Predictors of minority willingness to participate in clinical research

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Disclosures

- No conflict of interest.

- Willingness to participate study
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  - Ana Palacio, MD, MPH
  - Erin Marcus, MD, MPH
- Literacy and informed consent
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  - Erin Marcus, MD, MPH
  - Mauricio Robert

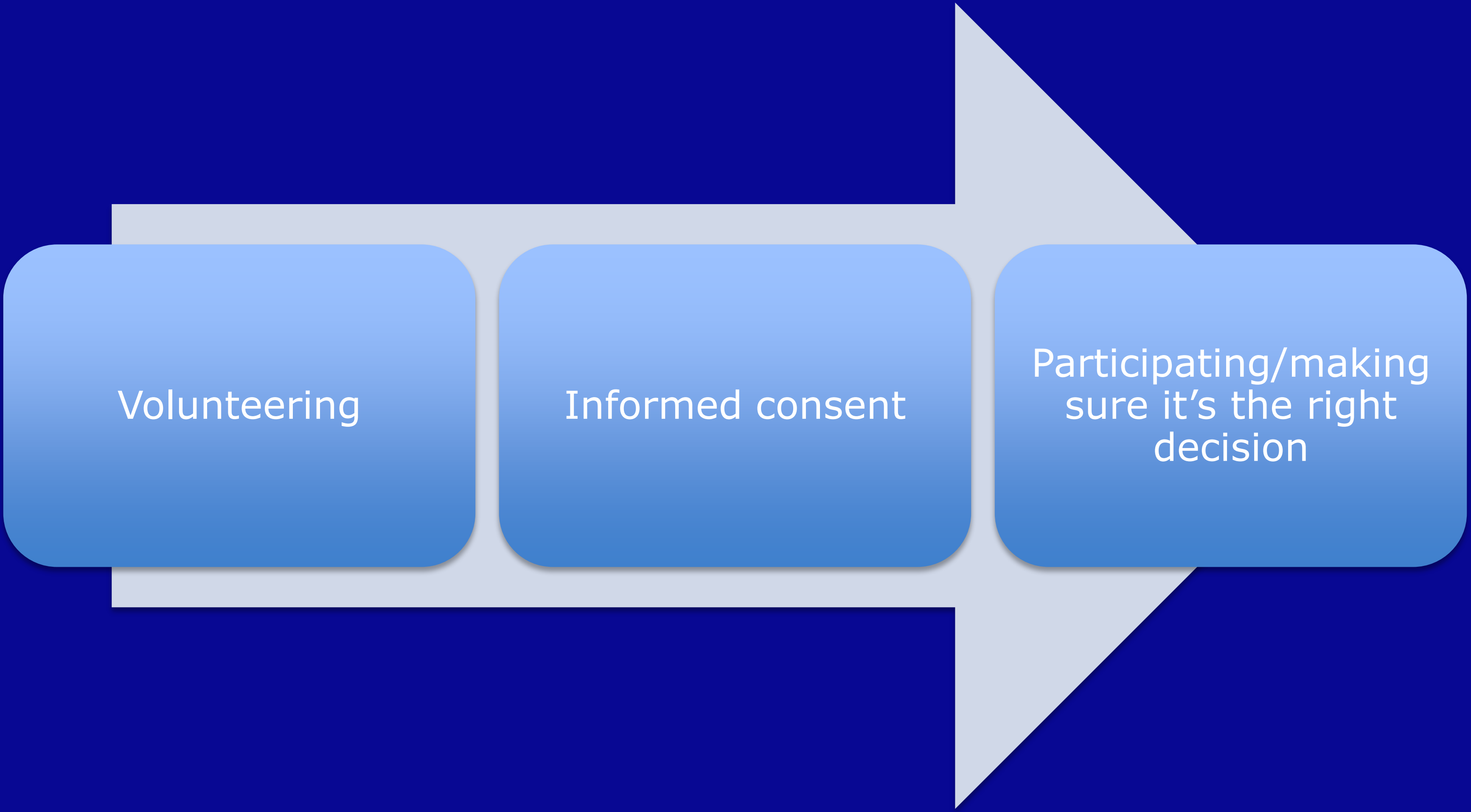
Objectives

- Create greater awareness of predictors of research participation in minorities.
- Explain the role of health literacy and disease burden when volunteering in clinical research.
- Explain the role of health literacy during the informed consent process of minorities.
- Highlight the importance of the Miami VA for research.

Research subject

- Mr. X is interested in participating in a hypertension study. He is a 55 year old Hispanic male currently unemployed who has poorly controlled blood pressure.
- You explain that this is a 5 year study that compares two different medications and for which he will have to come to clinic 4 times a year and that one of the medications is not approved by the Food and Drug administration. He will be paid 50 dollars per visit.
- He says he is ready to sign the documents because you are his PCP and he trusts you, the money would come in handy and he has bad hypertension anyway.

Participating in research



Volunteering

Informed consent

Participating/making sure it's the right decision

Background

- Racial and ethnic minorities constitute 30% of the US population.
- NCI (phase I-III treatment studies) minorities only represent 18% of the enrollment.
- Enrollment might be low because: Mistrust, fear, logistical concerns, consent documents.

Criteria for IRB Approval

BENEFICENCE

Risk/benefit

JUSTICE

Subject selection

RESPECT FOR PERSONS

Informed consent
Privacy and confidentiality
Vulnerable populations

Advantages to minority participation

- Generalizability of research findings
- Equity in enrollment//provision of healthcare
- Accuracy of ethnic specific subgroup analysis

Studies that look into predictors of enrollment

Article type	Total	African-American	Hispanic
Qualitative	23 (52%)	10 (23%)	2 (5%)
Quantitative	16 (36%)	3 (7%)	0
Mixed methods	5 (11%)	3 (7%)	1 (2%)

George et al. AJPH. 2014

Barriers to minority participation

Domain	Number of studies	African-American	Hispanic
Mistrust	34 (77%)	Research will benefit white people only and not Black	Medical experimentation already occurs in clinical practice
Competing demands	20 (45%)	Inconvenience and cost	Time conflicts and no child care
Unintended outcomes	14 (32%)	Concerns about short and long term side effects	Fear of HIV infection
Lack of access to information	14 (32%)	Misconceptions about research	No research information in Spanish
Stigma	12 (27%)	Genetic and mental illness research	HIV research
Legal status	2 (5%)		Fear of deportation

Facilitators to minority participation

Facilitator	**Number of studies**	**African-American**	**Hispanic**
Cultural congruence	27 (61%)	Culturally diverse staff	Research staff that speak Spanish
Benefits in participation	27 (61%)	Money, free medical services, receiving adequate information about study	Money, access to medical services, sufficient or appropriate information about study
Altruism	24 (55%)	Contribution to community	Helping others
Convenience	8 (18%)	Workplace support	Childcare provided
Low risk in participation	5 (11%)	Natural treatment or non-invasive	Low risk of toxicity

Study design: Willingness to participate in clinical research

- Location: Miami VA primary care clinics
- Study design: Cross-sectional study
- Inclusion criteria: Hypertension.
- Exclusion criteria:
  - Diagnosis of depression.
  - Cognitive impairment.
  - Cancer except for non-melanoma skin cancer.
- Main variables: Health literacy and willingness to participate in research.

