



Learning in Healthcare

Revisiting the Meaning of Health Literacy

Michael S. Wolf, PhD MPH
Associate Professor, Medicine & Learning Sciences
Associate Division Chief, General Internal Medicine
Feinberg School of Medicine
Northwestern University
Chicago, IL, USA



Disclosures.

Research Funding:

- National Institutes of Health (NCI, NHLBI, NIA)
- Agency for Healthcare Research and Quality (AHRQ)
- Missouri Foundation For Health
- California Endowment
- Foundation for Informed Medical Decision Making
- Industry (McNeil, Abbott, Pfizer)

Acknowledgements.

Northwestern

David Baker, MD MPH
Stacy Cooper Bailey, MPH
Laura Curtis, MS
Joe Feinglass, PhD
Darren Kaiser
Anjali Pandit, MPH

Emory

Ruth Parker, MD
Kara Jacobson, MPH

LSUHSC

Terry Davis, PhD



Harvard

Will Shrank, MD MSHS

UConn/St Francis

Greg Makoul, PhD

Community Partners

JoAnn Pearson Knox
Pear Moraras
Mickey Eder, PhD





HELP
HEALTH LITERACY AND LEARNING PROGRAM
Feinberg School of Medicine
Northwestern University

Linking Medicine to:

- Cognitive Psychology
- Communication Science
- Human Factors/Engineering
- Learning Sciences/Education
- Marketing/Management
- Neuropsychology
- Public Health

A Glance at Patient Compliance.

- 60% of asthmatic adults don't properly use inhalers
- 54% of U.S. adults don't get annual flu shots
- 50% of diabetic patients are non-adherent to Rx regimens
- 49% of eligible adults have not received CRC screening
- 40% of adults don't know signs of a heart attack
- 40% of hypertensive patients can't identify their medicine

A Glance at Patient Compliance.

- 60% of asthmatic adults don't properly use inhalers
- 54% of U.S. adults don't get annual flu shots
- 50% of diabetic patients are non-adherent to Rx regimens
- 49% of eligible adults have not received CRC screening
- 40% of adults don't know signs of a heart attack
- 40% of hypertensive patients can't identify their medicine

Do Patients Understand their Role?

A Problem from the Beginning.

- 55% of children under-use preventive asthma medicine
- 50% of young adults w/ chronic conditions do not successfully transition from pediatric to internal medicine
- 33% of young adults lack knowledge of meningitis risk and symptoms
- 20% of teens 15-19 years old report not using contraception during last intercourse episode
- 17% of children taking Rx drugs will experience a dosing error (leading to 250,000 adverse events annually)

Understanding and Promoting Health Literacy

Help patients and families:

- ✓ Understand their health & healthcare

Understanding and Promoting Health Literacy

Help patients and families:

- ✓ Understand their health & healthcare
- ✓ Translate knowledge to recommended actions

Understanding and Promoting Health Literacy

Help patients and families:

- ✓ Understand their health & healthcare
- ✓ Translate knowledge to recommended actions
- ✓ Apply problem-solving skills to new situations

Understanding and Promoting Health Literacy

Help patients and families:

- ✓ Understand their health & healthcare
- ✓ Translate knowledge to recommended actions
- ✓ Apply problem-solving skills to new situations
- ✓ Foster ongoing health learning opportunities

Understanding and Promoting Health Literacy

Help patients and families:

- ✓ Understand their health & healthcare
- ✓ Translate knowledge to recommended actions
- ✓ Apply problem-solving skills to new situations
- ✓ Foster ongoing health learning opportunities
- ✓ Instill health-promoting attitudes

Overview.

- Health Literacy Defined
- A Cognitive Factors Perspective
- Owning the Problem (It's us, not you)
- Practical Solutions
- Looking Forward

Literacy & Health Literacy.

Functional Literacy: The ability to read, write, and speak in English, and compute and solve problems at levels of proficiency necessary to function on the job and in society, to achieve one's goals, and develop one's knowledge and potential.

-National Adult Literacy Act of 1991

Literacy & Health Literacy.

Functional Literacy: The ability to read, write, and speak in English, and compute and solve problems at levels of proficiency necessary to function on the job and in society, to achieve one's goals, and develop one's knowledge and potential.

-National Adult Literacy Act of 1991

Health Literacy: The capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions.

-Institute of Medicine, 2004

Literacy & Health Literacy.

