

Beyond the Knife

# Updates on **Health Literacy** Research @ UAB

Daniel I. Chu MD FACS FASCRS

Associate Professor

Division of Gastrointestinal Surgery



@DChu80



dchu@uab.edu

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Knowledge that will change your world

- I **do not** have any relevant financial relationships with any commercial interest that pertains to the content of my presentation.

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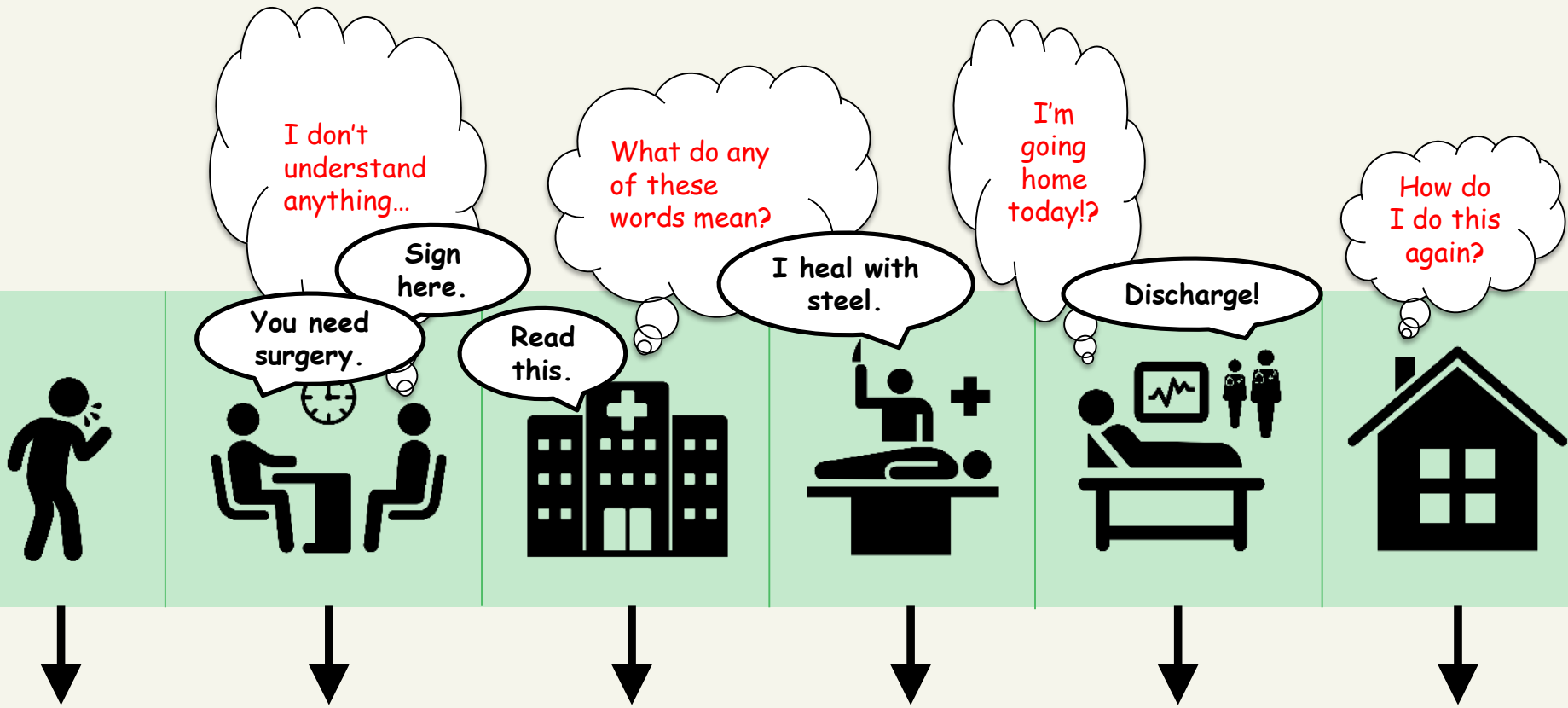
An aerial photograph of a winding asphalt road on a lush green hillside. The road curves through the landscape in a series of loops. A small red car is visible on one of the curves. Four white rectangular text boxes with black borders are overlaid on the image, each containing a number and a title. The boxes are positioned at the top, middle, lower middle, and bottom right of the frame. The text in the boxes is as follows:

1. **Intro** – **Current state** of health lit in surgery

2. **How** we got into health lit in surgery

3. **Findings** – What we've learned

4. **Future**

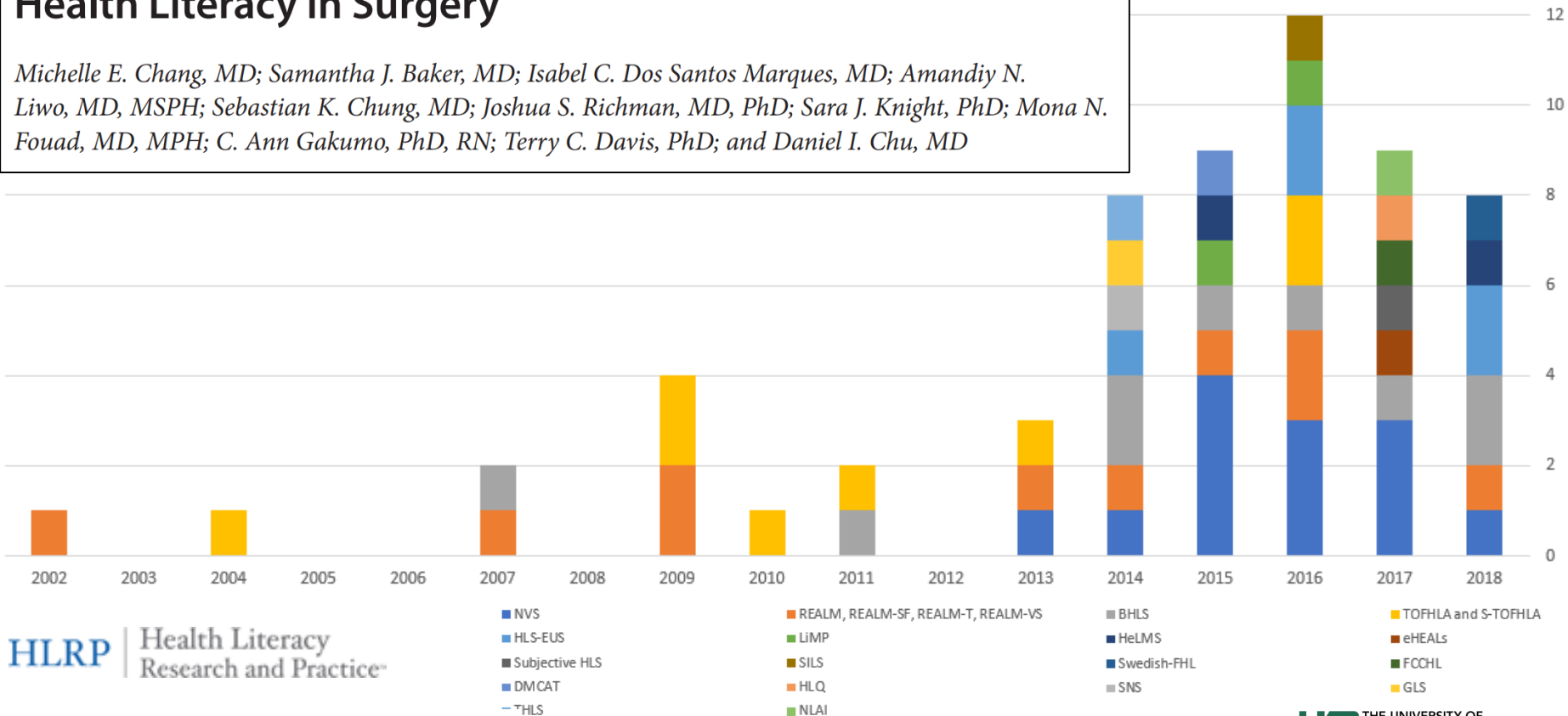


Patients must **obtain, process & understand** a lot of health info during the surgical journey → this requires **“health literacy”**

# Current state of **health literacy** research in surgery

## Health Literacy in Surgery

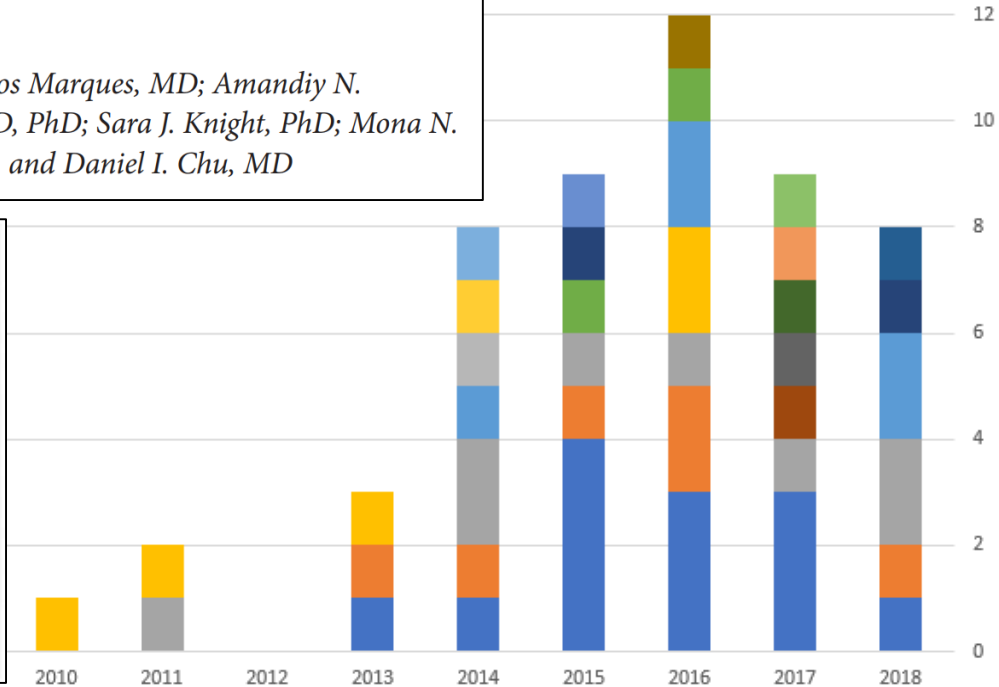
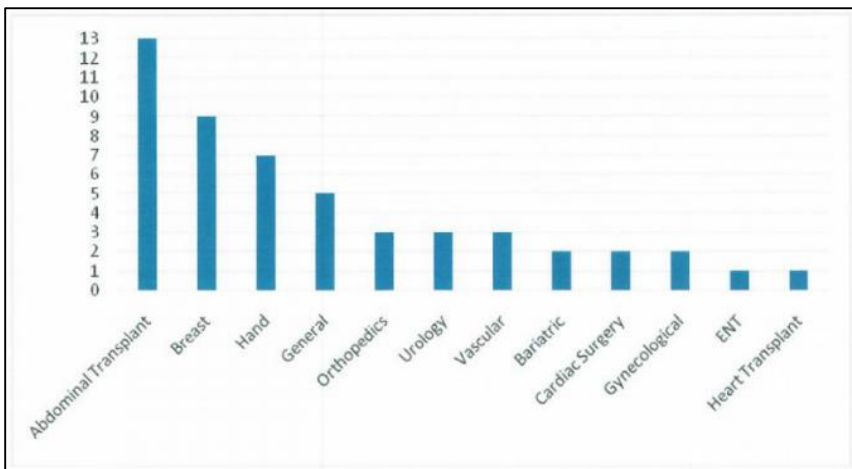
*Michelle E. Chang, MD; Samantha J. Baker, MD; Isabel C. Dos Santos Marques, MD; Amandiy N. Liwo, MD, MSPH; Sebastian K. Chung, MD; Joshua S. Richman, MD, PhD; Sara J. Knight, PhD; Mona N. Fouad, MD, MPH; C. Ann Gakumo, PhD, RN; Terry C. Davis, PhD; and Daniel I. Chu, MD*



# Current state of **health literacy** research in surgery

## Health Literacy in Surgery

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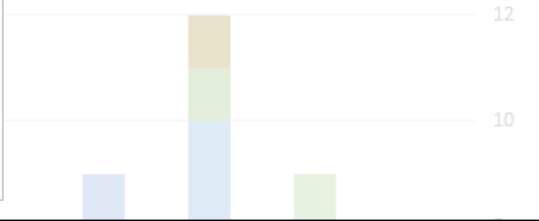
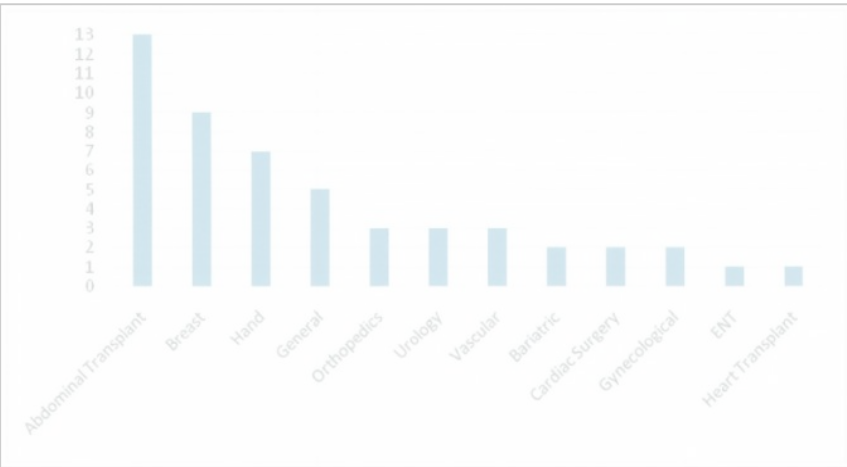


- NVS
- REALM, REALM-SF, REALM-T, REALM-VS
- BHLS
- TOFHLA and S-TOFHLA
- HLS-EUS
- LiMP
- HeLMS
- eHEALS
- Subjective HLS
- SILS
- Swedish-FHL
- FCCHL
- DMCAAT
- HLQ
- SNS
- GLS
- THLS
- NLAI

# Current state of **health literacy** research in surgery

## Health Literacy in Surgery

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- ↑ health literacy research in surgery
- **>30%** of surgical pts have low health lit
- Most focused on **identifying** low health lit
- Applicable in all specialties
- **Few studies** focused on **understanding** it
- **Few interventions** to address it

## Ten Attributes of Health Literate Health Care Organizations

**Cindy Brach, Debra Keller, Lyla M. Hernandez, Cynthia Baur, Ruth Parker, Benard Dreyer, Paul Schyve, Andrew J. Lemerise, and Dean Schillinger\***

