TRANSLATING SCIENCE TO BETTER HEALTH:
THE POWER OF DIVERSITY AND MULTICULTURAL ENGAGEMENT

CONCURRENT SCIENTIFIC SESSION 10
Promoting Health Literacy for Positive Patient Reported Outcomes

JOSE LUIS CALDERON
Charles R. Drew University of Medicine & Science
Literacy Evolves

- 3Rs
- 3Rs + Social
- Multiple Literacies Practical, Empowering

Health Literacy is One of Multiple Literacies

Multiple Literacies

Sustainability Literacy
To embrace digital literacy in your classroom!
Health Literacy is used to participate in healthcare, take care of self & others

Most commonly used definition:
- Health literacy: ability to obtain, process and understand basic information needed to make appropriate health decisions
  - US Institute of Medicine

Common Tests of Health Literacy:
- REALM (Rapid Estimate of Adult Literacy in Medicine)
- TOFHLA (Test of Functional Health Literacy in Adults)
Health Promotion

Definition

The cognitive and social skills that determine a person’s motivation and ability to access, understand, and use information and services to maintain or enhance health.

Promote Health Literacy

- Enable patients to manage disease
- Enable patients to manage health
- Use info for health

Measuring Health Literacy as an Asset
Better info aids all
How to promote health literacy?
How to measure health literacy?
Dual approach

Promoting Maternal Health Literacy through home visiting programs

Maternal Health Literacy
The cognitive and social skills that determine mothers’ motivation and ability to gain access to, understand and use information in ways that promote and maintain their health and that of their children
Healthcare Literacy Indicators

- Use of information
- Prenatal care
- Parent sick care
- Family planning
- Child well care
- Child sick care
- Child dental care
- Child Immunizations
- Medical/Health Insurance

Self-care Literacy Indicators

- Support of child development
- Attitudes to pregnancy
- Safety
- Use of resources
- Substance use
- Tobacco
- Self-esteem
Health Literacy & Depression

Hypotheses

- √ Health literacy & depression closely related p<.001
- Depression interferes with home visitors’ ability to promote health literacy

Depressed parents made greatest gains p<.001

Healthcare Literacy

<table>
<thead>
<tr>
<th>Depressed</th>
<th>Not-depressed</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.7</td>
<td>3.9</td>
</tr>
<tr>
<td>4.5</td>
<td>4.3</td>
</tr>
<tr>
<td>4.1</td>
<td>4.2</td>
</tr>
</tbody>
</table>

Self-care Literacy

<table>
<thead>
<tr>
<th>Depressed</th>
<th>Not-depressed</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.8</td>
<td>4.0</td>
</tr>
<tr>
<td>3.6</td>
<td>3.8</td>
</tr>
<tr>
<td>3.4</td>
<td>3.6</td>
</tr>
</tbody>
</table>

Presented at the 13th RCMI International Symposium on Health Disparities | December 9-13, 2012 | San Juan, Puerto Rico

All Rights Reserved - No forms of duplication nor distribution allowed without author’s consent
Maternal Health Literacy & Child Development

Preliminary

- Health literacy scores predict child developmental outcomes ($p < .001$)
- Healthcare literacy scores predict participation in Early Intervention

Parents As Teachers Demonstration 2010 - 2012

- 8 parent educators
- 3 School Districts, Butler County, MO
- 113 dyads
- Focus on empowerment

Preliminary Findings

- Significant improvement in maternal health literacy ($p < .01$)
- Doubled proportion who read for fun ($p < .01$)

202.3% increase
Lessons Learned

- Maternal Health Literacy can be promoted
- Reflective skills key
- Reflective Questioning promising
- LSP meaningful measure
- Home based programs effective channel

Questions?
Health Literacy

Capacity to obtain, communicate, process, and understand basic health information and services to make health decisions.

### National Health Priority

- Reducing health literacy demands has emerged as a U.S. national health priority.  
- Provider-patient communication objectives are included in national health promotion and disease prevention program Healthy People 2020.  

### Consumer Assessment of Healthcare Providers and Systems (CAHPS®)

- Clinician-Group Survey Communication Scale
  * How often does your provider explain things in a way that was easy to understand?

