

Medication Adherence and Compliance – the Pharmacist's Role

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 - Foundation for Managed Care Pharmacy
 - William Shrank, MD, Harvard University
 - David Nau, Ph.D., R.Ph., CPHQ, Pharmacy Quality Alliance

Learning Objectives

- Define medication adherence and compliance.
- Describe effects of lack of medication adherence and compliance.
- Identify possible factors affecting medication adherence and compliance.
- Discuss potential pharmacist interventions and strategies to improve patient medication use.

Background

- “Keep watch also on the fault of patients which makes them lie about taking of things prescribed.”
 - Hippocrates, circa 500 B.C.
- “Drugs don’t work if people don’t take them.”
 - C. Everett Koop, 1985

Some Statistics

- **32 million** Americans are taking three or more medications daily.
- **75%** of patients are expected to be non-adherent at any given time
- Almost **29 percent** of Americans stop taking their medicine before it runs out.
- **More than half of all Americans with chronic diseases don't follow their physician's medication and lifestyle guidance.**

Understanding the Terminology

- Adherence

- The act of filling new prescriptions, or refilling prescriptions on-time.

- Compliance

- The act of taking medication on schedule, or taking medication as prescribed

Understanding the Terminology (cont.)

- Persistence
 - The act of taking medication for the duration prescribed
- Gaps in Therapy
 - **12 percent** of Americans don't take medication at all after they buy the prescription.

How Do We Measure Adherence?

- **Medication Possession Ratio (MPR)** and **Proportion of Days Covered (PDC)** are the two most common formulas used to estimate patients' adherence to chronic medications. Both formulas use prescription fill data to calculate the percentage of days for which the patient has medication on-hand to take for their chronic conditions.
- Examples of adherence measures for diabetes and cardiovascular medications can be obtained from the Pharmacy Quality Alliance (PQA) at: www.PQAalliance.org



Why Should I Care About Adherence?

*“Lack of medication adherence is **America’s other drug problem** and leads to unnecessary disease progression, disease complications, reduced functional abilities, a lower quality of life, and even death”*

The Impact of Poor Adherence

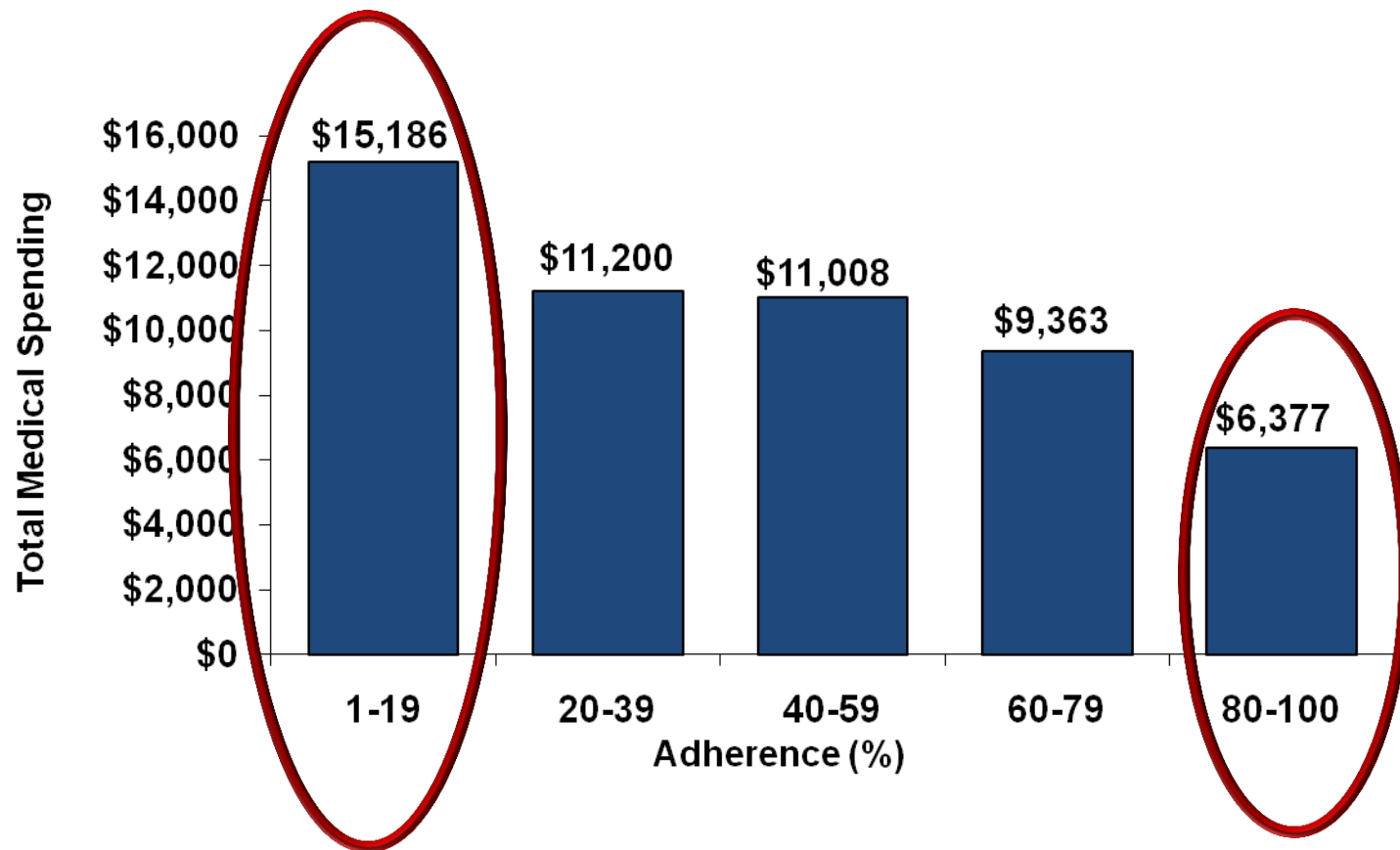
Consequences:

- Unnecessary disease progression and complications¹
- Reduced functional abilities and quality of life¹
- Additional \$2,000 per patient per year in medical costs and physician visits¹
- 33% to 69% of medication-related hospital admissions²
- Increased use of expensive, specialized medical resources.³
- Unneeded medication changes.⁴

Effects of Poor Adherence and Compliance

- The average length of stay in hospitals due to medication noncompliance is **4.2 days**.
- Preventable deaths due to non-adherence are estimated to be at least **125,000 each year**.
- Costs to our nation's health care system due to medication non-adherence are estimated to be over **\$290 billion dollars**. This represents **13% of the total** healthcare spend in this country.

Adherence and Total Medical Spending

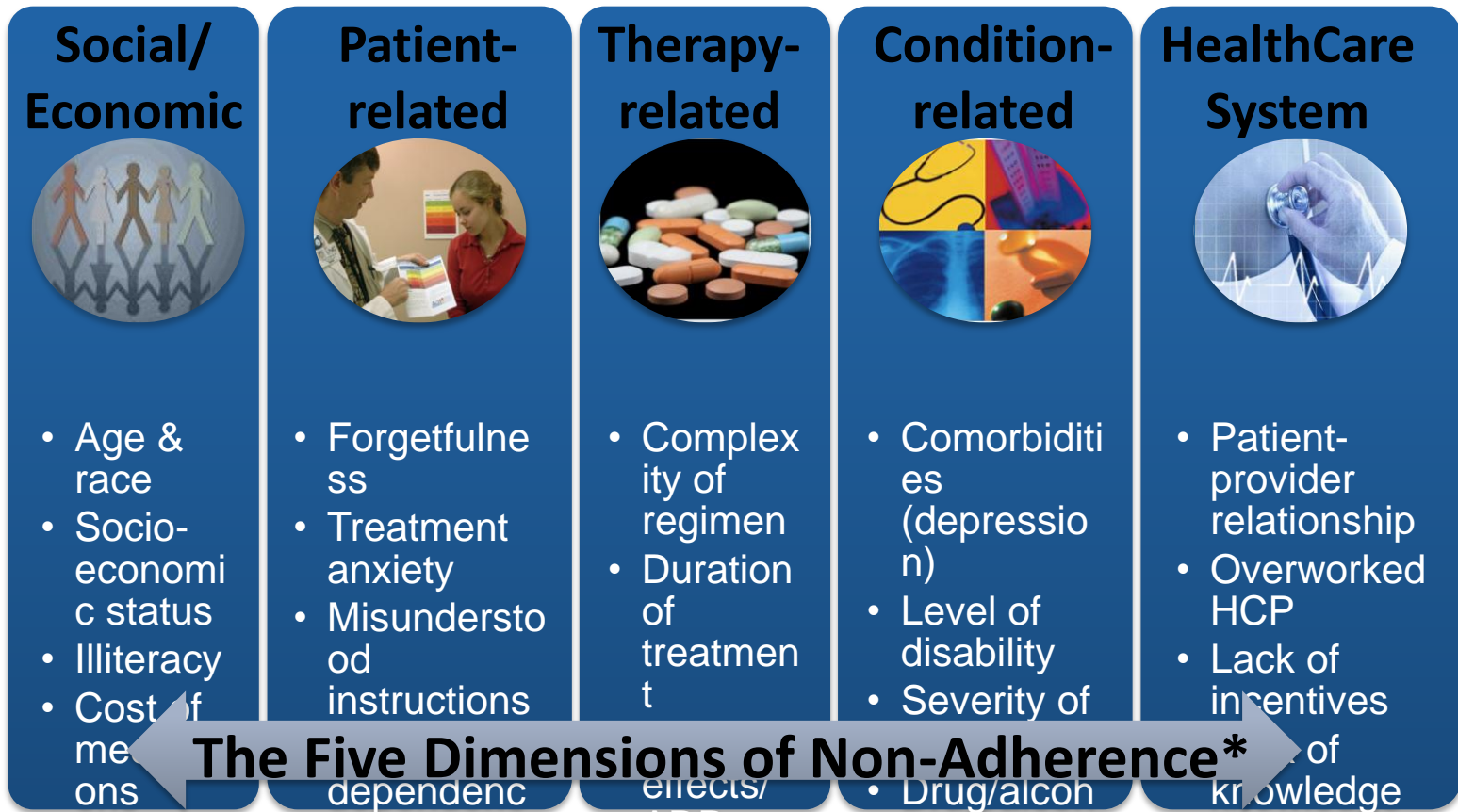


Note: Adherence is the extent to which patients take medicines as prescribed, in terms of dose and duration.

Five Dimensions of Adherence

- World Health Organization (WHO) identified five dimensions of adherence
 - Social- and economic- related factors
 - Health system/health care team-related factors
 - Therapy-related factors
 - Condition-related factors
 - Patient-related factors

