

Preventing Medication-  
Related Problems: Targeting  
Sustainability in a Complex  
Adaptive System

# Workshop Leaders

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# Why We Are Here

## Our Stories:

- Home health nursing & a parent
- Senior adult client's non-compliance
- Care transition into Emergency Department

# Why are you here?

# Objectives

- Be able to define medication-related problems (MRPs) and identify categories
- Understand the attributes of complex adaptive systems and their effects on MRPs
- Understand when to apply any one of the sustainable strategies for reducing MRPs in community-dwelling senior adults and learn how to apply them appropriately

# Outline

- What...a medication related problem is, the scope and the cost.
- Why...we continue to experience such significant problems
- How...each of you can address medication-related problems from where you are

# What Are Medication-Related Problems?



## Definition:

Any event involving drug therapy that has a negative effect on a patient's health or prevents a positive outcome.

# Categories of MRPs

- 1) *Underuse of medications*
- 2) *Overuse of medications*
- 3) *Use of inappropriate medications*
- 4) *Adverse drug reactions, including drug interactions*
- 5) *Lack of adherence to drug therapy (patient noncompliance)*

# Scope

More than 200,000 people die each year from medication-related problems. Adverse drug reactions alone are between the fourth and sixth leading cause of death<sup>1</sup>

(Ernst and Grizzle 2001; Lazarou et al. 1998).

- **Retail spending on prescription drugs: \$234.1 billion in 2008<sup>2</sup>**
  - **MRPs: A \$290 billion problem<sup>3</sup>**

# Where Does the Problem Occur?

- Hospitals
  - Nursing homes
  - Physician's offices
  - Pharmacies
  - Homes
- *The Massachusetts State Pharmacy Board estimated that 2.4 million prescriptions are filled improperly each year in this state alone.<sup>4</sup>*

# Seniors at Risk: The Numbers

- 15% to 25% of drug use in seniors is considered unnecessary or otherwise inappropriate
- Adverse drug reactions and noncompliance are responsible for 28% of hospitalizations of the elderly
- Each year 32,000 seniors suffer hip fractures caused by medication-related problems
- Studies of patient behavior show that ***LESS THAN 50%*** of the people who leave a doctor's office with a prescription take the drug as directed.

# Seniors at Risk: The Numbers

- More than 77% of seniors between the ages of 65 and 79 suffer from one or more chronic diseases. The number rises to 85% for those over age 80.
- Seniors represent just over 13% of the population, but consume 40% of prescription drugs and 35% of all over the counter drugs.
- On average, individuals 65 to 69 years old take nearly 14 prescriptions per year, individuals aged 80 to 84 take an average of 18 prescriptions per year.<sup>5</sup>

## Seniors at Risk (cont'd)

- More Medications, doctors, chronic conditions, pharmacies, caregivers, transitions, vulnerability to Medication-Related Problems
- Less Research, awareness, health literacy

# Summary

“Any symptom in an elderly patient should be considered a drug side effect until proved otherwise.”<sup>6</sup>