Health Literacy – What Is It?

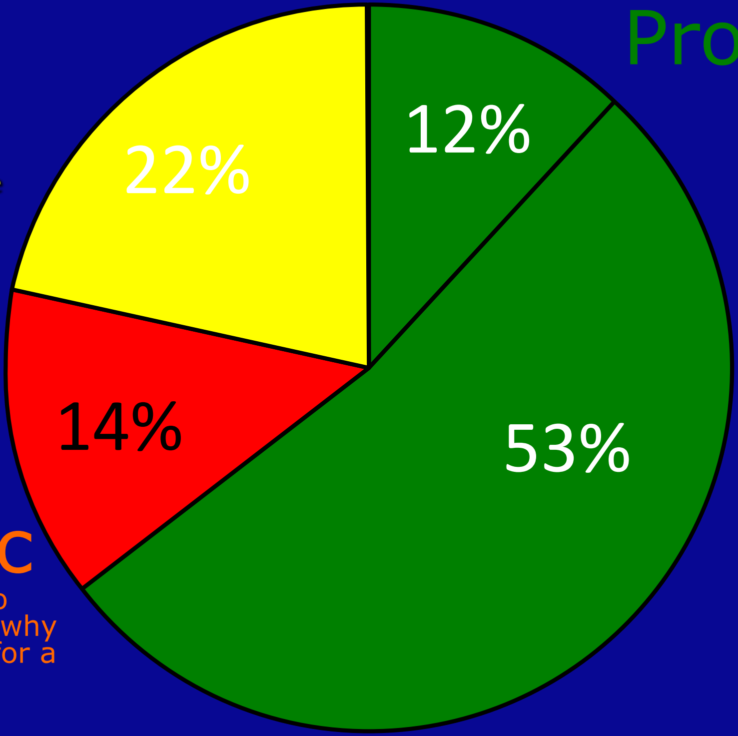
"The degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions."
(Nielsen-Bohlman 2004)

General Literacy Is Necessary When Accessing Health Care

- Health Materials often are written at the college level (Calderon 2004)
- The recommended level is 5th or 6th grade (Kutner 2006; Rudd 2004)
- Individuals with low literacy may not articulate what information they need (Schillinger 2005; Rudd 2004)

Health Literacy of America's Adults

Below Basic + Basic=78 million



Basic

Difficulty w.
Charts and
Drug info label
CANNOT:
Use an immunization schedule
Interpret a growth chart
Follow "take medicine on an
empty stomach"

Proficient

Intermediate

Difficulty evaluating what documents are relevant
Difficulty calculating share of health costs

Below Basic

Difficulty w simple info from a pamphlet, like why you should be tested for a disease

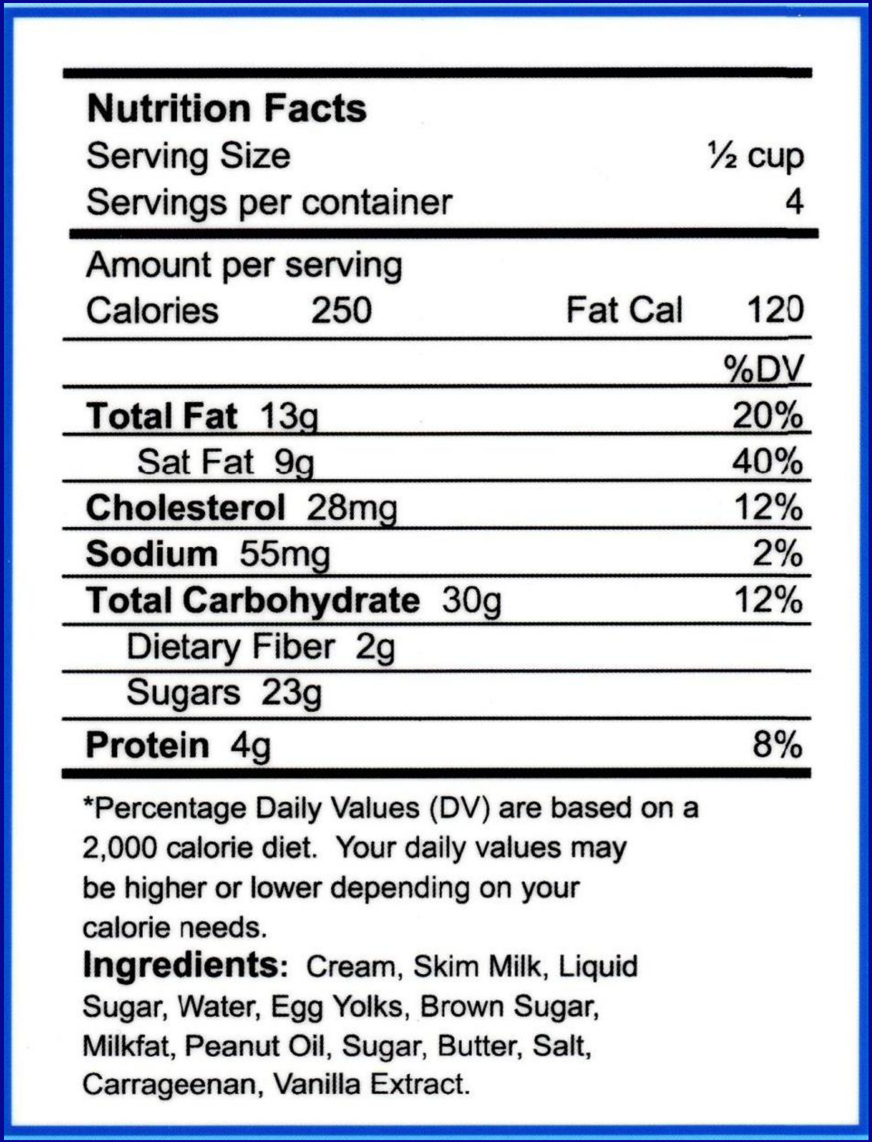
CANNOT
Use the dosage chart on over-the-counter medicine.
From a pamphlet, give 2 reasons why screening is important.