Functional Literacy: The ability to read, write and speak in English, and compute and solve problems at levels of proficiency necessary to function on the job and in society, to achieve one's goals, and develop one's knowledge and potential.

-National Adult Literacy Act of 1991

Health Literacy: The capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions.

-Institute of Medicine, 2004

Health Literacy > Reading

Health Literacy: What We Know

- Use of preventive services
- Delayed diagnoses
- Understanding of medical condition
- Adherence to medical instructions
- Self-management skills
- Risk of hospitalization
- Physical and mental health
- Mortality risk

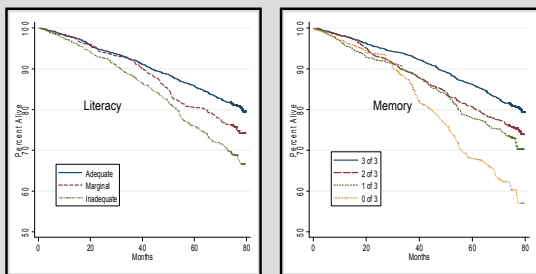
Cognitive Function: What We Know

- Use of preventive services
- Understanding of medical condition
- Adherence to medical instructions
- Self-management skills
- Physical and mental health
- Mortality risk

Similarities?

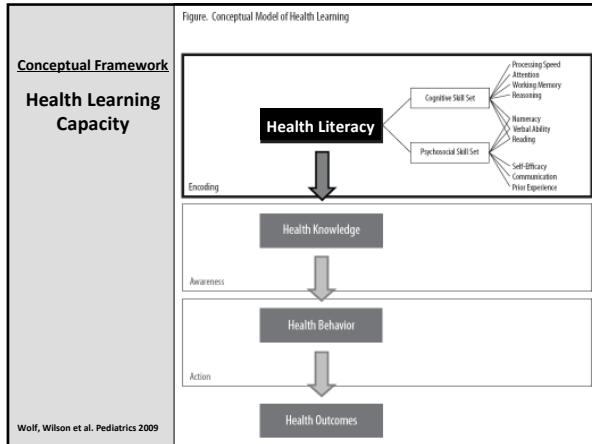
- | | |
|--------------------------------------|--------------------------------------|
| • Use of preventive services | • Use of preventive services |
| • Delayed diagnoses | |
| • Understanding of medical condition | • Understanding of medical condition |
| • Adherence to medical instructions | • Adherence to medical instructions |
| • Self-management skills | • Self-management skills |
| • Risk of hospitalization | |
| • Physical and mental health | • Physical and mental health |
| • Mortality risk | • Mortality risk |

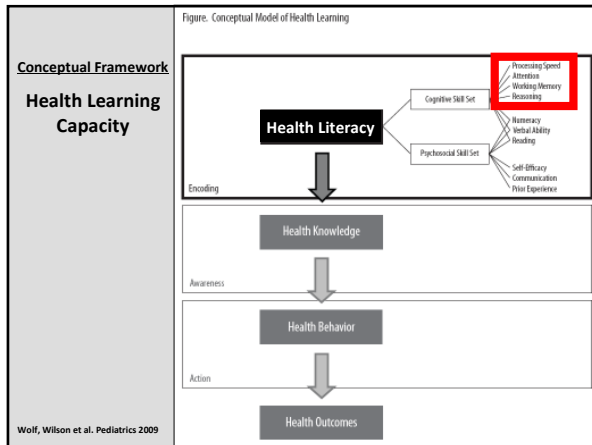
Cognitive Abilities, Literacy, Mortality

