APhA New Practitioner Network

COMMUNITY HEALTH AMBASSADOR

Health Literacy Improvement in Your Community

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Learning Objectives

- Define **health literacy** and identify impact on national health **outcomes**
- Identify **prevalence** of of health literacy
- Identify **5 steps pharmacists** can execute to help **improve** the health literacy of a community

The Patient Protection and Affordable Care Act of 2010

"**Health literacy** is the degree to which individuals have the **capacity** to **obtain**, **process**, and **understand** basic **health information** and services needed to make appropriate **health decisions**"

Prevalence of Low Health Literacy

- Nearly **80 million U.S adults (~36% of U.S. adult population**) are limited in their ability to read and understand all health information (e.g. discharge instructions, medication labels, follow-up instructions, etc.)
- Only **12% of U.S. adults** are considered to have "proficient" or "effective" health literacy

Kutner M, Greenberg E, Jin Y, et al. The health literacy of America's adults: results from the 2003 National Assessment of Adult Literacy (NCES 2006-483). Available at: http://eric.ed.gov/PDFS/ED493284.pdf. Accessed September 20, 2016

National Impact of Low Health Literacy

- Cost of health literacy is purported to **$106 billion** and **$236 billion** each year
- Increased **hospital visits** and **admissions**
- Increased prevalence and severity of of **chronic disease states**
- Increased **mortality**
- Increased **medication errors**
- Decreased use of **preventative services** (e.g. screenings)

National Action Plan to Improve Health Literacy. Health.gov website. https://health.gov/communication/hlactionplan/pdf/Health_Literacy_Action_Plan.pdf Accessed September 2
Berkman ND, Sheridan SL, Donahue KE, et al. Evid Rep Technol Assess (Full Rep). 2011 Mar;(199):1-941.

Pharmacists and Health Literacy

- Pharmacists are among most **trusted** and **accessible** healthcare professionals
- Pharmacists have answered **previous calls** for improving the health of the community
- **Last** opportunity to gain clarity for medication instructions or health information before going home

Johnson JL, Moser L, Garwood CL. *Am J Health Syst Pharm*. 2013 Jun 1;70(11):949-55.

What Pharmacists Can do to Improve Health Literacy in Community?

1. Identify patients at **risk** for health literacy and conduct screenings
2. Evaluate how pharmacy setting is set up to serve patients with limited health literacy
3. Conduct **feasible interventions** to target **ALL** levels of health literacy
4. Conduct **interventions** to **targeted patient populations**
5. Consistently evaluate health literacy change to validate efficacy

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1. Identify patients at risk for low health literacy and conduct screenings

Groups at Risk for Lower Health Literacy

- Adults >/= **65 years of age**
- Racial and ethnic groups other than Caucasian (Black, Hispanic, Asian, etc.)
- Recent **refugees** and **immigrants**
- **Non-Native** speakers of English
- Adults with **less** than a **high school degree** or **GED**
- Adults with incomes **below** the **poverty** level

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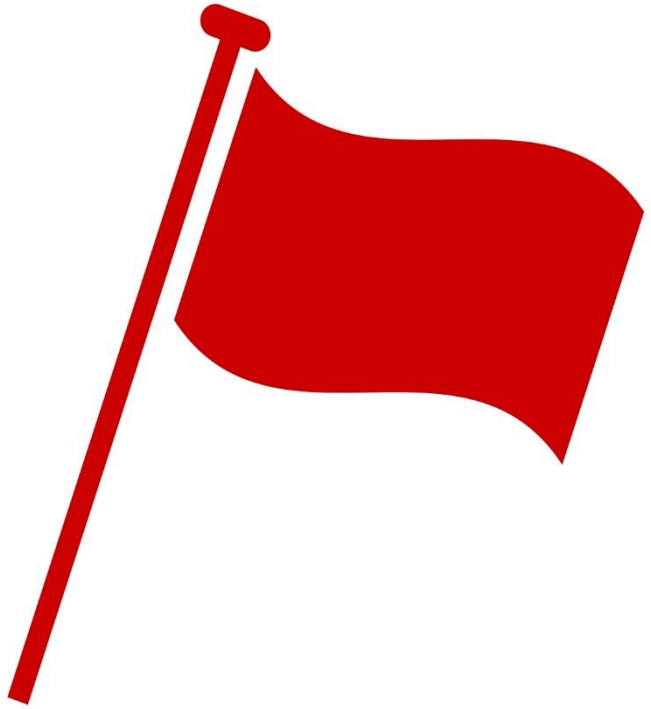
Red Flags for Limited Health Literacy