### Developing CAHPS® Item Set for Addressing Health Literacy

- Environmental scan
- Consulted with stakeholders & health literacy experts
- Drafted items
- Pretest: Cognitive interviews in English and Spanish Field test
- Finalized items
Field Test

- Health literacy items interspersed with CAHPS Clinician and Group 12-month survey items
- Two U.S. sites selected
  - Health plan in New York city
  - Clinic in a Southern academic medical center

Field Test Sites

Provided:
- Racial/ethnic diversity
- Patients with limited health literacy
- Sufficient number of Spanish speakers

Data Collection

- 1200 randomly selected adults: (600 per site)
- Had at least 1 outpatient visit in last 12 months
- Mail followed by phone survey administration
Data Collection

- Latino sample mailed materials in English and Spanish
- $10 check for completed survey
- 601 completed surveys
- 52% response rate

Sample Characteristics (n = 601)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age: 45-54 years old</td>
<td>22%</td>
</tr>
<tr>
<td>Age 55-64 years old</td>
<td>25%</td>
</tr>
<tr>
<td>Female</td>
<td>80%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>39%</td>
</tr>
<tr>
<td>Black race</td>
<td>44%</td>
</tr>
<tr>
<td>White race</td>
<td>20%</td>
</tr>
<tr>
<td>Less than high school education</td>
<td>36%</td>
</tr>
<tr>
<td>High school graduate</td>
<td>24%</td>
</tr>
<tr>
<td>Self-rating of poor health</td>
<td>10%</td>
</tr>
<tr>
<td>Self-rating of fair health</td>
<td>32%</td>
</tr>
<tr>
<td>Spanish language respondent</td>
<td>21%</td>
</tr>
</tbody>
</table>

New Scales Developed

1. Communication to Improve Health Literacy

- 16 items, coefficient alpha = 0.89
- Mean = 86 (SD = 16) on 0-100 possible range
New Scales Developed

2. How well Providers Communicate about Medicines

- 5 items, coefficient alpha = 0.71
- Mean = 60 (SD = 35) on 0-100 possible range

Categorical Confirmatory 2-Factor Analysis Model

- Fit the data well
  - Comparative fit index = 0.96
  - Tucker-Lewis Index = 0.95
  - Root Mean Square Error of Approximation = 0.07
- Range of standardized factor loadings
  - Communication to improve health literacy: 0.44 to 0.91
  - Communication about medicines: 0.66 to 0.96

Associations with Global Ratings of Provider

Using any number from 0 to 10, where 0 is the worst provider possible and 10 is the best provider possible, what number would you use to rate this provider?

- Adjusted $R^2 = 51$
- CAHPS communication core (B = 0.36)
- Communication-improve health literacy (B = 0.28)
- Communication about medicines (B = 0.04)
Communication to Improve Health Literacy Items

1. Provider interrupted you when you were talking.
2. Provider talked too fast when talking with you.
3. Provider used medical words you do not understand.
4. Explanations this provider gave you were hard to understand because of an accent or the way the provider spoke English.
5. Provider really cared about you as a person.
6. Provider showed interest in your questions and concerns.
7. Provider answered all your questions to your satisfaction.
8. Provider gave you all the information you wanted about your health.

Communication to Improve Health Literacy Items

9. Provider encouraged you to talk about all your health problems or concerns.
10. Provider gave you instructions about taking care of this illness or health condition.
11. Provider's instructions about taking care of this illness were easy to understand.
12. Provider asked you to repeat back or describe how you were going to follow the provider's instructions.
13. Provider asked you whether you would have any problems doing what you need to do to take care of this illness or health condition.
14. Provider explained what to do if this illness or health condition get worse or came back.
15. Results of your blood test, x-ray, or other test were easy to understand.
16. Someone explained purpose of form before you sign them.

Communication about Medicines Items

1. Provider gave instructions about how to take your medicines.
2. Provider's instructions about how to take your medicines were easy to understand.
3. Provider explained possible side effects of medicines.
4. Provider's instructions about possible side effects of medicines were easy to understand.
5. Provider suggested ways to help you remember to take your medicines.
Future use of new CAHPS Items

• Assess how well healthcare providers meet their patients’ health literacy needs
  – Public reporting
  – Quality improvement

Acknowledgements

Supported by a contract from the Agency for Healthcare Research and Quality (HHSP233200600332P).

Ron Hays (drhays@ucla.edu) was also supported in part by grants from AHRQ (U18 HS016980), NIA (P30AG021684), and the NIMHD (2 P20 MD000182).

Questions & Answers

Thank you for participating!