# Techniques Used To Help

1. Identify

2. Simplify

3. Manage

# Identify RED FLAGS



- Lives alone or inadequate support
- Dementia

More Than-

5 Meds

12 Doses

1 Pharmacy

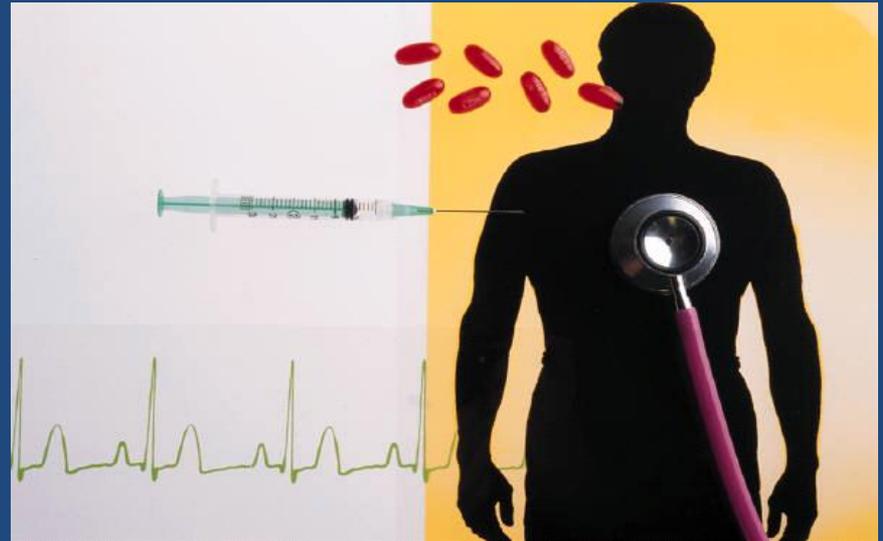
1 Caregiver

2 Doctors

**9 Bad Boy Drugs**

*(Carbamazepine, Quinidine,  
Phenobarbital, Lithium,  
Warfarin, Procainamide,  
Phenytoin, Digoxin  
Theophylline)*

# Simplify



- Remove/Discard Old or Expired Drugs
- Recommend Single Pharmacy
- Explore Non-Drug Alternatives
- Coordinate Doses with Established Daily Routines
- Consider Long-Acting Alternatives
- Decrease Multiple Meds for a Single Condition
- Discontinue/Substitute for Beers List Drugs

# Manage with Compliance Aids

- Medication List
- Medication Schedule
- Pill Organizer
- Compliance Packaging
- Medication Alarm
- Telephone Reminder
- Automated Dispensing



# Why No Improvement With All This Effort ?????

Knowing is not enough; we must apply.  
Willing is not enough; we must do.

-Johann Wolfgang von Goethe

# Complex Adaptive Systems (CAS)

- Complex = many parts, agents or elements
- Adaptive = freedom and ability to respond
- System = parts, interconnections and purpose

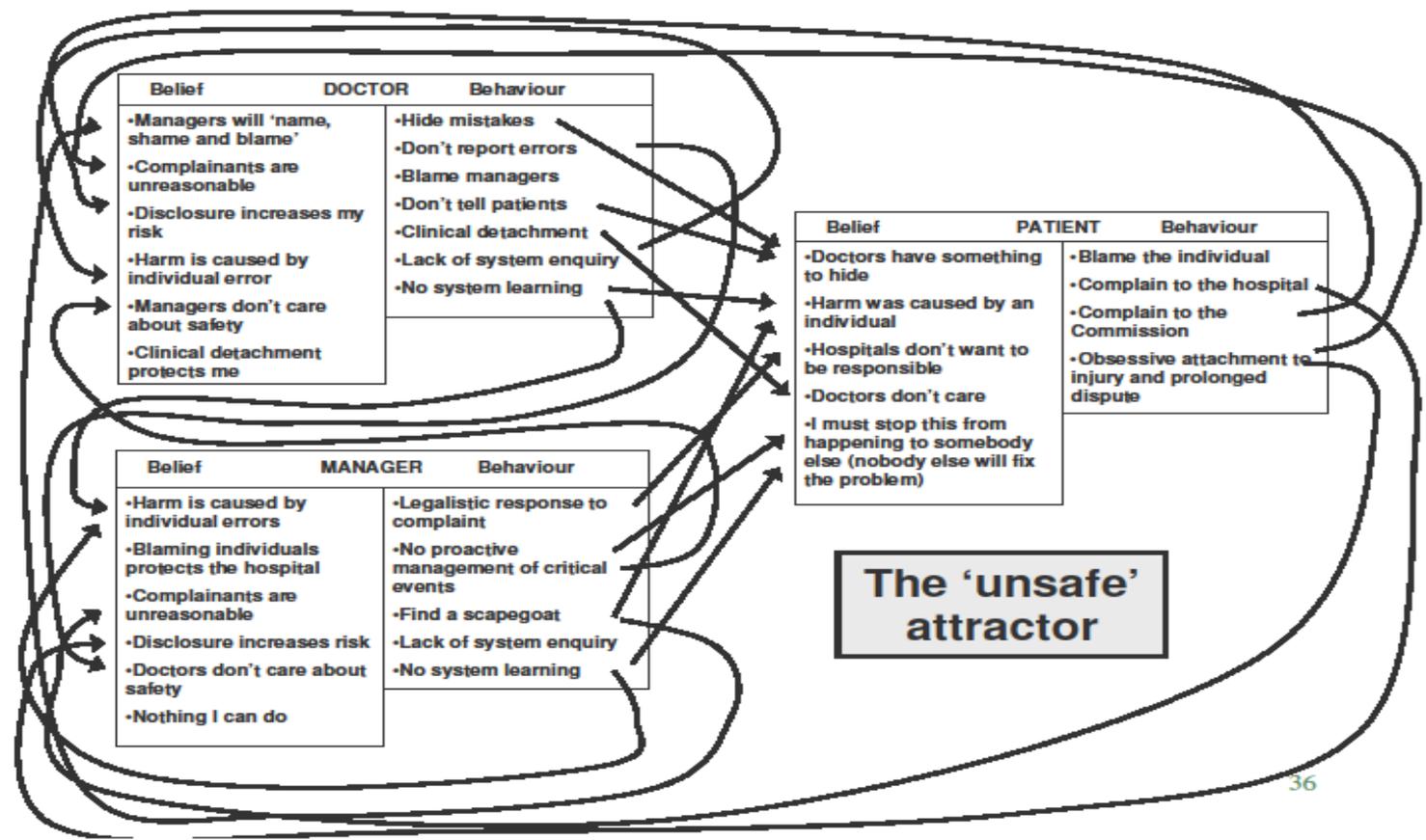
# Properties of a Complex Adaptive System (CAS)