- General Flags
  - **Missed** appointments or referrals
- Pharmacy Related Flags
  - Missed **MTM appointments** or referrals
  - **Nonadherence** with chronic medications
  - Inability to list **names** of **medications**, their purpose and/or timing of medication administration
  - Refers to medications by **colors** or **shapes** (e.g. "**My blue pill**" or "My square pill")

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"Common Phrases" suggesting Low Health Literacy

- "Let me bring those medication bottles home so I can talk about them with my children"
- "I forgot my glasses and know about these medications—I have been on them for years. I will read about them when I get home"
- "Can you give me my old prescription bottle back, it helps me remember my drugs"

National Action Plan to Improve Health Literacy. Health.gov website. https://health.gov/communication/hlactionplan/pdf/Health_Literacy_Action_Plan.pdf Accessed September 20
Berkman ND, Sheridan SL, Donahue KE, et al. Evid Rep Technol Assess (Full Rep). 2011 Mar;(199):1-941.

Measurement of Health Literacy

TOFHLA (Test of Functional Health Literacy I Adults)

- A 50-item **reading comprehension** and 17-item **numerical ability** test
- Used most often in **clinical research**
- **Limited use** in clinical practice due to time needed to complete **(average 20 minutes)**

Rapid Estimate of Adult Literacy in Medicine (REALM)

- **Word recognition** test that evaluates whether a person can correctly pronounce a series of health-related words
- Can be administered quickly **(<10 minutes)**
- Does not evaluate other literacy concepts (e.g. **numerical ability**)

Parker RM, Baker DW, Williams MV, Nurss JR. *J Gen Intern Med*. 1995 Oct;10(10):537-41.

Quick Measurement of Health Literacy in Community setting: NVS (Newest Vital Sign)

- Evaluates reading, comprehension, abstract reasoning
- **Generally accepted** in primary care practice with only 2.5% refusing to complete the assessment
- Identifies patients who have either
  - **Adequate** health literacy
  - **Limited** health literacy

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Weiss BD, Mays MZ, Martz W, et al. *Ann Fam Med*. 2005;3:514
Shah LC, West P, Bremmeyr K, et al. *J Am Board Fam Med*. 2010; 23:195-203

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.

Score Sheet for the Newest Vital Sign Questions and Answers

READ TO SUBJECT: This information is on the back of a container of a pint 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 2500 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

Interpretation Number of correct answers

Score of 0-1 suggests high likelihood (50% or more) of limited literacy
Score of 2-3 indicates the possibility of limited literacy.
Score of 4-6 almost always indicates adequate literacy.

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Medication Related Health Literacy Evaluation Tool: MedLitRxSE

- **20-Item** tool for evaluating medication health literacy in **English** and **Spanish** speaking patients
- Evaluates **3 Areas**
  - Ability to understand **lists or instructions** which usually on **prescription labels** (11 Items)
  - Ability to use quantitative skill for using medications, such as **measuring units** of a medication or properly **following dosage** directions (6 Items)
  - Ability to understand information from continuous **text** as often found in **patient education sheets** for medications (3 Items)
- **Validated** in a study of **181** English and Spanish speaking patients

Sauceda JA, Loya AM, Sias JJ, Taylor T, Wiebe JS, Rivera JO. *J Am Pharm Assoc (2003)*. 2012;52(6):e231-40.

Summary for Screening and Identifying Patients at risk for Low Health Literacy

- Various age, ethnic, and educational groups have been associated with low health literacy
- Patients who have refused to ask questions or to clarify information have been associated with low health literacy
- Various tools exist for identifying patients with deficiency of health literacy

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Test your knowledge…

- Which of the following Health Literacy Assessment exams could be conducted within 10 minutes?

I. TOFHLA

II. REALM

III. NVS

- A. I Only
- B. I, II, III
- C. II, III only
- D. I, III only

2. Evaluate how pharmacy setting is set up to serve patients with limited health literacy

Is Our Pharmacy Meeting Patients' Health Literacy Needs?

- A tool developed by the Agency for Healthcare Research and Quality **(AHRQ)** to **ASSESS** how well the pharmacy is set up to serve patients with **limited health literacy**
  - Assess the Pharmacy Setting
  - Survey Pharmacy Staff
  - Survey Pharmacy Patient Focus Groups
- Will allow pharmacists to **identify** logistic barriers for patients
- Will allow pharmacists to **identify opportunities** for improving patient experiences at pharmacy

AHRQ Pharmacy Health Literacy Center. AHRQ website. http://www.ahrq.gov/professionals/quality-patient-safety/pharmhealthlit/index.html. Accessed September 20, 2016.

