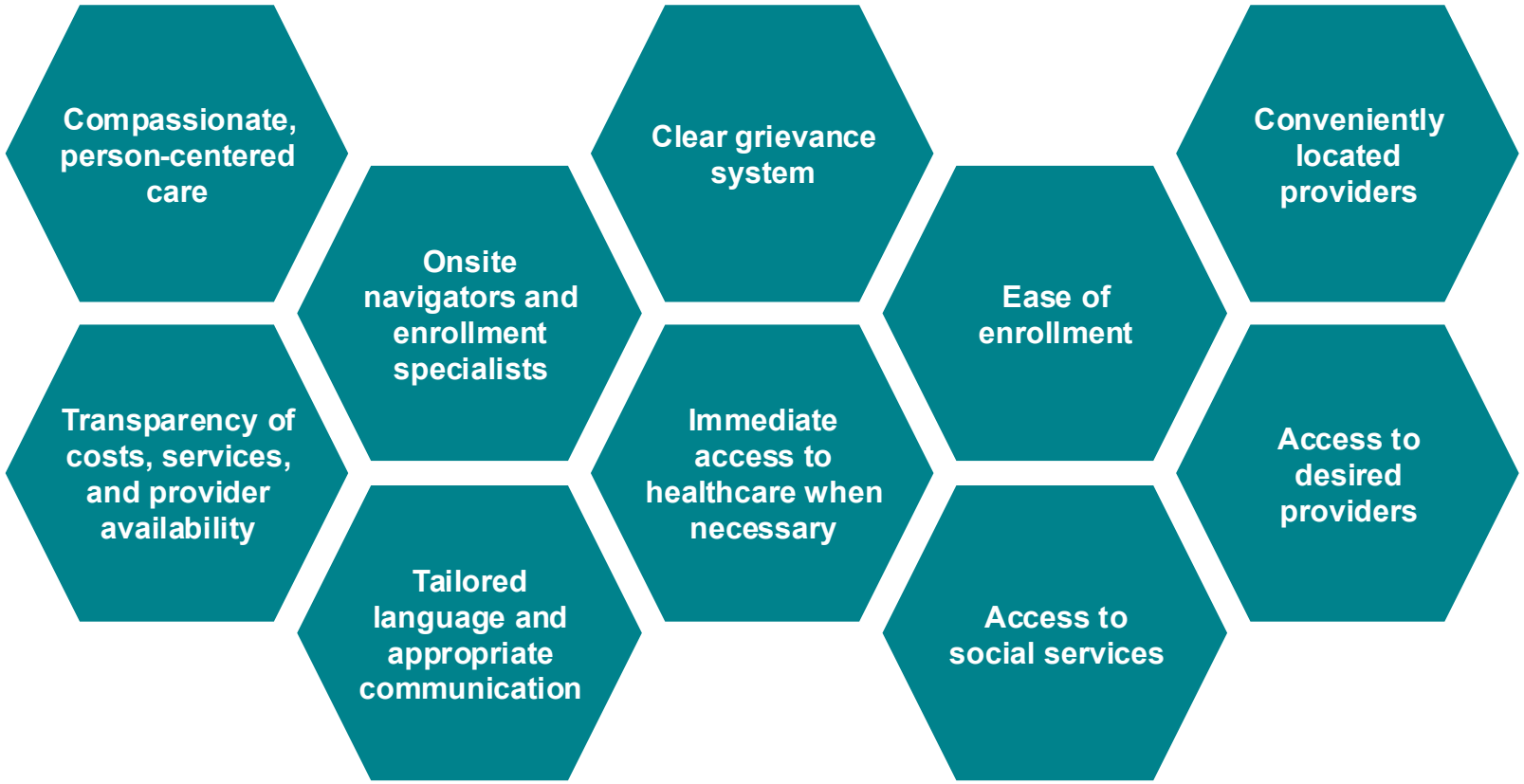
- **To better understand the experiences of Medicaid and CHIP beneficiaries, CMS used two complementary research methods: empathy interviews and contextual observation.**
- **Empathy interviews: CMS conducted one-on-one interviews with potential Medicaid and CHIP beneficiaries and caregivers to explore:**
  - What matters most in their healthcare
  - How they make decisions about MCPs and providers
  - Their values, needs, and common pain points
- **Contextual observation: CMS observed how people engage with their state Medicaid and CHIP programs in real-world settings to better understand the user journey, including:**
  - Navigating a state Medicaid phone system
  - Visiting a social services office for enrollment help
  - Reviewing state Medicaid brochures and provider directories

