Universal Symbols in Health Care: Lessons from Research

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Universal Studios, CA
Faculty Presenter Disclosure

- No discussion of any drugs or medical devices
- No financial arrangement or other relationship with manufacturers of any commercial products

Presenter

Yolanda Partida, DPA, MSW Director Hablamos Juntos, Adjunct Professor, UCSF Fresno
National Initiative

• Practical, affordable solutions to eliminate language barriers and increase quality of care for Latino patients
  – Increase availability of language services (interpreters)
  – Useful health materials (translation products)
  – Easy to use signage (symbols)
Feasibility Report

Research Questions

What is known about signage for LEP and low-literacy populations?

Are symbols feasible?

What signage and symbol graphics are used in medical settings in the United States?

Are there examples from other countries?
Cultural Differences
Federal Regulations

CLAS Standard 7

U.S. Department of Health and Human Services
Office of Civil Rights
Office of Minority Health

- Post **signage** … availability of language services
- Provide **directional signs** (departments, waiting areas, services) ….in the languages of top three to five primary languages
- Consider installing informational telephones and signs directing patient/visitors …to pick up a telephone,…for directions from someone who speaks their language
- Use **pictorial signs** for less frequent languages as well as persons who are not literate in their primary spoken language
- Check the **accuracy of every written or pictorial sign** before posting.
- Check the **appropriateness of the sign** by asking community users for feedback…on language or pictures considered inappropriate or insulting
Symbols by Non-Designers

“Pictographs can also be cues to help people remember spoken information.”

Peter Houts, PhD, Professor Emeritus at Pennsylvania State University

Picture of Health
Lois Lanier

COMPIC
Australia, Southeast Asia
Existing Systems

The New York City Health & Hospitals Corporation
E Christopher Klumb Associates

ITT
Professor Ravi Poovaiah,
ITT Bombay, India

Children’s Hospital
Brazil

Australian Standards
AS 2786-1985
This project represents the contributions of many

- **Design Team** – lead by JRC Design
  - Jamie Cowgill, SEGD
  - Jim Bolek, SEGD

- **Comprehension Estimation Testing Expert**
  - Wendy Olmstead – Ivy Tech Community College

- **Technical Expert Panel** – Symbols use in other industries *(Society for Environmental Graphic Design)*
  - Craig Berger – Pilot Site Testing

- **Transportation Symbol Testing Expert**
  - Phil Garvey – Pennsylvania State University

- **Hablamos Juntos Demonstrations** – Symbol survey sites

Funded by Pioneer Team of
The Robert Wood Johnson Foundation
### Health Care Facility Signage Survey

**Determine top 30 symbols and common terminology**

<table>
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<tr>
<th>Page 1</th>
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<tbody>
<tr>
<td>1. Admissions</td>
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<tr>
<td>2. Admin.</td>
</tr>
<tr>
<td>3. Receiving</td>
</tr>
<tr>
<td>5. Privacy/Chart</td>
</tr>
<tr>
<td>7. Trauma</td>
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<tr>
<td>8. Trauma</td>
</tr>
<tr>
<td>10. Recovery</td>
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</tbody>
</table>

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### Health Care Facility Signage Survey

**Referent Survey**

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**Common Terminology**
Acknowledged Existing Guidelines

“Learned” Symbols

Americans with Disabilities Act

Department of Transportation

National Park Service
Aligned Concepts to Referents

Charrette
August, 2004

Over 600 Symbols Collected for the 30 Target Referents
Selected Concepts to Drive Design

Charrette
August, 2004

2-3 concepts for each referent
Public User Survey – Ten States

Three rounds of surveys administered in ten states.

October 2004
January 2005
March 2005

300 subjects (four language groups) surveyed in the 3 rounds.
Comprehensibility Testing – ISO Survey

Key Question

"What % of the US population do you think will understand what this means?"