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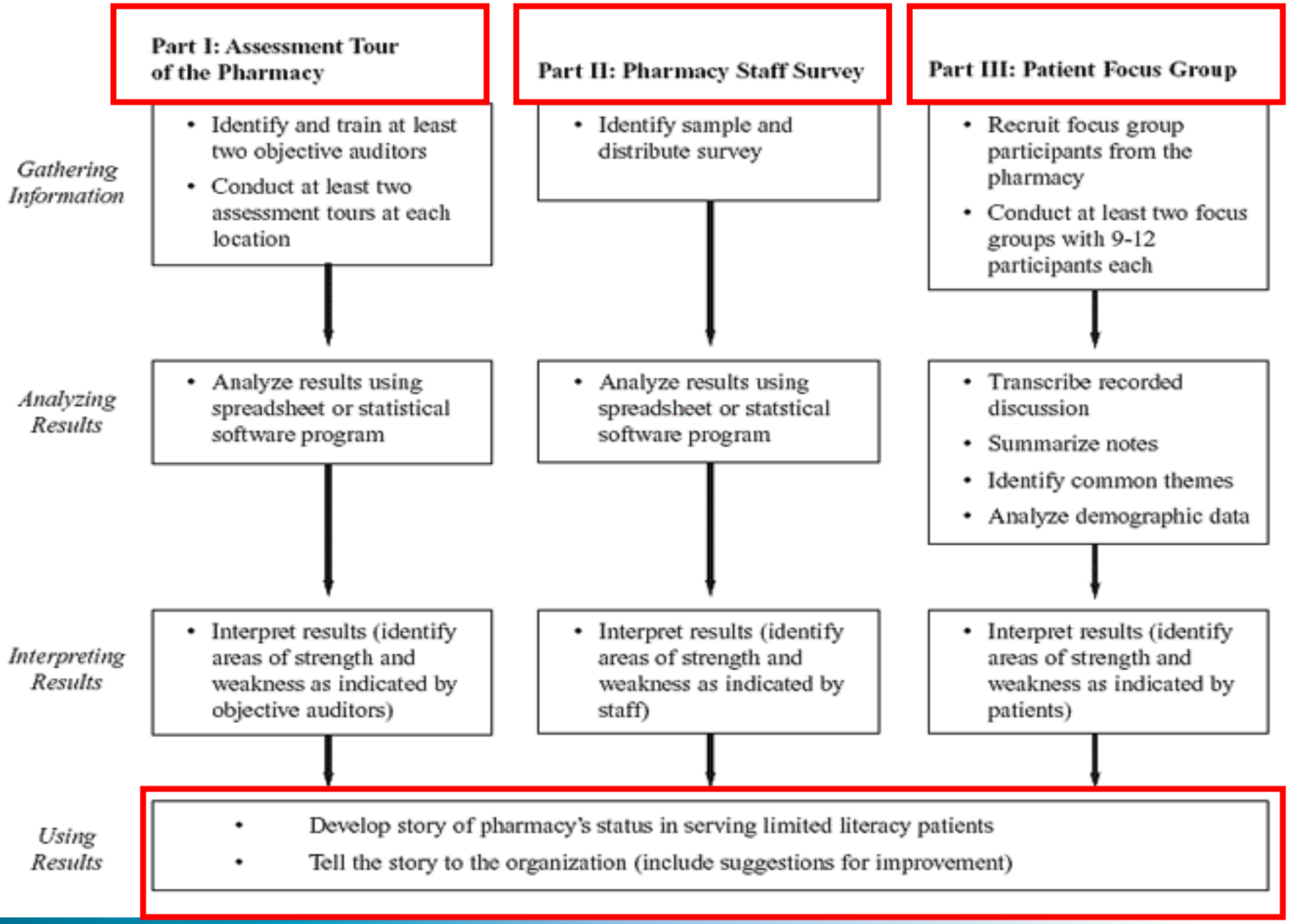

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Survey Example Results

Insight found from the surveys	Specific instructions to address assessment results—mainly weaknesses
"Patients find that layout of the pharmacy is too confusing"	Create signage to make navigation easier in 3 months
"The pharmacy does not provide print materials in other languages"	Provide materials in languages spoken by the patient populations in 2 months
"The pharmacists use highly complex medical jargon when communicating"	Have pharmacists undergo communication training by the end of the month

