DEVELOPMENT OF A NEW MEASURE OF HEALTH LITERACY: FLIGHT/VIDAS

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the FLIGHT/VIDAS Team

Importance

- *"Building a comprehensive approach to measurement of the social construct called health literacy may well be the most significant and necessary task facing health literacy research and practice."* p. 11

Pleasant A, McKinney J, Rikard RV (2011). Health literacy measurement: A proposed research agenda. J Hlth Communication 16:11-21.

Project: FLIGHT/VIDAS

- **Goal:** Develop and validate a measure of health literacy that is useful for older and younger as well as Spanish and English speaking persons and is computer administered and scored

- **Project:** *Fostering Literacy for Good Health Today (FLIGHT) / Vive Desarrollando Amplia Salud (VIDAS)*
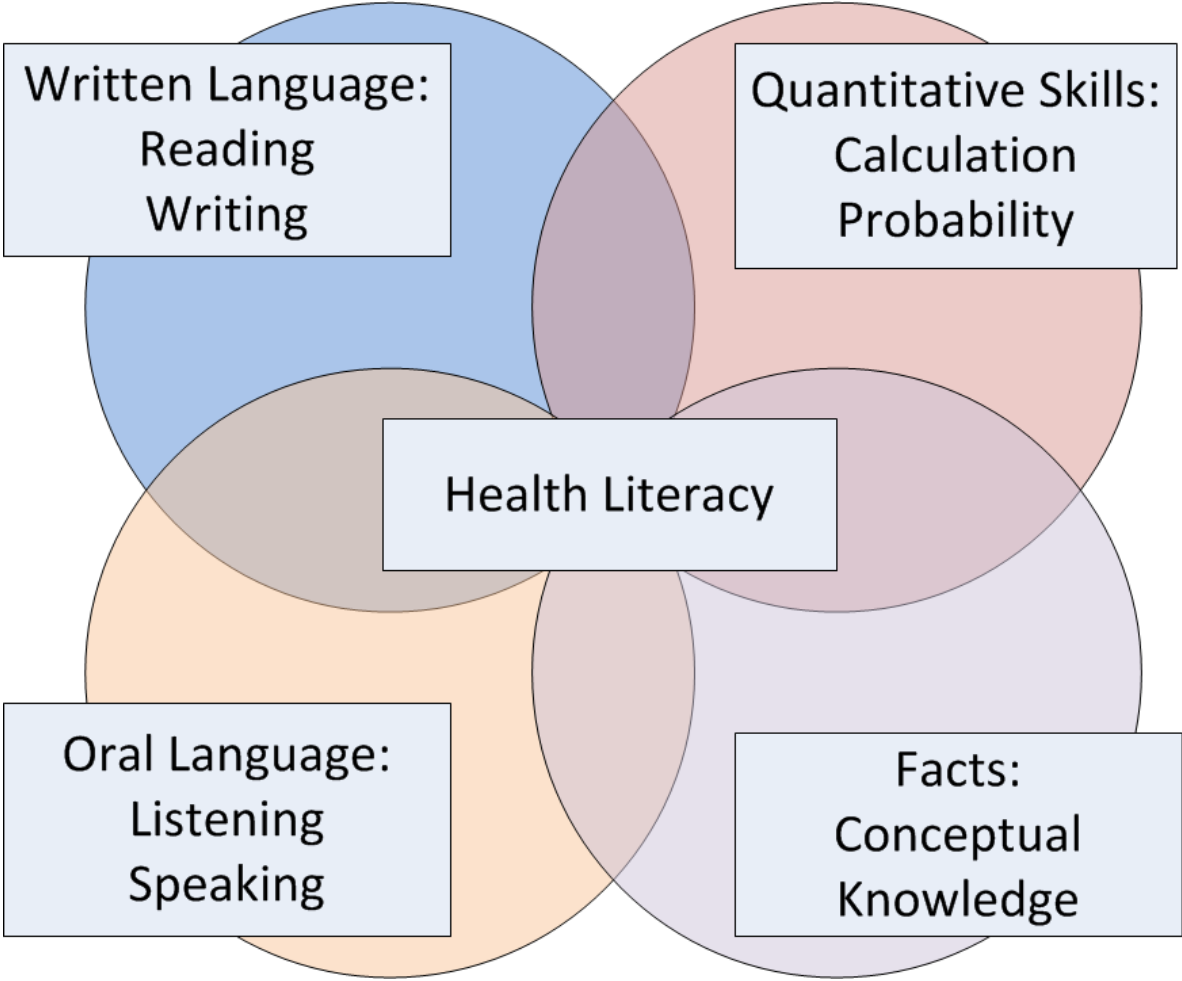
Multidimensional content