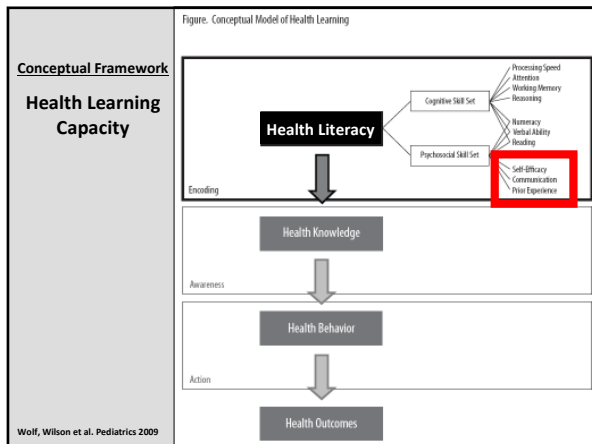


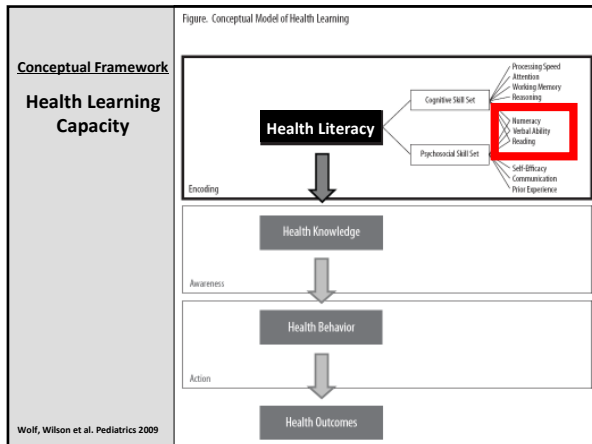
Cognitive abilities explains 50% of health literacy effect on mortality

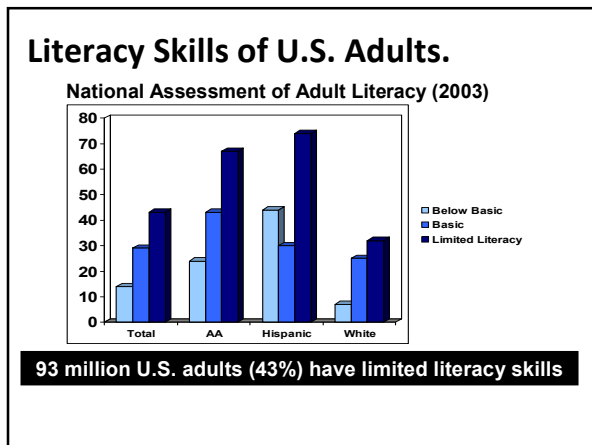
Baker DW, Wolf MS, Feinglass J, Thompson JA, J Gen Intern Med. 2008.

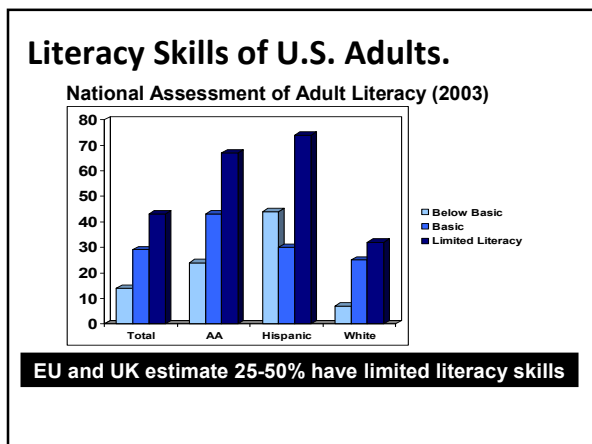






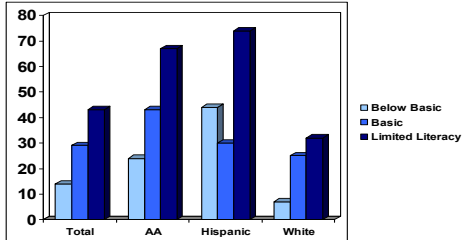






Literacy Skills of U.S. Adults.

National Assessment of Adult Literacy (2003)



93 million U.S. adults (43%) have limited literacy skills

Canada IALS Data suggest 60% have limited literacy

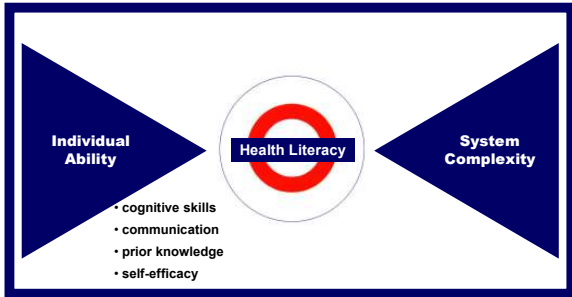
individual abilities vary...