- Adaptable elements
- Simple rules
- Nonlinearity
- Emergent behavior, novelty
- Not predictable in detail
- Inherent order
- Context and embeddedness

# Complexity From an Incomplete List of Adaptable Elements

- Clinics
- Hospitals
- Pharmacies
- Laboratories
- Home health agencies
- Clinicians (doctors, nurses, therapists)
- Governmental regulatory bodies (federal, state, local)
- Non-profit, private agencies
- For-profit service providers
- Electorate
- Politicians
- Employers
- Doctor's office staff
- Insurance entities and their staffs (private and public)
- **Person seeking healthcare**

# Some Ways of Learning in a CAS



Source: Youngson, Robin *Understanding the wicked, whole system problem of patient safety* Waitemata District Health Board, New Zealand

# Nonlinearity

## Complex Adaptive System

- Examples:
  - Patient giving medical history
  - U.S. healthcare
- Human freedom to respond
  - Is unpredictable
- Result: surprising, emergent behavior which is not necessarily “good”

## Mechanical System

- Examples:
  - Thermostat and fan
  - Office building’s HVAC
- Can know and predict
  - In detail
- Result: can study and determine to correct

# Examples Of System Unpredictability

- New Zealand midwives
- Medication list that made no difference
- Learning from what is in front you

# The Way We Think and Act About Healthcare...



Notes

Trip to 919 E 32nd St  
 Austin, TX 78705-2703  
 10.23 miles - about 15 minutes



8133 Mesa Dr, Austin, TX 78759-8655

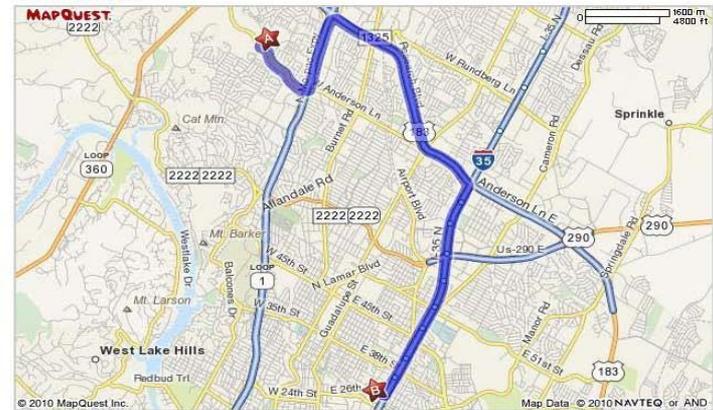
- |  |   |           |
|--|---|-----------|
|  | 1. Start out going <b>SOUTHWEST</b> on <b>MESA DR</b> toward <b>SPICEWOOD SPRINGS RD.</b> | go 0.2 mi |
|  | 2. Turn <b>LEFT</b> onto <b>SPICEWOOD SPRINGS RD.</b>                                     | go 1.1 mi |
|  | 3. Turn <b>LEFT</b> onto <b>N MO-PAC EXPY.</b>  | go 0.9 mi |
|  | 4. Merge onto <b>US-183 S</b> via the ramp on the <b>LEFT.</b>                            | go 3.8 mi |
|  | 5. Merge onto <b>I-35 S</b> toward <b>SAN ANTONIO.</b>                                    | go 3.0 mi |
|  | 6. Keep <b>LEFT</b> to take <b>I-35 S / US-290 W</b> toward <b>32ND ST / DEAN KEETON.</b> | go 0.7 mi |
|  | 7. Take <b>EXIT 236A</b> toward <b>32ND ST / DEAN KEETON.</b>                             | go 0.1 mi |
|  | 8. Stay <b>STRAIGHT</b> to go onto <b>I-35 N.</b>   | go 0.2 mi |
|  | 9. Turn <b>RIGHT</b> onto <b>E 32ND ST.</b>   | go 0.2 mi |
|  | 10. <b>919 E 32ND ST</b> is on the <b>LEFT.</b>   | go 0.0 mi |



