

STRATEGIES FOR OPTIMIZATION OF COMPLIANCE OF MEDICATION THERAPY IN PATIENTS

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LEARNING OBJECTIVES

- Define the general terminology in regards of adherence and compliance.
- Identify and assess nonadherence in patients.
- Discuss available strategies to identifying causes of non-adherence.
- List different strategies to increase adherence in patients.
- Discuss how to apply strategies for the improvement of medication adherence in patients.
- Value the role of the Pharmacist and Pharmacy Technician in the improvement medication adherence in patients.

INTRODUCTION^[3]

- Types of non-adherence
 - *Unintentional non-adherence* occurs when the patient wants to follow the agreed treatment but is prevented from doing so by barriers that are beyond their control.
 - Poor recall, difficulties in understanding instructions, inability to pay for the treatment, or simply forgetting to take it
 - *Intentional non-adherence* occurs when the patient decides not to follow the treatment recommendations. This often takes the form of patients.
 - Reducing the dosing frequency
 - Number of medications down to a level that they (and not their doctor) believe is appropriate.

INTRODUCTION^[4]

Direct Costs

- According to Iuga, and McGuire, 2014:
 - Medication non-adherence affects health outcomes and health care costs.
 - “Patient non-adherence to prescribe medications is associated with poor therapeutic outcomes, progression of disease...”.
- In US, \$100 - \$300 billion of avoidable health care costs
 - Attributed to nonadherence annually
 - 3% - 10% of total health care costs
 - Majority of them result from avoidable hospitalizations