Summary for Evaluating Pharmacy Setting

- Evaluate how well the pharmacy, pharmacy staff, and patients believe health literacy is addressed at pharmacy
- Utilize the tools created by the AHRQ to conduct evaluation

National Action Plan to Improve Health Literacy. Health.gov website. https://health.gov/communication/hlactionplan/pdf/Health_Literacy_Action_Plan.pdf. Accessed September 2
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3. Conduct feasible interventions to target ALL levels of health literacy

General Medication Counseling Recommendations for Improving Health Literacy in ALL patients

- Explain counseling points in **simple**, **clear**, and **concise** language
- Use the "**teach back**" method to **validate** understanding
- **Solicit** questions to clarify any confusion

Strategies To Improve Communication Between Pharmacy Staff and Patients: Training Program for Pharmacy Staff. AHRQ website. http://www.ahrq.gov/professionals/quality-patient-safety/pharmhealthit/pharmit/pharmtrain2.html#slides. Accessed September 22, 2016.

Explain counseling points in simple, clear, and concise language

- Avoid speaking very fast or as if in hurry. **SLOW DOWN!**
- Use **NON-MEDICAL** language as frequent as possible

Instead of……	Say…..
“Antihypertensive medication”	“Blood pressure pill”
“Take within 30 to 60 minutes of your first meal”	“Take ½ hour to 1 hour before breakfast
“Hypoglycemia”	“low blood sugar” or “blood sugar is low”
“Adverse Reaction”	”Side Effect”
“PRN”	”When you need to” or “as needed”

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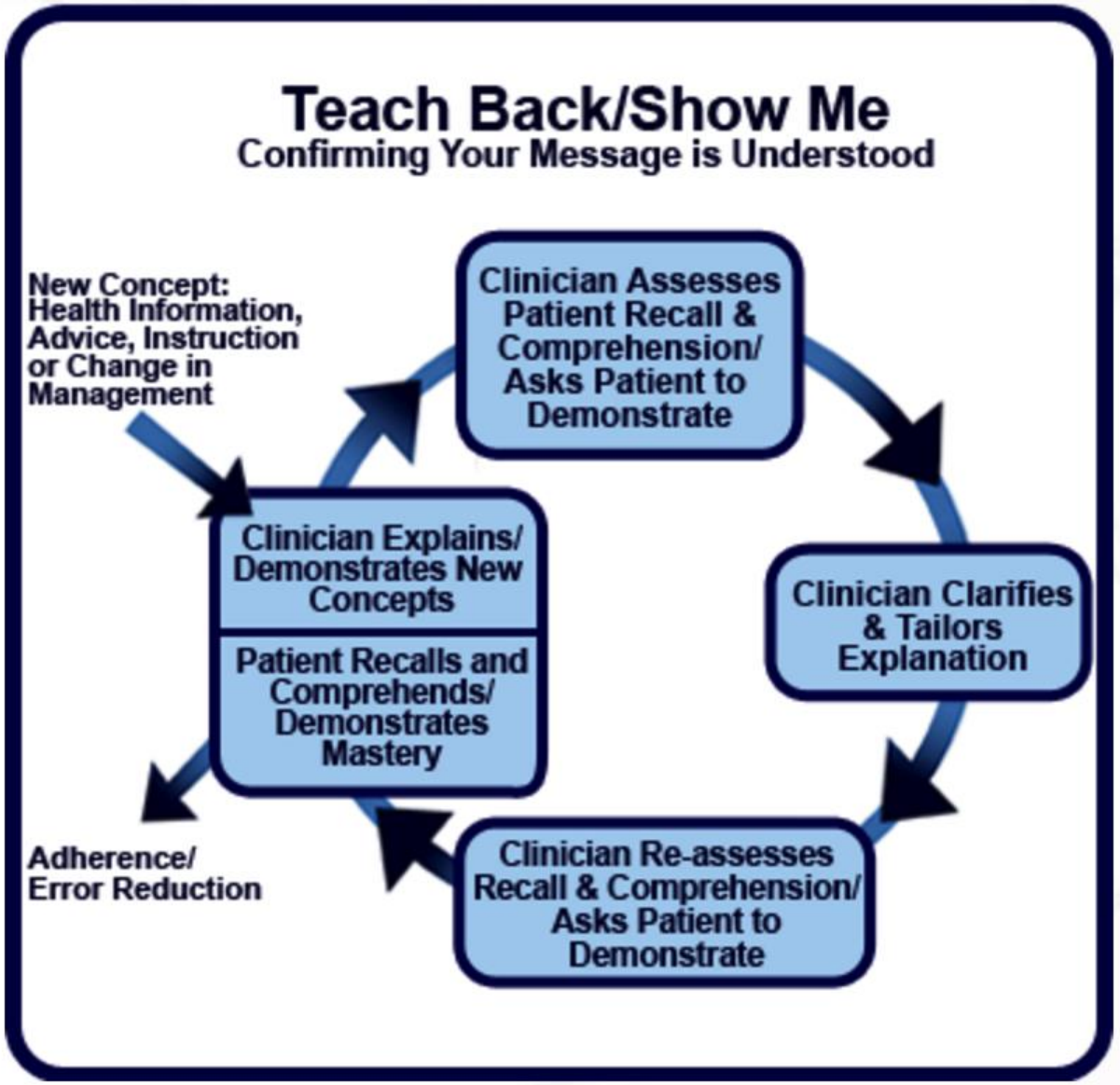
Use the "Teach Back" Method to Validate Understanding