Centers for Medicare & Medicaid Services
Medicaid & CHIP
Quality Rating System

Phase 1 Activity: Synthesizing Insights

- **CMS reviewed the findings from the interviews and contextual observation, identifying the key factors that Medicaid and CHIP beneficiaries prioritized when selecting an MCP. See Figure 1 for a summary of these factors.**

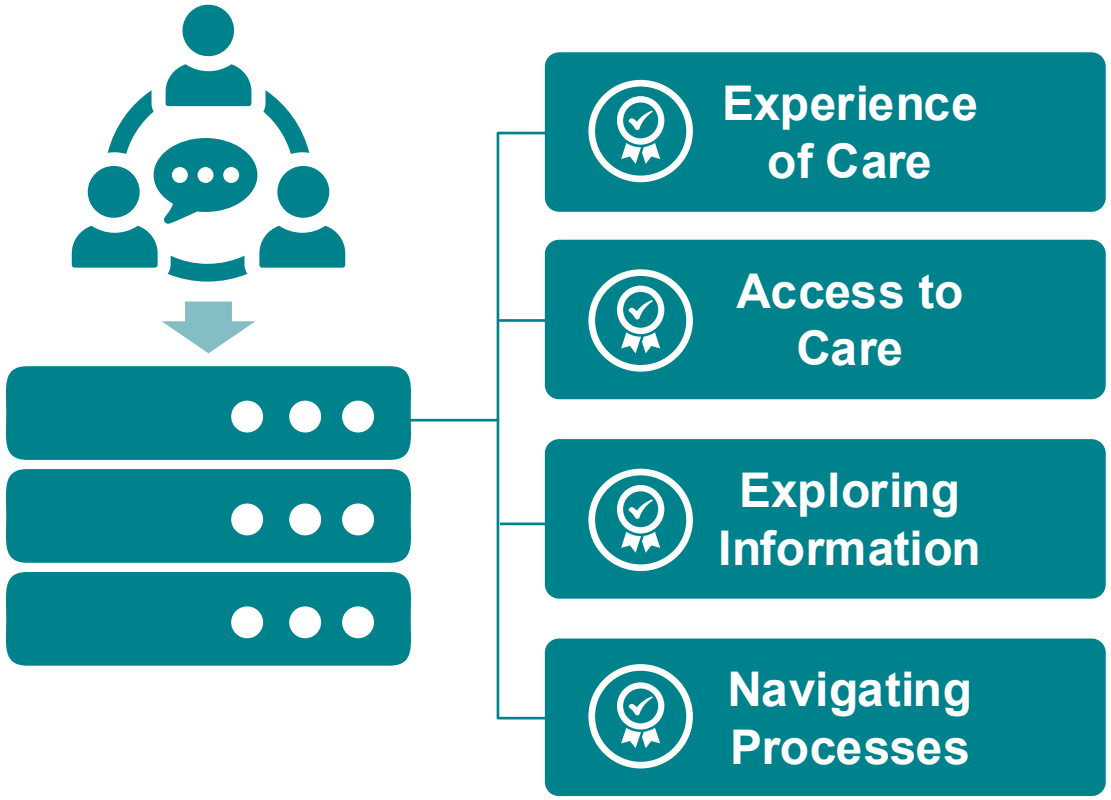
Figure 1. Beneficiary-Identified Factors for Choosing an MCP



Centers for Medicare & Medicaid Services
Medicaid & CHIP
Quality Rating System

Phase 1 Activity: Synthesizing Insights, Continued

- CMS used an activity called affinity mapping to analyze the data, grouping insights by common themes to identify common pain points and user needs.
- CMS identified four key healthcare quality domains that reflect the core findings from beneficiary input.



Centers for Medicare & Medicaid Services
Medicaid & CHIP
Quality Rating System

Phase 1 Activity: Defining the Problem(s)

- **The research and synthesis activities enabled CMS to clearly define key problems identified by the beneficiaries, including:**
  - **How can the MAC QRS deliver value early and often?**

    Many beneficiaries and caregivers felt overwhelmed by a lifetime of navigating complex health systems. If information is unclear or hard to find, they may disengage entirely from the MAC QRS.
  - **How can the MAC QRS prioritize information?**

    Beneficiaries want to quickly understand what an MCP covers, such as benefits, prescriptions, and in-network providers. They don't want to dig for this information.

