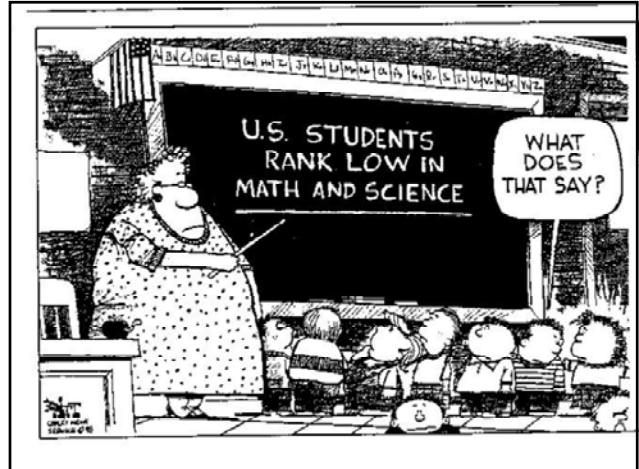


Health Literacy

Lorraine S. Wallace, PhD
Associate Professor of Family Medicine
The Ohio State University College of Medicine
<http://www.healthliteracy.osu.edu>



What is Literacy?

- Read
- Write
- Compute basic math
- Engage in oral exchange
 - Speak
 - Listen



Maybe not in your neighborhood...



Dropout Rates

US high school dropout rate is 27%

OH high school dropout rate is 21%

Dropout Rates

Examples of common spelling errors related to dropout rates:

**SHCOOL SCKOOL
ENRTY SCOHOL**

In the News

Crosswalk near Manhattan school misspells 'school'

NYC Misspelled "School in the
Xing Sign in Front of School

Road workers Misspell School On Road Sign

Article from Time Magazine

Dropout Nation

By Nathan Thornburgh

<http://content.time.com/time/magazine/article/0,9171,1181646-1,00.html>

Definition

Health Literacy: Healthy People 2020

"The degree to which individuals have the capacity to obtain, (communicate), process, and understand basic health information and services needed to make appropriate health decisions."

The ability to read, understand and ACT on health information

U.S. Department of Health and Human Services. *Healthy People 2010*

National Assessment of Adult Literacy (NAAL)

- National sample survey, 2003, N~20,000
- Prose, document, and quantitative literacy



Prose



Document

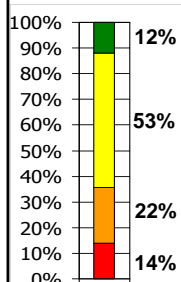


Quantitative

- Provided first national assessment of health literacy
- Levels: below basic, basic, intermediate, or proficient

From <http://nces.ed.gov/naal/>

Health Literacy in America: Results from the NAAL



Proficient: Define medical term from complex document, Calculate share of employee's health insurance costs

Intermediate: Determine healthy weight from BMI chart, Interpret prescription and over-the-counter drug labels

Below Basic: Circle date on appointment slip, Understand simple pamphlet about pre-test instructions

Basic: Understand simple patient education handout

Kutner et al 2006

Ohioans Lacking Basic Prose Literacy Skills



9%

County

- Lorain 8%
- Athens 9%
- Washington 9%
- Belmont 10%
- Mercer 10%
- Pike 12%
- Franklin 13%

Health Literacy in College Students

- Large sample of undergraduates (n=399) enrolled in upper-level courses.
- Most students had adequate health literacy skills as measured by the Test of Functional Health Literacy in Adults (TOFHLA).
- Students, as a whole, had most difficulty with numeracy questions.



Ickes & Cottrell. (2010). J Am Coll Health.

High Risk Groups

- Elderly
- Minorities
- Immigrants
- Poor
- Homeless
- Prisoners
- Persons with limited education

Kirsch et al 1993

Health Literacy of High Risk Populations

Group	Low Literacy (%)
All	36
Elderly (≥ 65)	59
Racial/Ethnic group: White	28
Black	58
Hispanic	66
Education level: 0-8 yrs	76
Still in HS 9-12 yrs	37
HS/GED grad	44
Below poverty threshold / 175% above PT	62 / 24
One or more disabilities	49

Weiss 2005. Adapted from Table 2-1.