919 E 32nd St, Austin, TX 78705-2703

Total Travel Estimate: 10.23 miles - about 15 minutes

Route Map [Hide](#)



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# Improvement Process Consistent With a Complex Adaptive System...



“We can’t solve problems by using the same kind of thinking we used when we created them.”

-Albert Einstein

# MRPs in Real Time

The only person who is always present is  
the patient.

- Your leverage point as a patient advocate is the patient himself.
- Prepare her to participate, and you change the system.

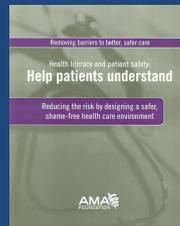
**\*\*This is your sustainability key\*\***

# Methods

1) Go and See - Know the Problem



2) Understand Health Literacy Create a Shame Free Environment



3) Use Teach Back to Ensure Understanding

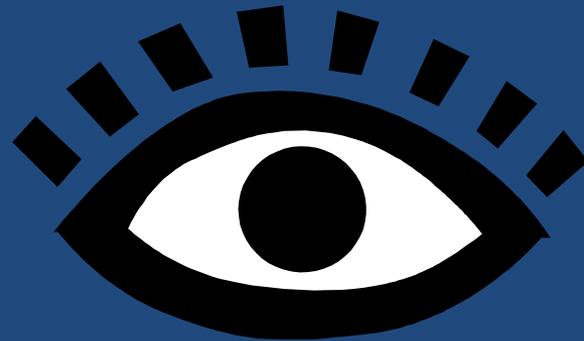
*“I want to be certain I was clear”*

4) Use “Ask Me 3” to prompt questions and dialogue

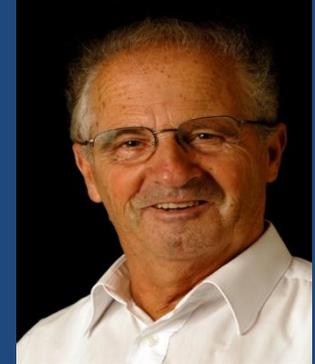


# Go and See

- Knowledge is embedded in doing.
- Observing a process in real-time is the next best thing.
- Go and See how the patient manages her medications.