Internationally Validated Symbol Survey

Target Languages

- English
- Spanish
- Indo European
- Asian

Median Score >87
Three Rounds of Testing

Round 1
Round 2
Round 3
Multiple Symbols
Met Threshold > 87

- Ambulance Entrance
- Cardiology
- Chapel
- Emergency
- Family Practice Clinic
- Immunizations
- OB Clinic
- Pediatrics
- Pharmacy
- Radiology

- Ingreso de Ambulancias
- Cardiología
- Capilla
- Emergencia
- Clínica de Practica Familiar
- Inmunizaciones
- Clínica de Obstetricia
- Pediatría
- Farmacia
- Radiología
Symbols Applied

Pilot Testing

Pre & post audit
Signage system

Matching test
Four language groups

Wayfinding
Six destinations per site
(Four with symbols, two without symbols)

Using symbols only
Maps only
Symbols and maps

Existing signage system only.

Facility staff focus groups
Charrette
July 2005

Design Team & Members of TAC

Select Final Symbols

Create Family of Symbols

Develop User Standards
Final Symbol Set

Ambulance Entry, Billing Department, Cardiology, Chapel, Emergency

Family Practice Clinic, Immunizations, Intensive Care Unit, Laboratory, Medical Records

OB Clinic, Pediatrics, Pharmacy, Radiology, Social Services

Surgery, Waiting Room

Care Staff Area, Diabetes, Infectious Diseases, Internal Medicine, Diabetes Center, Interpreter Services

Mammography, OB/GYN Center, Oncology, Outpatient, Physical Therapy

Registration

17 Symbols met or exceeded standard

11 below threshold of 87%
Users Said: Give us Text, Symbols, Translation Materials and Maps

- 1% Text only
- 23% Text only or symbols with text were equally effective
- 75% Symbols with text helped in wayfinding & identification
- 88% Symbols with text & translations provided the most effective wayfinding & identification

- Respondents liked symbols better and found them easier to see and understand
- Symbols reduced wayfinding time
- Implementation is flexible & easily adaptable to different wayfinding systems
Terminology

Lessons Learned

Health signage has two audiences: Medical professionals and general public

- Specialized nature of health care is evident in signage terminology
- **Health literacy challenges**
- **Some definitions are simply not simple**
- **Challenge of capturing concept in symbols**

Diagnostic Imaging, X-Ray, Radiology, Nuclear Medicine, MRI, CAT Scanning

Oncology
Otolaryngology
Genitourinary Medicine
Rhinoplasty

Cancer Center
Ear, Nose & Throat
Prostate Health
Plastic Surgery

Diabetes: Place to learn about and treat the chronic health condition where the body is unable to break down sugar and produce insulin.

Internal Medicine: Place to get adult health care
Many relevant symbols

**Lessons Learned**

Symbols are part of the solutions

- Complete vocabulary in symbols not possible/desired?
- Need hierarchy for branching symbols
- Define limits of communication with symbols.
- Understand symbols are part, not all, of the solution
Translation Quality Varies

Lessons Learned

- Translations pose challenges due to text size, foreign language graphics, etc.
- Facility signage often unable to accommodate full translations
- Translations are often treated as “second class” language

Translating medical terminology may not improve communication
**Lessons Learned**

- Public wanted more representational and illustrative rather than iconic.
- Simple was not always better.
- Conceptual vs. Iconic elements will most likely have to be "learned" over a period of time.
- Existing "accepted" symbols didn’t test well for health care.

<table>
<thead>
<tr>
<th>Department</th>
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<th>Pharmacy</th>
<th>Billing Dept.</th>
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<tbody>
<tr>
<td></td>
<td>0, 50</td>
<td>73, 90</td>
<td>20, 90</td>
<td>50, 90</td>
</tr>
</tbody>
</table>
Symbols are not the “End-All”

- Symbols are a part of a set of tools for wayfinding and communication.

- Wayfinding has to be good and current throughout the facility and updated as growth occurs.

- Implementation into pilot sites for complete wayfinding and signage systems for evaluation.

- Need to be used with other materials - graphics with translations, maps, interpreters.
Innovator Health Facilities

Consortium of Design Schools to create on-going symbol design and testing capacity

Implementation in four innovator facilities
• Women & Infants Hospital, Providence, RI
• Children’s Mercy Hospital, Kansas City, MO
• Grady Health System in Atlanta, GA
• International Community Health Services, Seattle, WA

Project Timeline
• On-line photo gallery May 2009
• Completion February, 2010
For more information...

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