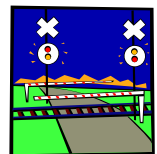
Gap between Patients' Education and Literacy Skills

- "Years of formal schooling tells us what people have been exposed to, NOT what skills they have acquired." (Doak, Doak, & Root, 1996)
- Most American adults read 3-5 grades lower than the highest grade of schooling completed.
 - Average reading level in US=6-8th grade



What are the Barriers?

- ➔ Barriers to Access
- ➔ Barriers to Diagnosis
- ➔ Barriers to Treatment



Some Challenges in Trying to Improve Things

- **Increasingly complex health system**
 - Greater self-care requirements
 - More medications for chronic conditions
 - Formulary and manufacturer changes
 - Medication reconciliation
- **Most patient instructions are written**
 - Low-literacy pts have trouble understanding
- **Verbal instructions**
 - Often complex
 - Delivered rapidly
 - Easy to forget in stressful situation

Possible Indicators of Low Health Literacy

- Seek help only when illness is advanced
- Excuses: "I forgot my glasses."
- May pretend they can read
- Lots of papers folded up in purse/pocket
- Lack of follow-through with tests/appointment
- Seldom ask questions
- Questions are basic in nature
- Difficulty explaining medical concerns or how to take meds

Weiss 2003. Katz et al 2007.

How to ask about literacy

- Introduce with social history:
 - "What kind of work do you do?"
 - "How far did you go in school?" (asking about educational attainment alone may be insufficient)
- Raise open discussion of literacy with:
 - "How happy are you with the way you read?"
 - "What's the best way for you to learn new things?"
- Single Item Literacy Screener (SILS)
 - "How often do you have someone help you read materials given to you by your doctor, dentist, pharmacist, hospital?"

Morris, et al, BMC Family Practice, March 2006

Health Literacy Universal Precautions

- Structure delivery of care as if every patient may have limited health literacy
- You can't tell by looking
- Everyone may have difficulty understanding some things, some of the time
- Confirm understanding with everyone

What do we know about low health literacy from research?

What do we know about low health literacy from research?

- Low health literacy leads to:
 - Lower health knowledge and less healthy behaviors.
 - Poorer health outcomes
 - Greater health costs

What do we know about low health literacy from research?

- Low health literacy leads to:
 - Lower health knowledge and less healthy behaviors.
 - Poorer health outcomes
 - Greater health costs
- Specific communication techniques may enhance health literacy.

Research also shows that:



- Literacy is the single best predictor of health status
- It is a **STRONGER** predictor than age, income, employment status, education level, or racial and ethnic group

Outcomes Associated with Literacy

Health Outcomes/Health Services

- General health status
- Hospitalization
- Prostate cancer stage
- Depression
- Asthma
- Diabetes control
- HIV control
- Mammography
- Pap smear
- Pneumococcal immunization
- Influenza immunization
- STD screening
- Cost

Behaviors Only

- Substance abuse
- Breastfeeding
- Behavioral problems
- Adherence to medication
- Smoking

Knowledge Only

- Birth control knowledge
- Cervical cancer screening
- Emergency department instructions
- Asthma knowledge
- Hypertension knowledge

DeWalt, et al. JGIM 2004;19:1228-1239

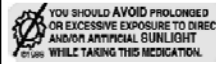
Common Misunderstanding of Warning Labels



"Chew pill and crush before swallowing."
"Just for your stomach."



"Use extreme caution in how you take it."
"Medicine will make you feel dizzy."
"Take only if you need it."



"Don't take medicine if you've been in the sunlight too long."
"Don't leave [medicine] in sunlight but a cool place."

Davis et al. (2006). J Gen Intern Med.