- Ask "**open-ended**" questions validate understanding of information
  - "Just to make sure we **covered** everything important, can you tell me:
  - "**Why** you are taking this medication?"
  - "**How** you are supposed to take it?"
  - "**What** side effects should you suspect from this?"
  - "**How** can you make sure it is working"



Strategies To Improve Communication Between Pharmacy Staff and Patients: Training Program for Pharmacy Staff. AHRQ website. http://www.ahrq.gov/professionals/quality-patient-safety/pharmhealthit/pharmlit/pharmtrain2.html#slides. Accessed September 22, 2016.

Module 2: Health Literacy. HRSA Website. http://pilot.train.hrsa.gov/uhc/m2_lessons/0202290.html. Accessed September 19, 2016.

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Test Your Knowledge

- What are alternative phrases for the complex medical terms below?

Instead of……	Say…..
Dyslipidemia	
Myopathy	
Thrombus	
Primary Prevention of CVD	
Ischemia	
Psychosis	
Coadministratoin	

National Action Plan to Improve Health Literacy. Health.gov website. https://health.gov/communication/hlactionplan/pdf/Health_Literacy_Action_Plan.pdf Accessed September 22, 2016.
Berkman ND, Sheridan SL, Donahue KE, et al. Evid Rep Technol Assess (Full Rep). 2011 Mar;(199):1-941.
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4/5. Conduct feasible interventions to target specific patient groups and evaluate outcomes to validate efficacy

General Recommendations for Improving Health Literacy for Targeted Groups

- Actions should be **interdisciplinary**
- Actions should be strategically **planned** and based upon **high quality evidence**
- Actions should be **evaluated** to validate if health literacy was improved
- Actions should be easily **sustainable** and continued

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Action #1: Use Medication Class Icons with Pill Card + Written Instructions + Automated Phone Calls

- **Picture Prescription Card**
  - Placing medication class icons/stickers on container label, lid, and written patient instructions regarding when it should be taken
  - (e.g. example, the icon for **ACE inhibitors** is a **red ace of hearts**)
- **Written Instructions** for low health literacy patients with easy-to-follow timeline
- Automated **telephone reminder calls** to refill prescriptions

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AHRQ Pharmacy Health Literacy Center. AHRQ website. http://www.ahrq.gov/professionals/quality-patient-safety/pharmhealthlit/index.html. Accessed September 20, 2016.

Name	Used For	Instructions	Morning	Afternoon	Evening	Night
Simvastatin 20mg	Cholesterol	Take 1 pill at night				
Furosemide 20mg	Fluid	Take 2 pills in the morning and 2 pills in the evening				
Insulin 70/30	Diabetes (Sugar)	Inject 24 units before breakfast and 12 units before dinner	24 units		12 units	

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Validation Study: Murray et al. 2007

Study Design
- Single-center, Randomized Control Trial conducted from 2001 to 2004

Population
- N=314 Heart Failure Patients (122 in intervention group vs 192 in usual care group)

- Intervention
  - Combination of various Interventions including the following
    - Use of icon system (color and shape) stickers on the container label and lid, and on the written patient instructions on picture card
      - (e.g. Icon for ACE inhibitors was red ace of hearts)
    - Easy to follow timeline to remind patients when to take their medication
    - Clear health communication training for pharmacists)
- Outcomes
    - Adherence via electronic prescription monitors
    - 78.8 % adherence in intervention group vs. 67.9% in non-intervention group

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Murray MD, Young J, Hoke S, et al. *Ann Intern Med*. 2007 May 15;146(10):714-25.

