

Universal Symbols in Health Care



Developing a Symbols-Based Wayfinding System: Implementation Guidebook



Executive Summary

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PROJECT SUPPORT

PROJECT SUPPORT

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Hablamos Juntos means “We speak together.” *Hablamos Juntos: Improving Patient-Provider Communication for Latinos*, a national program of the Robert Wood Johnson Foundation, develops practical solutions to language barriers in health care. *Hablamos Juntos: Signs That Work* is an ongoing partnership with SEGD aimed at promoting widespread adoption of graphic symbols in health care facilities serving diverse public users, with special interest in low literacy and limited English proficiency (LEP) populations.

About the Robert Wood Johnson Foundation and the Pioneer Portfolio

The Robert Wood Johnson Foundation focuses on the pressing health and health care issues facing our country. As the nation’s largest philanthropy devoted exclusively to improving the health and health care of all Americans, the Foundation works with a diverse group of organizations and individuals to identify solutions and achieve comprehensive, meaningful and timely change. Projects in the Pioneer Portfolio are future-oriented and look beyond conventional thinking to explore solutions at the cutting edge of health and health care. When it comes to helping Americans lead healthier lives and get the care they need, the Foundation expects to make a difference in your lifetime.

SEGD is the global community of people working at the intersection of communication design and the built environment. Through university-level educational curricula, professional development workshops, publications, and research initiatives, SEGD’s mission is to provide educational resources to designers, fabricators, and users of visual communications in the built environment.

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Executive Summary

Visitors entering through the doors of a hospital or other health care facility—especially those experiencing stress over the illness of a loved one—often experience a daunting environment. Long corridors, multiple elevator banks, connections among various buildings, and the complex routes often required to reach their final destination can add to the stress.

Magnifying this problem is the increasing demands on the health care system by individuals with limited English proficiency (LEP) or those with low reading proficiency. Today, one of the most important issues facing health care administrators is providing services to LEP populations. Helping them navigate complex health care facilities is a key objective.

In 2004, with funding from the Robert Wood Johnson Foundation, Hablamos Juntos formed an ongoing partnership with SEGD (the Society for Environmental Graphic Design) to develop and test the use of graphic symbols in health care facility signage. Phase I of the Universal Symbols in Health Care (USHC) research, completed in 2006, concluded that symbols can be effective in helping visitors navigate health care facilities. Testing showed that patients found signage incorporating graphic symbols easier to understand than purely text-based signage. As a result of the Phase I research, a set of 28 Universal Symbols in Health Care was designed for use in health care wayfinding systems.

After the release of the original USHC set, it became clear that the selection, design, and integration of symbols into one unified set—a set that could be adopted universally by health care facilities of varying size, function, and complexity—would be an ongoing process. Health care facilities that adopted the initial symbol set helped identify several key issues related to integrating symbols into the health care environment, including how to:

- Add and integrate new symbols into an existing set of health care symbols
- Most effectively name destinations in association with symbol use

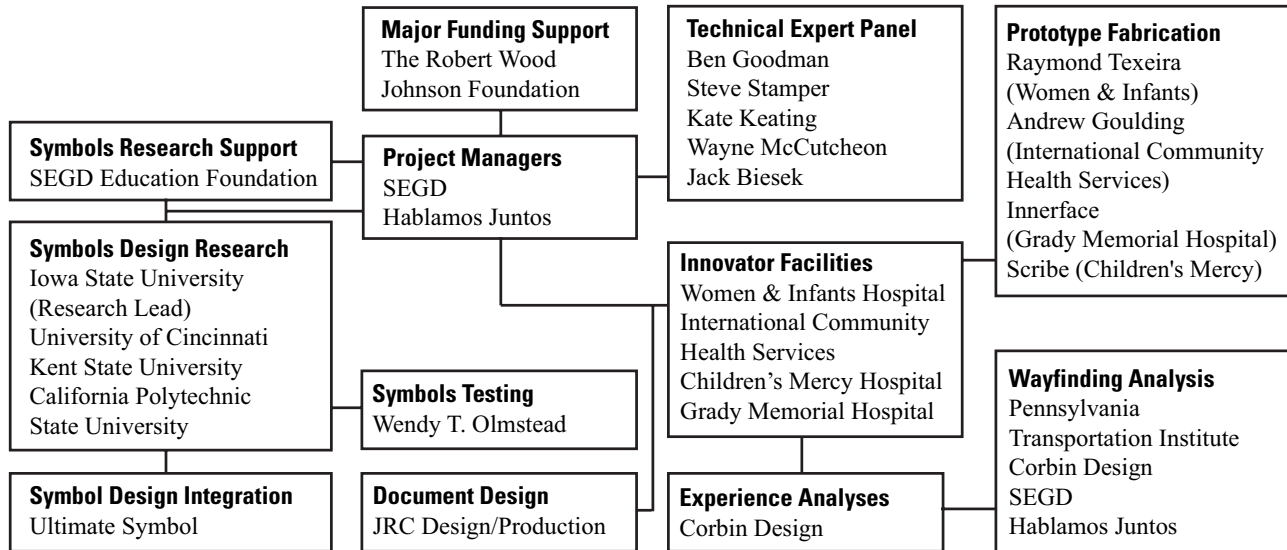
- Develop and use symbols that can support multiple destinations
- Develop symbols that can serve a diversity of functions including emphasizing health or illness

These questions became the focus for a second phase of research, begun in 2008. With continued funding from the Robert Wood Johnson Foundation’s Pioneer Portfolio, in addition to support from the SEG D Education Foundation, Phase II research was designed to encourage widespread adoption of the symbols by health care facilities serving LEP or limited-reading populations. The project had three primary objectives:

1. Support implementation of symbols-based wayfinding systems using evidenced-based practices in as many as four health care facilities.
2. Document the implementation experience, produce tested best practices for health care facilities, and promote awareness of symbols-based wayfinding as a solution for multilingual environments.
3. Add 20 to 30 new symbols to the Universal Symbols in Health Care symbol set.