- **Content:** 2004 IOM report domains
  - Seven areas

- **Formats:** Educational Testing Service
  - Prose
  - Document
  - Quantitative

Goal	Prose	Document	Quantitative
Health promotion	Read a passage on exercise and identify desirable duration of exercise	Make menu choices based on fat and sodium guidelines	Calculate the number of grams of fat in a package of a product given a per serving value
Understand health information	Read a passage on risk factors for diabetes and identify relevant behaviors that would reduce someone's risk	Given a checklist of risk factors for diabetes, be able to complete a checklist of risk factors for the disease	Given information on normal and abnormal blood glucose levels, identify normal and abnormal levels
Apply health information	After being provided with information on physical activity guidelines, identify appropriate exercise duration and frequencies	Given narrative information on exercise frequency and intensity, complete an exercise log	Calculate the number of calories used during exercise give a table of exercises, times, and values
Navigate the health care system	After reading an informational brochure, be able to describe how specific health care services are covered by an insurance program	Review information from a table on dates and times for applying for specific health care benefits	Calculate relative costs of two insurance plans
Participate in encounters with health care professionals	After viewing a video of a person's encounter with a physician providing a new medicine, identify information provided by the physician about dosage and schedule	After viewing a video describing how to apply for long term care insurance, fill out an application	After viewing a video that presents information on desirable weights, calculate one's own body mass index
Give informed consent	After reading information about a colonoscopy, describe the risks and benefits of the procedure	After reading an informed consent form, describe risks and benefits of a surgical procedure	Given a graphical representation of the probability of a medication side effect, correctly identify how likely its occurrence will be.
Understand rights	After reading an explanation of benefits, correctly identify the procedure to appeal a denial of benefits	Given an insurance explanation of benefits on an insurance payment statement, identify an inappropriate denial	After viewing a video presentation on patient rights, correctly determine the number of options available to access services

FLIGHT/VIDAS Model

Written Language:
Reading
Writing

Quantitative Skills:
Calculation
Probability

Health Literacy

Oral Language:
Listening
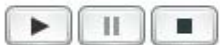Speaking

Facts:
Conceptual
Knowledge

Phase I

- 225 items
- Some authored in Spanish and translated into English; others English to Spanish
- Administered to groups of both Spanish and English speaking persons
- Half of each group 50 years of age or older
- Touch screen computer with audio

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Continue

¡Compre Ahora!

HDTV

Continúe

Phase I

- 225 items administered to 73 Spanish and 69 English speaking participants
- Nonparametric IRT assessed difficulties and DIF
- Differential item functioning (DIF)
    - Age less than or greater than 50 years
    - Spanish vs. English
    - Education greater or less than high school
- Preliminary scale development
    - Reading and quantitative scales
    - Listening comprehension (videos)
    - Facts (general medical knowledge)

Reliabilities

- Cronbach's alpha:
  - A measure of the internal consistency of a scale
- Cronbach's alpha :
  - Reading = 0.89
  - Quantitative = 0.85
- Supplementary scales:
  - Facts = 0.70
  - Video = 0.63

Validity

- 50 English speakers from another study
  - Cognitively intact (already screened)
  - Previously completed the TOFHLA
- New scale correlations with TOFHLA
  - TOFHLA reading with Reading = 0.69, $p < 0.001$
  - TOFHLA numeracy and Quantitative = 0.38, $p = 0.007$

Current: Phase 2

- Ongoing
- 100 items for final validation
- TOFHLA, REALM/SAHLSA, self-report HL items
- Cognitive battery
- Consumer Assessment of Healthcare Providers and Systems (CAHPS)
- Other health-related measures
- Completion date: April 30, 2014

Acknowledgment

The team

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