June 2012

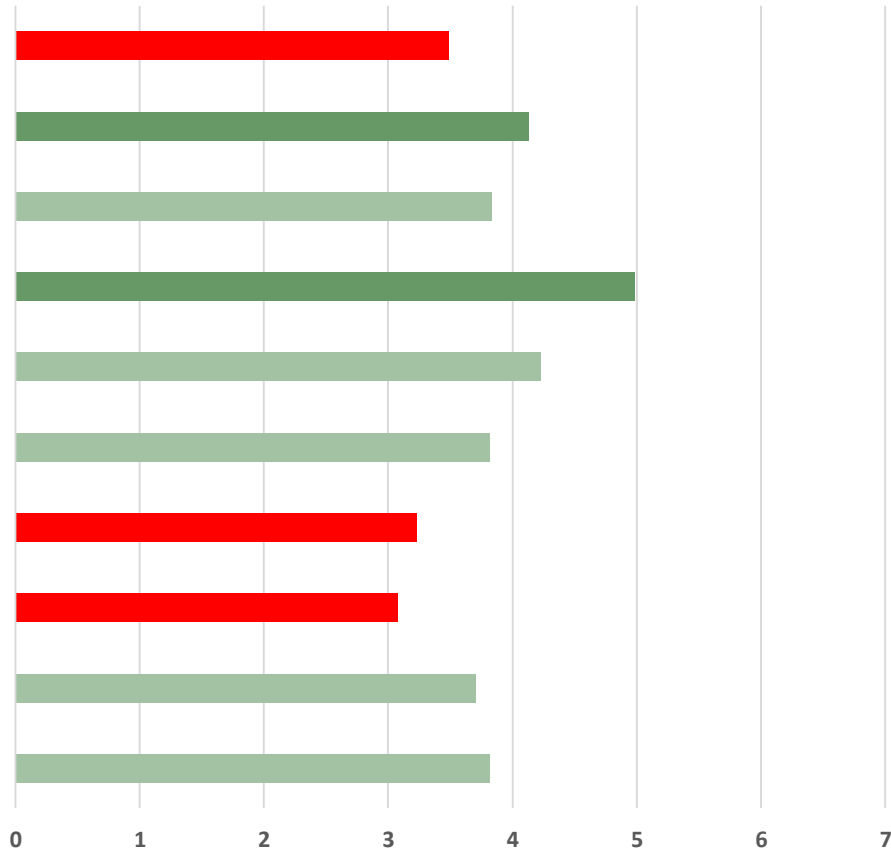
INSTITUTE OF MEDICINE  
*OF THE NATIONAL ACADEMIES*

**Advising the nation • Improving health**

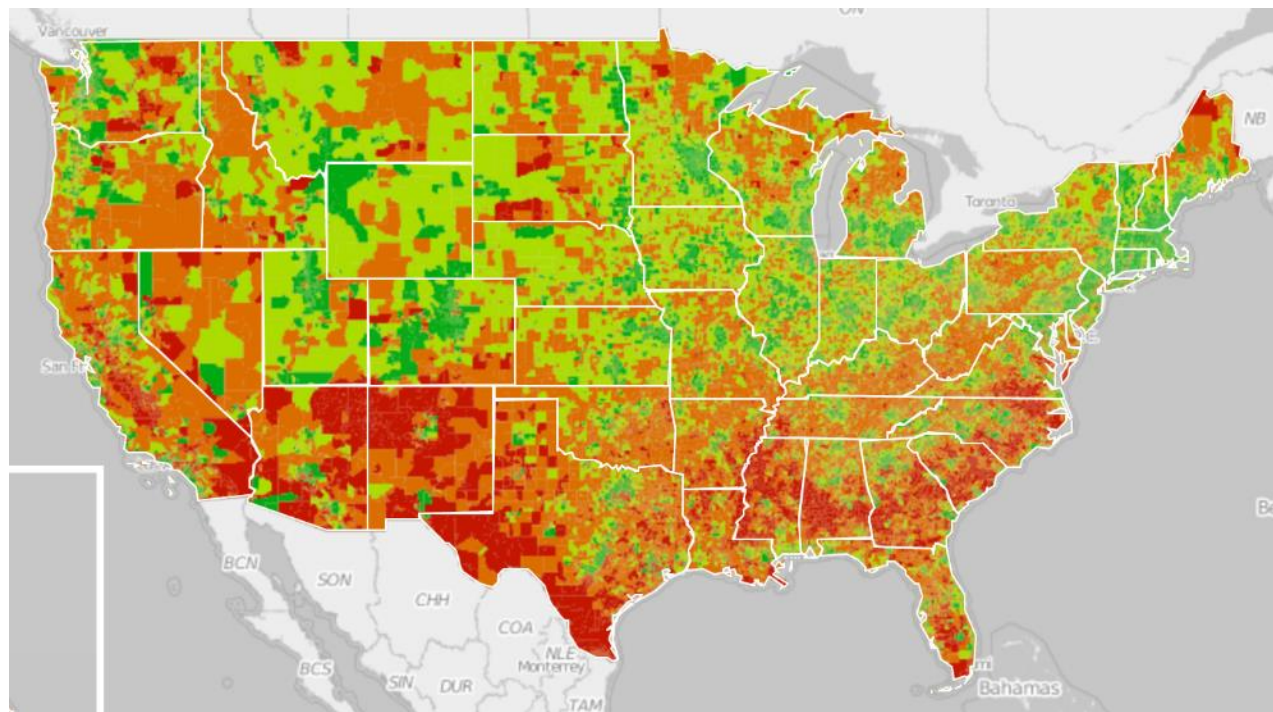
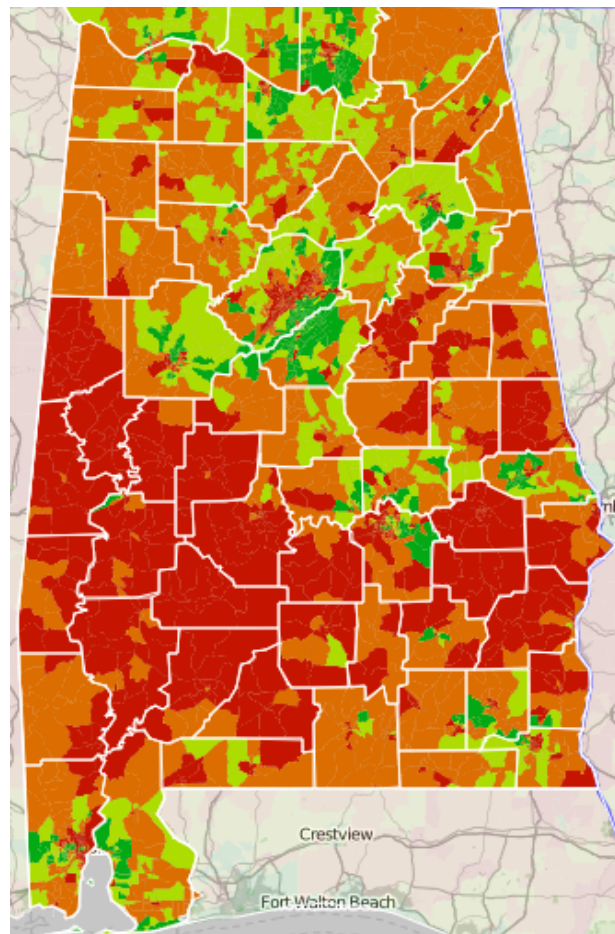


# Organizational assessment of health literacy | UAB

- Does your organization communicate openly and comprehensibly to patients in advance about the costs which they themselves have to pay for treatment...
- Is it ensured that the patients have truly understood everything, particularly in critical situations (e.g. medication, surgical consent), at your organization?
- Is information made available to different patients via different media at your organization (e.g. three-dimensional models, DVD, picture stories)?
- Are efforts made to ensure that patients can find their way at your organization without any problems (e.g. direction signs, information staff)?
- Are there communication standards at your organization which ensure that patients truly understand the necessary information (e.g. translators,...
- Is individualized health information used at your organization (e.g. different languages, print sizes, braille)?
- Is health information at your organization developed by involving patients?
- Are employees at your organization trained on the topic of health literacy?
- Is the topic of health literacy considered in quality management measures at your organization?
- Is the management at your organization explicitly dedicated to the subject of health literacy (e.g. mission statement, human resources planning)?

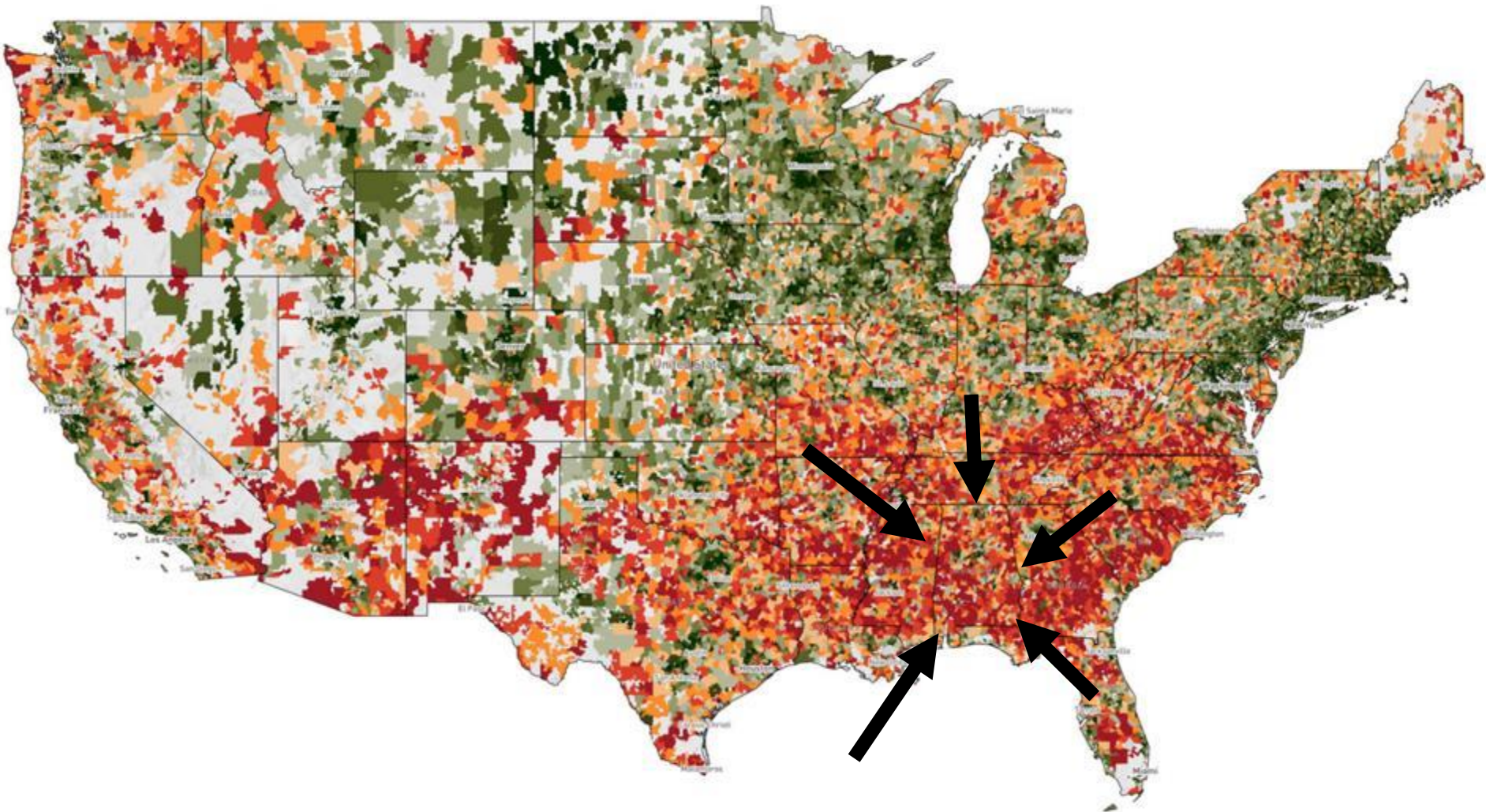


# National Assessment of **Adult Literacy** (2003 NAAL)



## Health Literacy Levels

- |   |  |
|---|--|
|  Proficient    |  Basic        |
|  Intermediate |  Below Basic |





### Highest ranked states

- #1 Vermont**
- #2 Massachusetts**
- #3 Hawaii**
- #4 Connecticut**
- #5 Utah**

### Lowest ranked states

- #46 Oklahoma**
- #47 Alabama** 
- #48 Arkansas**
- #49 Louisiana**
- #50 Mississippi**

# Alabama

OVERALL  
RANK:

47

Change: ▲ 1



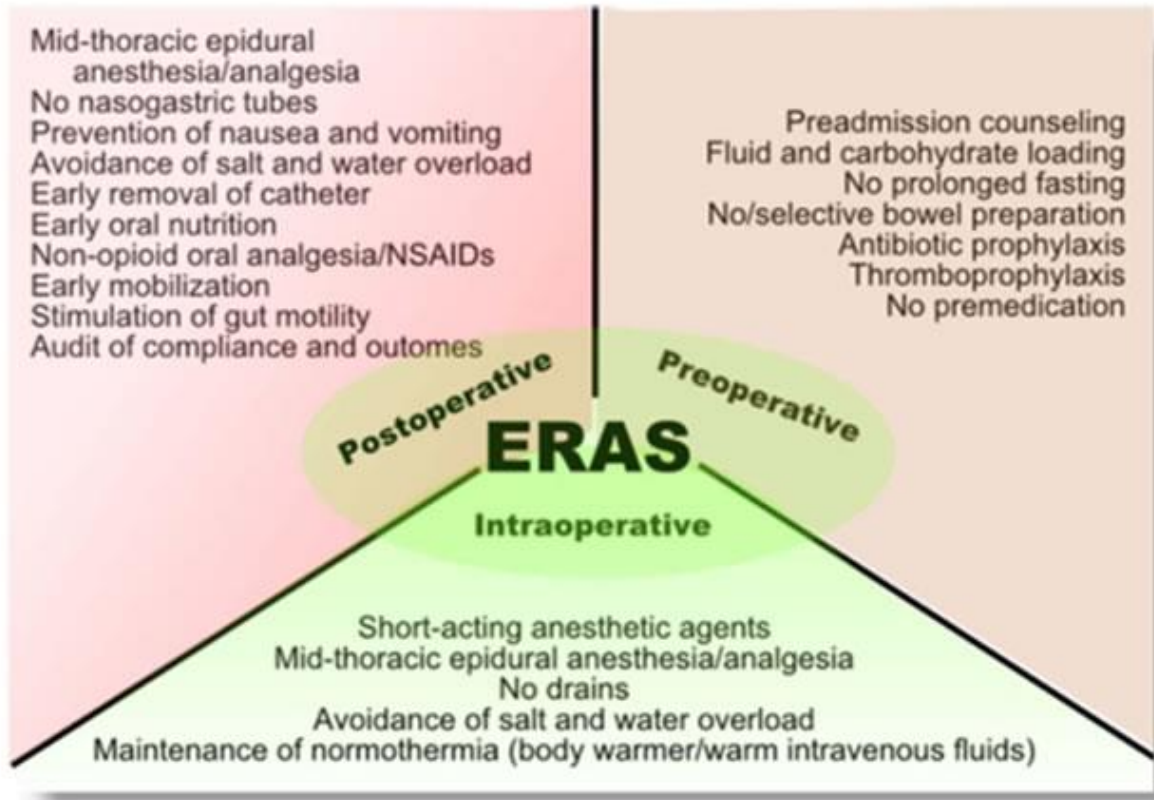
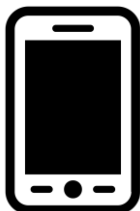
## Outcomes

Cancer Deaths (deaths per 100,000 population)	+	210.8	42
Cardiovascular Deaths (deaths per 100,000 population)	+	347.0	48
Diabetes (% of adults)	+	14.5	49
Disparity in Health Status (% difference by high school education)	++	28.0	33
Frequent Mental Distress (% of adults)	+	15.6	45
Frequent Physical Distress (% of adults)	+	15.1	44
Infant Mortality (deaths per 1,000 live births)	+	8.2	49
Premature Death (years lost before age 75 per 100,000 population)	+	10,435	48
<b>All Outcomes*</b>	+	-0.383	50



**What can we do about disparities in surgery?**

# Enhanced Recovery After Surgery (ERAS)



# ERAS Colorectal version 4.0

## Guidelines for Perioperative Care in Elective Colorectal Surgery: Enhanced Recovery After Surgery (ERAS®) Society Recommendations: 2018

### Pre-admission

- 1. INFORMATION
  - 2. OPTIMISATION
  - 3. PREHABILITATION
  - 4. NUTRITION
  - 5. ANAEMIA SCREENING
- LOW      MODERATE      HIGH

### Intra-Operative

- 12. STANDARD ANAESTHETIC PROTOCOL
  - 13. FLUID NORMOVOLAEMIA
  - 14. NORMOTHERMIA
  - 15. MINIMAL INVASIVE SURGERY
  - 16. NO DRAINAGE
- LOW      MODERATE      HIGH

### Pre-Operative

- 6. PREVENTION OF NAUSEA AND VOMITING
  - 7. SELECTIVE PREMEDICATION
  - 8. PROPHYLACTIC ANTIBIOTICS
  - 9. NO BOWEL PREPARATION
  - 10. MAINTAINING EUVOLAEMIA
  - 11. NO FASTING AND CARBOHYDRATE DRINK
- LOW      MODERATE      HIGH

### Post-Operative

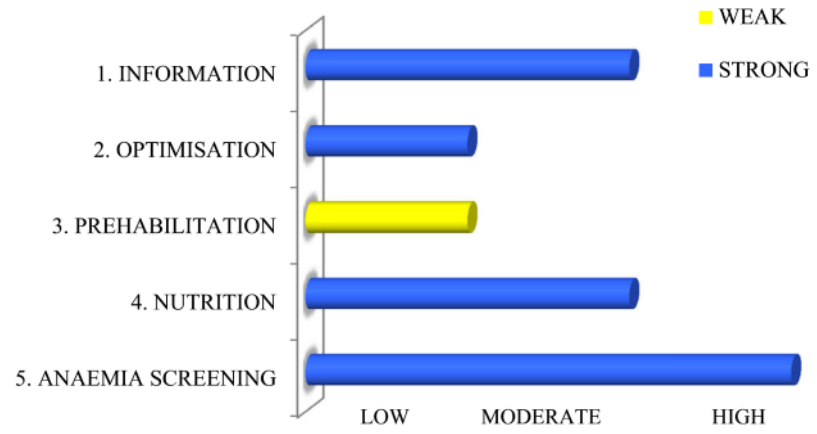
- 17. NO GASTRIC DRAINAGE
  - 18. MULTIMODAL ANALGESIA
  - 19. TROMBOPROPHYLAXIS
  - 20. FLUID NORMOVOLAEMIA
  - 21. URINARY CATH 1-3 D
  - 22. PREVENT HYPERGLYCAEMIA
  - 23. POSTOPERATIVE NUTRITION
  - 24. EARLY MOBILISATION
- LOW      MODERATE      HIGH



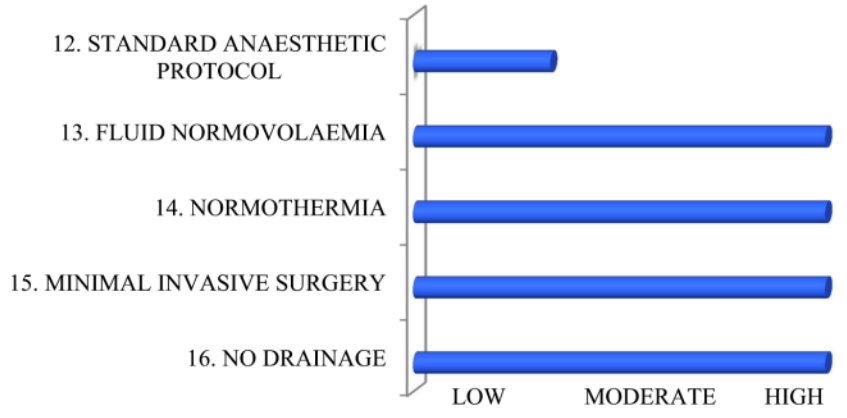
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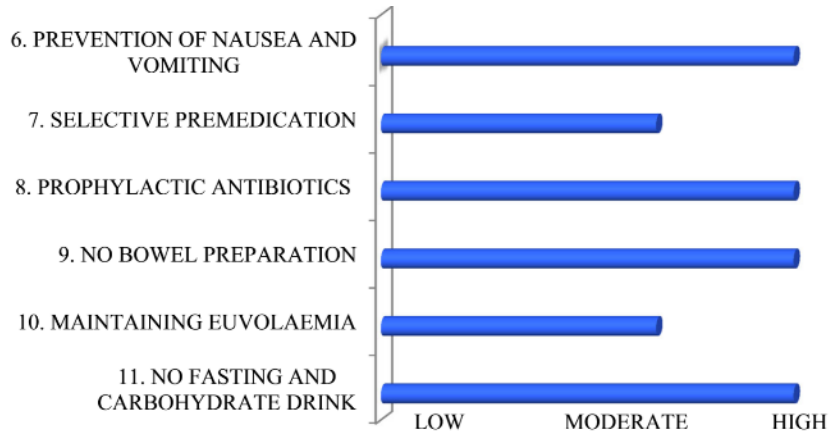
### Pre-admission