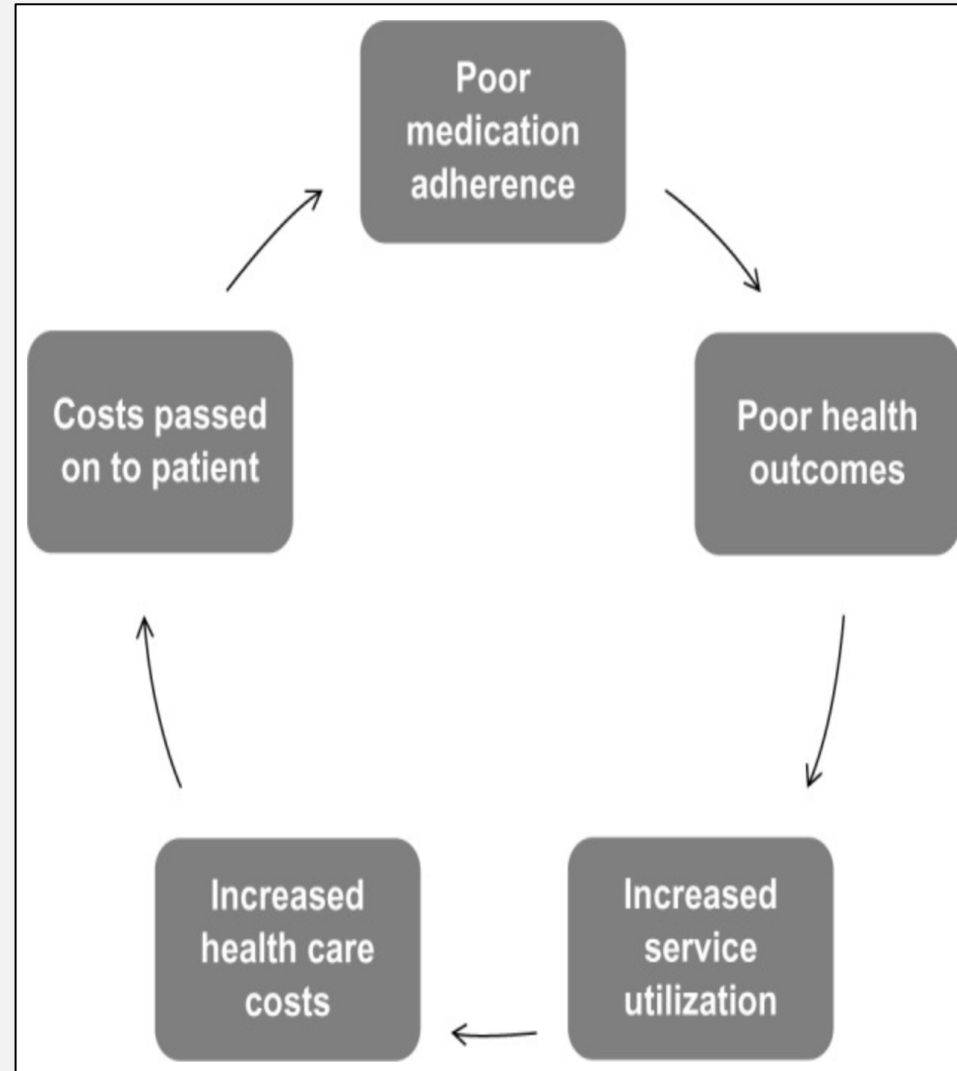


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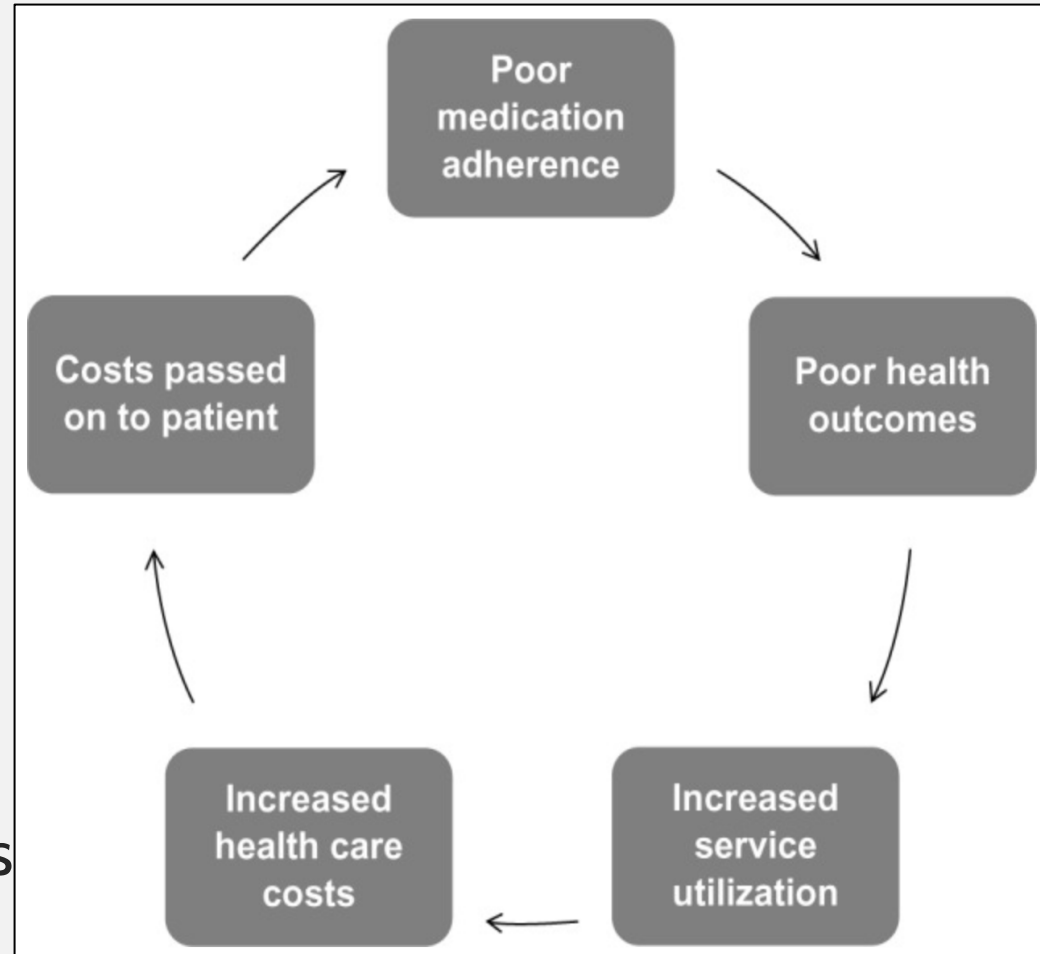
INTRODUCTION^[1,2]

- Average adherence rate
 - 80% - patients take medications once daily
 - 50% - patients take medications four times daily
 - 75% - patients fail to medication adherence
- More than 50% of adults don't take their medications as directed.
- More than 20% of new prescriptions goes unfilled.
- Two out of five patients don't refill prescriptions for heart-related conditions.
- Medication-related hospitalizations
 - 1/3 – 2/3 are the result of poor adherence

INTRODUCTION^[4]

