

The FLIGHT/VIDAS project: Overview

Raymond L Ownby, MD, PhD

And the FLIGHT/VIDAS team



The project



Title: **Development and validation of a computer-administered health literacy measure**

Funding: **National Heart, Lung, and Blood Institute
(R01HL096578)**

Start: **August 10, 2010**

End: **June 30, 2014**

Overall Aim



Our central goal has been to develop and validate a health literacy measure that is:

1. *Computer administered and scored,*
2. *Acceptable to diverse groups, and*
3. *Psychometrically equivalent for Spanish- and English-speaking and older and younger persons.*

English: **Fostering Literacy for Good Health Today (FLIGHT)**

Spanish: **Vive Desarrollando Amplia Salud (VIDAS)**

Multidimensional item content



Content: 2004 Institute on Medicine health literacy report domains

Seven areas of health literacy goals

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

Development



Phase I

225 items created

73 Spanish and 69 English speakers

Item screening for difficulty and usefulness in Spanish and English and functioning in older and younger persons

Phase II

98 items

Spanish and English participants

~ 30 participants per group in each language

7 decade-based age groups (N = 475; final N = 500)

Validation via relations to other measures

Touch screen computer



The most common oral health problems are dental caries and gum disease. Caries are usually caused by bacteria that use the sugar in food we eat to produce acid in the mouth. Little by little, this acid destroys the external covering of the teeth and causes caries. Gum disease is caused by specific bacteria that form a plaque that coats the teeth and forms a scale. Gingivitis is a gum disease caused by the accumulation of plaque. Gingivitis causes inflamed gums that bleed easily.

Based on the information in the passage above, how do bacteria cause dental caries?

- ☐ A) By eliminating scale
- ☐ B) By causing gingivitis
- ☐ C) By eliminating sugar in the blood
- ☐ D) By creating acid in the mouth
- ☐ E) By destroying dental plaque

Juana tiene 65 años y no hace ningún tipo de ejercicio. De acuerdo con esta tabla, ¿cuántas calorías necesita ella cada día?

Calorías Diarias Necesarias

Calorías Nesesarias Para Cada Nivel de Actividad				
Género	Edad (años)	Sedentario	Moderadamente Activo	Activo
Mujer	19-30	2,000	2,000-2,200	2,400
	31-50	1,800	2,000	2,200
	51+	1,600	1,800	2,000-2,200
Hombre	19-30	2,400	2,600-2,800	3,000
	31-50	2,200	2,400-2,600	2,800-3,000
	51+	2,000	2,200-2,400	2,400-2,800

☐ A) 1,600

☐ B) 1,800

☐ C) 2,000

☐ D) 2,200

☐ E) 2,400



Demographics and health literacy



	English Mean (SD)	Spanish Mean (SD)
N	161	198
Age in Years	52.5 (17.5)	49.8 (15.6)
Education	13.6 (2.3)	12.4 (2.8)
Income	\$31, 188	\$27,889
SES	0.19 (0.80)	-0.14 (0.82)
Crystallized	95.9 (10.6)	89.6 (9.0)
Fluid	10.6 (2.3)	10.6 (2.7)
TOFHLA Reading	46.4 (4.4)	43.3 (7.6)
TOFHLA Numeracy	47.8 (2.8)	43.5 (6.1)
Gender: Men/Women	70/91	81/118
Race: White/Black	91/70	198/0

FLIGHT/VIDAS scales



General Health Literacy (HL): The ability to read and complete mental operations on health care information, including identify relevant information in prose, documents, and figures (39 items). Cronbach's $\alpha = 0.84$.

Numeracy (NUM): The application of quantitative skills including arithmetic operations and appraisal of relations among numeric concepts such as ratios and percentages (24 items). Cronbach's $\alpha = 0.84$.

FLIGHT/VIDAS scales



Conceptual Health Knowledge (Experimental Scale; FACT): Demonstrate understanding of specific concepts related to health care (15 items). Cronbach's $\alpha = 0.67$.

Listening Comprehension (Experimental Scale; LIS): The ability to acquire and remember health information presented orally (13 items). Cronbach's $\alpha = 0.58$.

FLIGHT/VIDAS battery



Demographics

Age, education, occupation, income, subjective social status

Cognition

Measures of fluid and crystallized general cognitive ability

Academic skills

Woodcock scales for reading and arithmetic

Health literacy

TOFHLA, REALM (English), SAHLSA (Spanish)

Health status and health-related quality of life

MOS SF-36 and EQ5D calculated from it

Health service utilization

Plans for FLIGHT/VIDAS



Make available on the Internet.

Further dissemination of 20-item short form

- Shows good reliability and validity

- Takes ~ 10-15 minutes to administer and can be integrated into electronic health records.

Make test manual available with norms and full validity data.

Follow-up computer interventions for chronic disease management and patient navigation skills.

Today's panel



Josh Caballero, PharmD – Medication management scale and its use in counseling

Robin J Jacobs, PhD – Social status and health literacy

Drenna Waldrop-Valverde, PhD – New short form for the TOFHLA with new cutoff scores

Also poster this afternoon on cutoff scores, and a paper on TOFHLA and elderly tomorrow AM

Amarilis Acevedo, PhD – Health literacy in English and Spanish speakers, and bilingual participants' performance in both languages

All presentations draw on data from the FLIGHT/VIDAS project

Acknowledgment



Support for this study was provided by grants to Dr. Ownby from the National Heart, Lung, and Blood Institute (R01HL096578)

The team



Lilly Acevedo, PhD

Drenna Waldrop-Valverde, PhD

David Loewenstein, PhD

Sara Czaja, PhD

Rosemary Davenport, RN, MSN

Josh Caballero, PharmD

Robin Jacobs, MSW, PhD

Ana Maria Homs, PsyD

Maria Lago, MSW

Lilly Valiente

Marcella Rutherford, RN, PhD

Jamie Mazurrco, MPH



More information at:



<http://www.flightvidas.org>

Links to papers

Demonstration videos

Contact

ro71@nova.edu