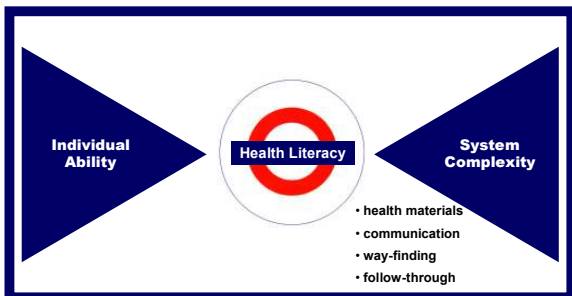


yet messages are often unclear

The Problem of Low Health Literacy



The Problem of Low Health Literacy

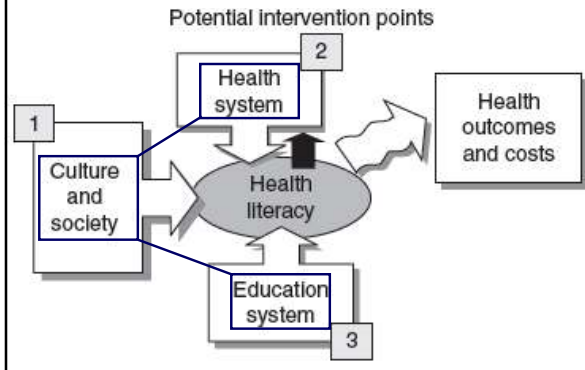


The Goal.



Find Ways to Match Healthcare to Average User Ability

Institute of Medicine Model.



A Matter of Patient-Centered Care.

Promoting Health Literacy Addresses:

- + Communication
- + Equity
- + Quality
- + Safety

Health Literacy Targets.

- Individual skills – improve learning & retention
- Health materials – examine modality, improve design
- Clinician skills – consider communication strategies
- Health system design – human factors

Health Literacy Targets.

- Individual skills – improve learning & retention
- Health materials – examine modality, improve design
- Clinician skills – consider communication strategies
- Health system design – human factors

Comprehensive Strategies Needed!

Goal: Reduce Cognitive Load.

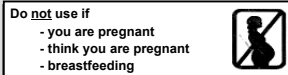
- Provide plain language directions
- Be concise, explicit
- Sequence information w/ consumer perspective
- Use *meaningful* visual aids only!



You Have a New Medication	
Date:	August 1, 2009
Name:	John Doe
Doctor:	David Baker, MD
Please read the information below. This helps you know how to take your medicine.	
Drug Name:	Levo [®]
Generic Name:	Alprazolam (A TORSE via via tri)
Purpose:	This medication can lower "bad" cholesterol
Benefit:	It can help prevent a heart attack or stroke
How to Take:	Take 1 tablet by mouth at bedtime. Before After With Without Food
For How Long:	You may need to be on this medication for the rest of your life.
Call Your Doctor:	If you have any of these symptoms for more than 1 week: • Headache • Dizziness • Dizziness
Stop Taking and Call Your Doctor:	If you ever have: • Muscle pain • Muscle weakness • Joint pain
Important!	• Take this medicine only the way your doctor tells you. • Tell your doctor or pharmacist if you are pregnant, think you are pregnant, or breastfeeding. You should not take this medicine. • If you take over-the-counter medicines every day, tell your doctor. • Limit how much grapefruit juice you drink every day.
Please call North Ridge/Central Pharmacy at (202) 452-7866 if you have questions or concerns. These websites can tell you more about your medicine: www.fda.gov/oc/ohrt/ and www.fda.gov/ohrt/	

Goal: Reduce Cognitive Load.

- Provide plain language directions
- Be concise, explicit
- Sequence information w/ consumer perspective
- Use *meaningful* visual aids only!



You Have a New Medication	
Date:	August 1, 2009
Name:	John Doe
Doctor:	David Baker, MD
Please read the information below. This helps you know how to take your medicine.	
Drug Name:	Levo [®]
Generic Name:	Alprazolam (A TORSE via via tri)
Purpose:	This medication can lower "bad" cholesterol
Benefit:	It can help prevent a heart attack or stroke
How to Take:	Take 1 tablet by mouth at bedtime. Before After With Without Food
For How Long:	You may need to be on this medication for the rest of your life.
Call Your Doctor:	If you have any of these symptoms for more than 1 week: • Headache • Dizziness • Dizziness
Stop Taking and Call Your Doctor:	If you ever have: • Muscle pain • Muscle weakness • Joint pain
Important!	• Take this medicine only the way your doctor tells you. • Tell your doctor or pharmacist if you are pregnant, think you are pregnant, or breastfeeding. You should not take this medicine. • If you take over-the-counter medicines every day, tell your doctor. • Limit how much grapefruit juice you drink every day.
Please call North Ridge/Central Pharmacy at (202) 452-7866 if you have questions or concerns. These websites can tell you more about your medicine: www.fda.gov/oc/ohrt/ and www.fda.gov/ohrt/	

Patient-Centered Design.