Project Team

Phase II involved a multidisciplinary team of designers, students, researchers, and other technical experts. A consortium of four university-based design schools developed a process for researching new symbols to be added to the USHC set. Four Innovator Health Care Facilities served as test cases for symbol design and implementation, and fully underwrote the costs of participation and implementation of the systems. Design firms with expertise in health care wayfinding and symbol design identified best practices and conducted experience analysis as the basis for developing wayfinding systems specific to each Innovator facility. Other internationally recognized consultants contributed their expertise in symbols testing, symbol development, and legibility. A Technical Expert Panel reviewed the research and wayfinding analyses for accuracy and appropriateness to the specific needs of the Innovator facilities.



Symbols Design and Testing

In 2008, a university consortium was formed to develop a process for adding new symbols to the USHC set, essentially providing a sustainable framework for ongoing symbol design and evaluation.

Research and initial design took place in 2009 and 2010 at the University of Cincinnati, Iowa State University, Kent State University, and California Polytechnic State University. The process began with an in-depth review of the Innovator Facilities, destination hierarchies, and referent needs as the basis for symbol design.

Based on research methods employed in the development of the original symbols set, the university teams created a total of 155 candidate symbols for 22 referents. These were narrowed to five candidate symbols per referent category by a Delphi (expert) panel using a web-based survey. The narrowed list of candidate symbols underwent comprehensibility testing at three sites, using modified ISO testing methodologies on a linguistically diverse group of health care facility users. As a result of the comprehensibility testing, 22 symbols were chosen as additions to the original USHC set.

*Universal Symbols Project
Team Organization Chart*

ALTERNATIVE MEDICINE



The university consortium initially designed 155 candidate symbols for 22 referent categories. These were narrowed to 5 candidates per referent by a Delphi panel that evaluated the symbols via a web-based survey. These symbols were designed by a class led by Oscar Fernández of the University of Cincinnati.

Experience analyses for the Phase II research were led by Corbin Design, a wayfinding and environmental graphic design firm based in Traverse City, Michigan. The Innovator Health Care Facilities contributed expertise including staff time, design contributions, and research support. The analyses consisted of two parts:

1. Pre-design Analysis - Pre-design analysis documented visitor and staff perceptions of the existing wayfinding experience through in-depth interviews and established a baseline for comparison. From this analysis, wayfinding strategy recommendations were developed for each of the facilities.
2. Post-design Prototype Analysis - Post-design analysis tested visitors' experiences using a prototype version of the final wayfinding program. Recommendations from these results were incorporated into the final design processes for each of the Innovator facilities.

Wayfinding Recommendations and Analysis

Based on wayfinding goals identified during the experience analyses, specific design recommendations were provided to guide design development for the wayfinding programs.

After each of the facilities developed their design concepts, Philip Garvey of the Pennsylvania Transportation Institute analyzed the following practices:



The wayfinding program for the Concentra Urgent Care clinic (designed by Little) was based on the Universal Symbols in Health Care set developed in Phase I.

Extensive experience analysis and planning completed for the project, as well as the symbols-based issues that emerged, informed the Phase II research.

- The size of a comprehensible symbol set
- Permissible terminology approaches for destination names linked to the symbols
- Recommendations for symbol size and position on wayfinding and identification signs
- Recommendations for the use of multiple languages in coordination with symbol signs
- The use of directories, print, web, and educational support for symbols

Wayfinding analysis was incorporated into specific recommendations that the facilities used to develop their final sign designs. ***Hablamos Juntos Phase II Post Audit Report*** outlines the final implemented programs.

Final Review

Final research and recommendations were reviewed by the project's Technical Expert Panel to ensure they met recognized standards and fulfilled the needs of the facilities. Panel review focused on three primary areas:

- Ensuring that the final set of symbols developed by the academic consortium and symbols designer met the research and quality standards outlined at the beginning of the project
- Reviewing the final design and strategy recommendations made by the project team to ensure they are consistent with conclusions drawn from the research
- Reviewing the Implementation Guidelines to ensure the project's educational goals are being met

Implementation Guidebook

Developing a Symbols-Based Wayfinding System: Implementation Guidebook

was designed to use the lessons-learned at the four Innovator Health Care Facilities to help health care executives, facility managers, and designers understand the comprehensive process of developing successful wayfinding projects. In five parts, it summarizes recommendations from the Phase II

research and provides access to more in-depth information on the key issues involved with implementing symbols-based wayfinding systems:

Part 1: Formulating a Symbols-Based Wayfinding Strategy

Part 2: Destination Hierarchy and Referent Naming

Part 3: Design and Development Using Symbols

Part 4: Design Testing and Analysis

Part 5: Symbol Support and Education

Each part contains specific recommendations that can be applied to all health care facilities based on the Phase II research; provides case studies of Innovator site methods and experiences; and offers additional resources in the form of in-depth technical reports, additional case studies, and other tools. Four attachments included with this guidebook provide supplemental information that is imperative to the implementation of a symbols-based wayfinding system. Additional resources cited in this guidebook can be downloaded from the *Hablamos Juntos* or *SEGD* websites.

Continuing Dialogue

Examples and case studies enrich and deepen the understanding of symbols-based wayfinding design. If you have developed a symbols-based health care wayfinding program and are willing to share your experiences, contact craig@segd.org to add to the library of symbols-based systems.