Continues on next slide.

Phase 1 Activity: Defining the Problem(s), Continued

- **How can the MAC QRS address a lack of trust?**

Many beneficiaries shared negative experiences with the healthcare system and are likely to approach the MAC QRS with skepticism. There was confusion about where the quality measure data came from and who was responsible for compiling it.

- **How can the MAC QRS promote a flexible approach?**

Beneficiaries want the ability to explore the MAC QRS in a way that works for them- accessing only the information they care about in the order they choose. They are discouraged by websites that require too much personal information upfront.

- **How can the MAC QRS be personalized to meet the needs of the individual?**

When selecting an MCP, beneficiaries want to see quality ratings and information that apply to them – not information that is irrelevant to their situation or healthcare needs.

Centers for Medicare & Medicaid Services
Medicaid & CHIP
Quality Rating System

Overview of Phase 2: Design

- **In this phase, CMS began translating insights from the research into tangible design concepts for the MAC QRS website. The goal was to build representations of how the site could meet beneficiaries' needs and expectations.**
- **Key activities in this phase included:**
  - **Creating wireframes:** Developed visual blueprints to outline essential features, page layouts, and user pathways to test functionality and content organization.
  - **Building prototypes:** Produced low-fidelity prototypes that illustrated key design elements and user flows to support early usability testing and iteration.

Centers for Medicare & Medicaid Services
Medicaid & CHIP
Quality Rating System

Addressing Identified Problems with Design Solutions

As part of the prototype design process, the design team sought to address the key problems identified during the Discover phase (recall Slides 16 and 17).

Identified Problem	Design Solutions
How can the MAC QRS…	
Deliver value early and often?	• Minimize the number of clicks from landing page to key information. • Explain what the website does and does not do (e.g., noting if a different website determines eligibility).
Prioritize information?	• Prioritize information that individuals want first, such as available MCPs, in-network providers, covered prescriptions, and benefits. • Ensure this information is easy to find through clear navigation.

Centers for Medicare & Medicaid Services
Medicaid & CHIP
Quality Rating System

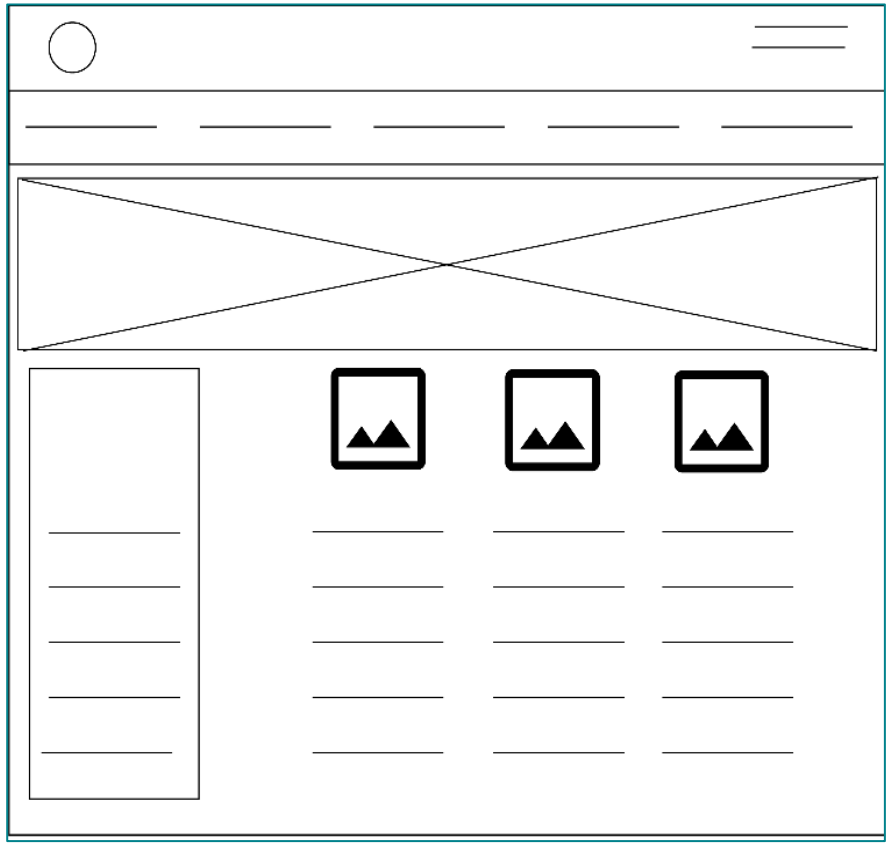
Addressing Identified Problems with Design Solutions, Continued

