



# HARC 2012

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# Conflicts of Interest

No conflicts of interest to disclose.

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# Overview

- What are some of the most significant challenges with measuring health literacy?
- Should health literacy be evaluated in the same way in different populations (adults versus adolescents)?
- Does health literacy require/demand different knowledge or skills from different populations?
- Should health literacy be evaluated using domain (e.g., disease-specific) specific measures?
- Health literacy is typically measured at the individual level, but how important are one's social interactions and social environment to one's health literacy?

# Challenges in Measurement

- Many do not operationalize full definition of health literacy or constructs of frameworks
- Currently focus on the assessment of health literacy at a moment in time
- Domain and disease management specific skills not assessed
- Unknown if any can assess changes in health literacy-related skills over time
- Appropriateness for use in longitudinal analysis (outcomes research) undetermined

# One measure for all...

- Is there a need to look at the critical components of health literacy by age, sex/gender, ethnicity?
  - Critical Components:
    - Communication (e.g. pronunciation, verbalization)
    - Comprehension (e.g. reading, problem solving)
    - Navigation
    - Health information seeking
    - Functional
    - Decision making/critical thinking
    - Motivation
    - Confidence (self-efficacy)
    - Need for assistance

# Conceptualizing and Operationalizing Health Literacy

- Multiple conceptual frameworks and models of health literacy – do we measure each of the constructs?
- Health literacy skills – clinical, prevention, and navigation of the health care system – should we measure all of them at once?
- Can one measure address all of our needs? – moving forward – Health Literacy Skills Instrument (HLSI)
- Gaps in health literacy research – verbal exchange

# Verbal Exchange Health Literacy

- A gap in current health literacy measures is an assessment that captures the ability to express, seek, and interpret verbal quantitative and qualitative health information.

*Harrington & Valerio, Under Review*

# Verbal Exchange Health Literacy

- The ability to speak and listen that facilitates the exchanging, understanding, and interpreting of health information for health-decision making, disease management and navigation of the healthcare system.

*Harrington & Valerio, Under Review*

# What are critiques of current measures?

- Critiqued if focus on one specific/topic or domain – true health literacy or domain specific health literacy?
- Do not capture offering and use of varied treatment options – not everyone receives standard guideline-based care (4-item Asthma Numeracy Questionnaire (ANQ))
- Navigation of the health care system is not the same across settings (clinic, physician office, specialist, hospital, Emergency Department) nor for everyone regardless of race, insurance, gender/sex

