

CDC National Environmental Public Health Tracking Network:

Centers for Disease Control and Prevention (CDC) engaged User Insight to design a major data portal for a variety of user types. This large, multi-phase project began with concept research, proceeded with prototyping and iterative user testing, and ended with User Insight's team consulting throughout CDC's development of the final application. From concept to coding, User Insight helped CDC ensure the application design met user needs and employed usability best practices.

Client Goals

- Exploration of user needs and design concepts.
- Deeper understanding of user types.
- Well-tested portal design.
- Assistance with design implementation.

Insights Gained

Phase 1: Research and Requirements

- Searching (via Google) was the prominent method for accessing health related information.
- CDC was viewed as a primary source of credible information on the topic.
- All groups desired to "see themselves" in the data.

Phase 2: Task-Driven Exploration

- Users wanted information to be pre-populated into queries based on information currently being researched. Geographic results were expected to be associated with interactive maps.
- In-depth scientific information was expected upon deeper probing of content.
- Expectations of access to content, data analysis and publishing privileges varied according to User group.

Phase 3: Card Sort and Clustering

- The initial groupings identified in Phase 1 were upheld as top level clusters.
- Clustering via Natural Associations
 - › Health Condition remained the most stable category.
 - › Hazard was the least stable category of those defined in previous Phases of research.
- Tenuous relationships clustered the majority of indicators.
- Top 5 terms were confirmed by 75% of Users in 3 of the 5 categories:
 - › Health Effects
 - › About Tracking Network
 - › Location
- Exposure was the least substantiated category with no more than 64% of Users placing any one term into the folder.
- Top 15 terms for each category had little cross-over with the exception of air related terms.

Phase 4: Iterative Testing during Development

- Users had no clear preference for positive versus negative terminology and imagery.
- Unconventional action sequencing was confusing.
- Query Forms appeared at unexpected points within the navigation process.
- Users desired consistency between pages of equal depth within the site.

Our Approach

Phase 1: Research and Requirements

- 42 user assessments - a mix of one-on-one interviews, contextual interviews, and remote testing - within a four week period to gain feedback on user preferences and recommendations for the portal's look and navigation.
- Competitive analysis on sites with similar functionalities to gather insight for user preferences and expectations.
- Requirements gathering based on user feedback.
- User profiles to distinguish how each user type would want to interact with the portal.
- Information architecture to drive a prototype for testing the design concept, including page layout and functionality.

Phase 2: Task-Driven Exploration

- Prototyping of a mock portal to test with users.
- One-on-one interviews, contextual interviews, and remote testing to gather feedback about content expectations, as well as layout and navigation preferences for the tracking portal.
- Usability evaluation by studying the paths users took through the prototype.
- Refinement of requirements and user profiles to reflect different interaction styles across user groups.

Phase 3: Card Sort and Clustering

- Web-based card sort activity to understand how well proposed information categories matched user expectations and needs.
- Paper card sort with NEHA members to help define portal nomenclature.

Phase 4: Iterative Testing during Development

- One-on-one interviews to pinpoint user preferences for specific functionalities and cross-referencing opportunities.
- Design recommendations to address the ways users prefer to interact with each version of the portal.

Who we talked to

For each of the phases listed below, User Insight talked to a mix of the following users:

- **NAHDO Conference Attendees:** Expert Health Care Data Professionals in Attendance of the San Diego Event
- **Non-Expert Level Health Care:** Doctors, Nurses and Physician's Assistants Who Gather Environmental Health Information When Treating and Providing Patients with Information
- **Business and Industry:** Professionals Dealing with Environmental Health Concerns in the Course of Their Work and Use Environmental Health Information to Inform Business Decision Making
- **Not for Profits:** Advocacy Groups that Promote Specific Environmental Health Concerns. Contextual interviews were conducted in San Francisco. (ex. Pesticide Action Network)

- **General Public:** Members of the General Public with Some Level of Concern about Environmental Health
- **Politicos and Media:** Professionals Who Gather Environmental Health Information in the Course of Their Work and, in Turn, Inform the Public or Their Constituency About Specific Environmental Health Concerns

Phase 1: Research and Requirements

- 42 one on one in lab and contextual interviews in California, Atlanta and Washington, D.C.

Phase 2: Task-Driven Exploration

- 70 one on one in lab, contextual interviews and remote technology sessions in New Mexico, Georgia, Wisconsin, Missouri, Florida, Maryland, Oregon, New York, New Jersey, Virginia, Texas, Massachusetts, Washington, D.C.

Phase 3: Card Sort and Clustering

- 272 online card sorting surveys and 15 experts in group session in Washington, D.C.

Phase 4: Iterative Testing during Development

- 15 User Assessments and JiTR sessions in Atlanta, GA