NCES, NAAL 2006

Measurement of health Literacy

Measure	**Validity and Reliability**	**Survey**
Newest Vital Sign	Cronbach >0.76 ROC 0.88	Ice cream label
Chew et al.	ROC 0.82	3 questions

Newest Vital Sign



Nutrition Facts

Serving Size	½ cup
Servings per container	4

Amount per serving

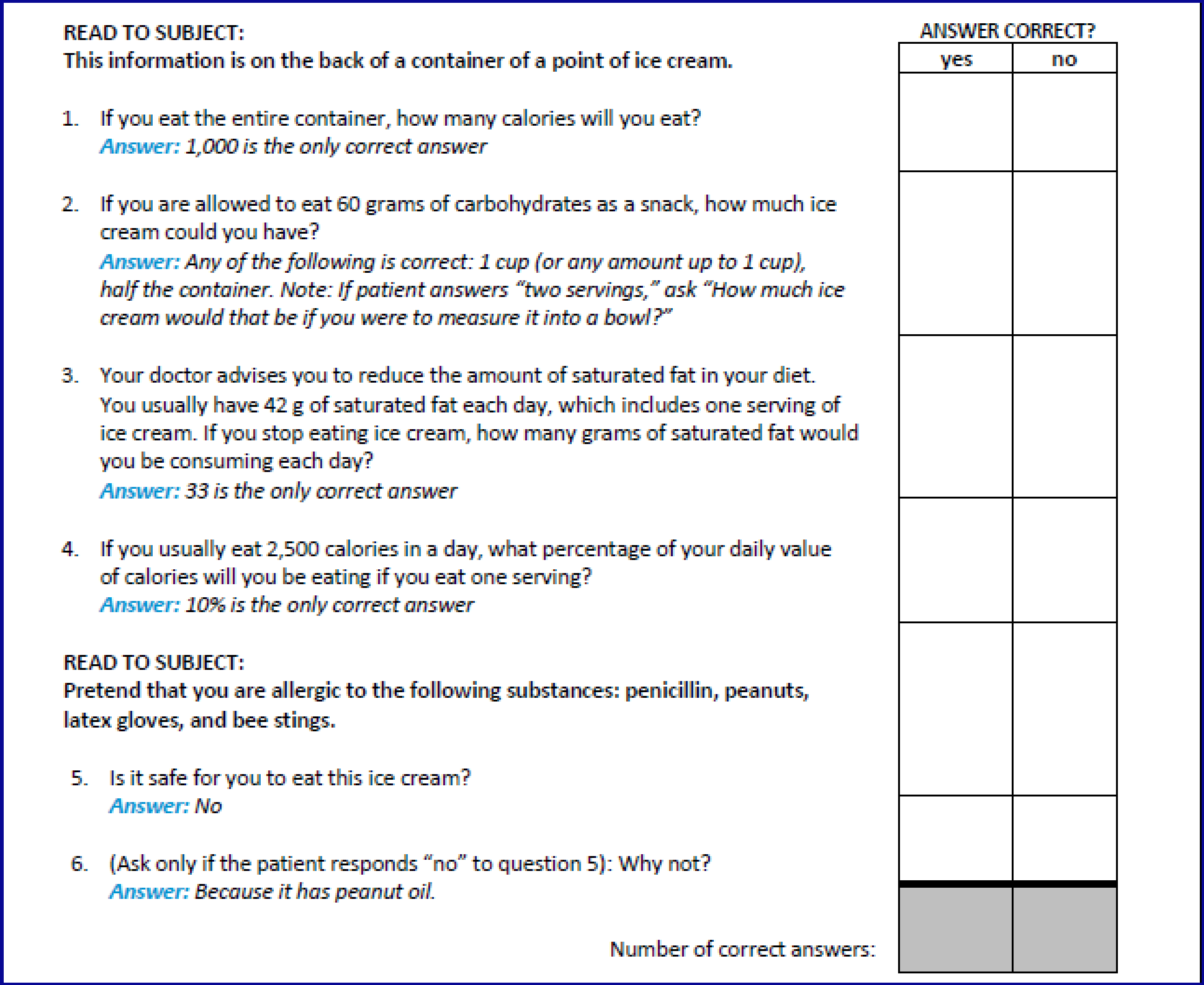
Calories	250	Fat Cal	120

	%DV
Total Fat 13g	20%
Sat Fat 9g	40%
Cholesterol 28mg	12%
Sodium 55mg	2%
Total Carbohydrate 30g	12%
Dietary Fiber 2g	
Sugars 23g	
Protein 4g	8%

*Percentage Daily Values (DV) are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

Ingredients: Cream, Skim Milk, Liquid Sugar, Water, Egg Yolks, Brown Sugar, Milkfat, Peanut Oil, Sugar, Butter, Salt, Carrageenan, Vanilla Extract.

Newest Vital Sign



READ TO SUBJECT:
This information is on the back of a container of a point of ice cream.

1. If you eat the entire container, how many calories will you eat?
   Answer: 1,000 is the only correct answer

2. If you are allowed to eat 60 grams of carbohydrates as a snack, how much ice cream could you have?
   Answer: Any of the following is correct: 1 cup (or any amount up to 1 cup), half the container. Note: If patient answers "two servings," ask "How much ice cream would that be if you were to measure it into a bowl?"

3. Your doctor advises you to reduce the amount of saturated fat in your diet. You usually have 42 g of saturated fat each day, which includes one serving of ice cream. If you stop eating ice cream, how many grams of saturated fat would you be consuming each day?
   Answer: 33 is the only correct answer

4. If you usually eat 2,500 calories in a day, what percentage of your daily value of calories will you be eating if you eat one serving?
   Answer: 10% is the only correct answer

READ TO SUBJECT:
Pretend that you are allergic to the following substances: penicillin, peanuts, latex gloves, and bee stings.

5. Is it safe for you to eat this ice cream?
   Answer: No

6. (Ask only if the patient responds "no" to question 5): Why not?
   Answer: Because it has peanut oil.