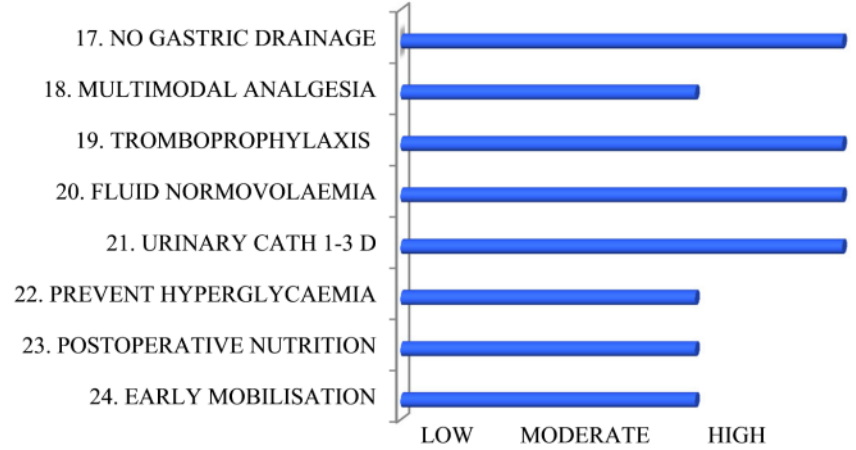
### Intra-Operative



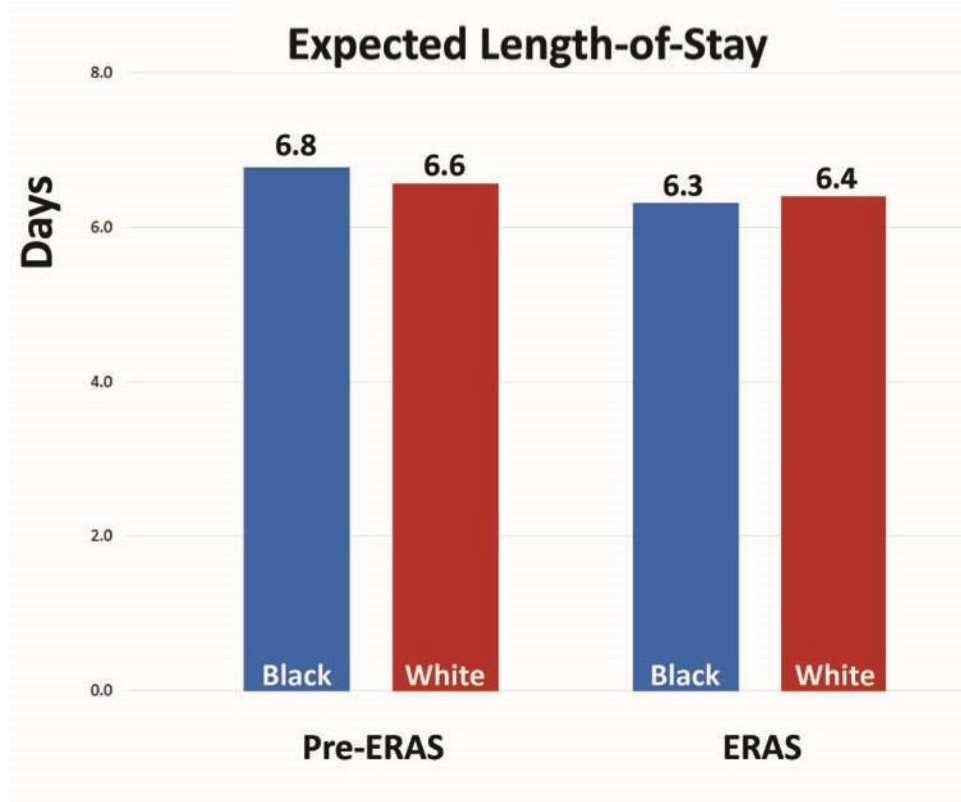
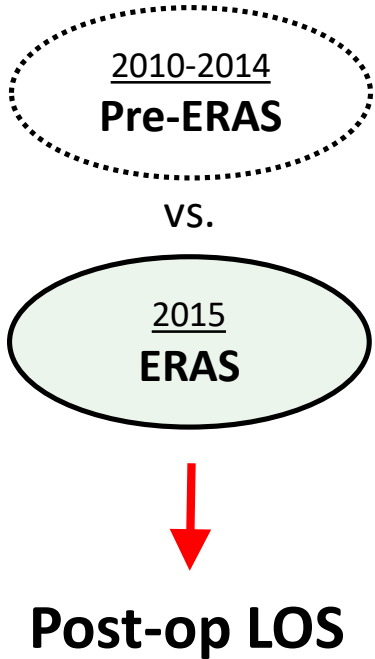
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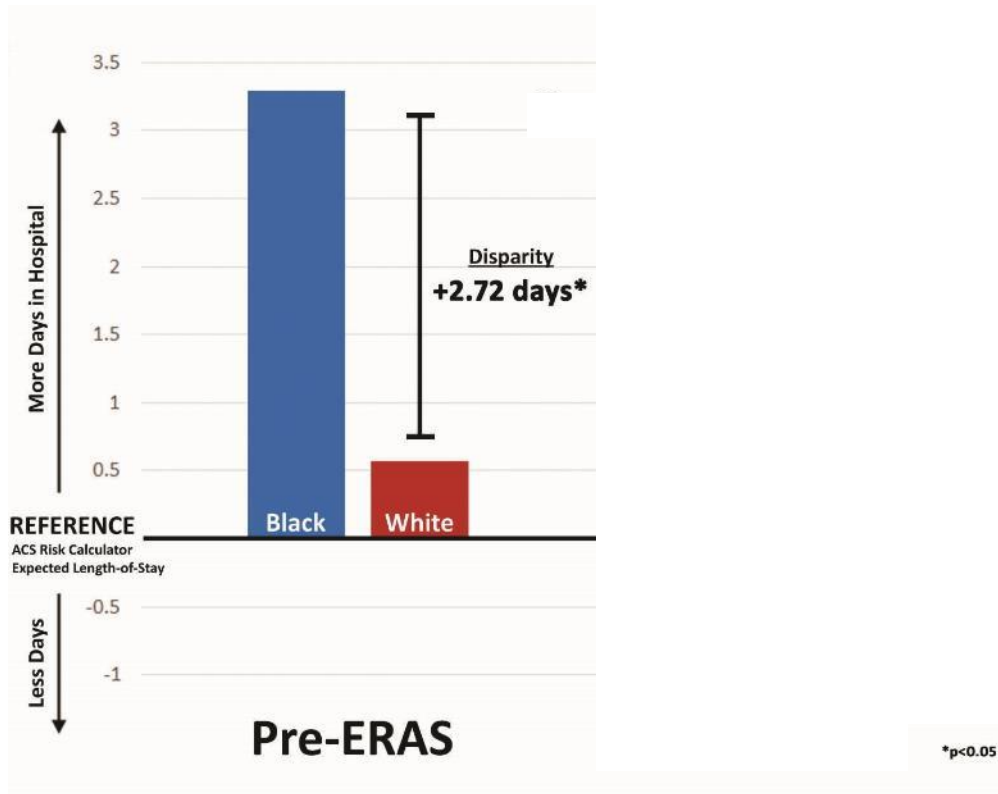
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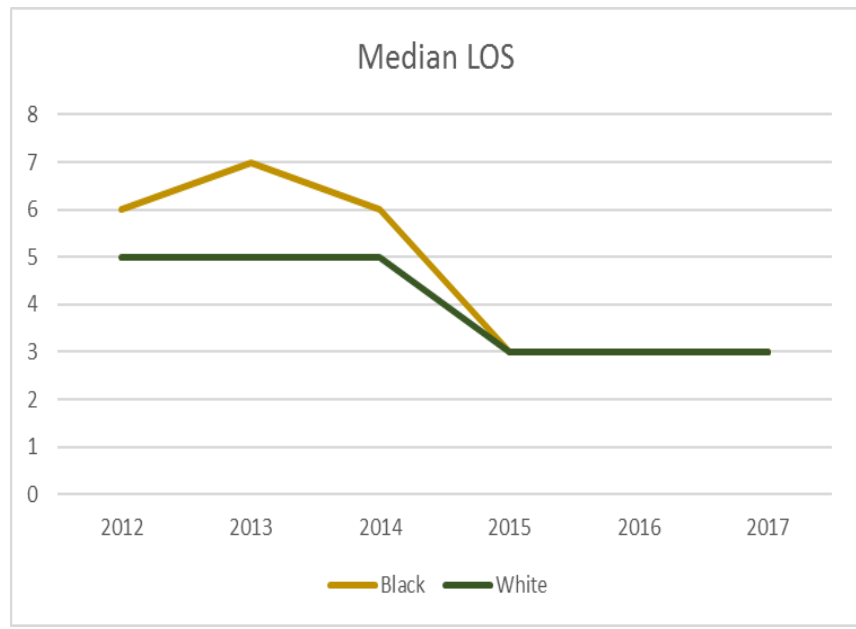
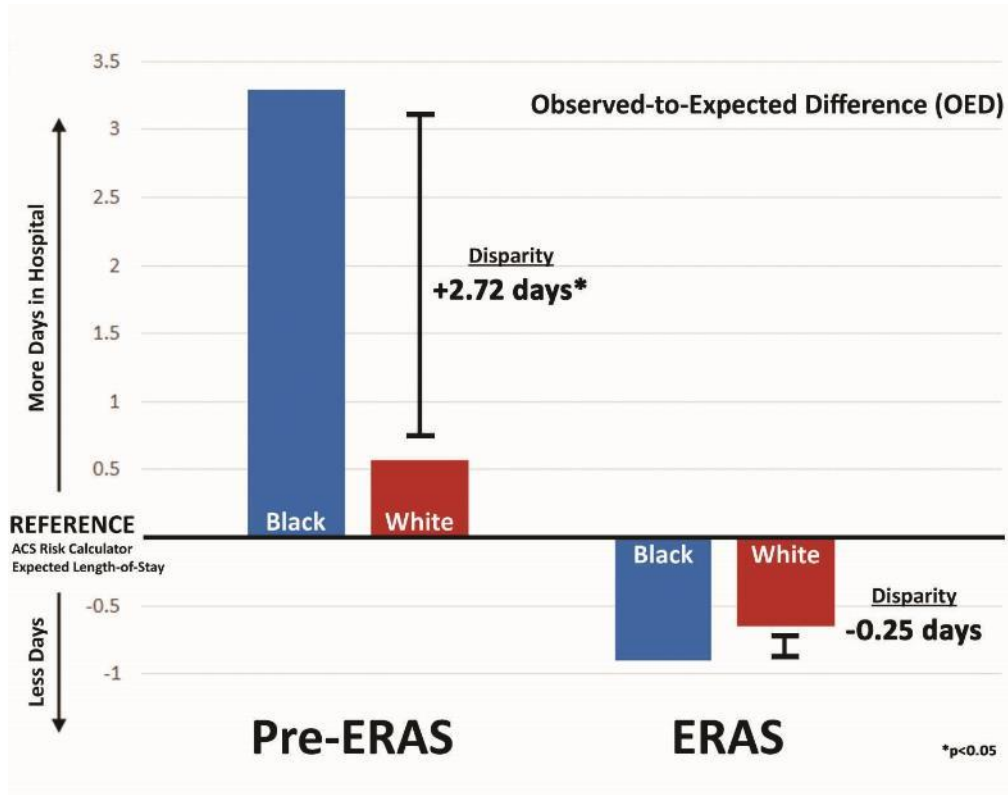
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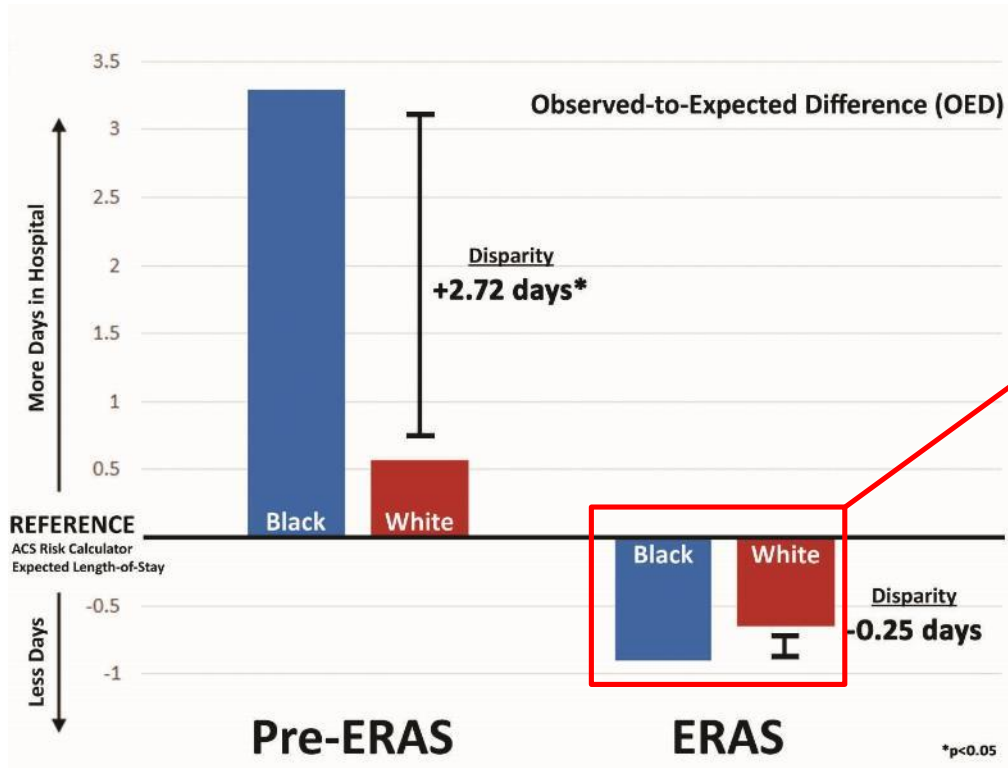
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1. LOS disparities eliminated with ERAS
2. We weren't doing something before...

**What do ERAS patients experience?**



Interview Guides

47 patients  
6 focus groups

Analysis  
Used Grounded Theory  
Identify Themes  
Achieve Thematic Saturation  
Develop Better Understanding  
Informed Next Steps

White  
n=23

Black  
n=24

# Most Common Finding



## #1. Patients desired and valued information

African-Americans described experiences of:

- Having **no expectations** about surgery
- Being provided **inconsistent** information
- Needing more info on **diet/exercise**
- Relying on **family** as info sources



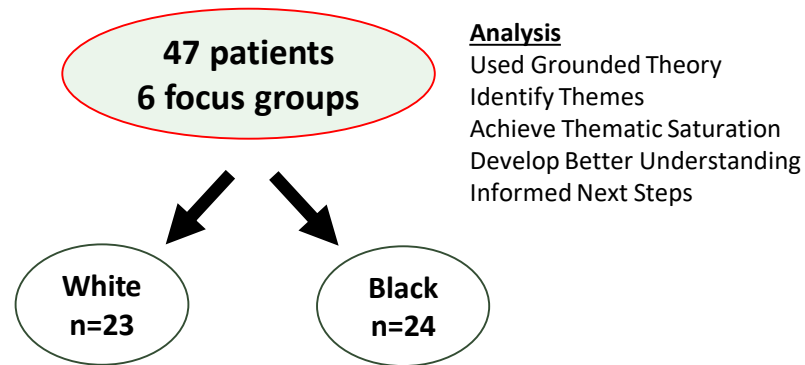
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## Understanding the Surgical Experience for African-Americans and Caucasians With Enhanced Recovery

Isabel C. Dos Santos Marques, MD,<sup>a</sup> Ivan I. Herbey, MD,<sup>a</sup>  
Lauren M. Theiss, MD,<sup>a</sup> Robert H. Hollis, MD, MSPH,<sup>a</sup>  
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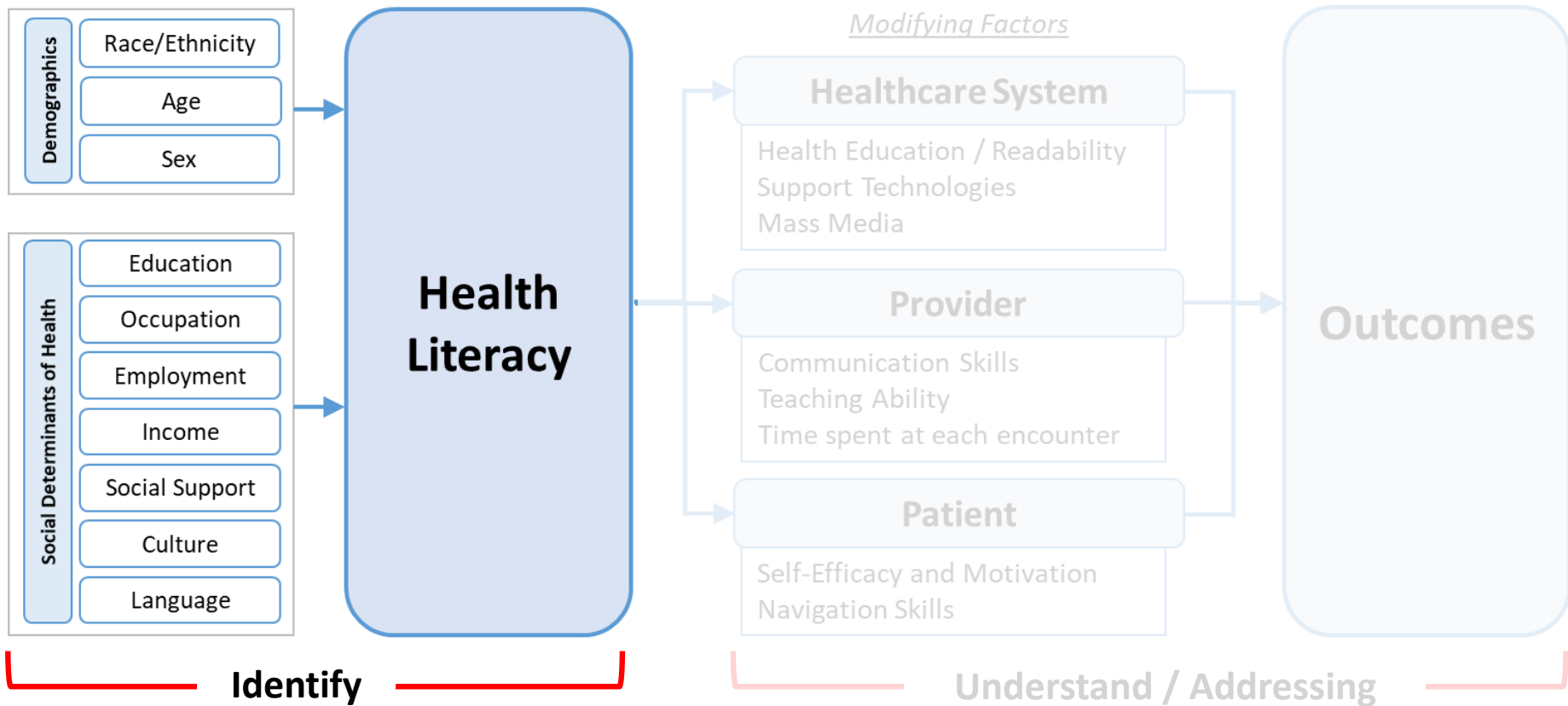