Five Dimensions of Adherence

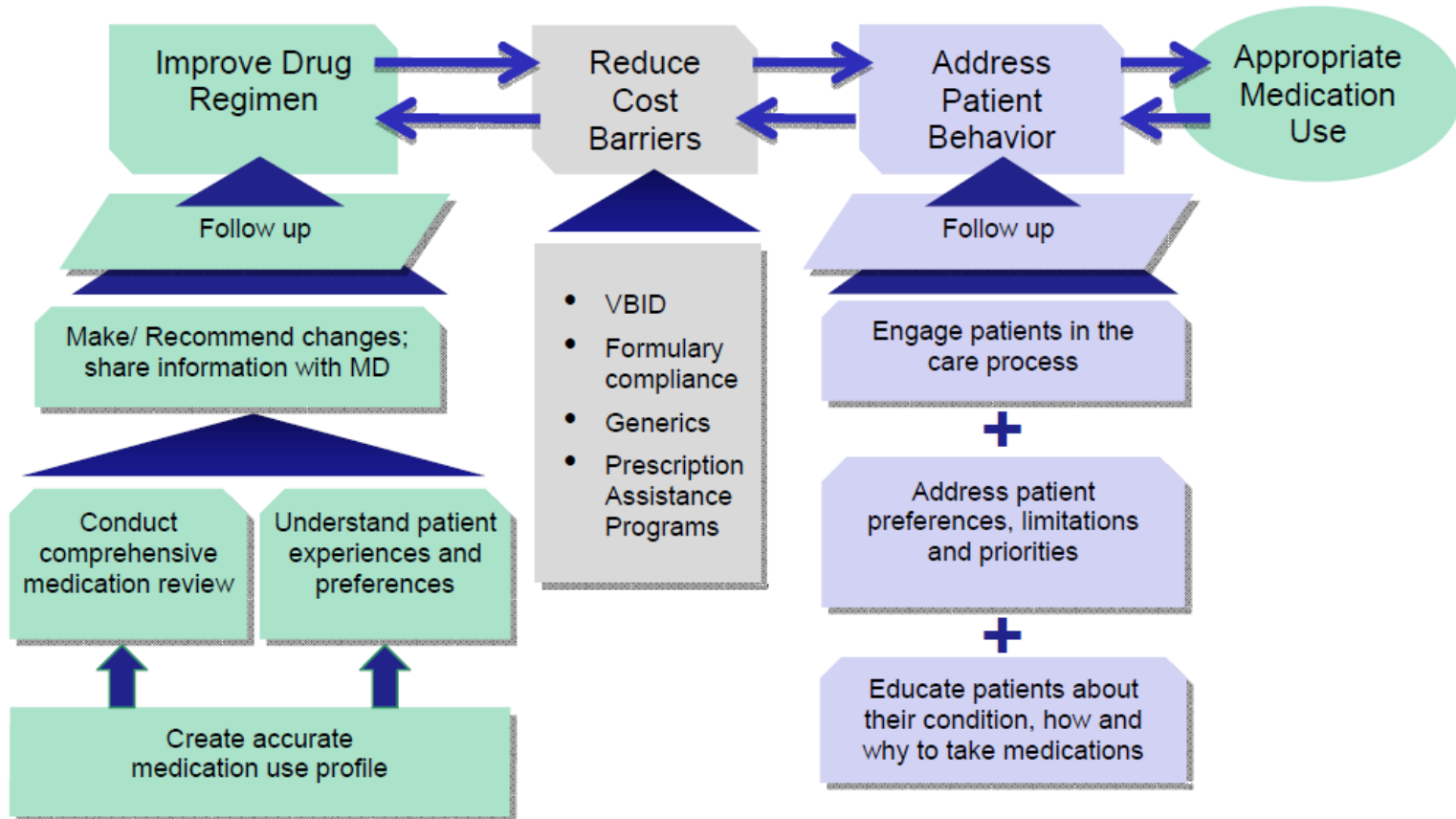


Adapted from the Foundation for Managed Care Pharmacy

*Adherence to long-term therapies: evidence for action. World Health Organization 2003

Three Pillars of Improved Adherence

Figure 1. Three Pillars of Improved Adherence



Source: Avalere Health, NEHI Analysis

What Solutions Have Been Tried?

- Refill reminder programs
- Auto-refill programs
- E-prescribing
- Reducing member cost share for chronic meds
- Pharmacist-provided medication therapy management (MTM) programs
- Incentives tied to participation in a MTM program
- Education and communication materials for patients

e-Prescribing: Rates of Primary Non-adherence

Characteristic	ePrescriptions	Filled	% Filled
Nutritional Products	1,505	1,227	81.53
Genitourinary Products	12,140	9,880	81.38
Cardiovascular Agents	133,445	107,319	80.42
Central Nervous System Drugs	66,191	52,757	79.70
Gastrointestinal Agents	30,979	24,370	78.67
Respiratory Agents	123,258	96,448	78.25
Topical Products	35,023	27,324	78.02
Neuromuscular Drugs	16,231	12,433	76.60
Endocrine And Metabolic Drugs	123,224	93,759	76.09
Analgesics And Anesthetics	52,424	38,862	74.13
Anti-Infective Agents	123,841	90,822	73.34
Hematological Agents	11,673	7,193	61.62
Antineoplastic Agents	828	428	51.69

Results show an overall primary non-adherence rate of 22.1%.