	ANSWER CORRECT?	
	yes	no
1.		
2.		
3.		
4.		
5.		
6.		
Number of correct answers:		

Scoring

- Score 0-1: High likelihood of limited literacy
- Score 2-3: Possibility of limited literacy
- Score 4-6: Adequate literacy

Other definition of limited literacy

- “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?”
- “How confident are you filling out forms by yourself?”

Willingness to Participate in Research

Scenario	Time in study per visit	Amount of interaction with subject	Payment	Storage of information
1	20	One time survey and medical record review	None	N/A
2	40	One time survey, medical record review and blood draw	$20	N/A
3	N/A	1 year study with 3 evaluations include data, blood and survey	$20	Blood and information stored at Miami VA
4	N/A	5 year study FDA regulated with 3 evaluations	$20	Blood and information stored at another VA site

Not willing Somewhat willing Very willing Completely willing

Baseline Characteristics

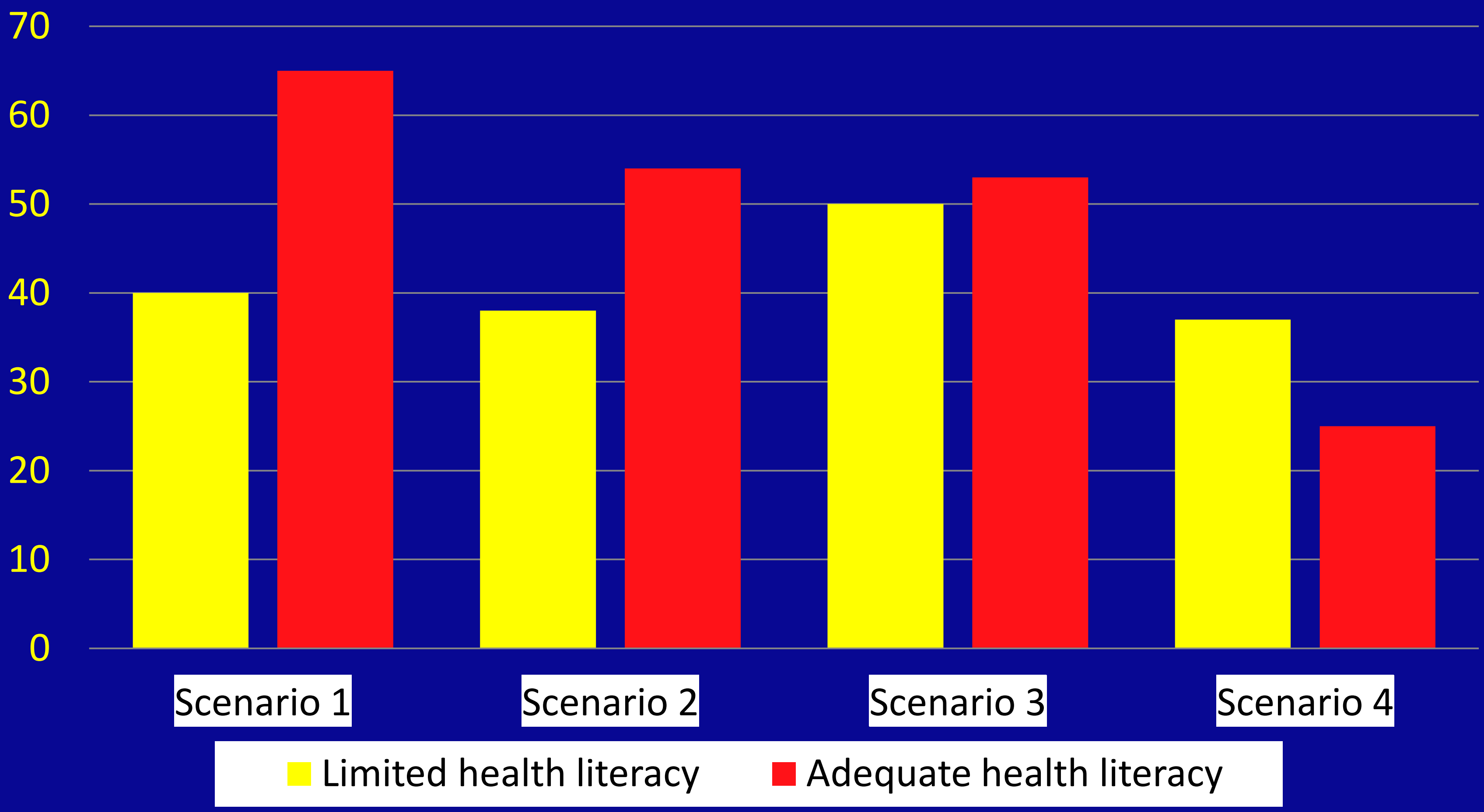
Characteristics	Limited health literacy	Adequate health literacy	p-value
Number	47	37	
Age, mean	61.8+/-7.3	57.1+/-9.4	0.01
Hispanic, %	23	43	0.05
Black, %	53	27	0.01
High school or less, %	34	18	0.08
Income < 30 K, %	40	31	0.19
Married, %	57	58	0.11

Prevalence= 56% (95% CI 46-66)