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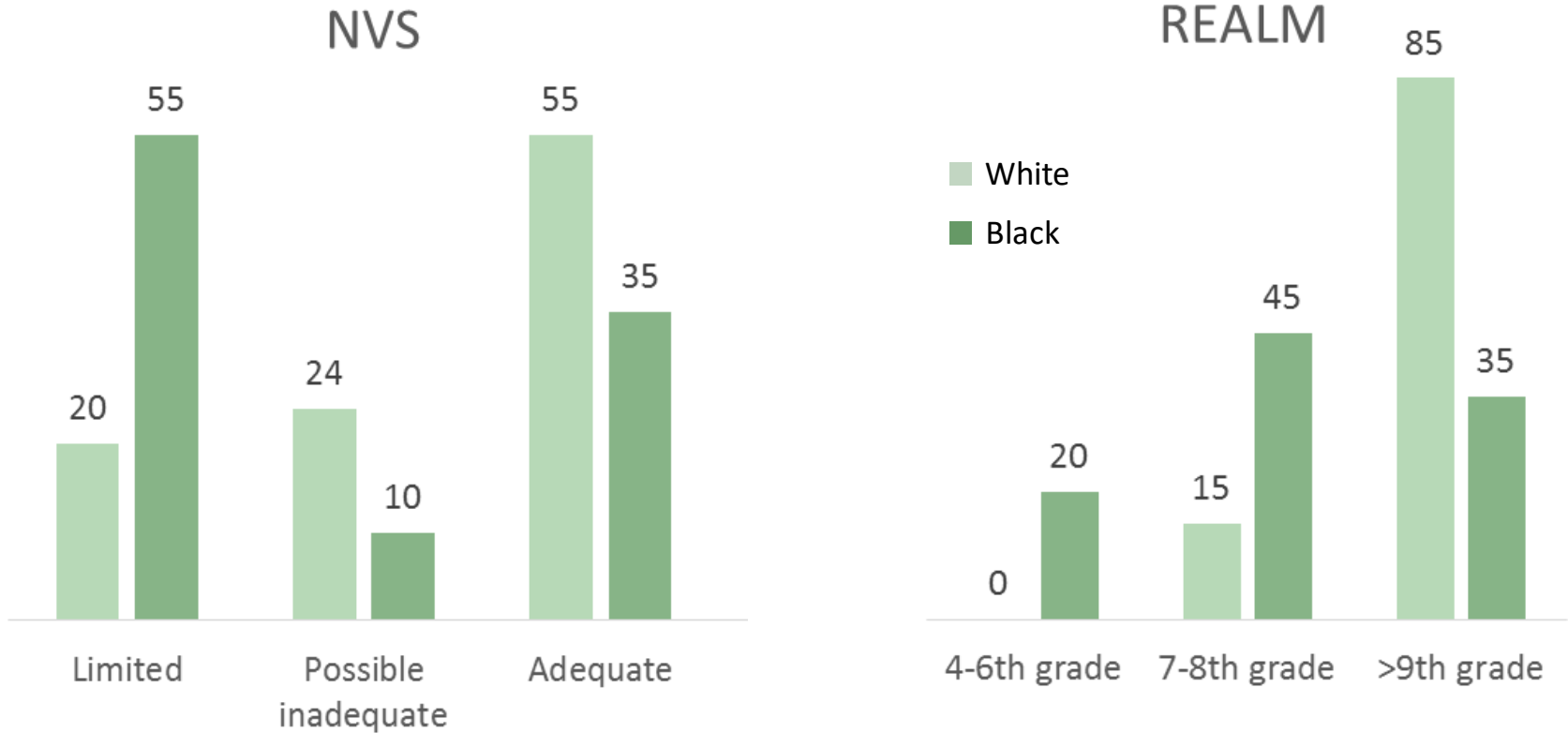
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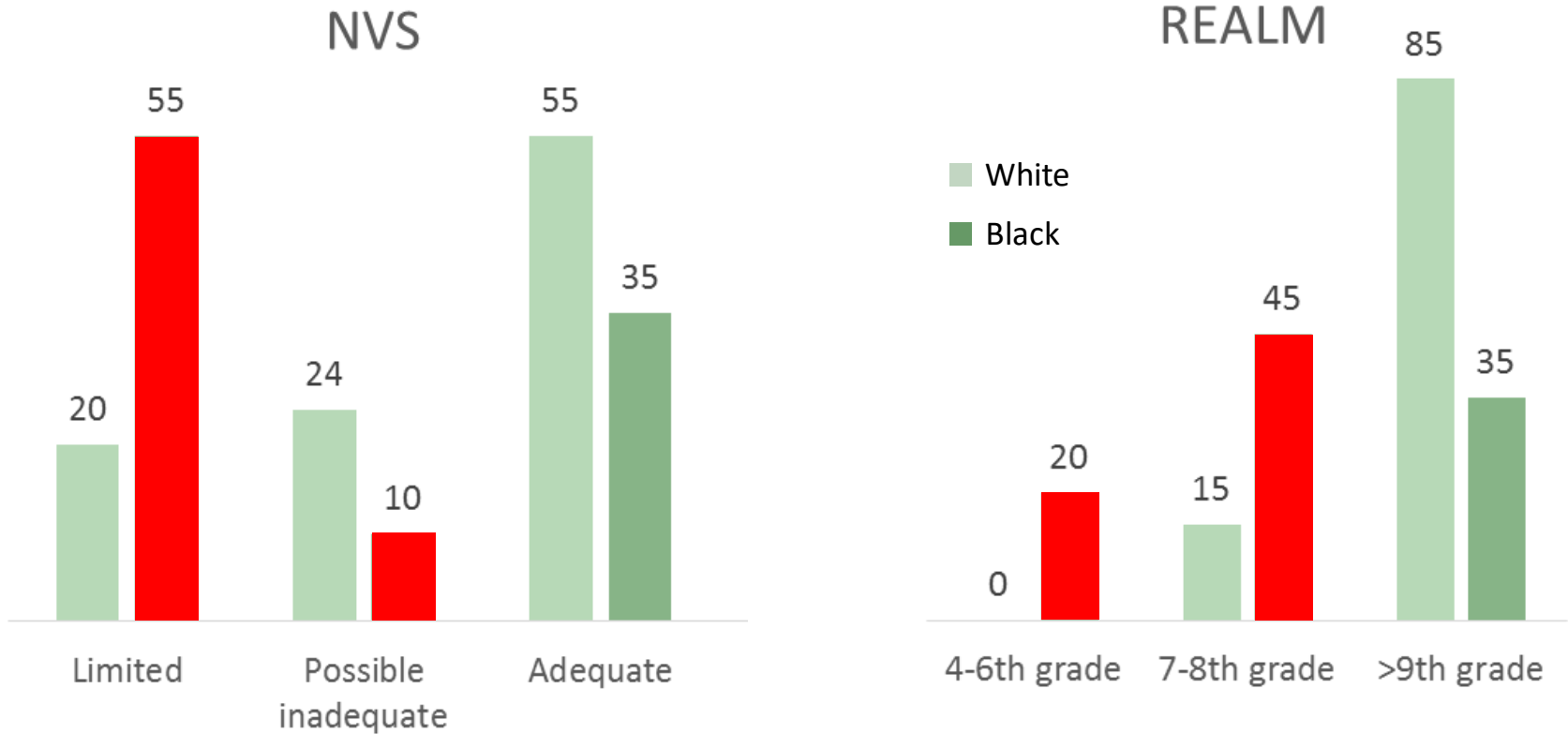


# Framing an approach to **health literacy** in surgery...





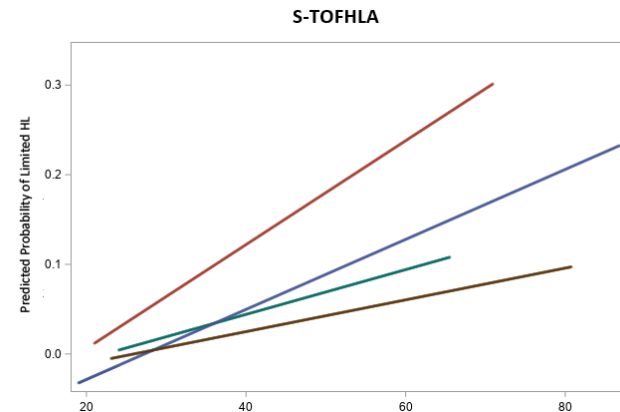
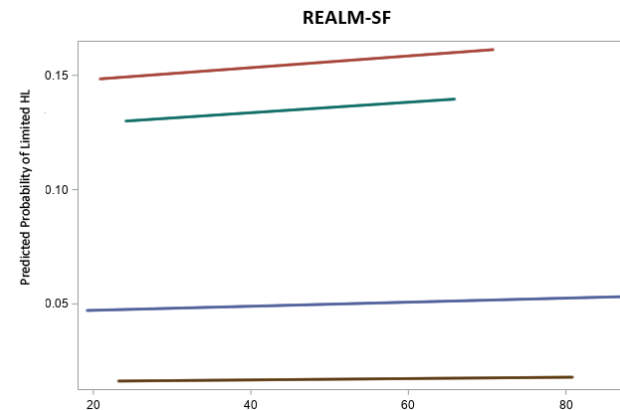
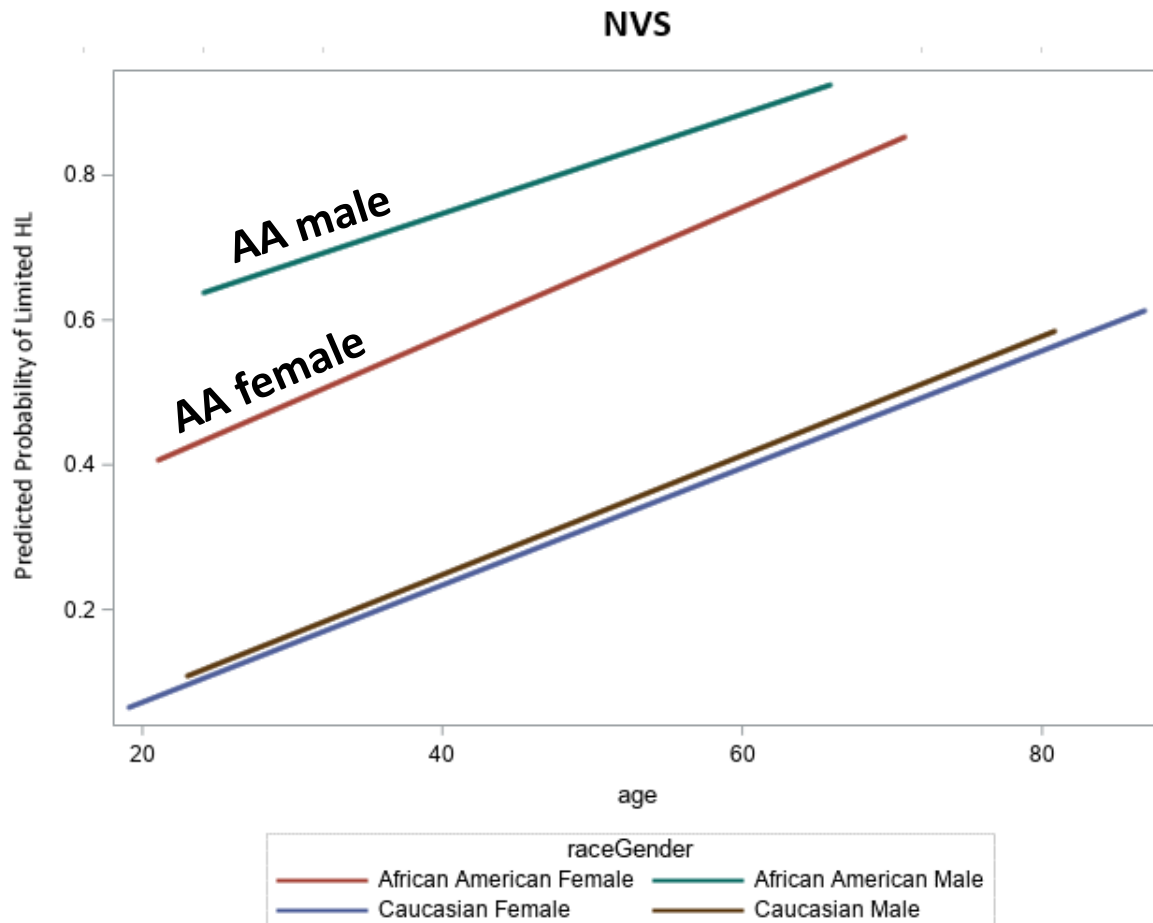


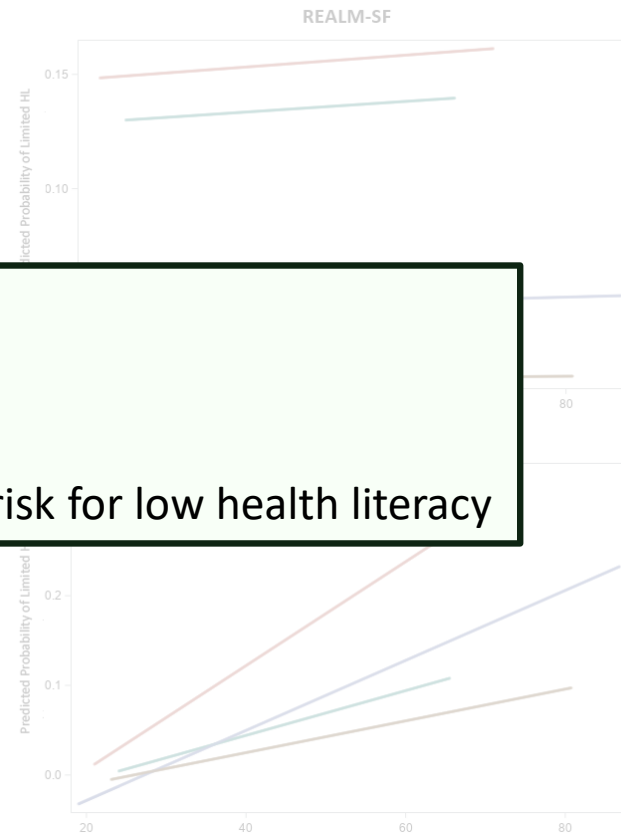
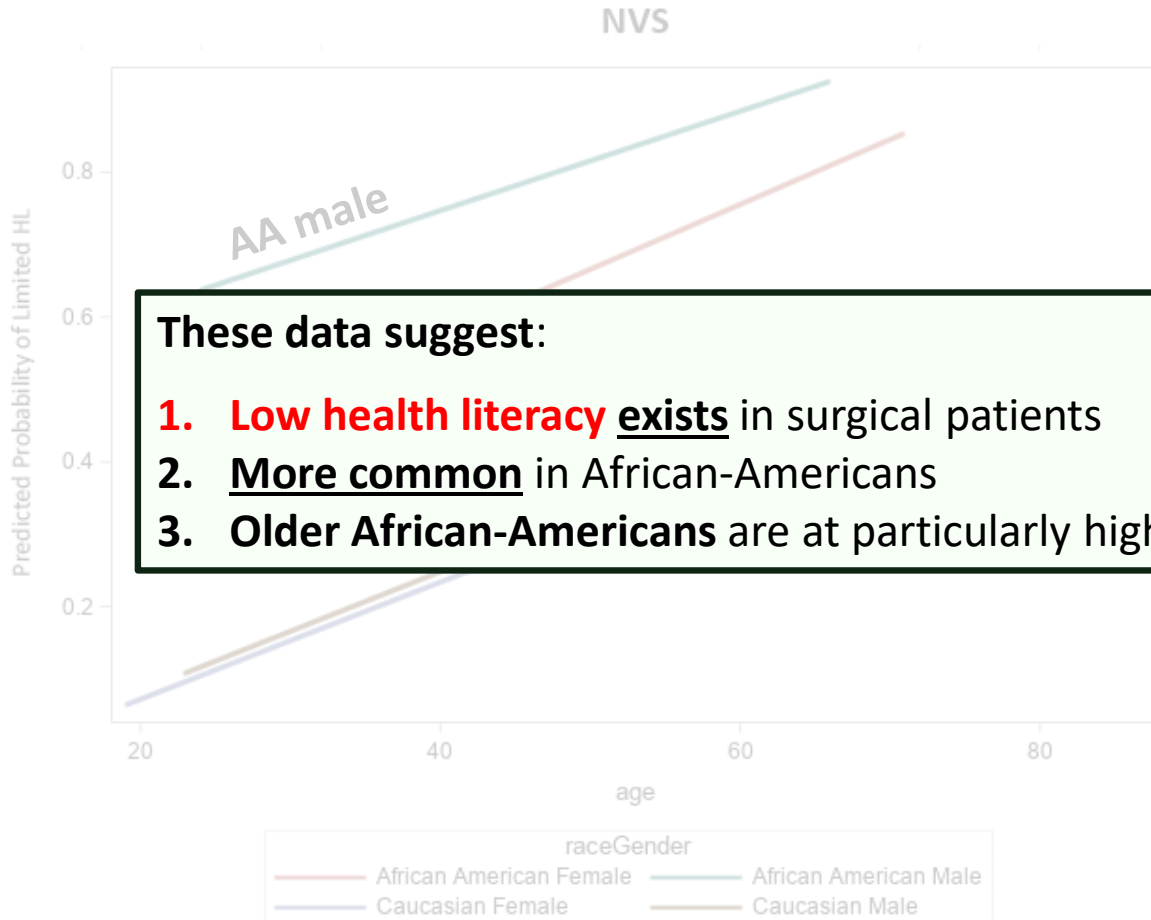


# Identify

# Understand

# Intervene

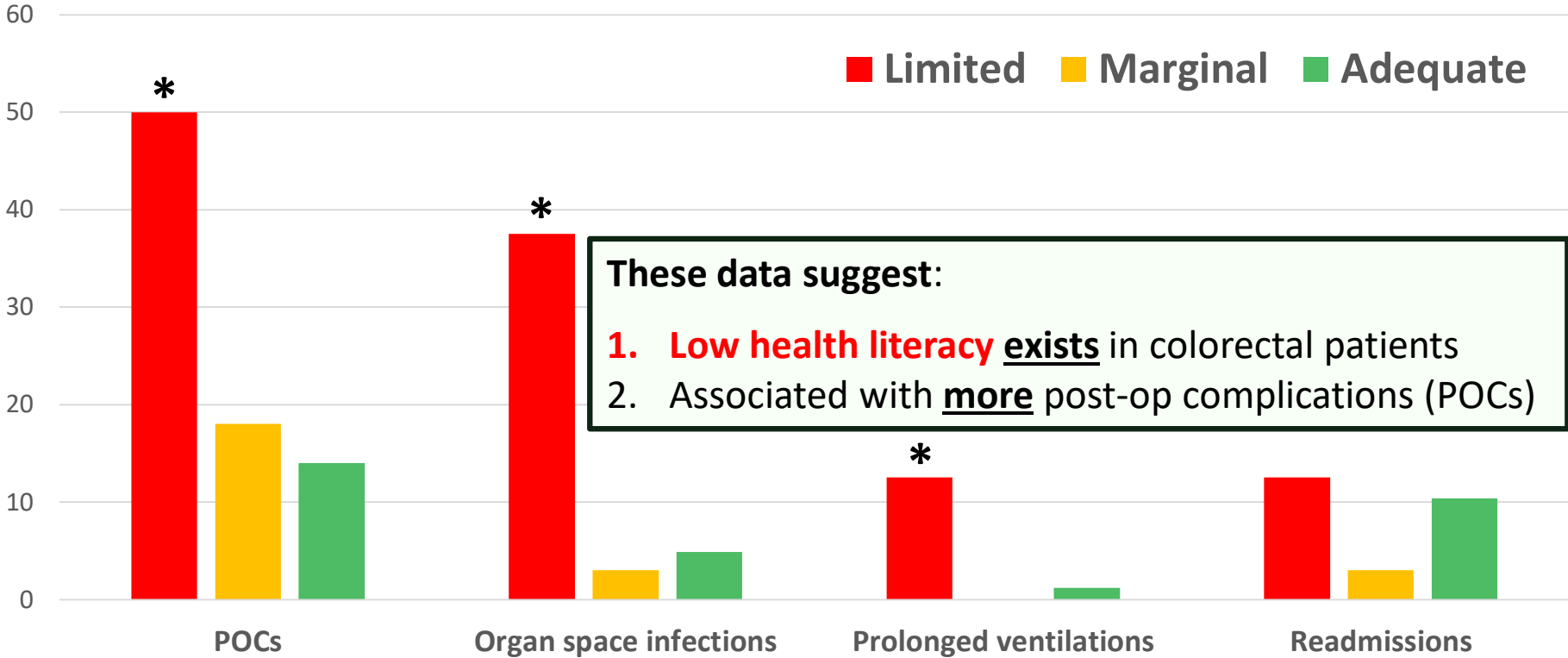




These data suggest:

1. **Low health literacy exists** in surgical patients
2. **More common** in African-Americans
3. **Older African-Americans** are at particularly high-risk for low health literacy

# Associations of health lit with **poor** surgical outcomes



These data suggest:

1. **Low health literacy** exists in colorectal patients
2. Associated with more post-op complications (POCs)

\* p<0.05

# Low health literacy associated w ↑ readmissions

## Adjusted Model of Readmission

	Unadjusted			Most Parsimonious*		
	OR	(95% CI)	p-value	OR	(95% CI)	p-value
Adequate	Ref.			Ref		
<b>Possibly Inadequate</b>	1.83	(1.23-2.73)	0.003	<b>1.53</b>	(1.01-2.31)	0.04

\* Adjusted for Charlson Comorbidity Index, Health Survey Physical Component Score and Mental Component Score at the time of discharge



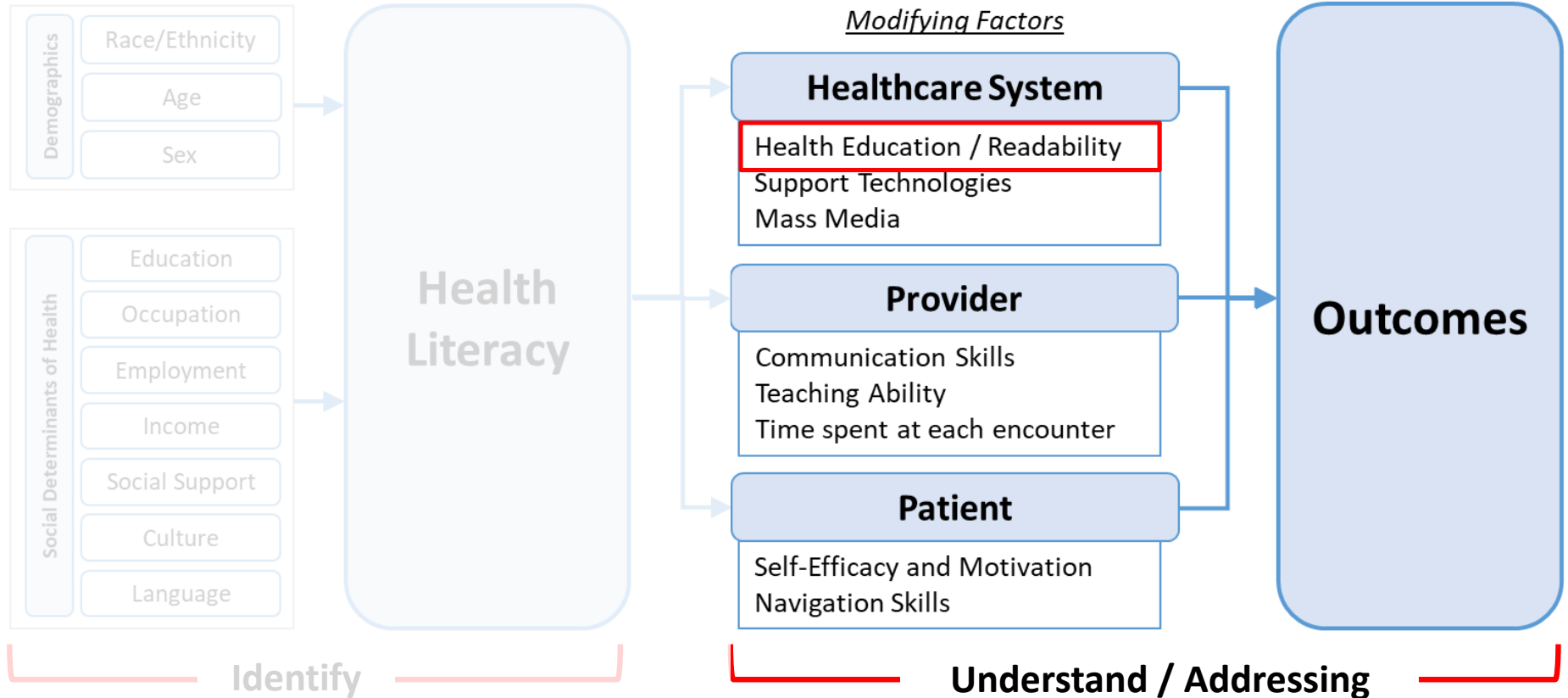
U.S. Department  
of Veterans Affairs

Patients with possibly inadequate HL are **at 53% higher odds of being readmitted** as compared to patients with adequate health literacy.

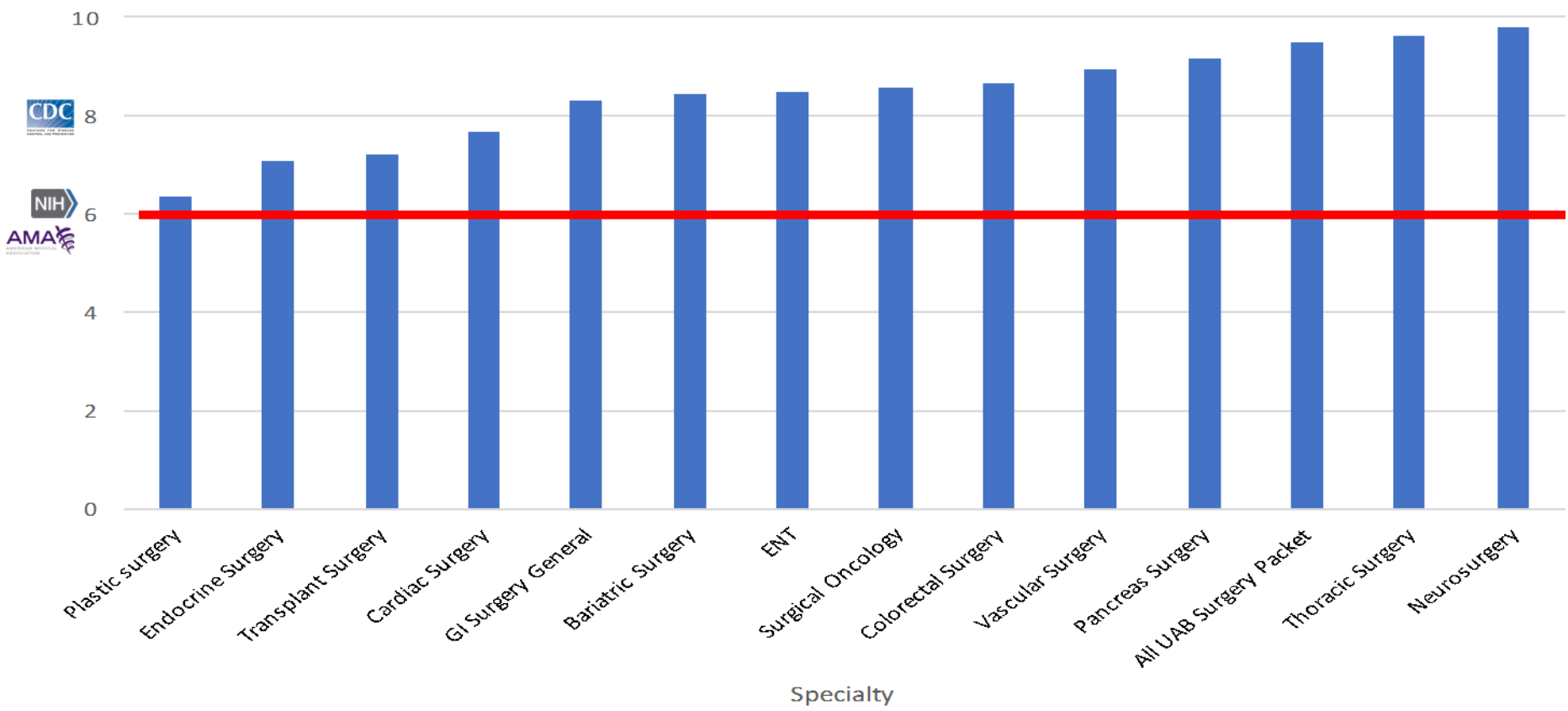
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# Understand

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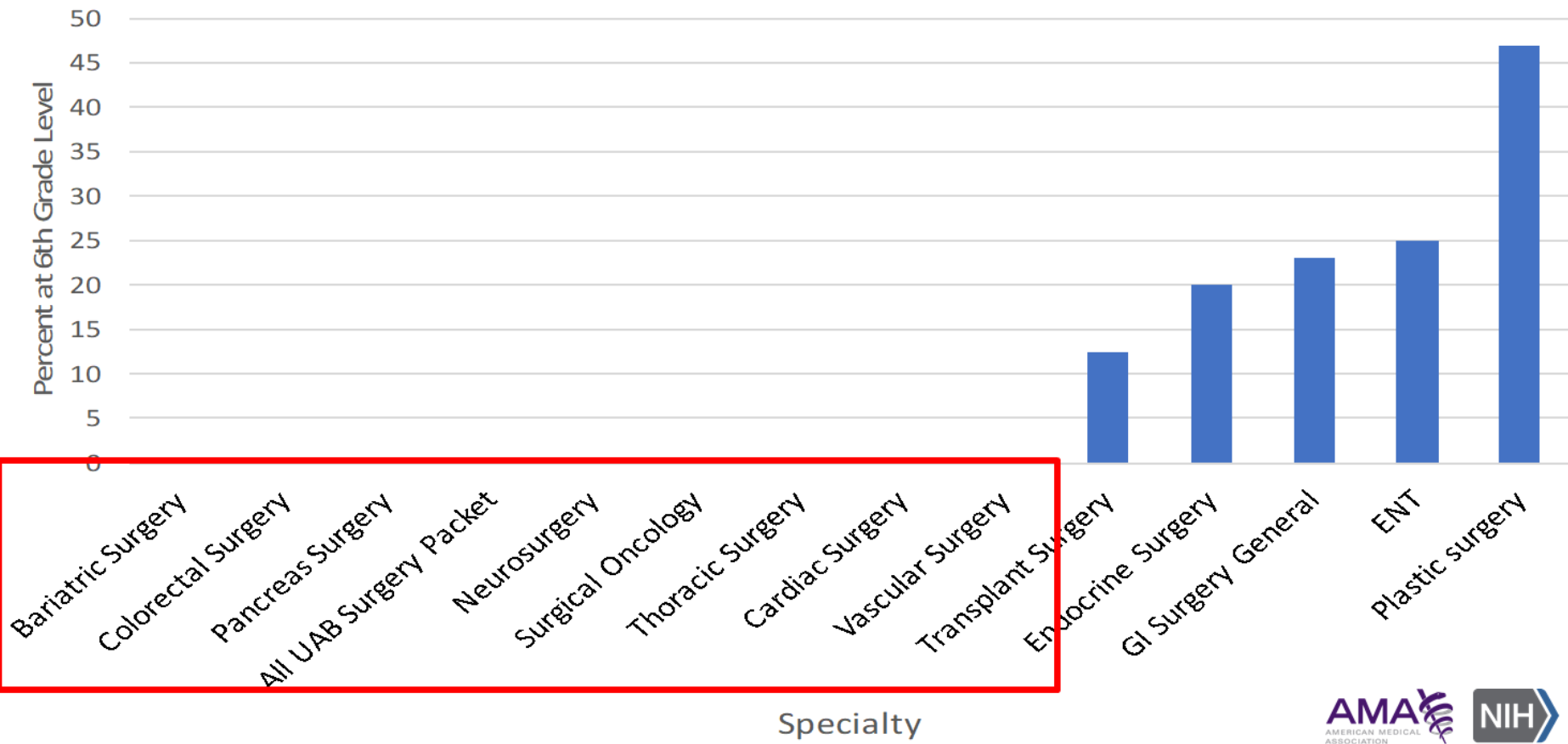


# System-Level: Readability of surgery education material





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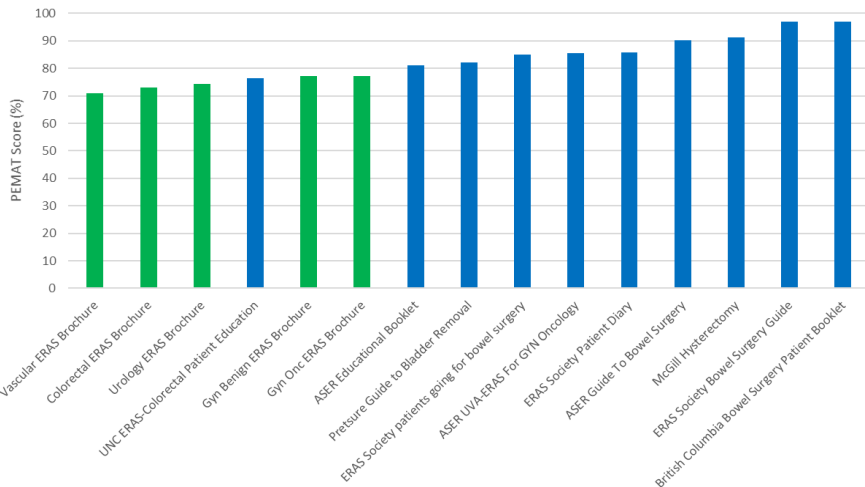
## The Patient Education Materials Assessment Tool (PEMAT) and User's Guide

An Instrument To Assess the Understandability and Actionability of Print and Audiovisual Education Materials

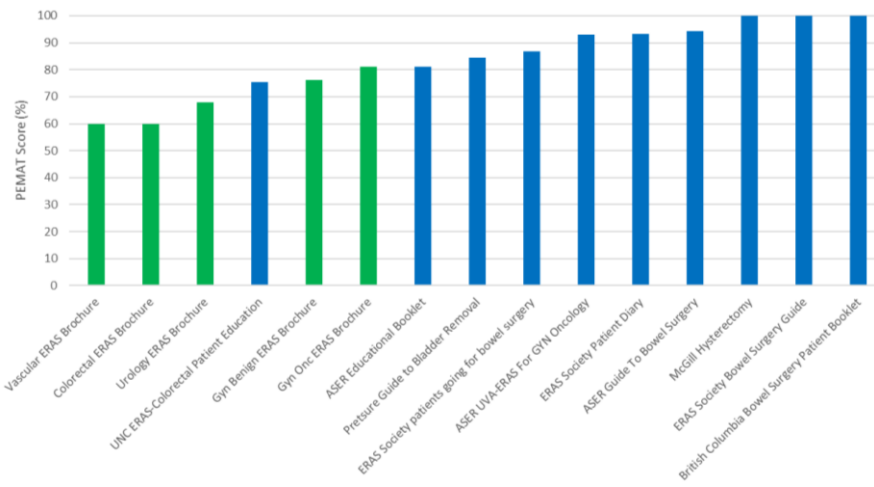


Agency for Healthcare Research and Quality  
Advancing Excellence in Health Care

### Understandability

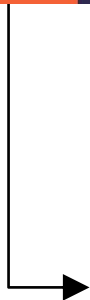


### Actionability



# System-Level: Intervening on Health Ed/Readability

Using information design to improve written material



C

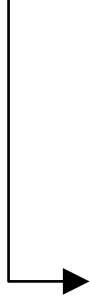
A

R

P

# System-Level: Intervening on Health Ed/Readability

Using information design to improve written material



**C**

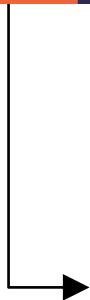
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C

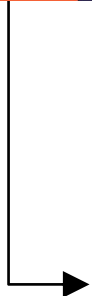
A

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# System-Level: Intervening on Health Ed/Readability

Using information design to improve written material



**C** ontrast

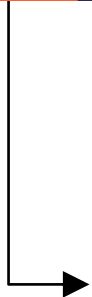
**A** lignment

**R** epetition

**P** roximity

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**C** ontrast

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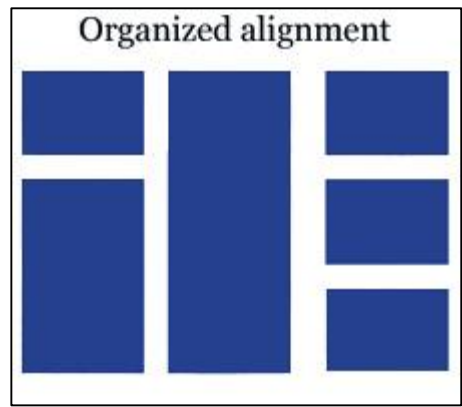
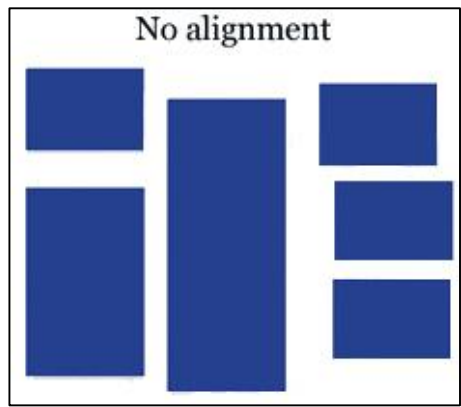


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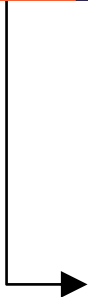
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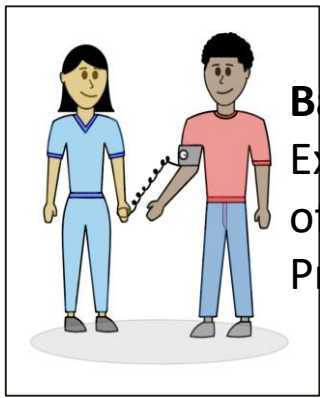


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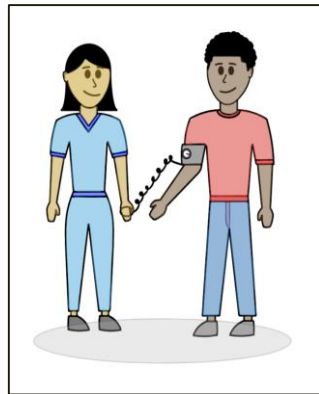
## Using information design to improve written material



- C ontrast
- A lignment
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**Bad**  
Example  
of  
Proximity



**Better**  
Example  
of  
Proximity

I,m SO SO Mad

I'm mad  
at you.