• Indirect Costs

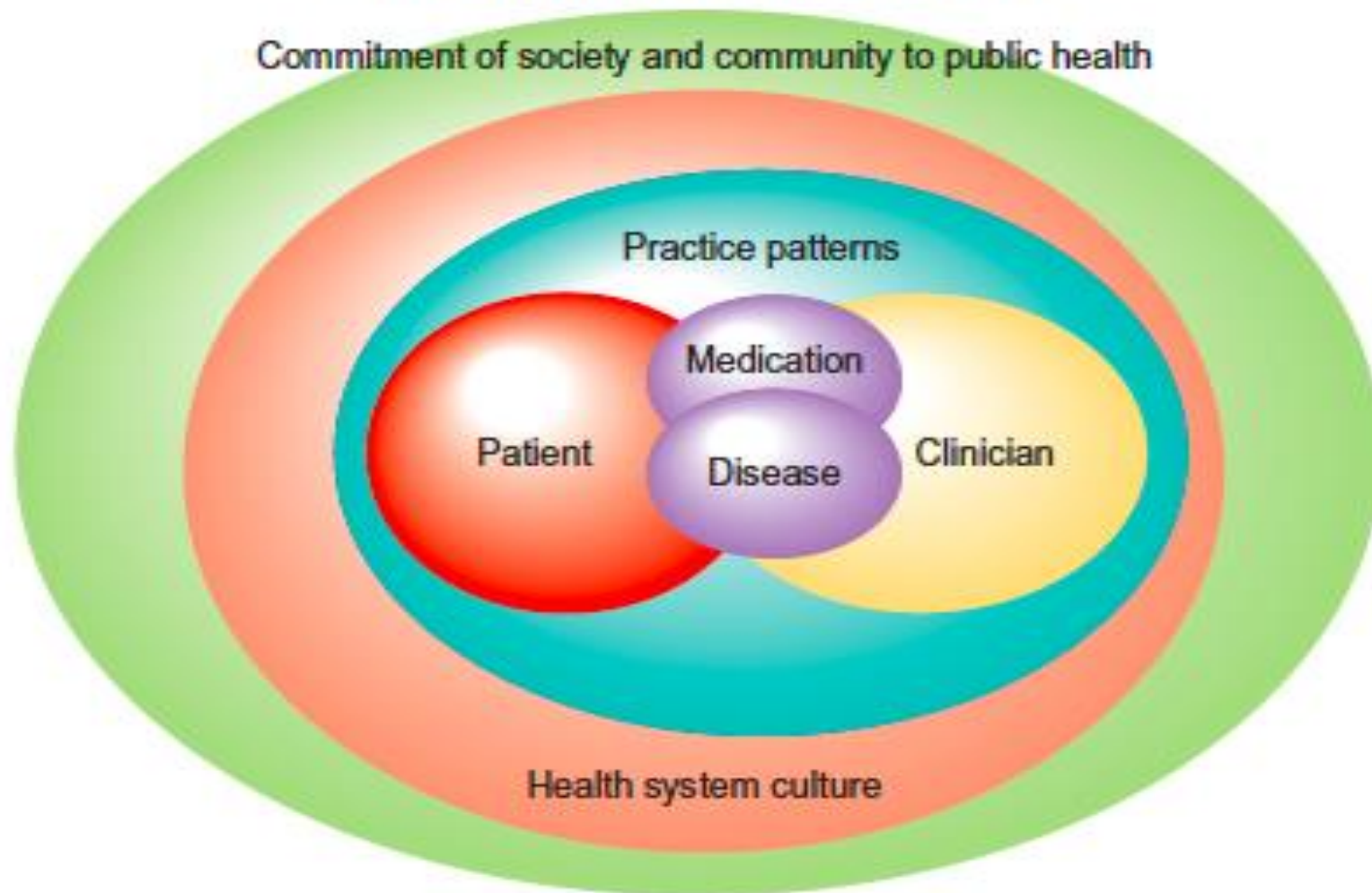
- According to Iuga, and McGuire, 2014:
 - Reduced productivity, absenteeism, increased disability.
 - It has been estimated that indirect health care costs are 2.3 times higher than the direct health care costs



LEVELS OF INFLUENCE^[5]

Levels of influence of adherence

Commitment of society and community to public health



PERCENTAGE OF PATIENTS TAKING A COURSE OF ACTION ONCE A PRESCRIPTION IS WRITTEN^[6]

Action	Percentage (%)
Don't fill their prescription at all	12
Don't take medication at all after they fill the prescription	12
Stop taking their medication before it runs out	29
Take less of the medication than is prescribed on the label	22
Total non-adherence	75

**DEFINE THE GENERAL TERMINOLOGY
IN REGARDS OF ADHERENCE AND
COMPLIANCE**

TERMINOLOGY^[5]

Adherence

- To take prescribed agents at doses and times recommended by a health care provider and agreed to by the patient.
- “The extent to which patients take medications as prescribed by their health care providers”.

Non-adherence

- “Failing to fill the initial prescription (primary nonadherence)”.
- “Underuse of therapy (secondary nonadherence), and premature discontinuation of therapy”.

Compliance

- “Implies patient passivity in following the prescriber’s recommendations”.

Persistence

- “The length of time from initiation to discontinuation of therapy”.

