

Universal Symbols in Health Care



Developing a Symbols-Based Wayfinding System: Implementation Guidebook

Part 4:

Design, Testing and
Analysis

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PART 4: Design Testing and Analysis

Testing and analysis play a crucial role in the development of a wayfinding system. Testing allows facilities to define and prioritize the most important design issues and also provides a venue for ideas and scenarios to be analyzed under real-world conditions. All health care facilities should develop a testing and analysis strategy as part of their overall planning and design process. This process should include, but not be limited to:

- **Pre-Design Interviews** - Pre-design interviews with visitors and staff can clearly define the key priorities in developing and managing an effective wayfinding experience. Early interviews can more clearly focus design issues including:
 - ~ Facility needs
 - ~ Key destinations
 - ~ Staff support for system changes
- **Pre-design Wayfinding and Experience Analysis** - Based on the priorities of the institution, identified in pre-design interviews and other research, each step of the wayfinding experience should be analyzed, including:
 - ~ Key decision points throughout the facility
 - ~ Effectiveness of existing signs and landmarks
 - ~ Support materials including maps and graphics
- **Symbols and Destination Terminology** - While recommended destination names are included with the USHC symbols, many facilities will want to develop their own destination names. When selecting destination names to be associated with symbols, a simple ranking test can identify how well visitors will match symbols and destination names.

Design Testing and Analysis

Pre-design analysis should include clearly documented metrics for success that can be referred to throughout the design process and measured in Post-design analysis.

Incorporate funding for wayfinding and prototype analysis into the scope of work for planners and designers including prototypes developed during the design stage and a prototype wayfinding path developed prior to final implementation.

When testing destination names, review best practices of similar health care facilities.



Pre-design surveys of health care users provide metrics needed as the basis for research goals.



By adding and removing information from prototype signs, then testing the signs with users, health care facilities can gain insight into how much information visitors need when finding a destination.

A ranking test consists of two parts:

- ~ Selecting names that most closely match the function of the destination
- ~ Asking visitors to rate how closely the symbol is associated with the destination name on a scale of 0 to 5

This research can also be used to test destination names for comprehension.

- **Additional Symbol Design** - If the health care facility requires a symbol that is not included in the USHC set, other options include:
 - ~ Adopting symbols from guides such as *Official Signs & Icons 2* by Ultimate Symbol
 - ~ Designing additional symbols using guidance found in the ***Signs That Work Phase 2: Symbol Design Research Report***
 - ~ Partnering with a design firm or academic institution to develop additional symbols based on research methods developed in the ***Signs That Work Phase 2: Symbol Design Research Report***
- **Prototype Wayfinding Test** - In this test, a wayfinding path is established using prototype signs (generally built out of a temporary material like foam core or vinyl) at key decision points in the facility. Test subjects are asked to find a destination using the prototype signs and are asked specific questions at each stage in the wayfinding process, including:
 - ~ Are the signs well placed and easy to find?
 - ~ Are the signs easy to understand?
 - ~ Are the symbols on the signs easy to identify?
 - ~ Did the signs help you find your way?
 - ~ Did you use the symbols?

- **Prototype Wayfinding Test for Support Information** - Prototype testing can also be used to gauge the effectiveness of providing additional wayfinding support, including multiple languages, handouts, maps, and staff intervention. In this type of testing, subjects are asked to find a destination using successive layers of information, including:

- ~ Signs with just symbols
- ~ Signs with symbols and English language
- ~ Signs with symbols, English, and a third language
- ~ Signs with the addition of a graphic support
- ~ Signs with the addition of a map
- ~ Signs with the assistance of facility staff

By asking the same set of questions about the effectiveness of the signs with different layers of support, this process paints a clearer picture of visitor needs and the effectiveness of system elements in isolation. This approach was developed for testing with symbols, but the methodology can be applied to any project, by adding or subtracting elements crucial to wayfinding decision-making.



Prototype signs are generally made of temporary materials such as plastic or foam core, but should otherwise have the exact appearance of permanent signs.

Case Study: Design Testing and Analysis

Grady Memorial Hospital

Although all four Innovator sites benefited greatly from the testing process, testing at Grady Memorial Hospital in Atlanta was particularly productive in yielding data that shaped the wayfinding design process. This facility was tested twice: once to test the effectiveness of symbols generally, and a second time to test the effectiveness of the specific wayfinding program under development.

First-stage wayfinding test

The first-stage test focused on the effectiveness of symbols linked to multiple languages and print support. Testing showed that providing hospital visitors with a printed handout of the wayfinding symbol system was highly effective in helping them find destinations, while a generic campus map proved far less effective at supporting the sign system.

Pre-design interviews

Before the hospital's full wayfinding program was developed, a series of interviews with hospital staff and visitors helped identify the best planning approach for integrating symbols into the wayfinding program as well as other ways to improve the visitor experience through wayfinding. These interviews contributed to the development of a wayfinding program based on identifying four distinct sections of the facility. Additional staff interviews increased the hospital's understanding that a modular sign approach managed by an outside firm would be the most successful approach for ongoing implementation.

Pre-design wayfinding experience analysis

After the pre-design interviews, the expected wayfinding experience was analyzed based on interviews with staff and visitors. The pre-design interviews identified areas of difficulty at key decision points, including

the main entrance and elevator banks. This analysis formed the basis for the wayfinding system.

Prototype wayfinding test

In the second-stage test, a temporary prototype sign system was created and installed, including a lobby directory and map, wall- and ceiling-mounted directional signs, elevator directory signs, and identification signs. Thirty-two users participated in the test, including 15 native English speakers, 10 native Spanish speakers, and seven native Cambodian speakers. They were asked to find three destinations using all the signs in the system, including signs that included just the symbol, the symbol with English, and the symbol with English and Spanish.

Design recommendations

Several design recommendations resulted from the testing at Grady Memorial:

- The need for a much larger, more visible directory with larger symbols and handout support
- The importance of having only a few size changes in the symbols as well as incorporating larger symbols for identification and directory signs
- The importance of placing signs in consistent locations throughout the facility at key landmarks
- The need to better explain the color-coded facility sections and make these divisions easier to see in the interior design of the facility



PART 4: Additional Resources

Symbol Usage In Health Care Settings for People with Limited English Proficiency - Part Two: Implementation Recommendations

This project conducted in 2005 tested the effectiveness of symbols at Grady Memorial Hospital in coordination with signs, handouts, and maps.

Signs That Work Phase 2: Symbols Design Research Report

Developed by the university consortium that researched the USHC symbol set expansion, this report outlines best practices for the development and research of health care symbols.

Hablamos Juntos Phase II Pre- and Post-Audit Reports

These reports document the pre-design interview and analysis process as well as the final recommendations developed for the wayfinding systems.

Testing Universal Symbols to Support Implementation in Health Care Facilities Signage

This report reviews the methods used in analyzing all four Innovator Health Care Facilities.