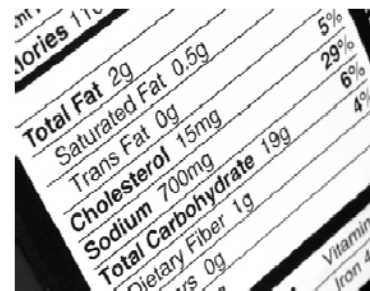
Can parents accurately dose and describe a commonly prescribed antibiotic?



- 37.3% could correctly describe how they would give the medicine over a 24-hour time period to a child.
- 75.1% could correctly demonstrate how they would give one dose of the medication.

Wallace et al. (2013). J Pediatr Health Care

Is this safe for someone on a salt-free diet?



Results of the gap: Risks to providers and systems

- Missed appointments
- Cancelled procedures
- Callbacks & time to repeat instructions
- Malpractice claims
- Unhappy patients
- Medical mistakes
- Loss of accreditation



Costs of Low Health Literacy

Costs

- \$106-238 billion annually to US economy (7-17% of all personal expenditure)
- Future costs of LHL-range of \$1.6-3.6 trillion
- Savings by improving HL would insure all those un-insured.

Reasons

- Longer hospital stays
- 6% more hospitalizations
- 1.5 times more likely to visit a doctor
- More medication and treatment errors
- Three times as many prescriptions
- Lack needed skills to negotiate healthcare system

Center on an Aging Society Medical Panel Survey 1998)

Veron, JA et.al. Low Health Literacy:
Implications for National Policy, Oct. 2007

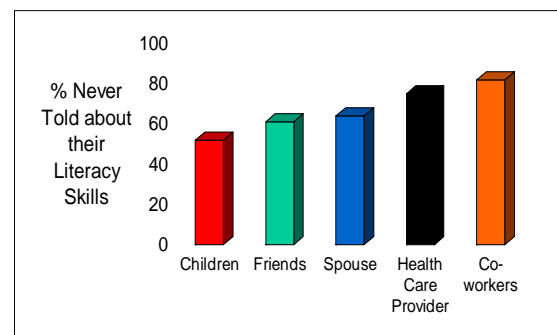
Addressing patient communication needs across the continuum of care

Use 2 Evidence-Based Methods

- Plain language for all verbal and written communication
 - 'Teach-back' to assure understanding of the communication/patient teaching
- AND**
- Engage individuals as care partners when possible



Shame and Health Literacy



Parikh et al. 1995. Patient Educ Couns.

Health Literacy Screening in Healthcare Settings



Health Literacy Screening Items

- “How often do you have problems learning about your medical condition because of difficulty understanding written *information*?”
 - always, often, sometimes, occasionally or never
- “How often do you have someone (like a family member, friend, or hospital worker) help you read hospital *materials*?”
 - always, often, sometimes, occasionally or never
- “How confident are you filling out medical forms by yourself?”
 - extremely, quite a bit, somewhat, a little bit or not at all

Wallace et al. (2007). *J Gen Intern Med*.

Health Literacy Screening Items

How many children's books do you have at home?



How many adult books do you have at home?



Saunders et al. (2004). *Ambul Pediatr*.

Everyone benefits from clear information

What is Plain Language?

- Speaking or writing in every day language (“living room language”)
- Limiting and organizing the information (oral, print, electronic, graphics, etc.) so the receiver gets the message quickly and clearly, and it makes sense to them.

Patient Education: What We Know

- Written materials, when used alone, will not adequately inform.
- Parents prefer receiving key messages from their physician/dentist with accompanying pamphlets.
- Focus needs to be “Need-to-Know” & “Need-to Do.”
- Patients with low literacy tend to ask fewer questions.
- Bringing family member and medication helps.