ADHERENCE

Right Amount

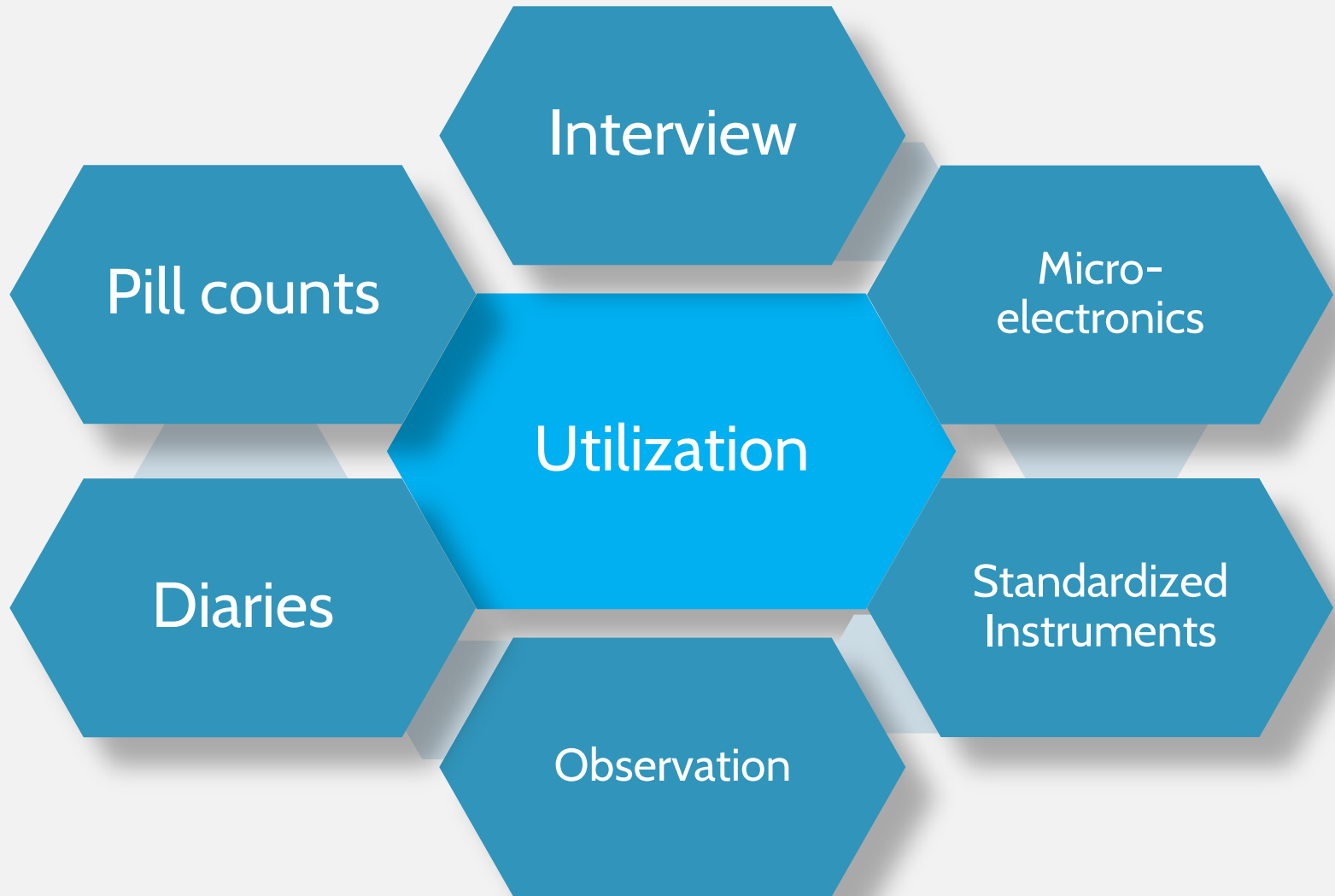
Right time

Right way

Right duration

**IDENTIFY AND ASSESS
NONADHERENCE IN PATIENTS**

IDENTIFYING NON-ADHERENCE



Measurement of Medication Utilization Methods

Direct

Indirect

Directly observed therapy (DOT)

Biological Fluids

Patient Self-Report

Pill Counts

Electronic Event Monitoring

IDENTIFYING NON-ADHERENCE

- A variety of medication utilization detection/measurement methods have been reported in the literature
 - Strengths
 - Weaknesses
 - varying costs
 - applicability/feasibility in medical practice

IDENTIFYING NON-ADHERENCE

- No gold standard exists but some methods are clearly superior to others.
- Choice of measure is important due to the ramifications of misclassification
- Misclassifications may result in:
 - changes in medication therapy
 - including adding medication therapies
 - additional diagnostic testing
 - unnecessary referral
- *Meaning* : more expenses, more time, less benefit to patients, providers and healthcare

DIRECT OBSERVED THERAPY

- A patient is observed consuming his/her medication(s).
- Where has this method been use?
 - Clinical trial
 - certain public health initiatives
 - (e.g., tuberculosis, HIV, and methadone) on.
- DOT is considered impractical

DIRECT OBSERVED THERAPY

- Use is limited
- Therapy is typically dispensed at the site of utilization clinic, residence, place of employment, etc.
- Patients enrolled in DOT may attempt to fool the observer

BIOLOGICAL FLUIDS

- Blood or urine samples have been used to:
 - Detect medication levels
 - Metabolites of medications
 - Markers/tracers
- Limitations to their use include:
 - Cost
 - Intrusiveness
 - Impracticality

BIOLOGICAL FLUIDS

- These methods are sensitive to factors associated with:
 - ADME
 - Susceptibility to interactions
- Assays measure medication utilization over relatively short time intervals
- Fail to provide information about consistency in medication adherence over extended periods
- The use of serum or urine levels to detect medication utilization is highly susceptible

PATIENT SELF-REPORT

- Includes:
 - Interviews
 - Structured Instruments
 - Diaries
- Easiest strategy to assess medication utilization behavior
- Most practical
- Most widely used in clinical practice
- Fast, inexpensive, simple

PATIENT SELF-REPORT

- Disadvantages
 - Patients may not be able to recall their medication-taking behavior
 - Patients may over estimate their medication utilization
 - Social desirability bias
- Tools
 - Morisky Scale
 - Brief Medication Questionnaire (BMQ)
 - ASK-12 (Adherence Starts with Knowledge)
 - Medication diaries (including electronic)