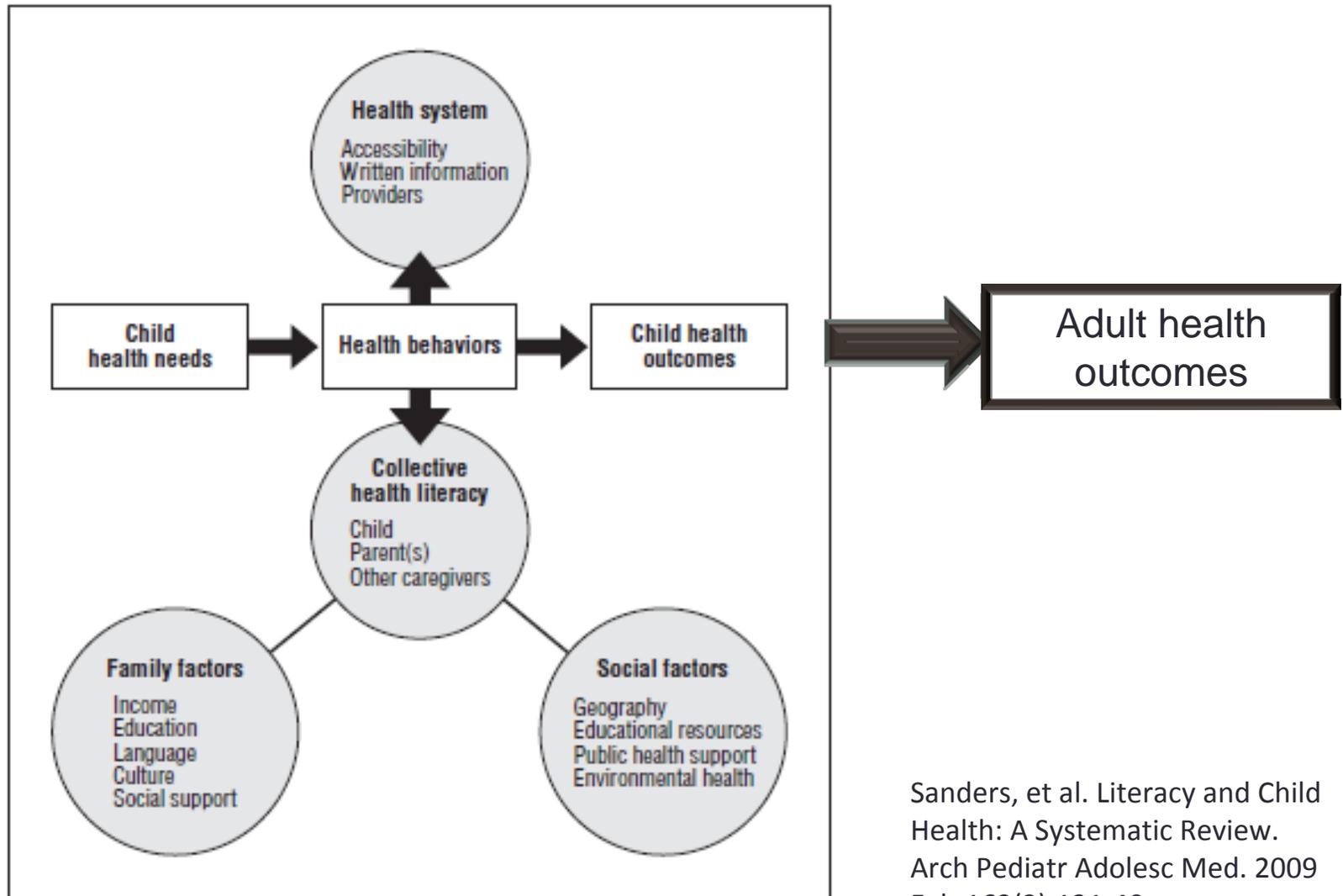
# Population Specific Measures

- Is there “true” variation in health literacy skills among and between populations by age or other demographic characteristics?



- Vulnerable populations at ends of age spectrum (young children and older adults) – roles of caregivers

# Theoretical Framework



**Figure 2.** Model for health literacy as a social determinant of child health.

Sanders, et al. Literacy and Child Health: A Systematic Review. Arch Pediatr Adolesc Med. 2009 Feb;163(2):131-40

# Population Specific Measures - Adolescents

- Can we use the NVS, HLSI and the 1-item self-assessment with adolescents or do we need specific measures for their developmental stage?
  - It Depends!
  - What is the purpose of the study?
  - Are the skills standard and is there opportunity for experiencing?

# Population Specific Measures - Adolescents

- *“How often do you have someone (like a family member, friend, hospital/ clinic worker or caregiver) help you read hospital materials?,” “How often do you have problems learning about your medical condition because of difficulty understanding written information?,” and “How confident are you filling out forms by yourself?” (Chew)*
- "How often do you need to have someone help you when you read instructions, pamphlets, or other written material from your doctor or pharmacy?" (Single Item-Literacy Screener (SILS))

# Population Specific Measures - Adolescents

**Table 4: Final multivariate stepwise models examining health literacy, sample characteristics and asthma outcomes**

	Dependent variable	OR <sup>1</sup>	(95% CI) <sup>2</sup>	p-value
<b>Not Confident</b>				
	Age	0.53	(0.37, 0.77)	<i>0.001</i>
	BMI $\geq$ 85th percentile	3.99	(1.69, 9.42)	<i>0.002</i>
	Asthma diagnosis	0.33	(0.12, 0.94)	<i>0.039</i>
	Mom's education (< high school vs. other)	3.73	(1.30, 10.22)	<i>0.015</i>
<b>Need help</b>				
	Grade ( $\geq$ 10)	0.31	(0.14, 0.65)	<i>0.002</i>
	Number of ED visits	1.20	(1.02, 1.42)	<i>0.032</i>
<b>Have problems</b>				
	Grade ( $\geq$ 10)	0.36	(0.17, 0.77)	<i>0.008</i>
	Quality of Life: Symptoms	0.81	(0.66, 1.00)	<i>0.049</i>
	Number of ED visits	1.18	(1.01, 1.37)	<i>0.038</i>

<sup>1</sup> Odds ratio; <sup>2</sup> 95% Confidence Interval

# Domain Specific Assessments

- Should we assume that different health issues (high blood pressure, asthma, diabetes) require the same set(s) of skills for effective management and control?
- Development and use of domain specific measures for diabetes, oral health, asthma and cardiovascular disease
- Limitations – domain specific measures may not assess overall health literacy may capture specific ability regarding disease X
- Are these operationalizing health literacy or disease control and management tasks?

# Domain Specific Assessments

## **LAD (Literacy Assessment for Diabetes)**

- The LAD is a diabetes-specific literacy assessment. Specifically, it is a word recognition test that has 3 graded word lists ordered by difficulty for the patient. It measures the patients' ability to pronounce terms related to healthcare. The terms are on a 4<sup>th</sup> grade level, or on a 6<sup>th</sup> to 16<sup>th</sup> grade reading level. It can be administered in 3 minutes or less.

# Challenges in Measurement

## **Questions left unanswered:**

- Does health literacy require/demand different skills from different populations?
- Are these different skills individual level factors or demands placed on patients by system level factors?

# Implications for Practice

- Use of multiple measures within research
- Transparency about definitions, frameworks and language
- Differentiate between health literacy measures and those that are operationalizing health literacy-related skills that are disease specific
- Identify measures that will allow you to determine association/impact of health literacy to specific disease control and outcomes