Complexity is a Problem

- Study of statin users in a 90-day period showed many types of complexity are common
- The average statin user studied
 - Takes 11 medications; nine are maintenance medications
 - Make five pharmacy visits
 - Has only half of refills synchronized
- Ten percent of statin users studied
 - Take 23 or more medications; 12 are maintenance medications
 - Make 11 or more pharmacy visits
 - Have 10% of refills synchronized
 - Have four or more prescribers
 - Use at least two pharmacies

Adherence Interventions

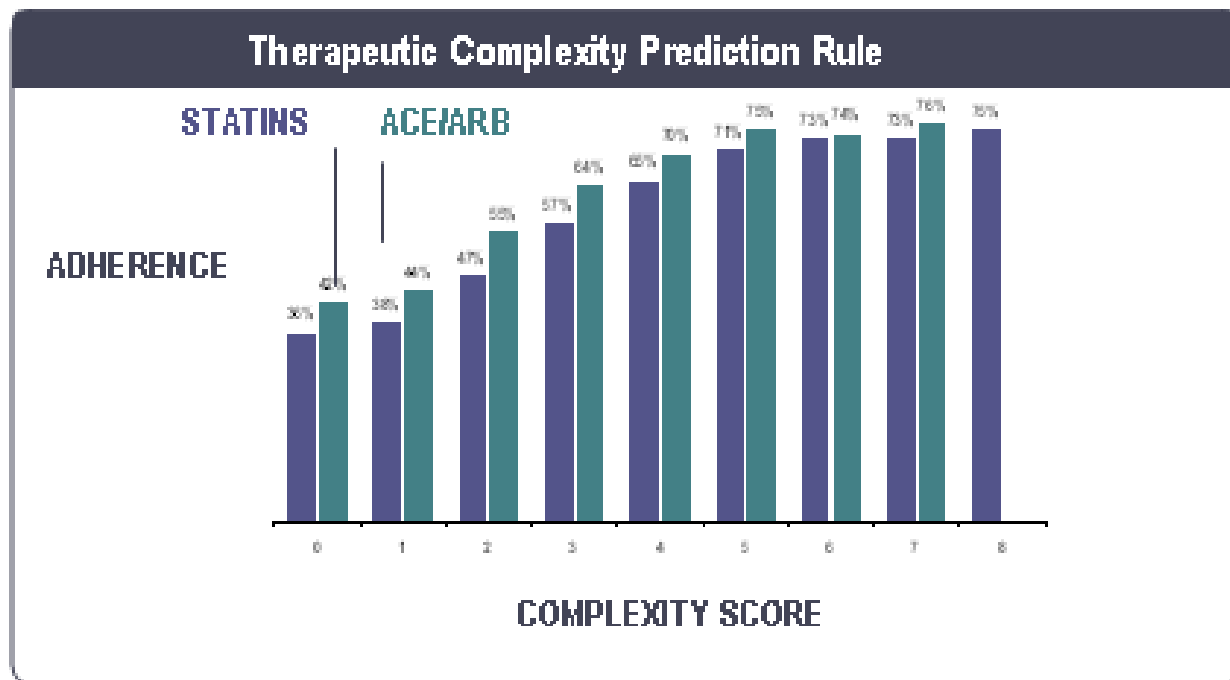
- Adherence initiatives that pharmacists have lead have been shown to improve patient outcomes for those patients with various chronic conditions
 - Appointment Based Model
- Other adherence initiatives
 - Value Based Insurance Design
 - Federal Study of Adherence to Medications in the Elderly

Appointment Based Model

- Patients have a monthly appointment - chronic prescriptions are synchronized to come due on the same day each month
- The pharmacist has a more efficient practice, resulting in expected improved medication adherence rates and decreased gaps in therapy

Simplifying Therapy Can Improve Adherence (Harvard – CVS/Caremark Study)

- Adherence is greater when patients:
 - Synchronize refills
 - Fill all their prescriptions at a single pharmacy



A simple prediction rule may help us design interventions to reduce complexity and improve adherence. - William Shrank, Harvard University

Value-Based Insurance Design (VBID)

- Most VBID initiatives have focused on co-pay reductions and have shown some adherence increase
- Adding clinical services to financial incentives may lead to better value than co-pay reduction alone
 - A large employer cut co-pays in half for diabetes and CVD medications in addition to a nurse telephonic consultation; adherence improved 7-14% compared to usual care
 - Asheville Project included co-pay waivers in addition to pharmacist consultations and the combined effect of these interventions led to improved outcomes and lower medical expenditures

Federal Study of Adherence to Medications in the Elderly (FAME)

- Randomized, controlled trial involving 200 community-based older adults who took at least 4 chronic medications
- Intervention delivered by Walter Reed Army Medical Center, and included:
 - Multi-medication blister packs with time-specific instructions
 - Pharmacists provided 1 hour personalized counseling and 30 minute follow-up visits every other month