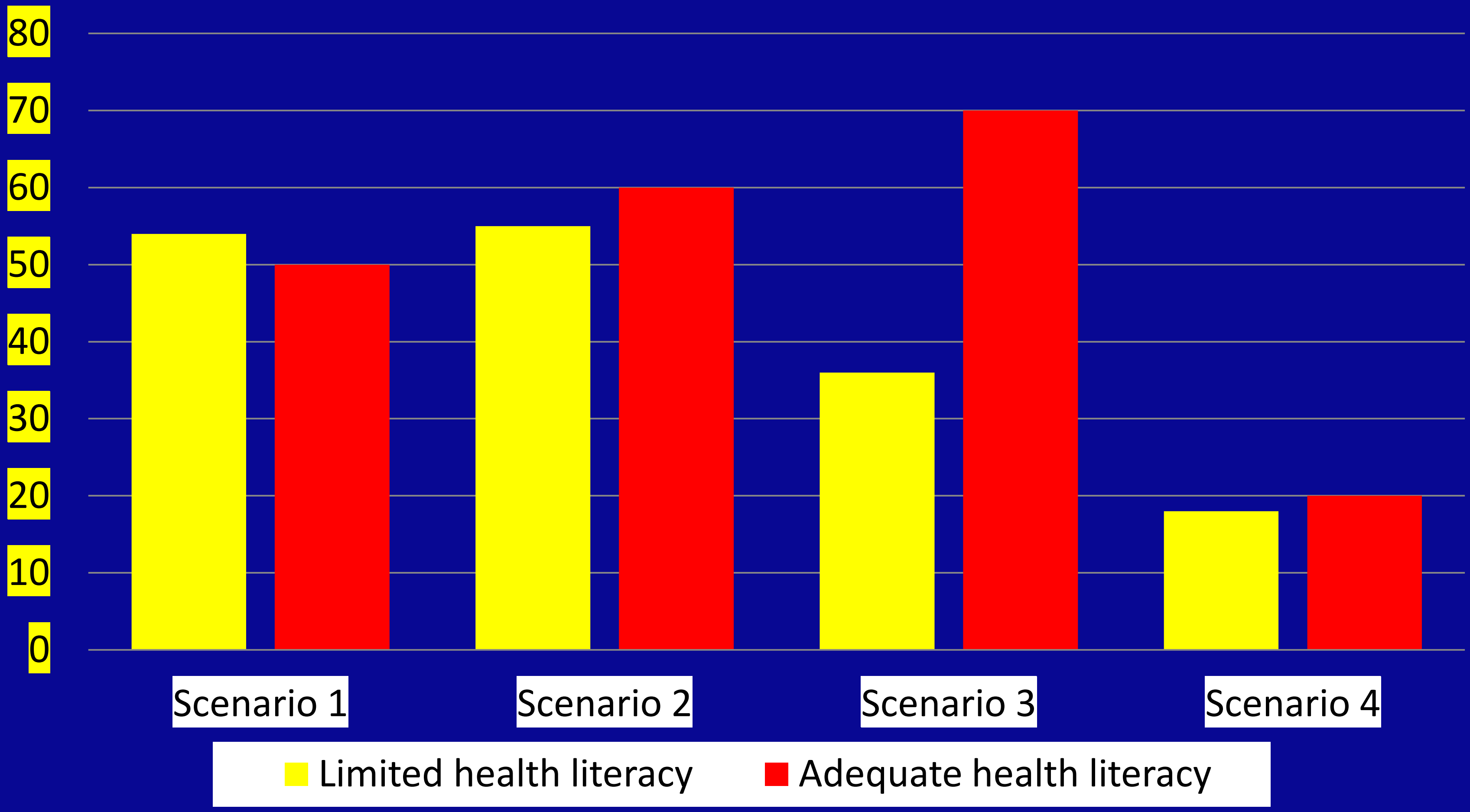
Baseline Characteristics

Characteristic	**Limited health literacy**	**Adequate health literacy**	**p-value**
Number	47	37	
Diabetes, %	37	33	0.77
Coronary artery disease, %	18	24	0.05
Systolic blood pressure, mean	134.9+/-14.6	132.7+/-16.4	0.53
HbA1c, mean	6.34+/-1.5	6.4+/-1.3	0.69
LDL, mean	109.4+/-31.3	112.4+/-41.2	0.69
BP meds, mean	2.04+/-0.81	1.51+/-0.76	<0.01
Pill burden, mean	7.7+/-4.4	6.83+/-3.7	0.33