MORISKY SCALE^[10]

- The *Morisky* scale is a validated scale designed to estimate the risk of medication non-adherence.
- It's used for many different diseases such as hypertension, hyperlipidemia, asthma, and HIV.
- Scores are based on patient responses to four questions
 - Yes or No

MORISKY SCALE^[10]

- **Morisky Scale Questions**

1. Do you ever forget to take your medicine?

2. Are you careless at times about taking your medicine?

3. When you feel better, do you sometimes stop taking your medicine?

4. Sometimes if you feel worse when you take the medicine, do you stop taking it?

MORISKY SCALE^[10]

- **Scoring the Morisky Scale**
 - Yes=0 and No=1
- Patients scoring 0 or 1 would benefit most from pharmacist intervention
- The goal is the screening for patients in which your pharmacist time should be spent on enhancing adherence

QUESTION #1

The Morisky scale is used to identify:

- A. The likelihood that a patient is non adherent to medications
- B. The likelihood that a patient is non adherent to lifestyle modifications
- C. The percentage of doses a patient has missed
- D. The reasons why a patient is non adherent

PILL COUNT

- Represented the standard “objective” method for measuring medication utilization
- Straightforward
- Simple
- Feasible

MICROELECTRONIC MEDICATION MONITORING DEVICES

- Electronic monitoring devices that can measure medication utilization behavior.
- MEMS have integrated micro circuitry that records the time and date that the package is opened.

MICROELECTRONIC MEDICATION MONITORING DEVICES

- Types of information provided by device
 - chronology of dose administration
 - evidence of overuse (short-interval administration)
 - evidence of underuse (medication holidays)
- Data can be downloaded from the device to a computer for subsequent analysis.

MICROELECTRONIC MEDICATION MONITORING DEVICES

- Advantages
 - collects information about the utilization” of medication as well as the timing of such utilization.
- Disadvantage
 - Costly
 - Does not assure that the dosages have been consumed.

QUESTIONS TO ASSESS A PATIENT'S MEDICATION ADHERENCE^[12]

- I know it must be difficult to take all your medications regularly. How often do you miss taking them?
- Of the medications prescribed to you, which ones are you taking?
- Of the medications you listed, which ones are you taking?
- Have you had to stop any of your medications for any reason?
- How often do you not take medication X? (address each medication individually)
- When was the last time you took medication X? (address each medication individually)
- Have you noticed any adverse effects from your medications?

MEDICATION ADHERENCE REPORT

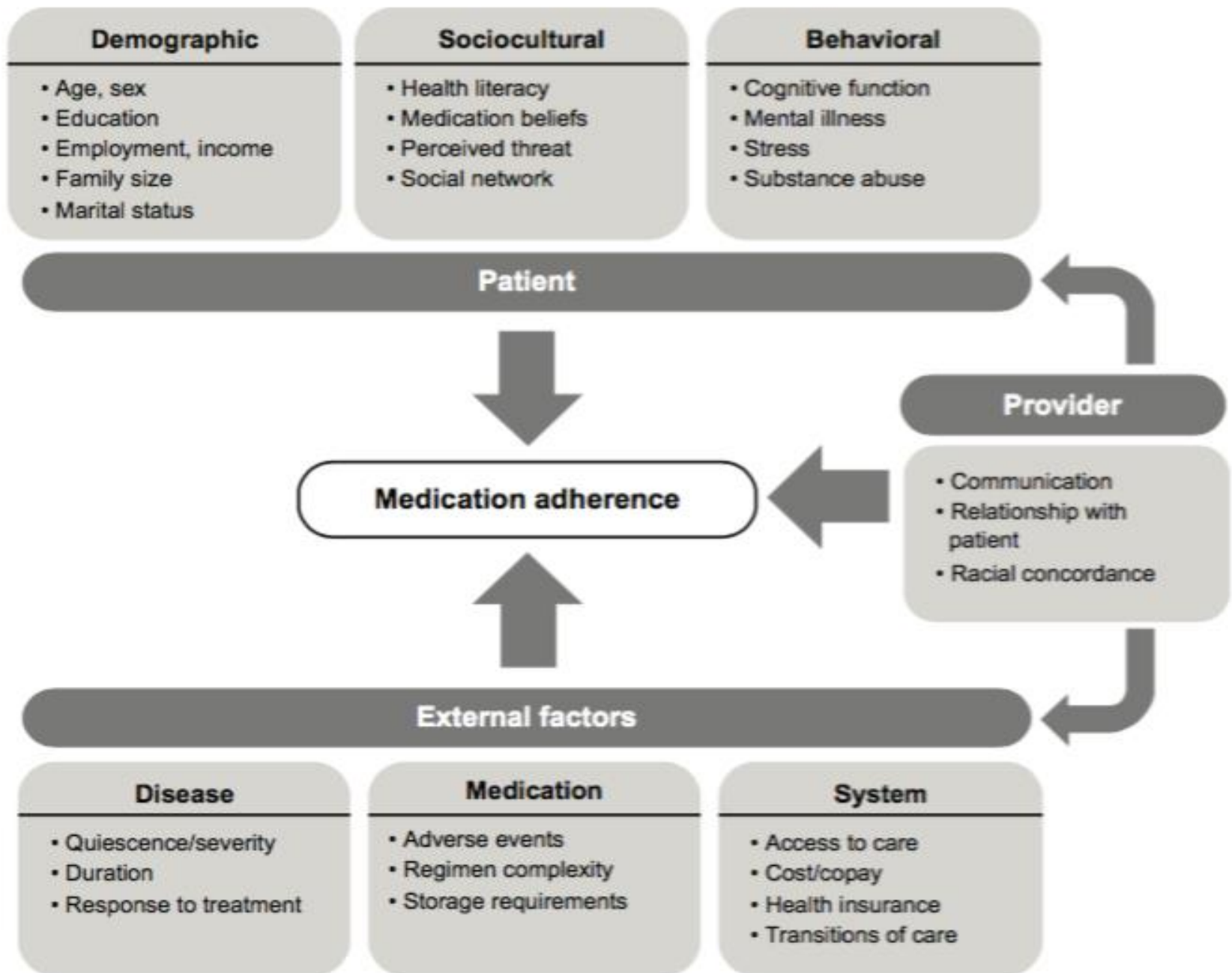
- I forget to take these medicines sometimes
- I alter the dose of these medicines sometimes
- I stopped taking these medicines for a while
- I decided to miss out a dose
- I take less than instructed sometimes