Implementation in Community Pearls

Actions	Evaluating Impact of Any Listed Action
Use **AHRQ Tool** document for creating **animated pill cards** to **dispense** to the patient during: MTM Visits, Hospital Discharge Counseling, Ambulatory Care Visits, any community pharmacy visit, etc.	**Medication Adherence** (# of filled medications, # missed medications)
Print stickers of images to place on medication bottles	Improved **information recall** survey results to medication use questions (why taking, how to take, what to expect, etc.)
Partner with Automated Messaging System to create automatic phone calls, text messages, or emails	Improved **clinical outcomes** (e.g. Blood pressure readings, Blood glucose readings, etc.)

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Action #2: Conduct Education Groups for disease state groups

- Conduct weekly **group classes** to educate about diseases and medications
  - (e.g., Diabetes Education Classes)

National Action Plan to Improve Health Literacy. Health.gov website. https://health.gov/communication/hlactionplan/pdf/Health_Literacy_Action_Plan.pdf Accessed September 2
Berkman ND, Sheridan SL, Donahue KE, et al. Evid Rep Technol Assess (Full Rep). 2011 Mar;(199):1-941.

Validation Study: Kim et al. 2004

Study Design
- Single-center, Prospective Cohort Study

Population
- N=92 patients enrolled in the diabetes education class

Intervention
- The classes consist of an individual meeting with a diabetes educator and three weekly 3-h group classes for 12 weeks
- Health literacy evaluated using the short-form Test of Functional Health Literacy in Adults, to identify groups of patients
- Diabetes Knowledge Questionnaire (DKQ) used to evaluate diabetes knowledge

- Outcomes
  - Diabetes knowledge health literacy score **improved** in low health literacy group from 13.9 to 18.0 +/- 1.08

Kim S, Love F, Quistberg DA, Shea JA. *Diabetes Care*. 2004 Dec;27(12):2980-2.

Implementation in Community Pearls

Actions	Evaluating Impact of Any Listed Action

Find health educators or public health officers to come to the community from to organize health education programs
• Certified Health Education Specialists (CHES) or Master Certified Health Education Specialists (MCHES
	Health Literacy Questionnaire Results before and after programs
	• Visit Healthliteracy.bu.edu to find ALL health literacy tools
	  • TOFHLA
	  • REALM
	  • MedLitRxSE

Attain CE certification or Board Certification training • CDE (Certified Diabetes Educator)	

National Action Plan to Improve Health Literacy. Health.gov website. https://health.gov/communication/hlactionplan/pdf/Health_Literacy_Action_Plan.pdf Accessed September 2

Test Your Knowledge

- Name some chronic disease states that you suspect education groups would be helpful.

Action #3: Use Mass Media to improve health literacy

- Utilize **Mass Media** to educate public to improve health literacy
- As pharmacists, can be seen as the **"Health Expert"** or "Neighborhood Pharmacist" of the community
  - Newspaper/Magazine
    - May start **health column** in local newspaper or magazine to define common health terms
  - Radio/Television
    - May go on **television or radio broadcast** to promote health literacy
  - Podcast/Soundcloud
    - May create **own** audio recordings and distribute via **social media**

Validation Study: Sudore et al. 2008

Study Design
- Descriptive study

Population
- N=117 Geriatric Patients

- Intervention
  - Questions about knowledge of the tragedy of Terri Schiavo media coverage and motivation for colon screening
- Outcome
  - **37% reported** wanting further information for completing an advance directive suggesting motivation for improving health literacy

Implementation in Community Pearls

Actions	Evaluating Impact of Any Listed Action
Contact local newspaper/magazine editors for possibility for writing a column	
Contact **local** television/radio networks for **volunteering** to come and educate community regarding health literacy (e.g. common medical terms, terms associated with insurance, etc.)	Social Media "Likes" or "comments" to estimate number of patients who received the health literacy message message
Autonomously create **podcast** to help educate patients	Number of subscribers for podcasts

Conclusion

- **Health literacy** is the degree to which individuals have the **capacity** to **obtain**, **process**, and **understand** basic **health information** and services needed to make appropriate **health decisions**
- **Only 12% of U.S. adults** are considered to have "proficient" health literacy
- **Combination** of various interventions can help pharmacists improve the health literacy in their community

Further Information

Visit

AHRQ Website

CDC Website

Health.gov website

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