Identifying Low Health Literacy

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Health Literacy

“The degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions.”

Healthy People 2010
What Have We Been Measuring?

• Studies documenting worse health outcomes for patients with low health literacy have measured general reading ability

• Some instruments use medical texts or terms, but are highly correlated with non-medical tests of reading ability

Methods of Assessing Reading Ability

- Informal
- Word pronunciation tests
- Cloze method

Informal Methods

• Fills out intake forms incompletely
• Misspelling many words
• Leaves the clinic before completing forms
• Gets angry about forms
• Identifies medication by looking at pill rather than reading the label

Weiss BD. Health literacy: a manual for clinicians. 2003
What Doesn’t Work Well?

- Years of education (except at extremes)
- Race
- Income
- Age
- Reliance on self-disclosure
Common Instruments

• Rapid Estimate of Adult Literacy in Medicine (REALM)
• Wide Range Achievement Test (WRAT)
• Test of Functional Health Literacy in Adults (TOFHLA)
• The Newest Vital Sign (NVL): recently developed and tested
REALM

- Word recognition and pronunciation
- Read aloud a list of 66 medical words
- Takes 2-3 minutes to administer
- Highly correlated with other standard tests of reading ability (0.88-0.97)
- Does not test comprehension
- Not available in other languages
<table>
<thead>
<tr>
<th>REALM</th>
</tr>
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<tbody>
<tr>
<td>Prevention &amp; Patient Education Project</td>
</tr>
<tr>
<td>Terry Davis, PhD</td>
</tr>
<tr>
<td>P.O. box 33932</td>
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<tr>
<td>Box 598</td>
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<tr>
<td>Shreveport, LA 71130-3932</td>
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WRAT

- Word recognition and pronunciation
- Takes about 5 min to administer
- Does not use medical terms
- Standardized for use in educational settings
- Does not test comprehension
- Not available in other languages
Advantages of Word Recognition Tests

• Quick
• Easy to administer
• Well tested in many settings
# REALM vs. WRAT

<table>
<thead>
<tr>
<th>REALM</th>
<th>WRAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical terms</td>
<td>Non-medical terms</td>
</tr>
<tr>
<td>2-3 minutes</td>
<td>5 minutes</td>
</tr>
<tr>
<td>More palatable</td>
<td>Off-putting</td>
</tr>
<tr>
<td>Less precise</td>
<td>More precise</td>
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</tbody>
</table>
TOFHLA

- 17 numeracy items
- 50 reading comprehension items
- Tests ability to read and understand several health care related items
- Takes 20-30 minutes to administer
- Best for research purposes
- Well correlated with REALM and WRAT
- Available in Spanish!
Sample TOFHLA Numeracy Question

Doxycycline
100 MG   20/0
Take medication on empty stomach one hour before or two hours after a meal unless otherwise directed by your doctor.

If you eat lunch at 12:00 noon, and you want to take this medicine before lunch, what time should you take it?
Your doctor has sent you to have a _________ X-ray.

a. stomach
b. diabetes
c. stitches
d. germs

You must have an _________ stomach when you come in for ____.  

a. asthma  a. is  
b. empty  b. am  
c. incest  c. if  
d. anemia  d. it

Short-TOFHLA

• High correlation between first two reading comprehension passages and entire assessment (including numeracy items)

• Administer only the first two reading comprehension passages

• Takes 5-7 minutes
# REALM vs. TOFHLA

<table>
<thead>
<tr>
<th>REALM</th>
<th>TOFHLA</th>
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</thead>
<tbody>
<tr>
<td>Word recognition</td>
<td>Cloze method</td>
</tr>
<tr>
<td>2-3 minutes</td>
<td>5-7 minutes</td>
</tr>
<tr>
<td>Grade levels</td>
<td>Inadequate/marginal/adequate</td>
</tr>
<tr>
<td>English only</td>
<td>English and Spanish</td>
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</tbody>
</table>
Efforts to Shorten Further

• REALM-R*
  – Shortened to 10 words
  – Very rough estimate

The Newest Vital Sign (NVS)

- Patients are given a nutrition label
- 6 questions are verbally administered
- Assesses literacy and numeracy
- Takes 3 minutes
- Validated against the TOFHLA
- Available in English and Spanish

Weiss et al., Ann Fam Med; 3(6) 2005
If you usually eat 2500 calories in a day, what percentage of your daily value of calories will you be eating if you eat one serving?


Weiss et al., Ann Fam Med; 3(6) 2005
<table>
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<tr>
<th>REALM</th>
<th>NVS</th>
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<tbody>
<tr>
<td>Word recognition</td>
<td>Problem-solving</td>
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<tr>
<td>2-3 minutes</td>
<td>3 minutes</td>
</tr>
<tr>
<td>Grade levels</td>
<td>Number correct (1-6)</td>
</tr>
<tr>
<td>English only</td>
<td>English and Spanish</td>
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</table>
Which Instrument Should I Use?

• If just for screening, the REALM is likely the best choice
  – Easiest to explain to patients
  – Fastest
  – Reasonably accurate

• For research purposes, REALM is good, but may consider other instruments depending on goal of research
Problems with Measuring Literacy

• Sensitive topic
• Patients go to great lengths to hide problems
• May offend some
• Inappropriate labeling
Screening for Literacy: Can it Help Providers?
Randomized Controlled Trial

• Physicians randomized to receive feedback on patients’ literacy levels

• 441 patients screened

• 229 scored inadequate or marginal on S-TOFHLA and were included in the study

Seligman et al. JGIM 19(S1): 208; 2004.
Results

• Physicians more likely to use extra teaching strategies (good!)

• Physicians less satisfied with visit

• 94% of patients felt literacy screening was useful

• No improvement in A1C

Seligman et al. JGIM 19(S1): 208; 2004.
Summary

• Multiple strategies to identify poor reading ability

• Sensitive issue for patients

• If done respectfully, patients and physicians may find screening helpful
Some Issues

• Should we measure literacy and target interventions or should we institute “universal precautions”?

• When low literacy is identified, what do we do?

• Is it enough to recognize that many patients have this problem?

• What is the role of numeracy?

• What about the pediatric population?
The End

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