QUESTION #2

Which of the following are strategies to identifying non-adherence?

- A. A patient diary
- B. Interview
- C. Pill counts
- D. All of the above

DISCUSS AVAILABLE STRATEGIES TO
IDENTIFYING CAUSES OF NON-
ADHERENCE



FACTORS AND BARRIERS TO ADHERENCE BEHAVIORS^[11]

- Disease factor
 - Chronic vs acute condition
 - Asymptomatic periods
 - Prophylactic treatment
 - Perception of physiologic compromise
- Patient factors
 - Life distractions
 - Stress, depression
 - Comorbidities
 - Limited literacy

FACTORS AND BARRIERS TO ADHERENCE BEHAVIORS^[11]

- Treatment factors
 - Cost
 - Adverse effects
 - Incomplete benefit (perception)
 - Inconvenient treatment schedule
 - Requirement of long-term behavior
- Provider factors
 - Ability to:
 - Communicate and educate
 - Communicate across cultural and language differences
 - Assess patient's literacy and knowledge
 - Build trust

FACTORS AND BARRIERS TO ADHERENCE BEHAVIORS^[11]

- Practice and System factors
 - Cost and copayments
 - Inconvenient office hours
 - Waiting time
 - Difficulties with pharmacy
 - Poor communication
- Society related
 - Lack of motivation
 - Transportation difficulties
 - Poverty
 - Unemployment
 - Discrimination

MEDICATION-RELATED PROBLEM: CAUSES OF NON-ADHERENCE

- Patient can not swallow
- Patient skips doses to save money
- Patient has no support system
- Patient resist being a diabetic
- Patients feels no symptoms
- Patient has an allergic reaction to a medicine and is afraid

QUESTION #3

Medications copayments, adverse effects lack of motivations, and level of patient literacy are examples of the factors and barriers to adherence behavior.

- A. Yes
- B. No

**LIST DIFFERENT STRATEGIES TO
INCREASE ADHERENCE IN
PATIENTS**

PHARMACISTS' PATIENT CARE PROCESS (PPCP) IMPLEMENTATION^[7]



COMMUNICATION

QUESTION

- Why is communication so important to identify lack of medication adherence?

COMMUNICATION IN A HEALTH SETTING

- The process of communication between the health professional and the patient has two main objectives:
 - Exchange information both parties
 - Establish a long-life relationship

PATIENT-CENTERED HEALTH CARE

**Understand the
illness**

**Develop auto
conscience**

**Perceiving
individual and
unique experience**

**Duties of
pharmacist to
their patients**

**Build therapeutic
alliance**

**Develop a
relationship of
equality**

REASONS TO MOTIVATE THE PATIENT

- Unanswered questions.
- They have many doubts.
- Identify problems related to drugs.
- Perform an incorrect self-monitoring.
- Empower patient to make decisions in their own care.
- Patient may not reveal some information until a dialogue is initiated.

STRATEGIC COMMUNICATION CONTRIBUTES TO ...

- Improve patient health.
- Good provider – patient relationship.
- Increase exposure in the community and use of information related to health.
- **Improve adherence to drug therapy patient.**
- Improvement of services offered.
- Assuming an active role as a health professional drug expert.

MOTIVATIONAL INTERVIEWING

STRATEGIES DURING THE INTERVIEW

inquire

silence

listen
carefully

good
approach

Effective
interview

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graph TD; A[inquire] --> E((Effective interview)); B[silence] --> E; C[listen carefully] --> E; D[good approach] --> E;
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EMPATHY

Verbalize
understanding
to patient

Understand
your feelings
when providing
care

A trust
relationship is
established

EMPATHY AND EFFECTIVE COMMUNICATION

- It happens when we help the patient to:
 - Trust the health professional.
 - Understand and express their own feelings.
 - Externalize their concerns.
 - Develop the ability to solve their own problems.
 - Explore possible solutions.