Federal Study of Adherence to Medications in the Elderly (FAME)

- After six months of intervention:
 - Medication adherence increased from 61% to 97%
 - Significant decrease in systolic BP, but not LDL
- After first six months, patients were randomly assigned to either continue the intervention or return to usual care (no blister pack and no pharmacist counseling/monitoring). After another six months:
 - >95% of intervention group remained adherent
 - 69% of usual care patients remained adherent

Cochrane Collaborative: Summary of Adherence Interventions

“For long-term treatments, simplifying the dosage regimen and several complex strategies, including combinations of more thorough patient instructions and counseling, reminders, close follow-up, supervised self-monitoring, rewards for success, family therapy, couple- focused therapy, psychological therapy, crisis intervention, and manual telephone follow-up can improve adherence and treatment outcomes. **If there is a common thread to these at all, it is more frequent interaction with patients with attention to adherence.**”

Pharmacist Interventions and Strategies

- Must be individualized – need to understand the reasons why patients are not adherent/compliant
- Many different strategies to consider
 - Improve Drug Regimen
 - Create complete drug profile
 - Conduct comprehensive med review
 - Work with prescribers

Pharmacist Interventions and Strategies

- Many different strategies to consider (cont.)
 - Reduce Cost Barriers
 - Generics
 - Formulary compliance
 - Prescription Assistance plans
 - Address Patient Behavior
 - Counsel patient
 - Address patient concerns
 - Appointment based model
 - Patient reminders
 - Special packaging

Pharmacist Interventions and Strategies

- If not pharmacists, then who should lead adherence?
 - Pharmacists, as the medication experts should be leading the way to ensuring optimal medication use
 - Pharmacists are in an excellent position to improve medication adherence
 - Many programs available – where is the pharmacist involvement?

PQA Adherence Measures

- Adherence measures for 7 drug classes:
 - Beta blockers
 - Calcium-channel blockers
 - ACEI/ARBs
 - Lipid-modifying agents (statins)
 - Sulfonylureas
 - Biguanides
 - TZDs

PQA Adherence Measures

- A significant gap is defined as 30 days or greater
- Individual measures focus on a specific drug class (e.g., beta blockers)

Measure Title	Measure Description/Definition
Gap in Therapy	Percentage of prevalent users who experienced a significant gap in medication therapy.

PQA Adherence / Persistence Measures

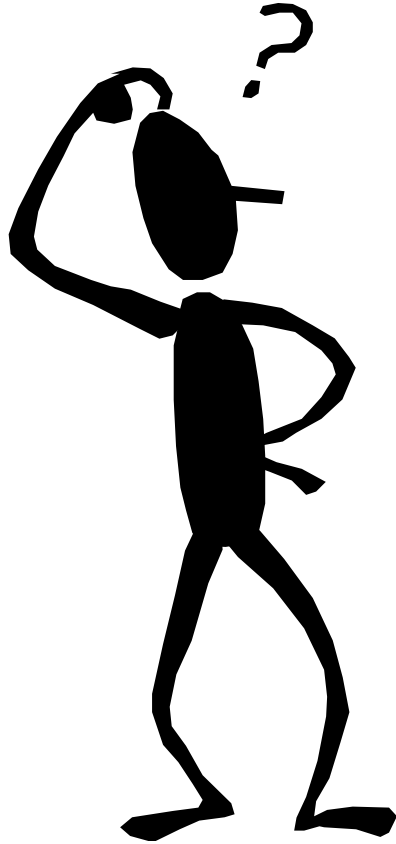
- The denominator in this measure is the number of days between the initial claim and the end of the measurement period.
- The numerator is the number of days that the patient had the drug on-hand (based on the date of the prior fill and the days supply).
- PDC is calculated at the therapeutic category level, without regard for the specific drug or dose.
- A threshold of 80% is used to identify patients with good adherence.

Measure Title	Measure Description/Definition
Proportion of days covered (PDC)	Proportion of patients using a targeted class of medication who meet the PDC threshold.

Are you asking the right questions...

- Do you know the adherence rates for your patients?
- Are you able to identify your patients who are late for refills or have stopped their medications?
- Is your workflow designed to facilitate interaction between the pharmacist and patient?

Questions?



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