Identified Problem	Design Solutions
How can the MAC QRS…	
Address a lack of trust?	• Use plain language to explain the quality ratings and the data sources. • Explain why beneficiary information (e.g., ZIP code) is being requested.
Promote a flexible approach?	• Enable intuitive navigation with a “no wrong door” approach. • Provide live support access on every page.
Be personalized to meet the needs of the individual?	• Allow filtering of side-by-side MCP comparisons. • Provide both high-level and detailed information to guide next steps.

Centers for Medicare & Medicaid Services
Medicaid & CHIP
Quality Rating System

Phase 2 Activity: Creating Wireframes

- A wireframe is a design tool used to ensure clarity, improve communication among interested parties, save time, and validate concepts before investing in detailed designs and development.
- CMS designed the MAC QRS wireframes with directed input from beneficiaries, prioritizing revisions based on insights into their preferences and how they navigate and process information.

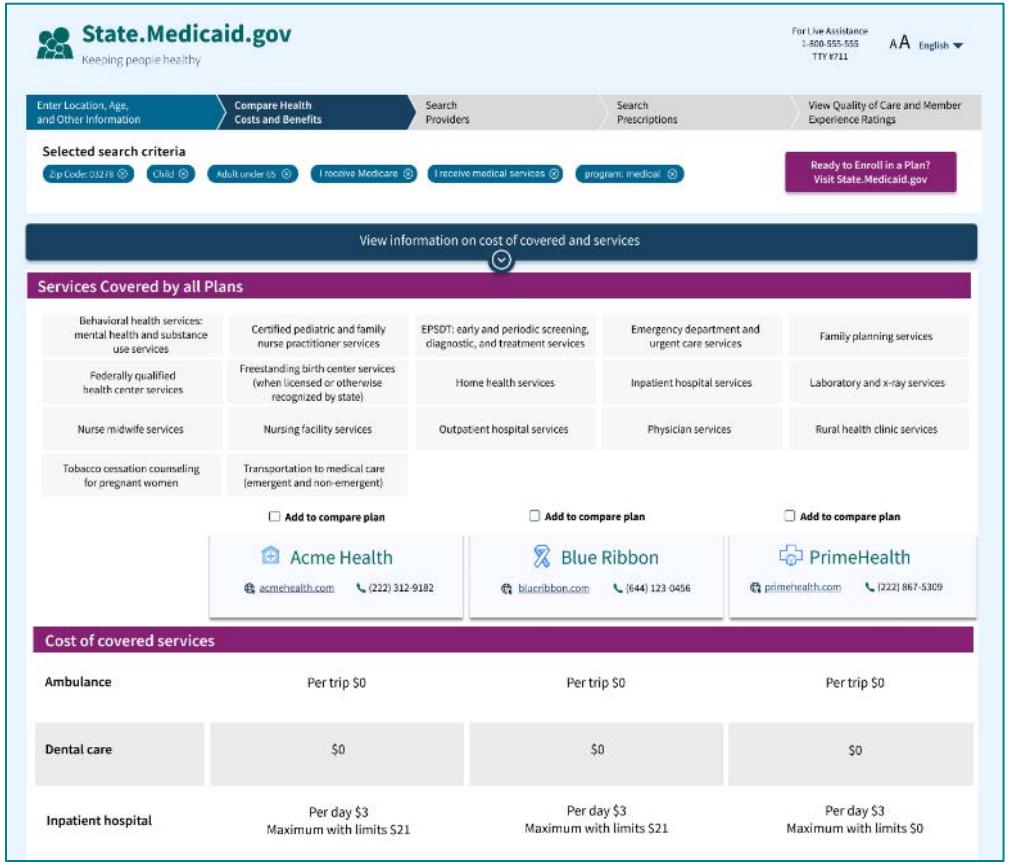


Example of a simple wireframe mockup

Centers for Medicare & Medicaid Services
Medicaid & CHIP
Quality Rating System

Phase 2 Activity: Building Prototypes

- A prototype is a preliminary version of a website - used to test and validate design concepts, gather user feedback, and refine the website before final development.
- CMS built interactive prototypes of the MAC QRS website – to demonstrate its core functionality, features, and user interface.