Date 11.30.14

Say  
please  
to us.  
Dont just  
yell.

Nana = icda -  
B / non

Weirdo  
Father  
Takes  
Away  
All of  
Child's  
Rights

Ne  
Fe  
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A  
Fa  
C

# PIA NEWS

## Project Uncover

11.28.2019

Nausicaa Chu

PIA (Parental Investigating Agency)

795 Provence Drive

Birmingham, AL 35242

## Overview

Alignment off

Repetition not bad

### Goals

1. To expose NSA (Not-So-Amazing) fathers to the public
2. To encourage laws to be passed against these fathers

### Support Us

Please donate to us to help us expose NSA fathers. We appreciate all of your efforts.

### Steps

#### I. Expose

We will expose NSA fathers by way of social media and the internet to show the public that this problem must be fixed.

#### II. Fix

Encourage household laws to be passed against these fathers.

Warning: AFS (Exceptionally Irritating Father Society)

Could be justified

9,999 in 10,000 fathers are amazing. They love their children and care for their every need. They provide for them, and give them a head start in life. HOWEVER, 1 in 10,000 fathers are not-so-amazing. They eat all their children's Halloween candy. When their children have a problem, they say "good luck!" Project Uncover is meant to uncover and expose these fathers to the public and to save their children.

# PIA NEWS

“Dad” (Daniel Chu)  
insults innocent family  
members

## List of Insults

1. Lets sell the kids!
2. Nausicaa, you are a rodent.
3. The new baby is a rodent too!
4. You are a wimp.
5. I will show no emotion at your wedding.
6. You were emotionally labile when you were 6.

Repetition

Proximity  
good

Contrast

Alignment better

Could be justified

Nausicaa Chu

PIA (Parental Investigating Agency)

## Overview

The Christmas season is a time of love, joy, and happiness. It is a season to be kind and generous... right? Well, not for “Dad,” also known as Daniel Chu, head of the EIFS (Exceptionally Irritating Fathers Society). For “Dad,” Christmas is a season to insult family members. The following list of insults were recorded in the span of two days.

# Version 4.0

# Redesign @ UAB

### Enhanced Recovery After Surgery (ERAS) Patient Education

Enhanced Recovery After Surgery (ERAS) is a program that helps you get better quicker after major surgery.

ERAS uses the best medical and surgical practices to:

- Reduce pain after surgery
- Increase early physical activity
- Promote bowel function

ERAS has been shown to greatly reduce complications and length of hospital stay in many hospitals across Europe and the United States. ERAS is safe and helpful for patients like you who will be having major surgery. While in clinic, your nurse and doctor will discuss with you what you need to do before surgery, how the surgery will be done, and what to expect after surgery using ERAS.

This information is not intended to replace advice given to you by your health care provider. Make sure you discuss any questions you have with your health care provider.

#### At Your Clinic Visit

You will receive:

- A Surgery plan
- Videos on the internet to help you understand your surgery

Your surgeon may recommend that you prepare your body for surgery by:

- Exercising
- Stopping smoking
- Improving your diet

Download the SeamlessMD App. It will help you answer common questions.

Place it on these things as they will help you recover better and more quickly.

### My Surgery Journey

Enhanced Recovery After Surgery (ERAS) Patient Education Pamphlet

How do I prepare for my surgery?

1. Download the App

2. Review your Surgery Plan

3. Follow the instructions on the Surgery Plan

4. Take the time to eat and drink well before surgery

5. Get a good night's sleep

6. Exercise

7. Stop smoking

8. Improve your diet

9. Take the time to get your questions answered

10. Get to the hospital on time

11. Follow the instructions on the Surgery Plan

12. Get up and walk as soon as you can

13. Eat and drink as soon as you can

14. Take the time to get your questions answered

15. Get up and walk as soon as you can

16. Eat and drink as soon as you can

17. Take the time to get your questions answered

18. Get up and walk as soon as you can

19. Eat and drink as soon as you can

20. Take the time to get your questions answered

# Version 3.0

### My Surgery Journey

Pre-Op

Post-Op

Clinic Visit

Pre-Op Training

Night before Surgery

Arrive for Surgery

Surgery

Night of Surgery

Post-Op Day 1

Post-Op Day 2

Go Home

Recovery Room

Hospital Room

Follow-Up Appointment

© 2015 ERAS@UAB

### Day of:

Come at (time) on (date)

Post-Op Days 1 & 2

HAVE YOU:

- Pooped?
- Chewed gum?
- Eaten Food?
- Walked?
- Talked to nurse about pain?

### Don't Forget:

- Insurance Card
- Gift
- Tooth Brush
- Comfortable Shoes
- Other:

### Things to Leave at Home:

- Alcohol
- Hot Foods
- Other:

### Download The App:

SeamlessMD

© 2015 ERAS@UAB

### Numbers to Know:

- Dr. Cho Office: 205-975-1922
- UAB Pre-Testing: 205-934-6011
- Your Risk Home: \_\_\_\_\_

(phone number) (phone number)

Emergency Contact: \_\_\_\_\_

(phone number)

Any questions? Write them here:

### Enhanced Recovery After Surgery: Patient Education

Enhanced Recovery After Surgery (ERAS) is a program that helps you get better quicker after major surgery.

ERAS uses the best medical and surgical practices to:

- Reduce pain after surgery
- Increase early physical activity
- Promote bowel function

ERAS has been shown to greatly reduce complications and length of hospital stay in many hospitals across Europe and the United States. ERAS is safe and helpful for patients like you who will be having major surgery. While in clinic, your nurse and doctor will discuss with you what you need to do before surgery, how the surgery will be done, and what to expect after surgery using ERAS.

What should you expect?

Before Surgery

A surgery plan you can understand

Follow on the internet to help you understand different topics that have to do with your surgery

Take the time to eat and drink well before surgery

Get a good night's sleep

Exercise

Stop smoking

Improve your diet

Take the time to get your questions answered

Get to the hospital on time

Follow the instructions on the Surgery Plan

Get up and walk as soon as you can

Eat and drink as soon as you can

Take the time to get your questions answered

Get up and walk as soon as you can

Eat and drink as soon as you can

Take the time to get your questions answered

Get up and walk as soon as you can

Eat and drink as soon as you can

Take the time to get your questions answered

If you have not received your arrival time for the day of surgery, you will receive a call from the surgeons office close arrival time. If you have not received that call by 4 PM, please call the surgeons office.

#### Morning of Surgery

Take only "essential" medications, as instructed by your anesthesiologist team the morning of surgery.

Wear loose comfortable clothing.

Bring your insurance identification, identification, a current list of your medications. Bring a comb for contacts, glasses, or dentures.

Do not use tobacco, marijuana, or other substances on day.

Leave valuables and jewelry at home.

If you use a CPAP machine, bring it with you to Pre-Op.

Special when your care team will help to reduce your pain after surgery include:

- A skilled anesthesiologist or other regional block by the UAB Pain Services
- Talking pills by mouth, which may include Gabapentin, Tylenol and/or Codeine.

#### Safe/Food

When undergoing anesthesia and surgery, it is important that solid food no longer be in your stomach to help decrease the risk of vomiting and getting into the lungs. You can have with this by not eating solid food after midnight the night before surgery. Do not eat solid food after midnight for the night before surgery. Eating solid food after midnight will result in delay or cancelling of your surgery.

#### Liquids

Drink high-carbohydrate clear liquids (Gatorade, Powerade, ClearFest or that juice (apple, cherry, or grape) and you arrive at the hospital (which should be roughly 2 hours before surgery) to help your body's ability to respond to the stress that comes with having surgery—your surgeon will tell you which liquid to drink.

If you have diabetes, you should sip Gatorade OR or Powerade Zero instead of Gatorade, Powerade, ClearFest, or fruit juice. Please see page 3 for diabetic specific instructions.

#### Your Diet and Getting Ready for Surgery

Carbohydrates leading with high-carbohydrate clear liquids is recommended to help your body respond better to the stress of surgery.

# Version 2.0

## Pre-Op Testing

- You will meet with the anesthesia care team.
- You may be prescribed:
  - **Miralax**, which is a bowel preparation that helps get your intestines ready for surgery. You will take this one day before surgery.
  - **Chlorhexidine (CHG)**, which is a soap that helps reduce possible infection from the skin. Wash your body with it 2 days before surgery, 1 day before surgery, and morning of surgery.



White Space

## One Day Before Surgery

- Take Miralax
- Use Chlorhexidine
- Do not eat solid foods past midnight the night before surgery
  - Eating solid food after midnight will result in delaying or cancelling of your surgery.
  - This is because the solid foods can get into your lungs while you are under anesthesia.

Short Sentences



Visual Aids

- One business day before surgery** (business days are Monday through Friday) you will receive a call from the surgeon's office about arrival time.
- If you do not receive this call by 4 PM, please call the surgeon's office.

UAB Colorectal Surgery: 205-975-3000  
UAB Pre-Testing: 205-801-8261

12-Pt Font

# Version 4.0

“I think this new version is really going to help a lot of people.” – Patient with low HL

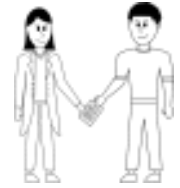
How do I prepare for my surgery?

- Download the App
- Do Not Forget
  - ID
  - Health Insurance Cards
  - Copayment
  - Medicine
  - Comfy Clothes
  - Toothbrush
- Things to Leave at Home
  - A Lot of Cash
  - Jewelry
  - Make-Up
  - Nail Polish
  - Perfume
- Your Doctor May Suggest
  - Exercising
  - Stopping Smoking
  - Improving Your Diet
- Numbers to Know

Interactive

UAB Colorectal Surgery: 205-975-3000  
UAB Pre-Testing: 205-801-8261  
Your Emergency Contact: \_\_\_\_\_

## My Surgery Journey



Enhanced Recovery After Surgery (ERAS)

Patient Education Pamphlet

1	Clinic Visit	2	Pre-Op Testing	7	Hospital Room																				
					<table border="1"><thead><tr><th></th><th>Night of Surgery</th><th>Day 1 after Surgery</th><th>Days 2 and 3 after Surgery</th></tr></thead><tbody><tr><td>Activity</td><td>Walk 3 times </td><td>Walk 3 times </td><td>Walk 3 times </td></tr><tr><td>Pain</td><td>Pain should be less than 4 </td><td>Pain should be less than 4 </td><td>Pain should be less than 4 </td></tr><tr><td>Diet</td><td></td><td>IV </td><td>IV removed </td></tr><tr><td>Bathroom</td><td></td><td>Pee bag removed </td><td></td></tr></tbody></table>		Night of Surgery	Day 1 after Surgery	Days 2 and 3 after Surgery	Activity	Walk 3 times 	Walk 3 times 	Walk 3 times 	Pain	Pain should be less than 4 	Pain should be less than 4 	Pain should be less than 4 	Diet		IV 	IV removed 	Bathroom		Pee bag removed 	
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Bathroom		Pee bag removed 																							
3	One Day before Surgery	4	Morning of Surgery																						
5	Surgery	6	Recovery Room	8	Go Home																				
				9	Follow-Up Appointment																				

Visual Aids

Simple Words

# System-Level: Intervening on Health Ed/Readability

Survey Responses	Adequate HL Patients	Low HL Patients
"I <u>more easily</u> understand the new version"	89%	90%
"I <u>prefer</u> using the new version"	100%	90%
<b>New Surgical PEMs Avgs:</b>		
Captures my attention	Strongly Agree	Strongly Agree
Helps me understand	Strongly Agree	Agree
Informs me	Strongly Agree	Strongly Agree
Clear steps	Strongly Agree	Strongly Agree
Avoids Confusion	Agree	Agree



# System-Level: Intervening on Health Ed/Readability

## Using information design to improve written material

↳ **C**ontrast **A**lignment **R**epetition **P**roximity

Version 1.0

### ENHANCED RECOVERY AFTER SURGERY

#### PATIENT EDUCATION

##### ERAS Recovery After Surgery (ERAS) is a clinically proven pathway that helps you recover quickly after surgery. ERAS can help reduce your hospital stay, reduce pain, improve early physical activity, and prevent hospital-acquired infections. ERAS can also help reduce the risk of complications and improve your overall experience. ERAS is a patient-centered approach that focuses on the patient's needs and preferences. ERAS is a patient-centered approach that focuses on the patient's needs and preferences. ERAS is a patient-centered approach that focuses on the patient's needs and preferences.

##### How should you recover?

##### Recovery targets:

##### ERAS is a patient-centered approach that focuses on the patient's needs and preferences.

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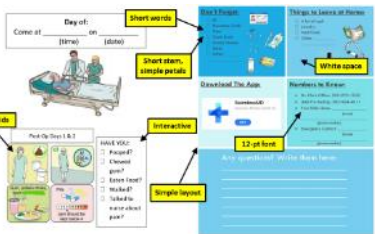
##### ERAS is a patient-centered approach that focuses on the patient's needs and preferences.

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Version 2.0



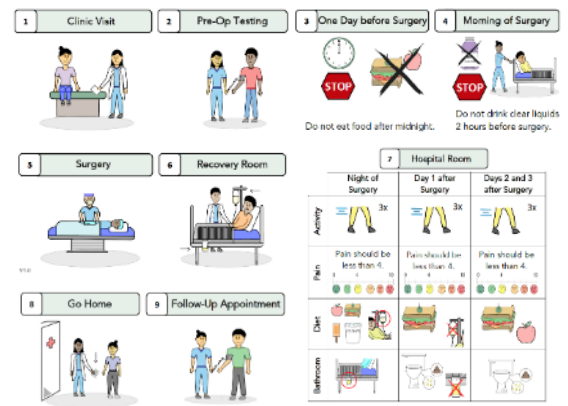
### My Surgery Journey



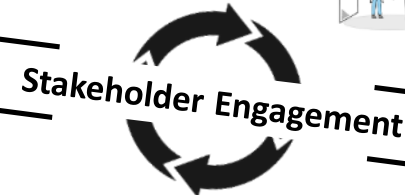
### Enhanced Recovery After Surgery (ERAS)

Patient Education Pamphlet

Version 4.0



9.5 — Flesch-Kincaid Grade Level Readability Test  
9th — Simple Measure of Gobbledygook (SMOG)



6.6  
7th

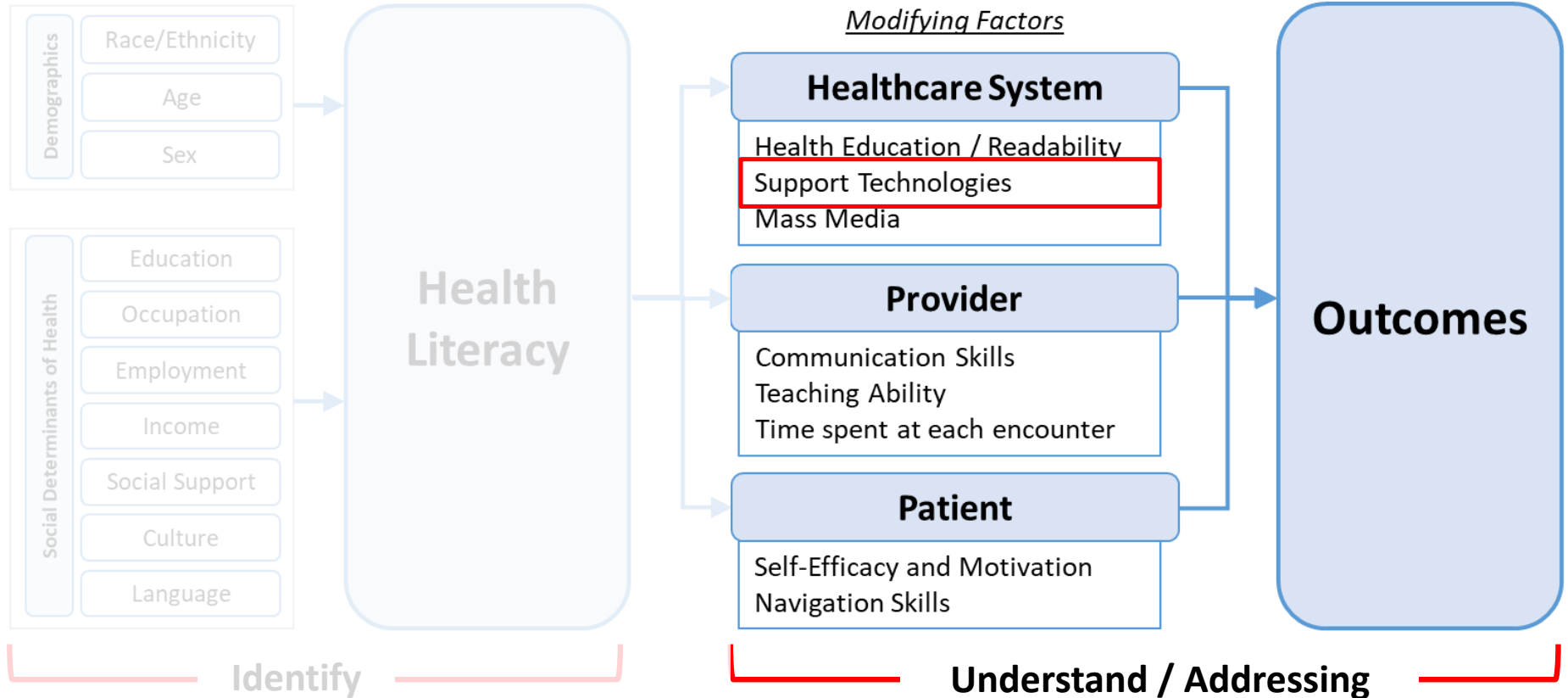
## Lesson Learned

You can make print material more understandable.