Do not drink alcoholic beverages while taking this medicine	Michael Wolf 04/29/71	Rx #: 1234567 9/9/2009												
Carry or wear medical identification stating you are taking this medicine	Glyburide 5mg	You have 11 refills												
You should avoid prolonged or excessive exposure to direct and/or artificial sunlight while taking this medicine	Take for Diabetes	180 pills												
	Take: 2 pills in the morning 2 pills in the evening	Discard after 9/8/2010												
	<table border="1"> <thead> <tr> <th>Morning</th> <th>Noon</th> <th>Evening</th> <th>Bedtime</th> </tr> <tr> <th>7-9 AM</th> <th>11-2 PM</th> <th>4-6 PM</th> <th>9-11 PM</th> </tr> </thead> <tbody> <tr> <td>2</td> <td></td> <td>2</td> <td></td> </tr> </tbody> </table>	Morning	Noon	Evening	Bedtime	7-9 AM	11-2 PM	4-6 PM	9-11 PM	2		2		Provider: RUTH PARKER, MD Emory Medical Center (404) 723-4567 Pharmacy: NOVA ScriptsCentral 11445 Sunset Blvd. Reston, VA (713) 123-4567 NDC # 1234567
Morning	Noon	Evening	Bedtime											
7-9 AM	11-2 PM	4-6 PM	9-11 PM											
2		2												

Action-Oriented Self Care.

ACP Guide: a Low literacy, print self-care tool

- Brief, plain language messages
- Supportive pictures, graphics
- Patient narratives
- Chunked information
- Non-linear approach



This Guide Will Help You:



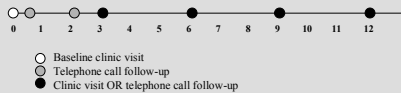
You Can Do It!

Check one of these boxes that you have done. If 2 boxes are still in, continue to the next page. This design is intended to encourage you to do as many as you can.

- I took my medicine every day.
- I took my medicine every day.
- I took my medicine every day.
- I took my medicine every day.
- I took my medicine every day.
- I took my medicine every day.
- I took my medicine every day.
- I took my medicine every day.

Education is not a One-Time Endeavor!

- Follow-up necessary to move patients forward.
- Front load activities.
- ACP Guide – min. 6 follow-up calls or in-person encounters



Carve-In vs. Carve-Out?

Standards Needed.

- Health materials
- **Communication training** (“universal precautions”)
- **Coordination of care processes**
- **Measurement/evaluation indicators**

Set Policy, Health Provider Incentives

- **Medicare Part D:** Medication Therapy Management
- **KP Plan:** Stanford Patient Self-Management

Provider Communication Skills.

Three common strategies:

- ‘Teach Back’ (Current recommended standard)

Provider Communication Skills.

Three common strategies:

- ‘Teach Back’ (Current recommended standard)
- Teach-to-Goal (Learning Mastery)

Provider Communication Skills.

Three common strategies:

- 'Teach Back' (Current recommended standard)
- Teach-to-Goal (Learning Mastery)
- Guided Imagery (Implementation Intention)

Provider Communication Skills.

Three common strategies:

- 'Teach Back' (Current recommended standard)
- Teach-to-Goal (Learning Mastery)
- **Guided Imagery (Implementation Intention)**

Teach Roles & Responsibilities.

- Use schools to familiarize youth with health system
- Identify roles by age group
- Train children and teens on specific health skills
- Opportunities for family education
- The value of anticipatory guidance!



Moving Forward.

- **What are we asking of individuals and families?**
- **How are we supporting them?**
 - clear, concise & consistent health information
 - consider the 'patient' perspective
 - what is the 'need-to-know'? Limit, layer, prioritize.
 - follow-up!
- **Involve everyone**
 - education, medicine, pharmacy, public health, social services
 - set local and federal policies to enforce
 - develop new measures to evaluate progress!

Contact Information:

Michael S. Wolf, PhD MPH
Associate Professor, Medicine & Learning Sciences
Associate Division Chief – Research
Division of General Internal Medicine
Northwestern University
Feinberg School of Medicine
750 N. Lake Shore Drive, 10th Floor
Chicago, IL 60611
(312) 503 – 5592
mswolf@northwestern.edu