# Don't Make Assumptions

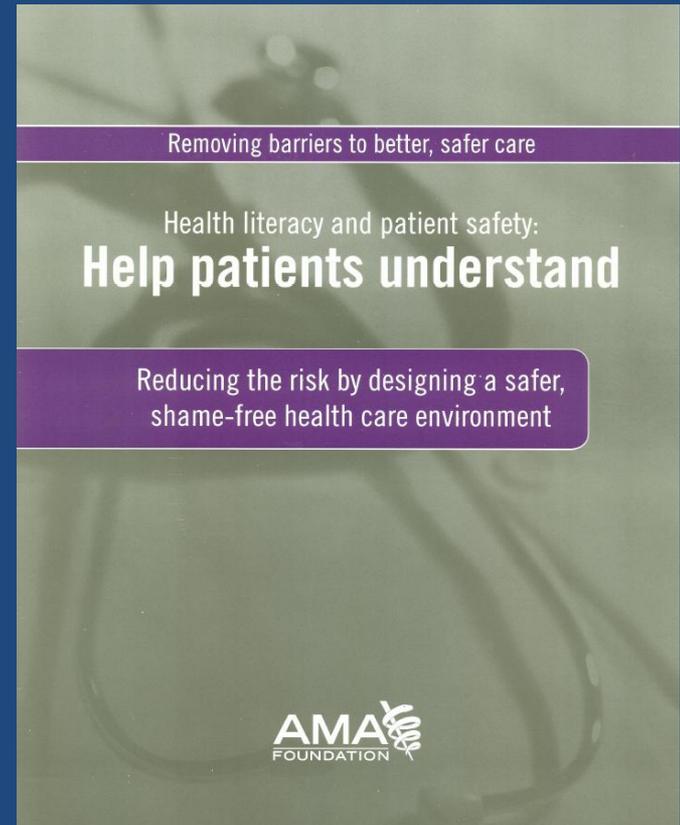


- Institute of Medicine (IOM) Committee: ...concludes that the shame and stigma associated with limited literacy skills are major barriers to improving health literacy<sup>7</sup>
- 20% have never told anyone<sup>8</sup>
- People will use well-practiced coping skills to mask the problem

# Patient Safety & Health Literacy

A safer healthcare environment is one in which a patient:

- Understands the health event(s)
- Makes *informed* health decisions
- Knows what s/he needs to do
- Does not experience a sense of shame or embarrassment at any time<sup>9</sup>
- Ask questions



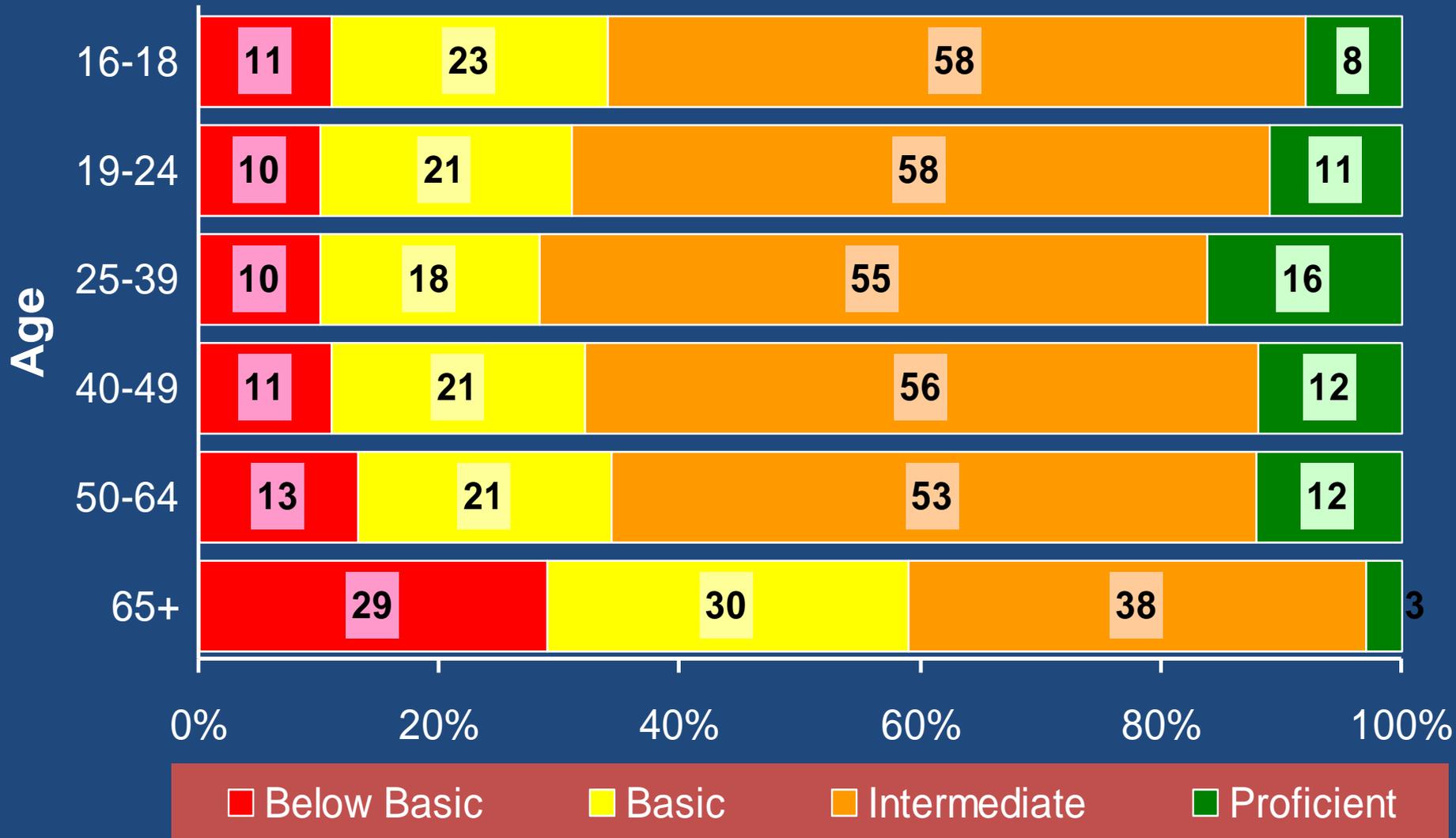
# Health Literacy Is...