# Identify

# Understand









# Intervene

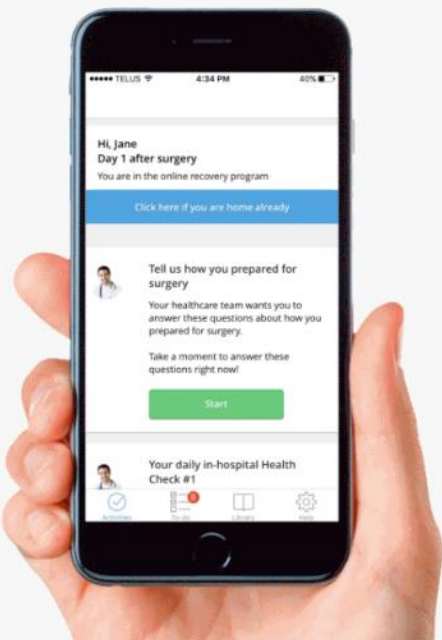


# System-Level: Intervening with Support Technology

## The Most Robust Platform For Value-Based Care

Leading health systems partner with SeamlessMD to deliver a number of solutions:

-  [Enhanced Recovery After Surgery](#)
-  [Remote Patient Monitoring](#)
-  [Patient Education](#)
-  [Collect Patient Reported Outcomes](#)
-  [CABG Bundled Payments](#)
-  [CJR Bundled Payments](#)
-  [Perioperative Surgical Home](#)
-  [Prehabilitation & Preoperative Optimization](#)



SEE ALL SOLUTIONS

# System-Level: Intervening with Support Technology

SeamlessMD Patients Help Daniel Chu UAB Medicine - Admin

Patients Filters & Sorting Export Add a Patient

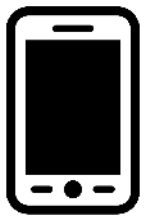
Pre-Op In-Hospital Post-Discharge Archived All Active Show All Quick Search A filter is applied. Reset Filters

ID	Last Name	First Name	Post-Op Day	Channels	Care Plan	Surgeon	Surgery Date	Last Activity	Last Status	Status	Actions
2272	[REDACTED]	[REDACTED]	0	[REDACTED]	Colorectal	Daniel Chu	January 23, 2018	about 17 hours	--	--	View Edit ★
2212	[REDACTED]	[REDACTED]	-16	[REDACTED]	Colorectal	Daniel Chu	February 8, 2018	2 days	--	--	View Edit ★
2211	[REDACTED]	[REDACTED]	0	[REDACTED]	Colorectal	Daniel Chu	January 23, 2018	about 8 hours	--	--	View Edit ★
2210	[REDACTED]	[REDACTED]	-14	[REDACTED]	Colorectal	Daniel Chu	February 6, 2018	about 1 hour	--	--	View Edit ★
2188	[REDACTED]	[REDACTED]	7	[REDACTED]	Colorectal	Daniel Chu	January 16, 2018	about 7 hours	about 7 hours	OK	View Edit ★
2187	[REDACTED]	[REDACTED]	7	[REDACTED]	Colorectal	Daniel Chu	January 16, 2018	about 22 hours	1 day	<a href="#">Try these self-care tips</a>	View Edit ★
2183	[REDACTED]	[REDACTED]	6	[REDACTED]	Colorectal	Daniel Chu	January 17, 2018	1 day	--	--	View Edit ★
2181	[REDACTED]	[REDACTED]	-17	[REDACTED]	Colorectal	Daniel Chu	February 9, 2018	4 days	--	--	View Edit ★

Patients Per Page



Real-time



Engaging



Records PROs

# System-Level: Intervening with Support Technology

## Why do I need to empty my colon before surgery?

This is for your safety. Your waste (poo) carries germs. So, it is safer if your surgery area is not full of poo during surgery.

## How do I drink Miralax®?



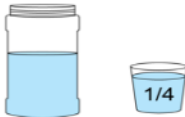
Step 1. Pour the Gatorade® into a jug.



Step 2. Pour the entire bottle of Miralax® into the jug.



Step 3. Stir the Gatorade® and Miralax®.



Step 4. Drink 1/4 of the mixture every 30 minutes.



Step 5. Keep drinking until you have finished the whole jug. You will have diarrhea (watery poo) for a few hours after drinking this.

## How to empty your pouch

### When do I empty the pouch?

Empty your pouch when it is 1/3 to 1/2 full. A lighter pouch will pull less on your skin. This will help prevent your pouch from leaking.

### How to empty your pouch:

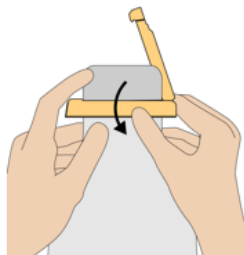
The instructions below are for your 1-piece clip close pouch. If you use a different pouch, follow the directions that came with your pouch.



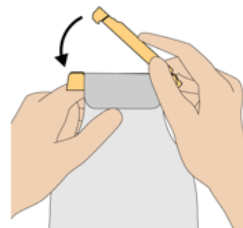
Step 1: Raise the end of the pouch up.



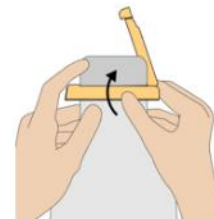
Step 2: Release the clip.



Step 7: Fold the end of the pouch over the clip.



Step 8: Close the clip over the end of the pouch.



Step 3: Unroll the end of the pouch.



Step 4: Lower the end of the pouch over the measuring cup. Slide your hands down the bag to push the waste (poo) out. Record the volume of your output.

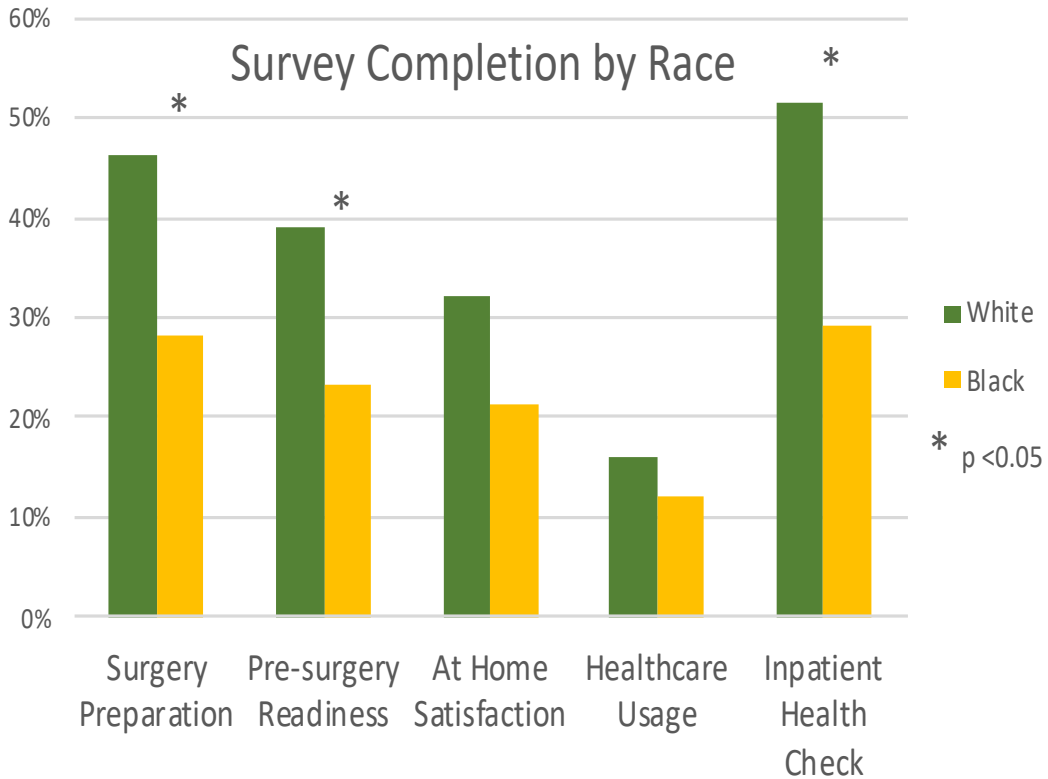
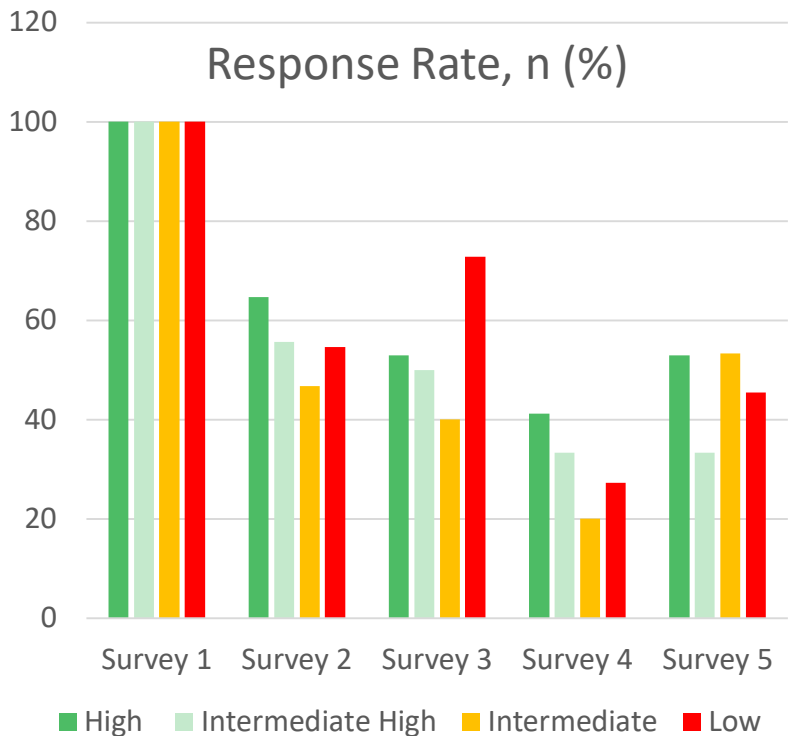


Step 5: Empty your measuring cup over the toilet.

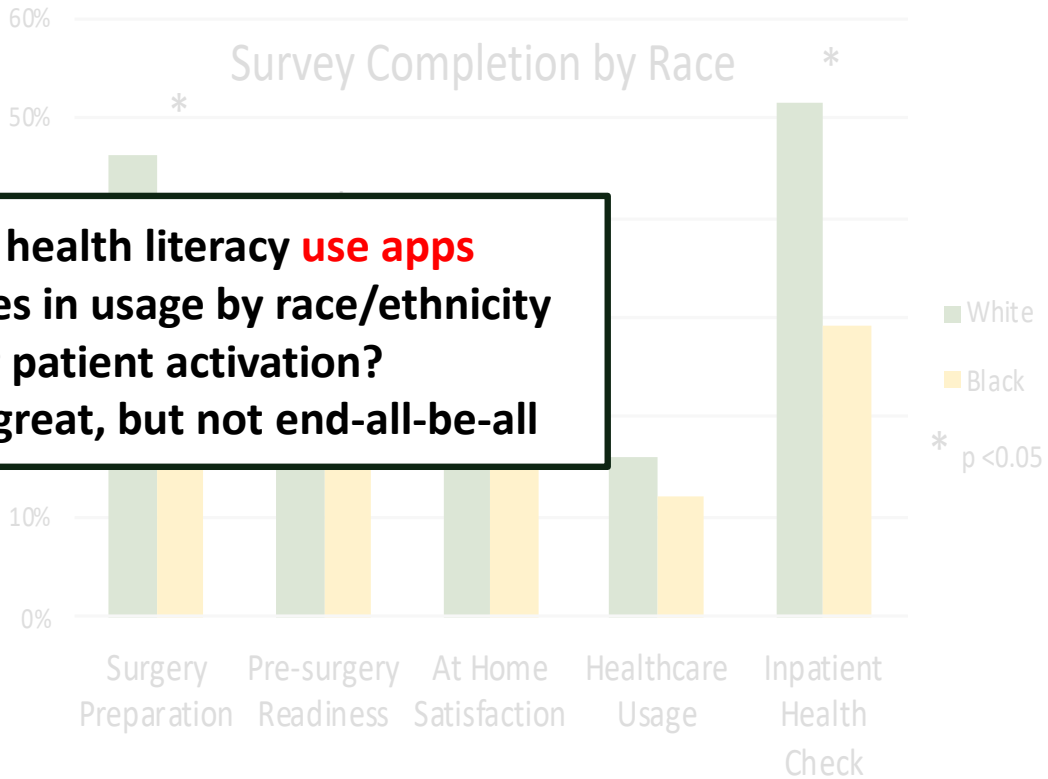
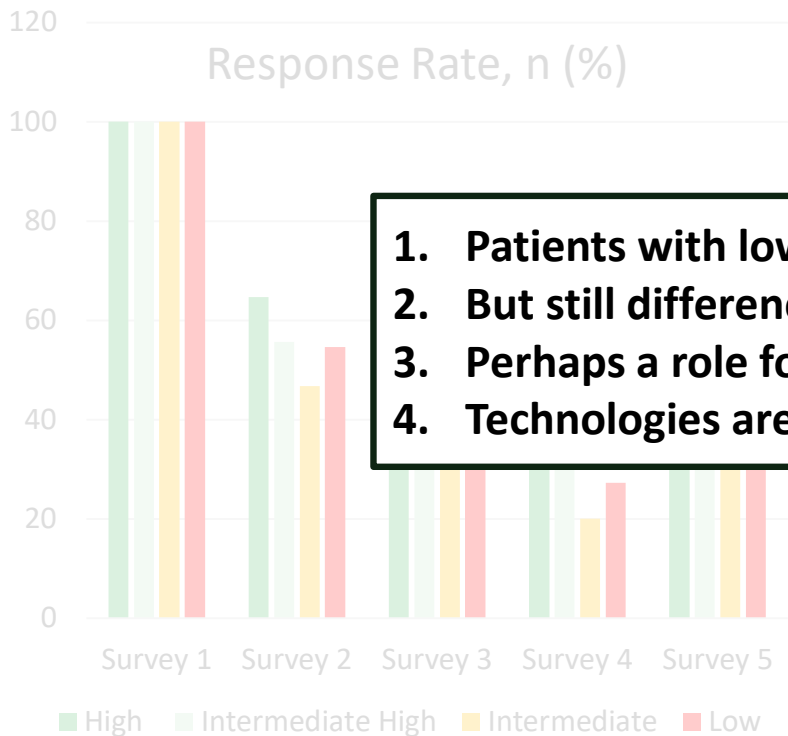


Step 6: Use toilet paper to wipe the end of the pouch. Wipe inside and outside.

# System-Level: Intervening with Support Technology



# System-Level: Intervening with Support Technology

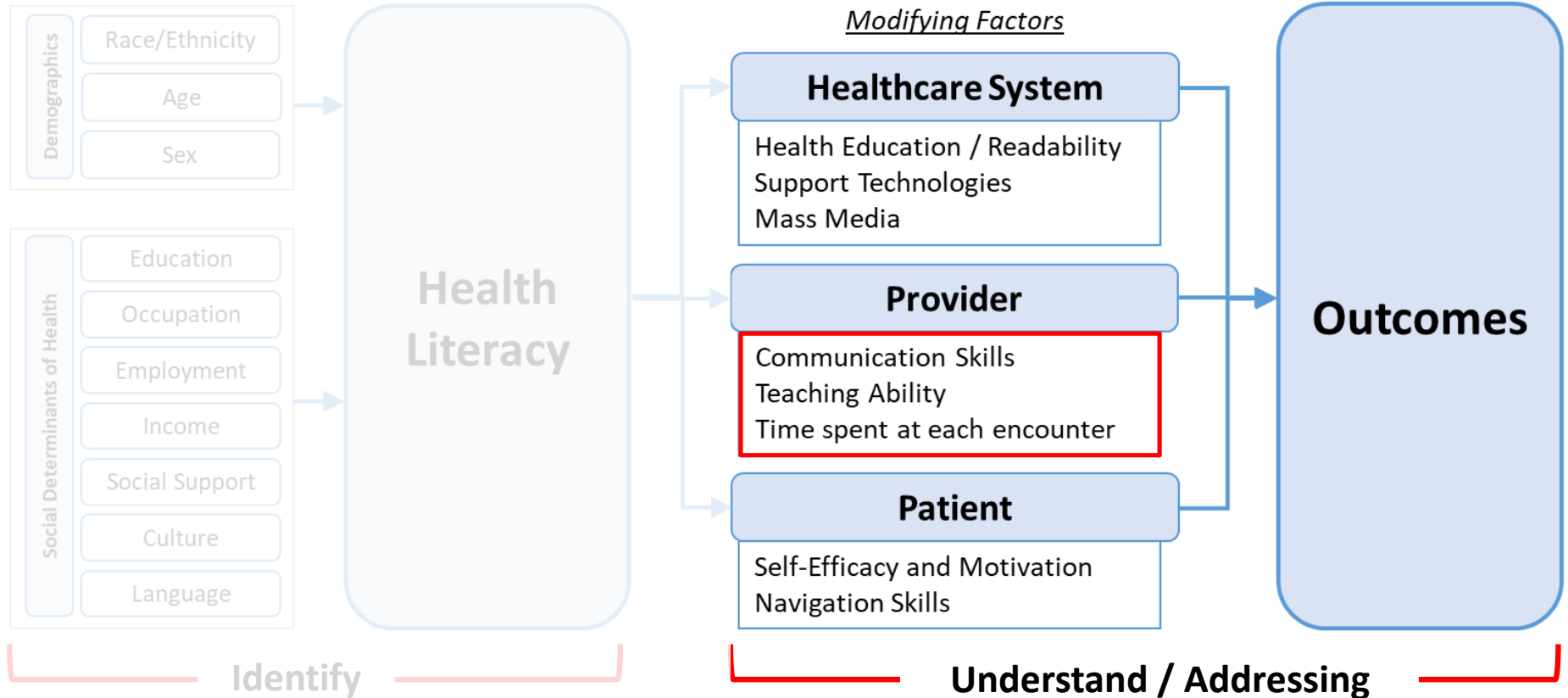


- 1. Patients with low health literacy use apps
- 2. But still differences in usage by race/ethnicity
- 3. Perhaps a role for patient activation?
- 4. Technologies are great, but not end-all-be-all

# Identify

# Understand

# Intervene

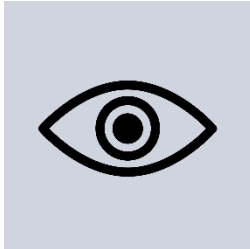




# Provider-Level: Barriers and facilitators



“A doctor can make you or break you. They can make you feel like you’re an idiot, and talk above your head.”