Example of an interactive prototype

Centers for Medicare & Medicaid Services
Medicaid & CHIP
Quality Rating System

Overview of Phase 3: Test

- **In this phase, CMS tested the usability of early MAC QRS website prototypes with end-users (i.e., beneficiaries and caregivers). The goal was to validate whether the design aligned with user needs and to identify areas for improvement before final development.**
- **Key activities in this phase included:**
  - **Conducting usability testing:** Collected qualitative feedback from users to assess the clarity, functionality, and effectiveness of the prototype. CMS reviewed this feedback to identify pain points or confusing elements.
  - **Refining the design:** Used insights from testing to revise the prototype, improving both content and user flow to better support decision-making.

Phase 3 Activity: Usability Testing

- **CMS conducted usability testing to evaluate how well the prototype met users' needs and expectations. Participants completed specific tasks related to navigation, usability, and accessibility.**
- **Key testing activities included:**
  - **Task-based interaction:** Participants were asked to complete tasks, such as “Identify the MCPs you are eligible for,” to assess site functionality and user comprehension.
  - **Think-aloud protocol:** Participants verbalized their thought processes, describing their actions and decision-making in real-time.
  - **Open reflection:** Participants were encouraged to ask questions, share their reactions, and flag any usability concerns as they navigated the prototype.

Centers for Medicare & Medicaid Services
Medicaid & CHIP
Quality Rating System

Phase 3 Activity: Refining the Design

- Phases 2 (Design) and 3 (Test) are iterative, with each phase informing and refining the other.
- CMS conducted four rounds of design and testing with users, gathering feedback on the following core prototype features:

Live assistance	Welcome statements, including identifying the purpose of the MAC QRS	Finding Frequently Asked Questions (FAQ) resources	Filtering quality measure results to show stratified ratings
Identifying available health plans in a geographic area	Searching for MCP's in-network providers	Searching for MCPs that cover specific medications	Finding information on MCP quality

Centers for Medicare & Medicaid Services
Medicaid & CHIP
Quality Rating System

The Final MAC QRS Prototypes

- Through three iterative phases of HCD—Research, Design, and Testing—CMS developed two prototypes of the MAC QRS website, grounded in insights and feedback from beneficiaries and caregivers.
- Explore the MAC QRS Prototype A and Prototype B here: https://www.medicaid.gov/medicaid/quality-of-care/medicaid-managed-care-quality/quality-rating-system

Centers for Medicare & Medicaid Services
Medicaid & CHIP
Quality Rating System

Questions? Email the MAC QRS team

MAC_QualityRatingSystem@cms.hhs.gov

Centers for Medicare & Medicaid Services
Medicaid & CHIP
Quality Rating System

Appendix A: Human-Centered Design Resources

- **Recruiting methods**
  - Recruiting - 18F Methods
  - HCD-Discovery-Guide-Interagency-v12-1.pdf (gsa.gov)
- **Interviewing**
  - Stakeholder and user interviews - 18F Methods
  - Build empathy with stakeholder interviews, part 1: Preparation — 18F Blog
  - Build empathy with stakeholder interviews, part 2: Conversation — 18F Blog
- **Affinity Mapping**
  - Affinity mapping | 18F Methods
- **Wireframing**
  - Wireframing - 18F Methods
- **Prototyping**
  - Prototyping - 18F Methods
- **Usability testing**
  - Usability testing - 18F Methods
- **DHS Usability Testing Kit**
  - How to Guide on Usability Testing
- **Human-Centered Design**
  - Human-Centered Design | CX | Performance.gov
- **Plain Language Guidelines**
  - Checklist for Plain Language
- **Web Accessibility Initiative**
  - Evaluating Web Accessibility Overview
- **Digital.gov**
  - Best Practices for Writing for the Accessible Web
- **U.S. Web Design System**
  - Design Principles
- **Design Kit: The Human-Centered Design Toolkit**
  - Design Kit: The Human-Centered Design Toolkit | ideo.com