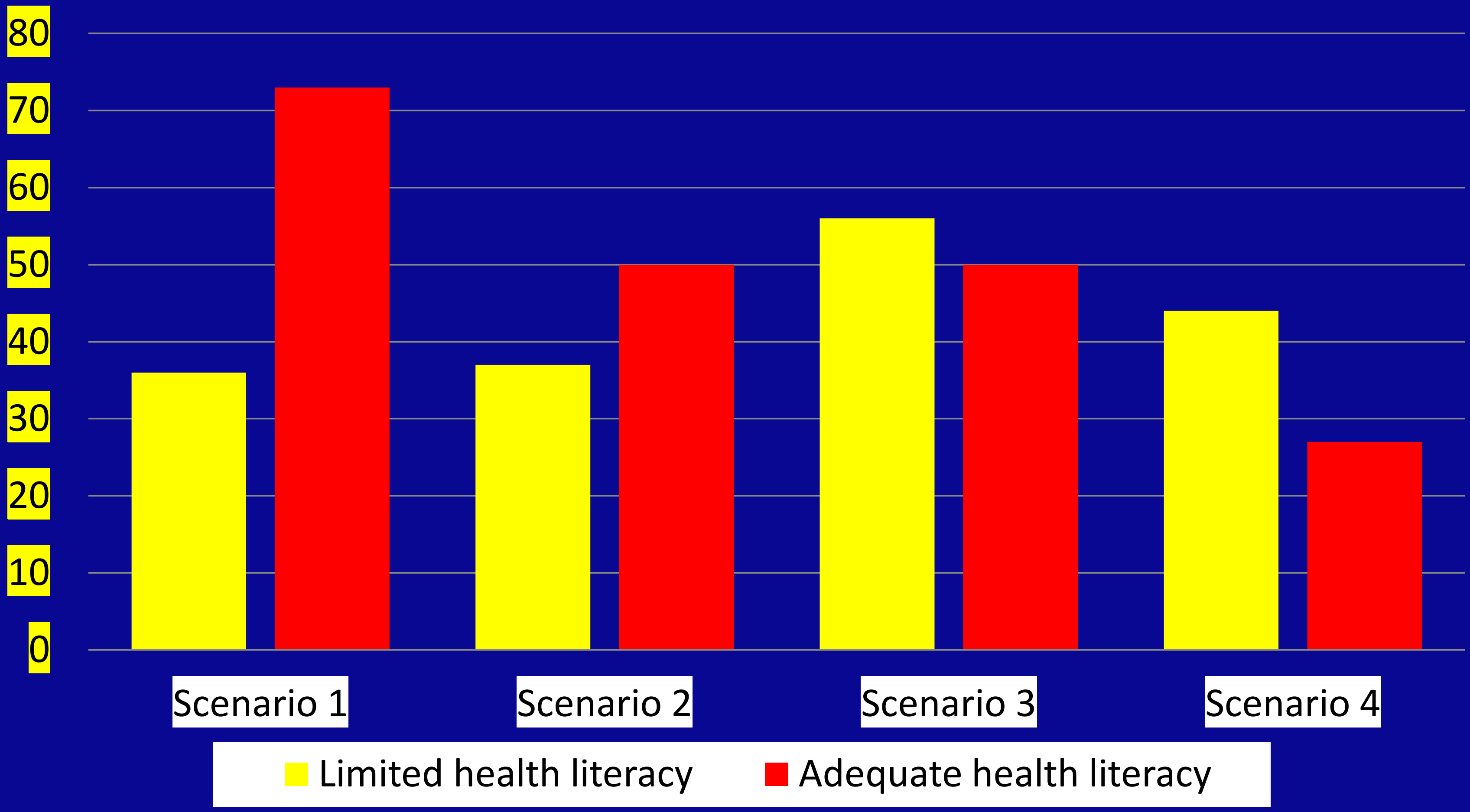
Willingness to Participate by Literacy



Non-minority Willingness to Participate by Literacy



Minority Willingness to Participate by Literacy



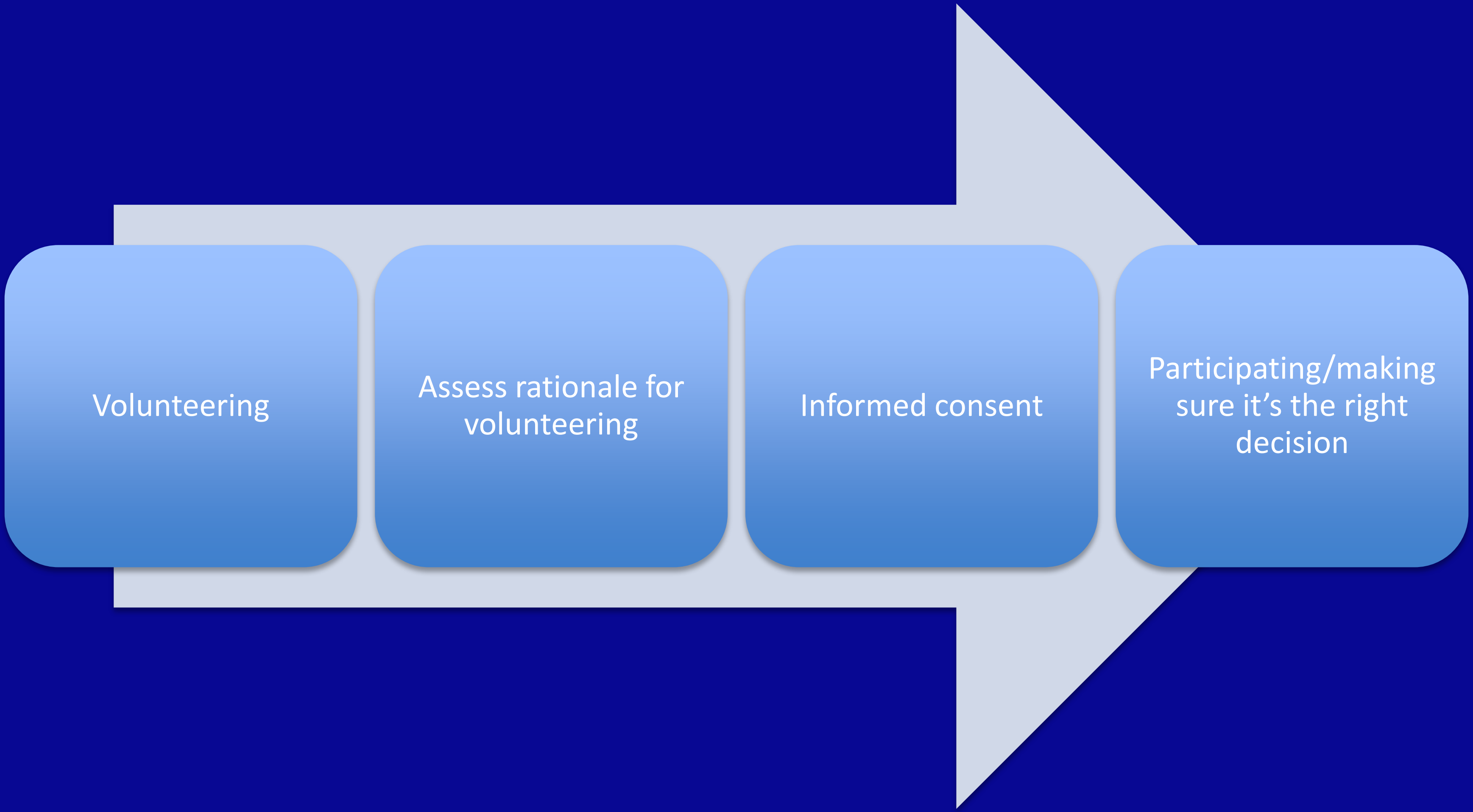
Predictors of willingness to participate

Predictor	Scenario 1	Scenario 2	Scenario 3	Scenario 4
Age	-0.02	-0.0009	-0.02	-0.02
Income	0.22	0.11	0.05	0.10
Education	0.29	0.16	0.11	0.09
HbA1c	0.26	0.25	0.10	-0.02
Systolic blood pressure	-0.016	-0.006	-0.0008	-0.007
Pill burden	0.07	0.05	0.06	0.03
Literacy	-1.10	-0.47	-0.06	0.32
Minority	-0.24	-0.49	0.34	0.53
Hispanic	0.83	0.22	0.40	0.29
Black	-0.75	-0.45	0.08	0.38

What is this data telling us?

- Prevalence of limited literacy in clinical research is high.
- Literacy predicts the complexity of the study to participate.
- Income, education, burden of disease, pill burden also predicts who participates.
- Hispanics tend to participate more than Blacks.

Participating in research



Volunteering

Assess rationale for volunteering

Informed consent

Participating/making sure it's the right decision

Informed Consent

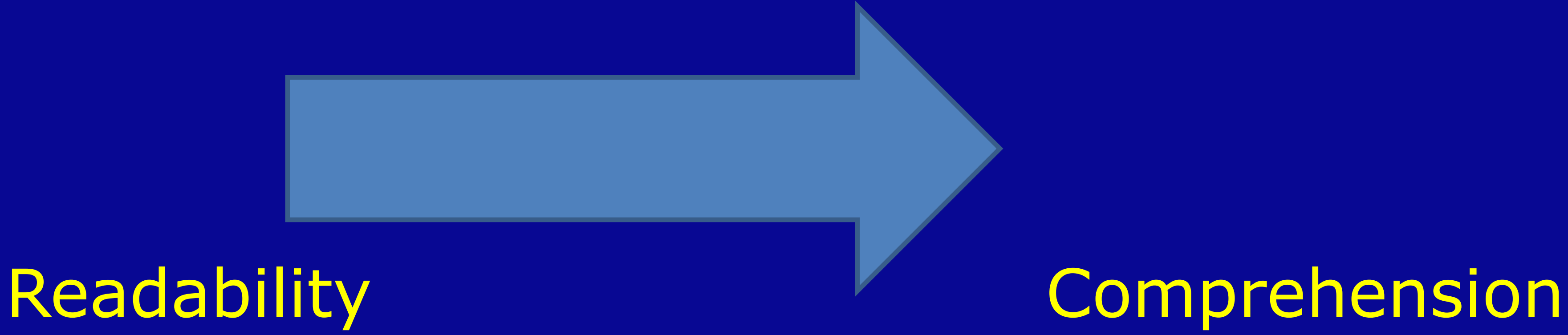
- What it’s not
  - A legal document
  - A risk management tool for an investigator or an institution
  - A formality