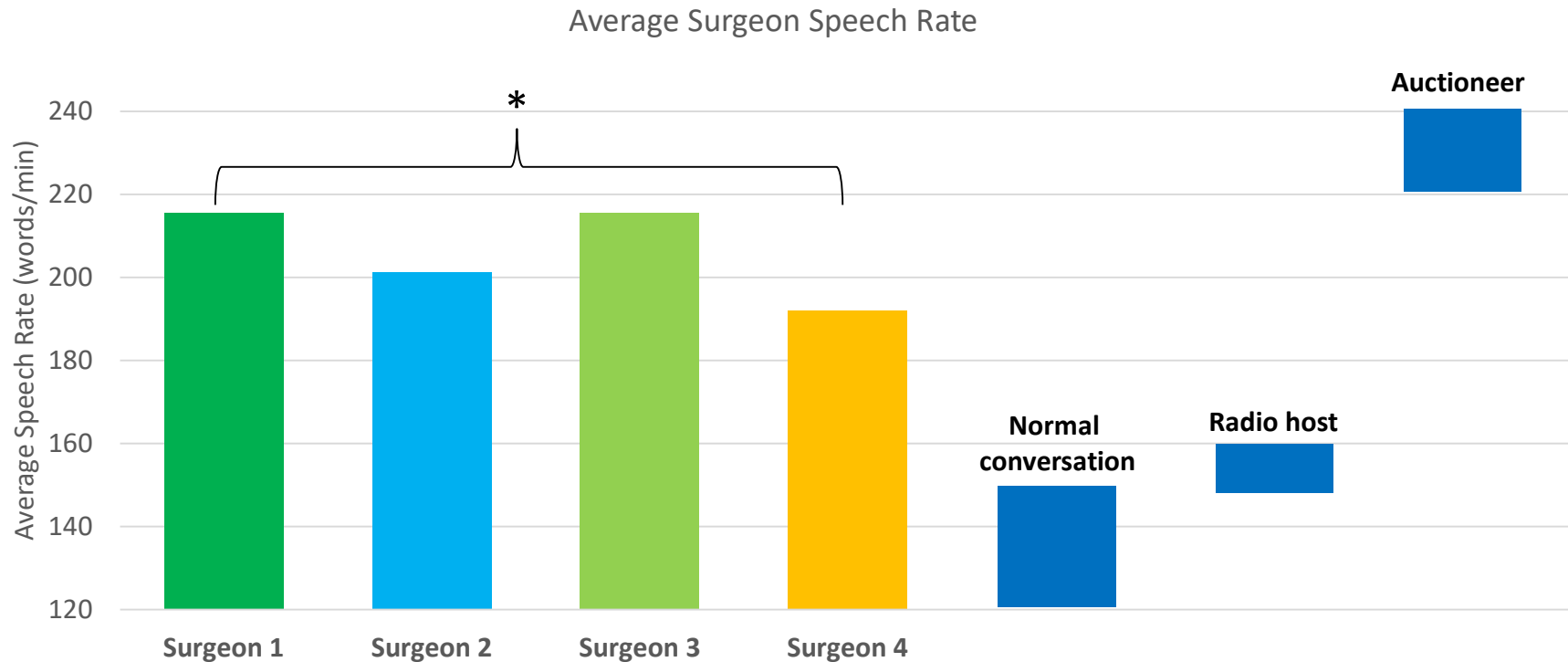
“There should’ve been a little bit more education ... it’s really just thrown at you at once.”



This young doctor, he just broke it down so smooth. I can understand a lot of stuff, but he made it so simple.”

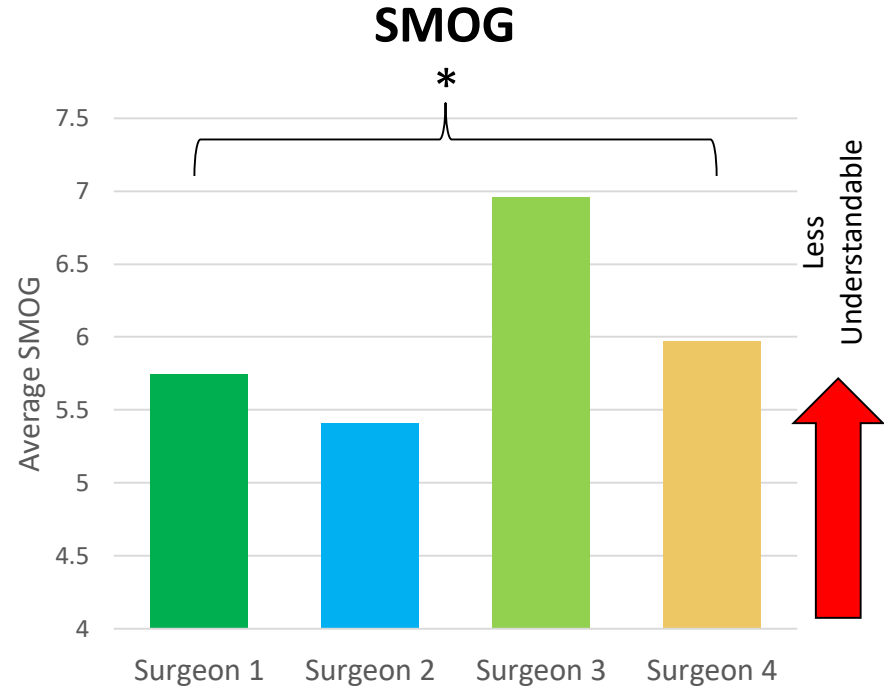
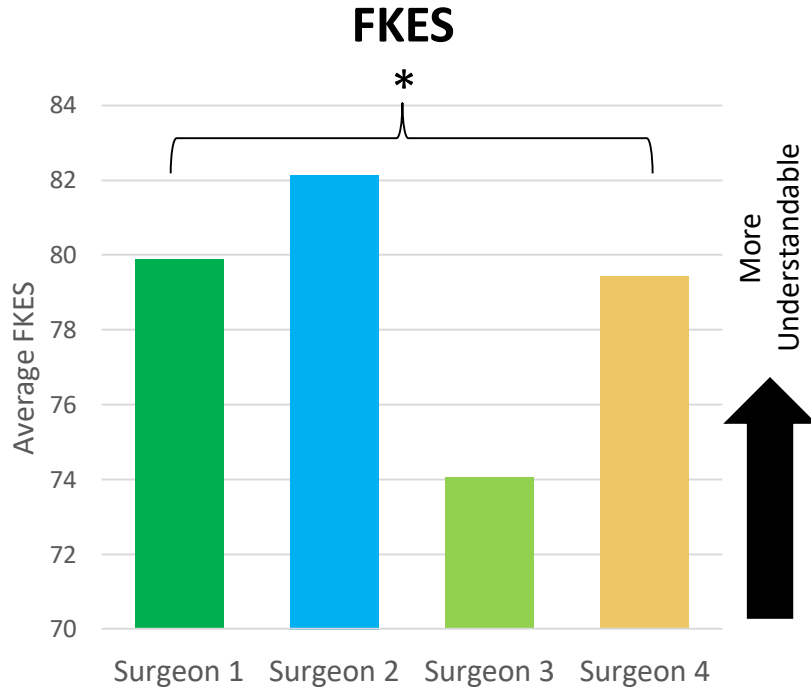
**Providers** are important barriers and facilitators to adequate understanding.

# Not all surgeons talk the same! | **Speech Rate**



\* p<0.05

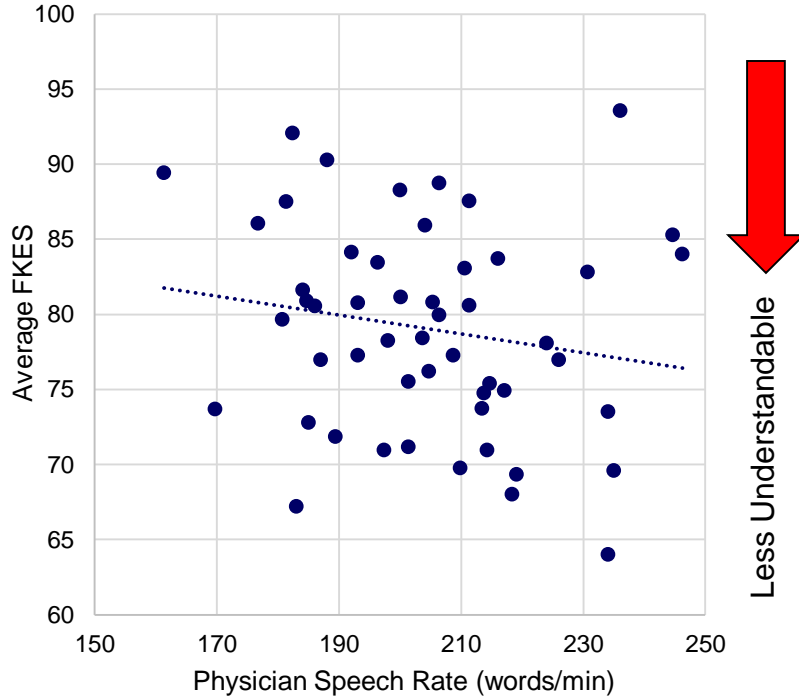
# Not all surgeons talk the same! | Understandability



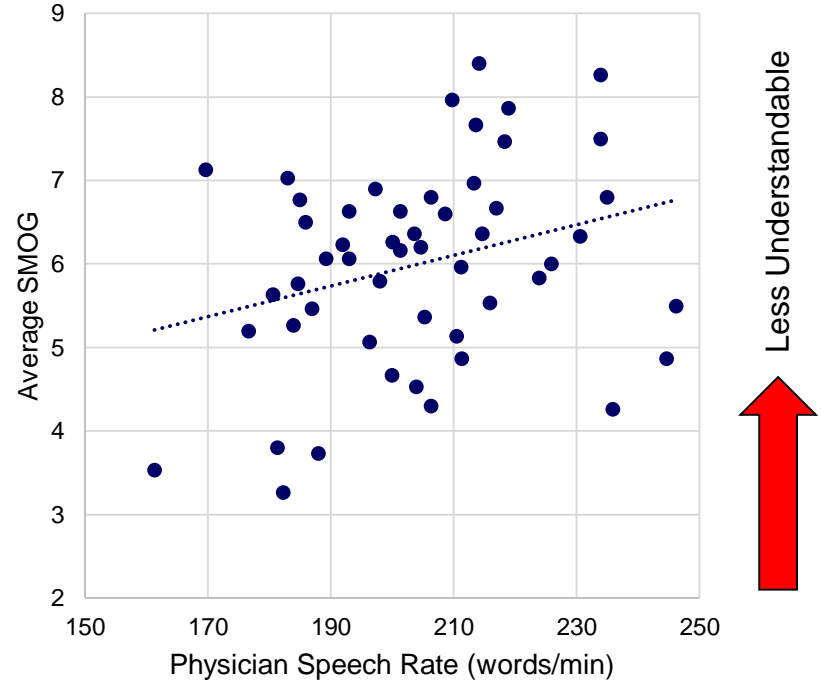
\*  $p < 0.05$

# Not all surgeons talk the same! | **Fast $\neq$ Understanding**

## FKES vs. Speech Rate



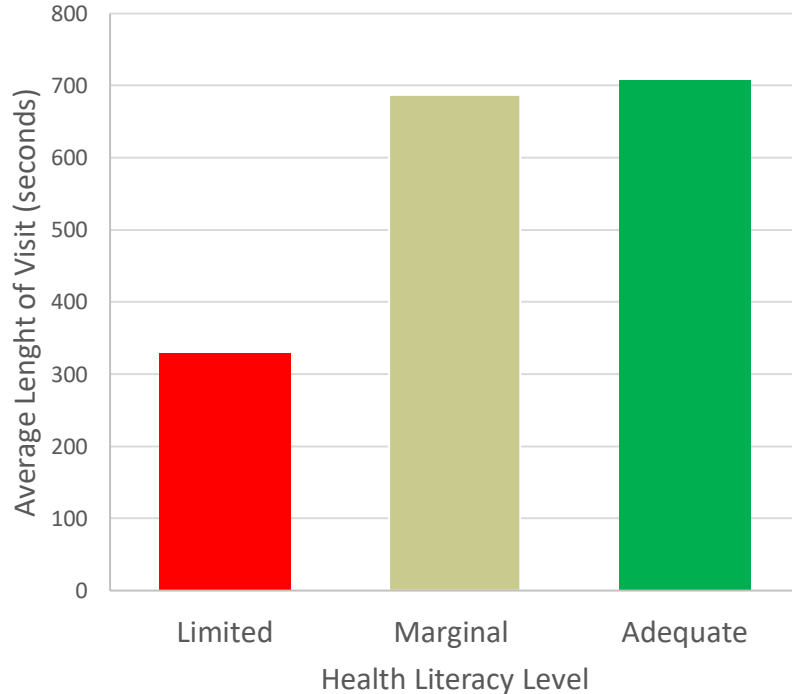
## SMOG vs. Speech Rate\*



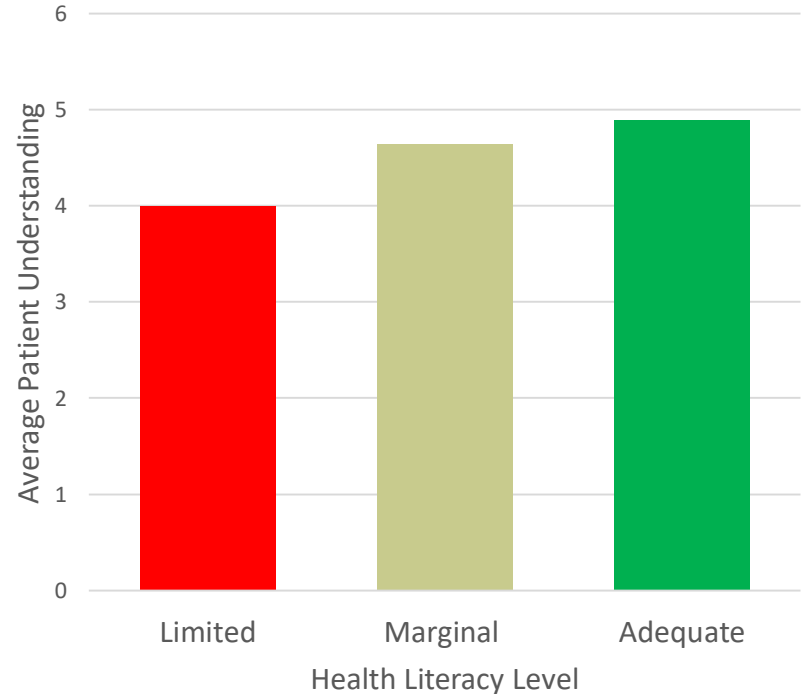
\* $p < 0.05$

# Not all surgeons talk the same! | Visit Time

## Health Literacy vs Average Length of Visit



## Health Literacy vs Patient Understanding



# Provider-Level: Intervening on Communication

- **Teach-back or show-back**
  - Tell me your understanding
  - How will you describe this to your family?
- **Ask Me 3<sup>®</sup>** (aim to answer these questions)
  - What is my main problem? [*diagnosis*]
  - What do I need to do? [*treatment*]
  - Why is it important that I do this? [*benefits/context*]
- **Slow down**
- Use plain language, **pictures** and teaching tools

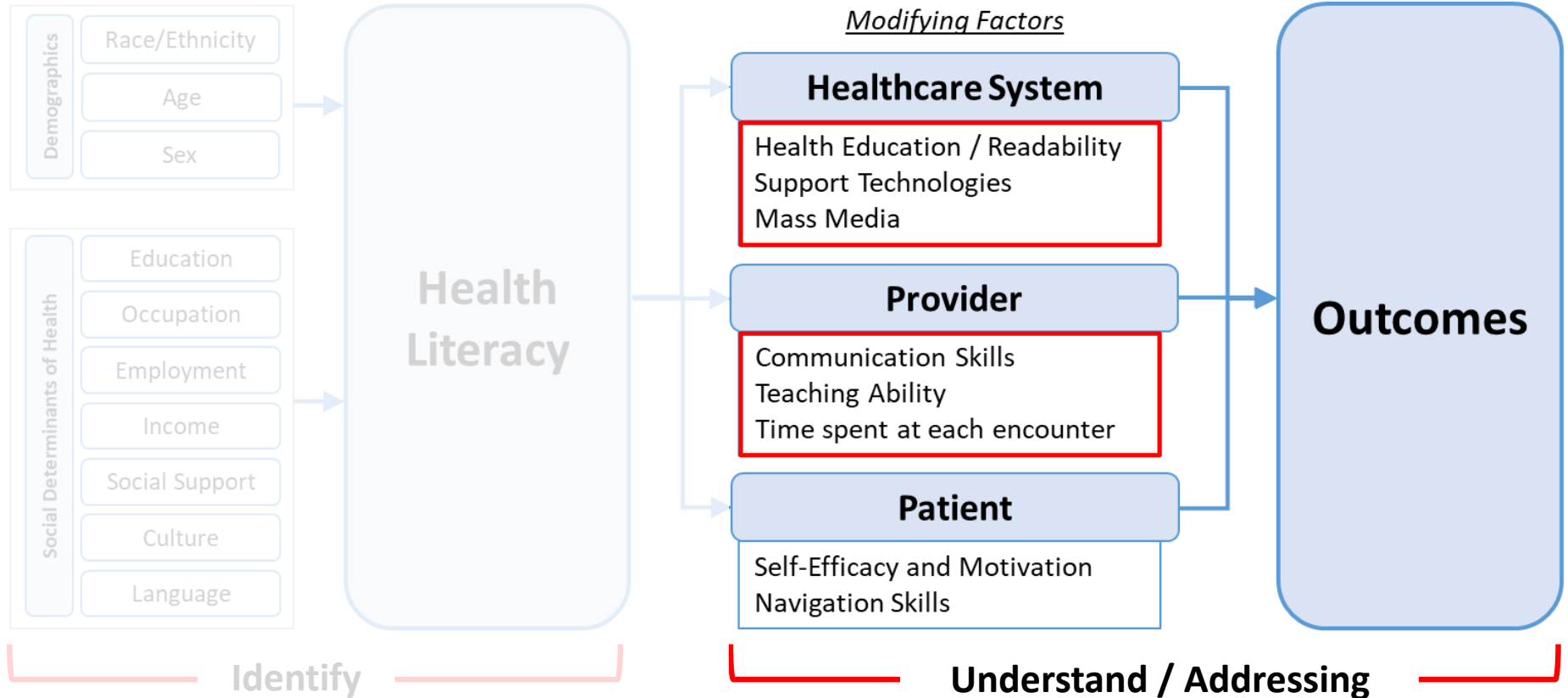
**Avoid asking**  
Do you understand?  
Do you have any questions?



# Identify

# Understand

# Intervene



Teach-back,  
Improve consent

Optimize education  
material

Improve  
family updates

Improve discharge  
process

Targeted  
follow-up

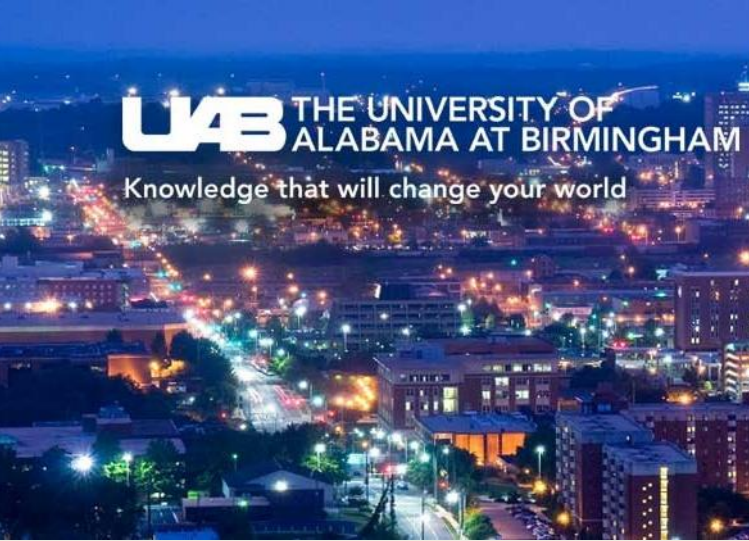
Equip each level of surgical care with best-evidence health literacy practices



## Bottom Line

Health literacy matters in surgery and opportunities exist to make surgical care more health literate.





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# Questions?



[dchu@uab.edu](mailto:dchu@uab.edu)



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