STRATEGIES FOR EFFECTIVE INTERVIEW PROCESS

- Talk less, listen more.
- Avoid or eliminate distractions.
- Establish and maintain eye contact.
- React to the ideas, not the person
- Be alert to nonverbal messages.
- The tone.
- Provide feedback to the patient to clarify doubts.

MOTIVATIONAL INTERVIEWING^[8]

Goal

- “Combine the use of these specific strategies to guide the patient toward making the argument for why he needs to change his behavior”.

Definition

- “Directive, client-centered counseling style for eliciting behavior change by helping clients to explore and resolve ambivalence”.

MOTIVATIONAL INTERVIEWING PRINCIPLES^[8]

- Express empathy
- Develop discrepancy
- Roll with the resistance
- Support self-efficacy
- Avoid argumentation

QUESTION

- Which is the purpose of the *Motivational Interviewing*?

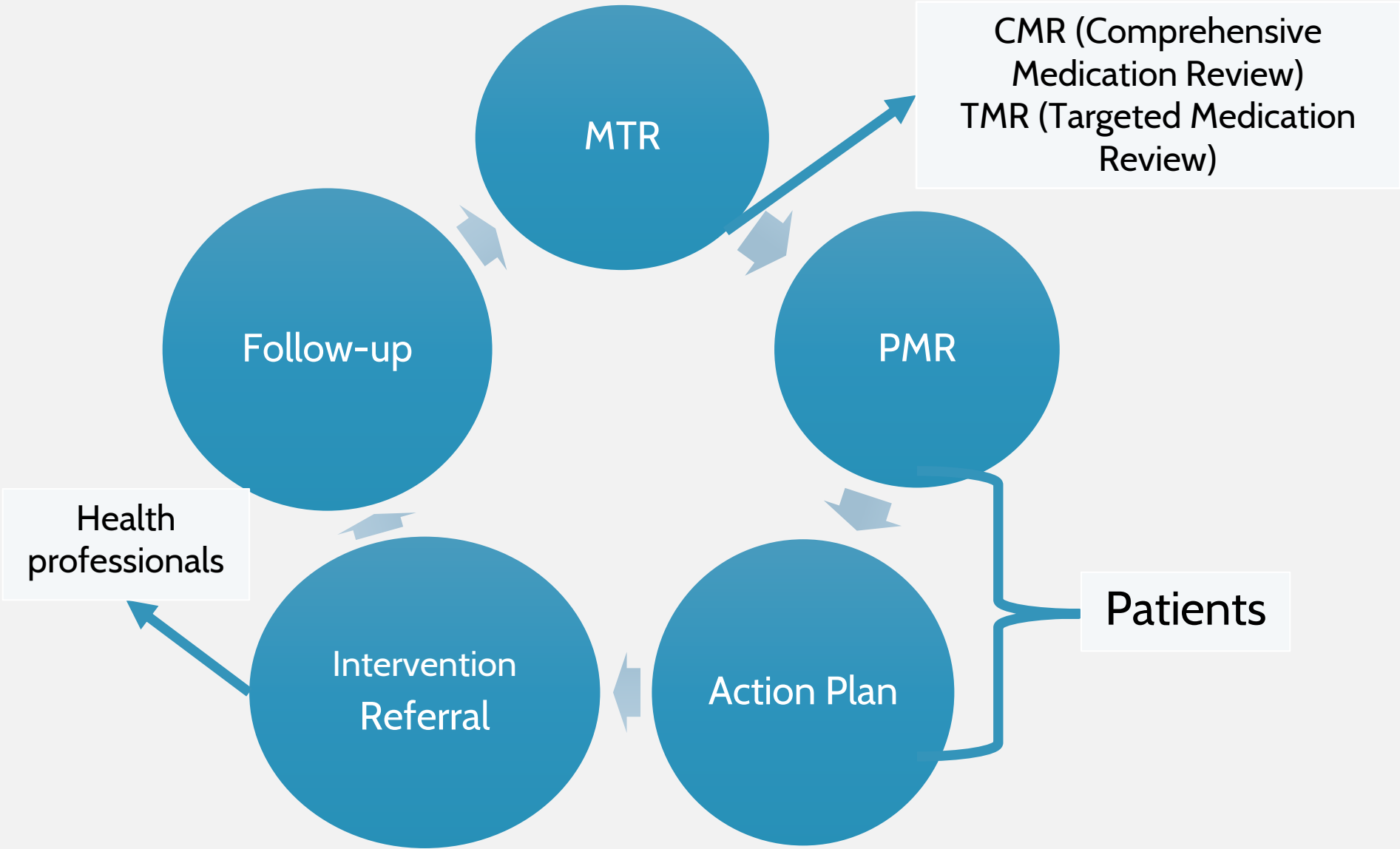
MEDICATION THERAPY MANAGEMENT (MTM) SERVICES

Recruitment

Interview

Follow-up

MTM PROCESS



ADHERENCE PROGRAMS^[6]

- Objectives
 - Simplifying dosage regimes
 - Patient education and communication
 - Modifying patient behavior
 - Establish a supportive and trusting relationship with patients

PAM

- PAM = “Programa de Adherencia de Medicamentos”
- Nearly 190 communities pharmacies included in Puerto Rico
- Insurance plans
 - MMM Healthcare, Inc.
 - PMC Medicare Choice, Inc.