An Illustrated Medication Schedule Improves Patient Understanding

Date: 03/15/08 Name: Jane Doe

Names of Pills	What It's For	Morning/ Breakfast	Afternoon/ Lunch	Evening/ Dinner	Night/ Bedtime
Lisinopril 10 mg 1 pill once a day	Blood Pressure				
Simvastatin (Zocor) 40 mg 1 pill once a day	Cholesterol				
Metformin 500 mg 2 pills twice a day	Diabetes/ Sugar				
gabapentin (Neurontin) 300 mg 3 pills every 8 hours	Nerve Pain				
Aspirin EC 1 pill twice a day	Heart				

Copyright © 2006 Emory University

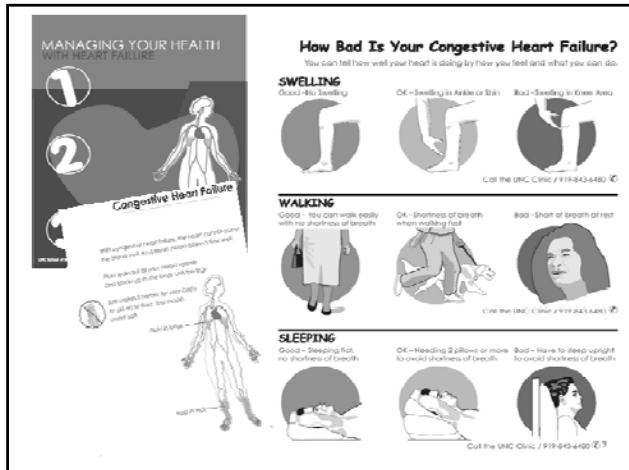
Fig. 2. Sample pill card.

Kripalani et al. (2007). Patient Educ Couns.

Low-Literacy Interventions to Promote Discussion of Prostate Cancer



Kripalani et al. (2007). Am J Prev Med.



Design of a Low-Literacy "Pain" Medicine Agreement

I will

• Tell Dr. _____ if I get pain medicine from another doctor or emergency room.

• Call Dr. _____'s office at least 24 hours in advance if I need to cancel my appointment.

• Keep my pain medicine in a safe place AND away from children.

• Get my pain medicine from only _____.

Address: _____

Phone Number: _____

• Bring all of my unused pain medicine to their pharmacy within the next two weeks to turn in. (Please do not use the number of pills in my bottle(s).)

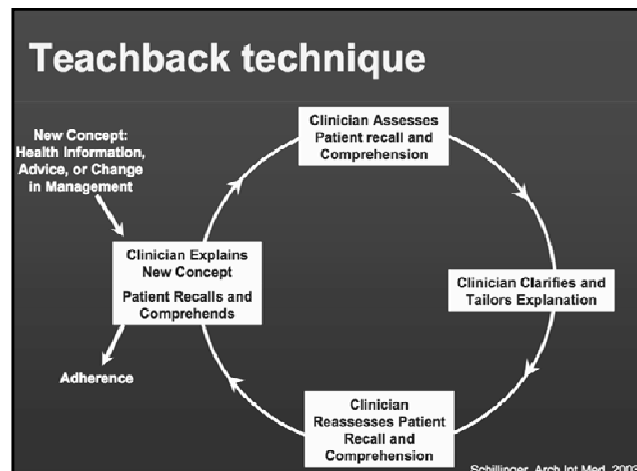
• Allow Dr. _____ to check my urine (pee) or blood to see what drugs I am taking.

Go to the next page

Wallace et al. 2007. J Pain.

The Keys to Plain Language

- Slow down and frame the message.
- Give context before new information.
- Break down complex instructions.
- Use common words (no jargon) consistently and define terms. Do not use:
 - Concept words
 - Category words
 - Value judgment words
- Give specific, concrete, and real world examples; use analogies for key concepts.



Teach Back Scripts

- I want to make sure I explained everything clearly. If you were trying to explain to your husband how to take this medicine, what would you say?
- Let's review the main side effects of this new medicine. What are the 2 things that I asked you to watch out for?
- Please show me how you would use this device, so I can be sure my instructions were clear.
- When you get home and your husband asks what the doctor said, what will you tell him?

Effectively Solicit Questions

- Don't say:
 - Do you have any questions?
 - Any questions?

Effectively Solicit Questions

- Don't say:
 - Do you have any questions?
 - Any questions?
- Instead say:
What questions do you have?