- What it is
  - A Process
  - Acknowledging respect for persons (Autonomy)

The informed consent process has 3 stages:

- Writing an understandable consent.
- Evaluation of threshold (eligibility to consent).
  - Decision making capacity
  - Voluntariness
- Providing information (explanation of consent).
  - Disclosure
  - Understanding
- Documenting authorization (signing the consent).
  - Informed consent document
  - HIPAA authorization

Concerns during the IC process



Readability

Comprehension

Readability and Liability

- **In the research setting readability has been used to negate the power of an executed ICD**
  - **In 1999, after 10 years of legal maneuvering, the University of South Florida and Tampa General Hospital agreed to a $3.8M settlement of a lawsuit brought on behalf of clinical trial subjects.**
  - **The plaintiffs maintained that the informed consent document for the study was written at a grade level that significantly exceeded the reading ability of the class – and this became a key issue in the settlement.**

IRB Readability

- IRBs do not meet their own readability standards.
- Recent OHRP oversight was associated with better readability.
-

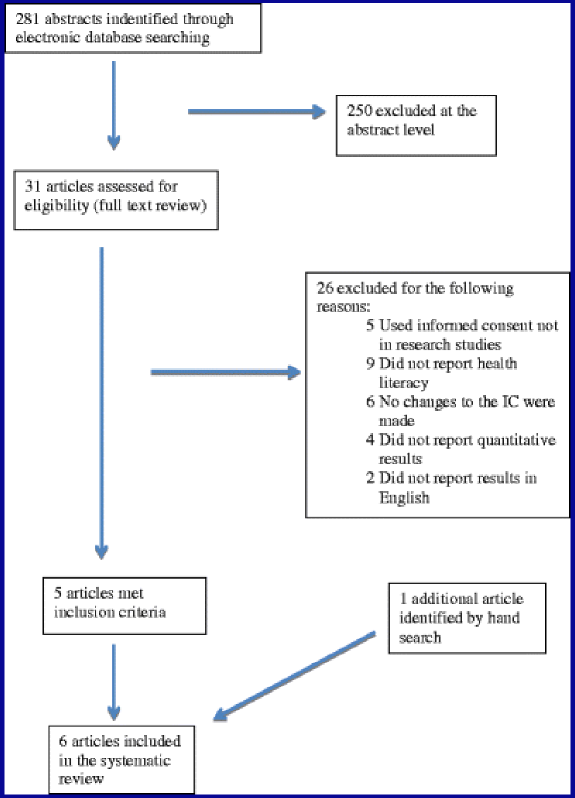
Paasche-Orlow. et al. 2002

Interventions to improve comprehension of informed consent

Intervention	Number of studies	Median comprehension intervention group	Median comprehension Control group
Multimedia	12	76(54-95)	71(51-85)
Enhanced consent forms	15	70(47-88)	68(30-81)
Extended discussion	5	68(63-93)	60(51-73)
Test feedback	5	79(52-97)	62(37-82)

Flory et al. JAMA. 2004

Literature review: How well do interventions to improve informed consent in low literacy.



281 abstracts indentified through electronic database searching

250 excluded at the abstract level

31 articles assessed for eligibility (full text review)

26 excluded for the following reasons:

- 5 Used informed consent not in research studies
- 9 Did not report health literacy
- 6 No changes to the IC were made
- 4 Did not report quantitative results
- 2 Did not report results in English

5 articles met inclusion criteria

1 additional article identified by hand search

6 articles included in the systematic review

Tamariz et al. JGIM. 2012

Description of the studies

Author, year	Study design	Scenario	Sample size	Measure of health literacy	Measurement of comprehension
Bickmore, 2009	Randomized	Simulated	29	REALM	BICEP
Kripalani, 2008	Nonrandom	Real	408	REALM	Recall
Sudore, 2006	Nonrandom	Real	204	TOHFLA	Recall
Young, 1990	Nonrandom	Real	666	Educational level	NR
Davis, 1998	Nonrandom	Simulated	183	REALM	Non-validated questionaire
Chong, 2004	Nonrandom	Simulated	190	Educational level	Non-validated questionaire

Populations

Source	Population	Age	%Minorities	%Female	% of participants with inadequate health literacy
Bickmore, 2009	Volunteers	60	NR	66	45
Kripalani, 2008	CAD patients	64	90	55	40
Sudore, 2006	Vulnerable patients	61	55	53	40
Young, 1990	Volunteers	18-49			38
Davis, 1998	Oncology patients	48	56	44	73
Chong, 2004	Psychiatric patients	NR	18	36	17

Comprehension

	Type of consent	Intervention	% Comprehension score
Bickmore, 2009	Genetic repository	Computer agent Human interaction Self-evaluation	25 30 26
Kripalani, 2008	Cardiovascular medication adherence trial	Teach back method	31
Sudore, 2006	Advanced directive study	Teach to goal	33
Young, 1990	Consumer preference	Changing IC to 6th grade level	13
Davis, 1998	Cancer study	Cancer patient input with a 5th grade level IC with 12th grade	45 43
Chong, 2004	Schizophrenia treatment consent	IC followed by educational module	17

What do we do now?

- The prevalence of low health literacy in research studies is high.
- Health literacy plays an important role in volunteering and IC comprehension.
- No good interventions to improve IC comprehension.