PROVIDER STRATEGIES TO IMPROVE ADHERENCE^[13]

- Atreja, et al (2005) grouped adherence-promoting interventions under the mnemonic **SIMPLE**
- **S**implify the regimen
- **I**mpart knowledge
- **M**odify patient beliefs and human behavior
- **P**rovide communication and trust
- **L**eave the bias
- **E**valuate adherence

PROVIDER STRATEGIES TO IMPROVE ADHERENCE^[13]

- **S**implify the regimen
 - Taking the medications at the same time
 - Adjusting time or frequency
 - Adjusting regimen with patient's daily activities
 - Recommending use of pill reminders and alarms
- **I**mpart knowledge
 - Clear instructions
 - Include family, caregivers or friends
 - Provide additional information like handout, brochure or website link
 - Reinforce the verbal education and discussion in every visit

PROVIDER STRATEGIES TO IMPROVE ADHERENCE^[13]

- **M**odify patient beliefs and human behavior
 - Consider their needs and expectations
 - Educate about risks of not taking their medication
 - Perceive barriers (fears and concerns)
 - Provide incentives like coupons, certificates, or rewards
- **P**rovide communication and trust
 - Patients can understand before leaving the office
 - Improve interviewing skills
 - Be an active listener
 - Bring emotional support

PROVIDER STRATEGIES TO IMPROVE ADHERENCE^[13]

- **L** eave the bias
 - Identify low health literacy
 - Address ethnically and socially diversity
 - Interventions based on cultural and linguistic differences
 - Address cultural barriers
- **E** valuate adherence
 - Self-reports
 - Identify barriers and lack of receptivity
 - Pill counting or measuring lab levels
 - Review patient's medications containers

QUESTION #4

The following statements are objectives for an adherence program except:

- A. Establish a supportive and trusting relationship with patients
- B. Communicate and educate effectively to patients about their medications
- C. Not corroborate the proper use of patient medications
- D. Simplifying dosage regimens

QUESTION #5

Which of the following interventions is a successful adherence-enhancing strategy?

- A. Complicating regimen characteristics
- B. Imparting knowledge
- C. Leave the patient's belief intact
- D. Allow the bias

CASE 1

- AR is a 56 year old male with a recent diagnosis of Thyroid disorder. His other medical conditions include DM-II, HTN, and HLP. Current medications are metformin 500 mg bid, glimepiride 4 mg bid, Ziac[®] 10/6.25 mg qd, atorvastatin 20 mg qd, ASA 81 mg qd, and Synthroid[®] 100 mcg qd. Patient comes to his follow up visit with Dr. Rodríguez, a community pharmacist. (Labs: FG = 110 mg/dL, TSH = 10.5 mIU/L, TC = 180 mg/dL, Tg = 120 mg/dL, LDL = 80 mg/dL, HDL = 50 mg/dL, SCr = 0.85 mg/dL)
- How do you determine if AR is adherent to his medications? What strategies would you use in this case?

CASE 2

- A female patient visits your pharmacy to bring a new prescription because she was in the emergency room overnight due to an anaphylactic reaction to a meal. When you process the prescription, you notice that the patient did not request her refills last month. You take advantage and tell the patient if she wants to request her refills. The patient says "don't give me any refill because I have more than one bottle of each one at home. I'll call you later."
- What approach would you do to the patient? What strategies would you use?

CASE 3

- You are at the pharmacy making follow-up calls to patients of the adherence program. You call John, a 70-year-old patient with the following medical conditions: HTN, HLP, and DM-II. The patient lives alone at home and you know that the patient does not know the names of medicines and can not read.
- How do you determine if John is adherent to his medications? What strategies would you use in this case?

ROLE OF PHARMACIST AND PHARMACY TECHNICIAN



ROLE OF PHARMACIST

- Be a health professional that motivates patients to be adherent with their medications.
- Bring pharmaceutical care as a facilitator in patients' pharmacotherapy to achieve positive outcomes to improve patients' quality of life.
- Establish a good communication bond with patients to be trusted and confident professional.
- Collaborate with other health professional to optimize patient's medications.

ROLE OF PHARMACY TECHNICIAN

- Assist to the pharmacists during:
 - Patients interviews
 - Administrative tasks
- Establish a good communication bond with patients to be trusted and confident professional.

ROLE OF PHARMACISTS^[14]

- Be the professional that motivates the patient to be adherent with their medications
 - Unanswered questions
 - Lots of doubts
 - Problems related to medicines
 - Incorrect auto-monitoring
 - Assisting you in making health care decisions
 - Hidden information

SUMMARY TIPS FOR PATIENTS ABOUT MEDICATION ADHERENCE

Write it down

Set a routine

Organize
medications

Report side
effects

Build in
reminders

Use one
pharmacy

Store properly

Stick with a
schedule

Follow up and
share concerns

SUMMARY CASE

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