*a person's ability to obtain, process, and understand basic health information and services so he or she can make appropriate health decisions.<sup>10</sup>*

## Health Literacy

Trumps age, ethnicity, socio-economic status as a predictor of mortality<sup>11</sup>

# Percent of adults in each health literacy level by age: 2003



National Assessment of Adult Literacy (NAAL): National Center for Educational Statistics, U.S. Department of Education, 2003.

# Think low health literacy if you see:

- Medication non-adherence
- Inability to name medications, or explain purpose or timing of administration

## Other Possible Indicators:

- Incomplete registration or history forms
- Frequently missed appointments
- Skipped tests & referrals
- Excuses:
  - “I forgot my glasses...”
  - “I’ll look at this at home...”
  - “I’ll show it to my daughter...”
- Difficulty explaining medical concerns
- No questions

# Shame Free Environment

Where patients feel comfortable:

- Saying they don't understand
- Asking questions
- Talking openly about their health and concerns

Asking questions can be intimidating.

- Feeling of shame
- Fear of sounding stupid
- Fear of ridicule
- Fear of being treated differently
- Not wanting to bother busy providers<sup>12</sup>

# Teach Back to Ensure Understanding

*“I want to be certain I was clear”*

- “Asking that patients recall and restate, what they have been told” is one of 11 top patient safety practices based on strength of scientific evidence.<sup>13</sup>
- Without Teach Back, the only way to know if there is a misunderstanding is a medication mistake.

# Teach Back-Technique

Ask patients to repeat *in their own words* what they need to do. It allows you to check understanding of your instructions.

Ask patients to *show you* how they will take their medications.

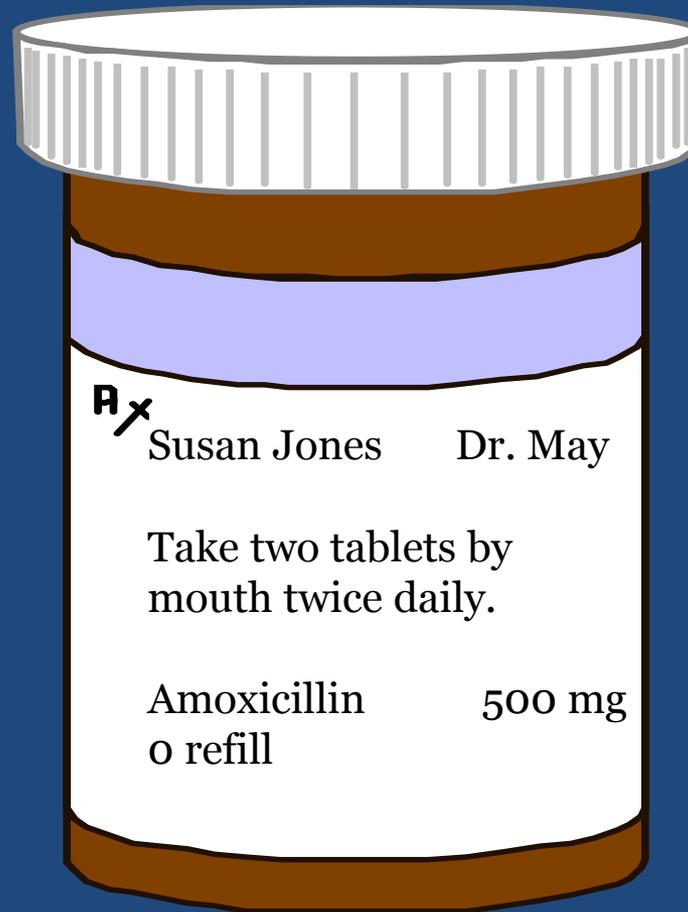
**Rephrase and repeat** Teach Back until you can be certain there is understanding.