Respondents' Reports about Parent Study IC Process

- 96.5% received "just right" amount of information
- 99.3% remember signing consent form
- 99.8% "felt no pressure to consent"
- 98.4% "made a good decision to participate"
- 92.8% "completely satisfied with the IC process"

Taking a Deeper Look

- Verbatim responses to selected items
  - What is the primary purpose of the [parent study]?
  - What are the benefits to you of participating in [parent study]?
  - When can you stop participating in the [parent study]?
- Coding developed and refined during BICEP-1

“What is the primary purpose of [parent study]?” (n=191)

Code	Percent
Addresses a research question?	89
Directed at an outcome to ultimately benefit others?	31
Directed at an outcome to ultimately benefit self?	6
Other?	2

“When can you stop participating in the [Parent Study]”

Code for clear appreciation of voluntariness	
Yes	55
No	45

Confirmation of Comprehension

- Shift goal of RA
- Shift culture of research recruitment
- Provide opportunity to monitor
- Only recruit subjects who understand
- Helps shift from form to process
- Provide opportunity to revise process

Teach-Back: Part 1

- Start with phrases such as:
    - “I want to make sure we have the same understanding about this research.”
    - “It’s my job to explain things clearly. To make sure I did this I would like to hear your understanding of the research project.”

Teach-Back: Part 2

- Make sure that the potential research subject has understood all the important elements of the study. Allow the potential research subject to consult the document when answering the questions.
- <u>The purpose is to check comprehension, not memory</u>.
- Listen for simple parroting; if a potential subject uses technical terms ask them to explain further.

Teach-Back: Part 2

Ask open-ended questions such as:

- **Goal of the Research and Protocol**

"Tell me in your own words about the goal of this research and what will happen to you if you agree to be in this study."

- **Benefits and Compensation**

"What do you expect to gain by taking part in this research?"

- **Risks**

"What risks would you be taking if you joined this study?"

- **Voluntariness**

"Will anything happen to you if you refuse to be in this study?"

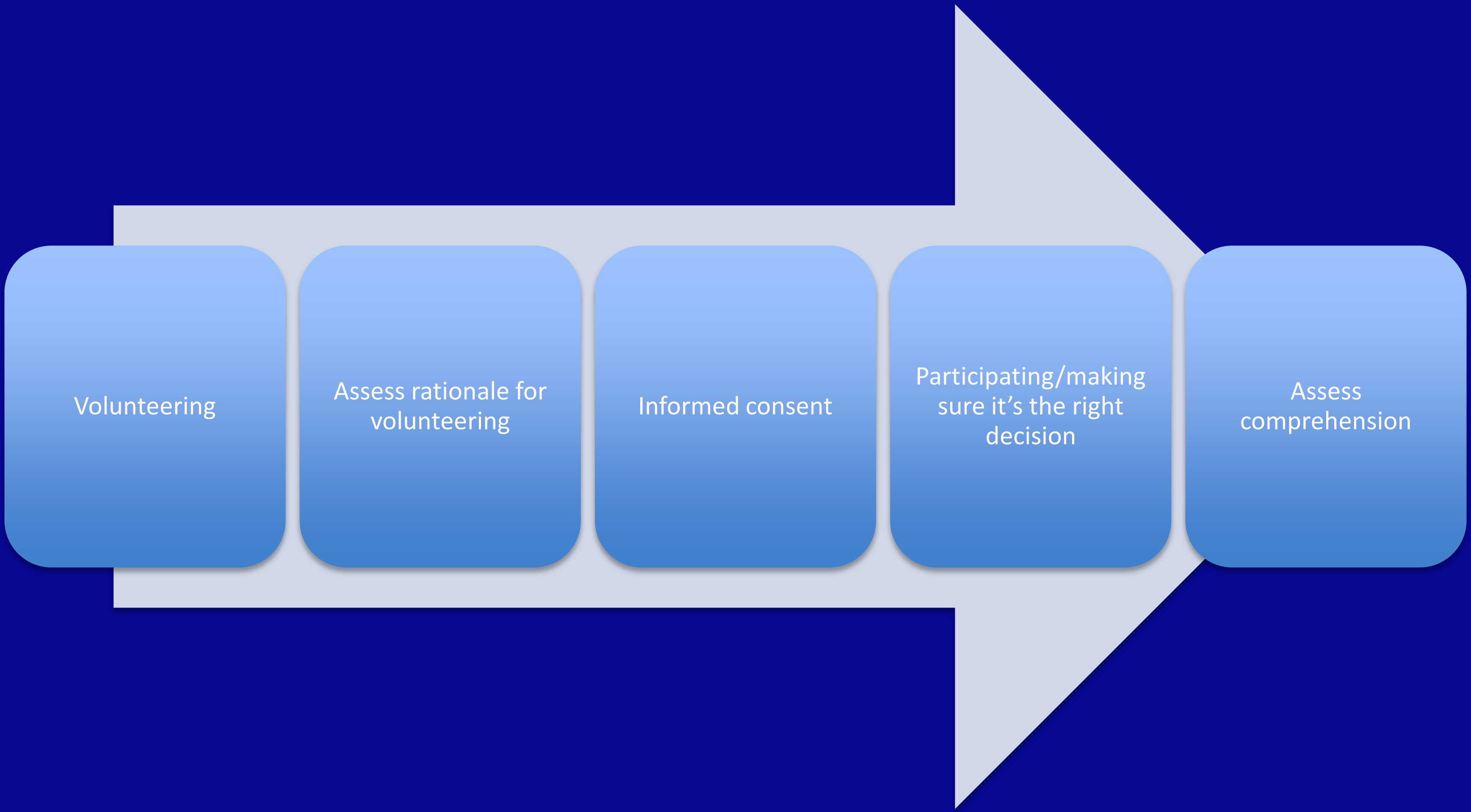
Teach-Back: Part 2

- **Discontinuing Participation**
- "What should you do if you agree to be in the study but later change your mind?"
- "What will happen to information already gathered if you change your mind?"
- **Privacy**
- "Who will be able to see the information you give us?"
- **Contact Information**
- "What should you do if you have any questions or concerns about this study?"

Teach-Back: Part 3

- Correct any misinformation until potential research subjects indicate that they have understood by correctly answering all the questions.
- Make clear that the need to repeat is due to your failure to clearly convey the information rather than the “fault” of the potential subject.
- For example, you could say, “Let’s talk about the purpose of the study again because I think I have not explained the project clearly.”

Participating in research



Volunteering

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Assess comprehension

Good Practices of the Informed Consent Process

- Provide a copy of the informed consent 24-48 hours before IC is discussed.
- Discuss the consent in its entirety.
- Assure comprehension.
- Assure that all signatures and dates are completed.
- Provide a copy of the signed informed consent to the research participant.

Veterans Health Administration (VHA)

- Largest U.S. integrated health care system
- 162 VA hospitals, 137 nursing homes, 43 domiciliaries, and > 850 clinics
- VA Information Resource Center (VIReC)
- Corporate Franchise Data Center
  - Local, VISN, and National data sets

IRB office

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