# Teach Back

- Do not ask:
  - Do you understand?
  - Do you have any questions?
- Example:
  - “We have gone over a lot of information. I want to be sure I explained everything carefully. Can you tell me in your own words so I can be sure I explained it clearly?”
  - This language signals our failure to be clear rather than the patient’s failure to understand.

# Teach Back

“Can you please show me how many pills you will take in 1 day?”



# Focus on the Most Important Information



- What is my main problem?
  - What do I need to do?
  - Why is it important for me to do this?
- A quick, effective tool for improving communication between patients and healthcare providers.

# *“Ask Me 3”*

- **Encourages patients to ask their providers 3 simple, essential questions in every health care encounter:**
  - What is my main problem?
  - What do I need to do?
  - Why is it important for me to do this?
- **Patient Advocates’ goal: Prepare the patient to ask the 3 questions.**
- **Use Teach Back to Teach “Ask Me 3”!**
- **Follow-up with the patient after the visit.**



<http://www.npsf.org/askme3>

Materials in English, Spanish, French, Chinese, Russian, Arabic



Good Questions for Your Good Health

# Ask Me 3™

Every time you talk with your doctor, nurse, or pharmacist, ask these questions

- 1 What is my main problem?
- 2 What do I need to do?
- 3 Why is it important for me to do this?

*The more you know about your health, the better*

Ask Me 3™ is an educational program provided by the Partnership for Clear Health Communication at the National Patient Safety Foundation™

[www.npsf.org/askme3](http://www.npsf.org/askme3)

## Ask Me 3™

### Good Questions for Your Good Health

Every time you talk with a doctor, nurse, or pharmacist, use the Ask Me 3 questions to better understand your health.

- 1 What is my main problem?
- 2 What do I need to do?
- 3 Why is it important for me to do this?

#### When to Ask Questions What If I Ask and Still Don't Understand? Who Needs to Ask 3?

You can ask questions when:

- You see your doctor, nurse, or pharmacist.
- You prepare for a medical test or procedure.
- You get your medicine.

What If I Ask and Still Don't Understand?

- Let your doctor, nurse, or pharmacist know if you still don't understand what you need to do.
- You might say, "This is new to me. Will you please explain that to me one more time?"

Who Needs to Ask 3?

Everyone wants help with health information. You are not alone if you find things confusing at times. Asking questions helps you understand how to stay well or to get better.

The Ask Me 3 questions are designed to help you take better care of your health. To learn more, visit [www.npsf.org/askme3](http://www.npsf.org/askme3)

Partnership for Clear Health Communication at the National Patient Safety Foundation™

# Ask Me 3 – Using Handouts

- Highlight key points using distinctive markings
  - Explain main idea while pointing to it in handout
  - Then mark this with a distinct marking
  - Tell patients what you are doing
  - Use a different mark for the next point.
- Helps patients find specific information quickly:
- Use of handouts may prompt concerns and discussion
- Offer to read aloud
- Use Teach Back



# Context for Teach Back Role Play

- Client was released from nursing home after a stroke with a prescription for an anti-seizure medication Phenytoin 100 mg three times daily. After visiting his physician 30 days after being home from the nursing home, the doctor changed the prescription to an extended release medication Phenytek 300 mg. once daily. The client is a night owl and was not consistent with the three daily dosages so the change was appropriate and should have been easier for the client to follow. At thirty days interval, the client ordered refills and the pharmacy refilled both medications and the client began to take both. The client was receiving home health services as the therapist noticed his greatly increased lethargy, coordination issues and his confusion. How could teach back by the doctor's office or a helper have prevented this medication error?

# Let's Practice!

- Role Model: Teach Back with our client and healthcare provider in the healthcare setting
- Practice Sessions:
  - Use Teach Back with Patient on a new medication
  - Use Teach Back to instruct on Ask Me 3 in preparation for a physician visit

# Patient is the Focus

- Techniques are valuable, but not the answer.
- Remember not a linear system.
- Patient knowledge and engagement are the focus.
  
- “...intervene in people’s lives and social systems with the aim of increasing their adaptive capacity – their ability to clarify values and make progress on the problems those values define.”

Heifetz, Ronald *Leadership without Easy Answers*, 1994

# Goal: Sustainability

Solve the **small**  
problems  
and the  
**big** ones will  
disappear.

