Medication Adherence: Can Pharmacists Make a Difference?

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Acknowledgments

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  ▫ Foundation for Managed Care Pharmacy
  ▫ William Shrank, MD, Harvard University
Understanding the Terminology

“Taking medication like my Doctor tells me to”

- **Adherence**: similar concept as compliance, but typically with a more active and collaborative role for the patient.

- **Compliance**: describes the consistency and accuracy with which a patient who follows the prescriber instructions.

- **Persistence**: refers to the continued use of the prescribed medication regimen over time.
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 pharmacists 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 complications\(^1\)
• Reduced functional abilities and quality of life\(^1\)
• Additional $2,000 per patient per year in medical costs and physician visits\(^1\)
• 33% to 69% of medication-related hospital admissions\(^2\)
• Increased use of expensive, specialized medical resources. \(^3\)
• Unneeded medication changes. \(^4\)

Adherence and Total Medical Spending

Note: Adherence is the extent to which patients take medicines as prescribed, in terms of dose and duration.
Hospitalization Rate for Patients with Diabetes in 1 Year after MPR Assessment

Lau DT, Nau DP. Diabetes Care, 2004
New England Healthcare Institute (NEHI) Estimates:

• 13% of total healthcare expenditures may be due to poor medication adherence

• Nearly $300 billion is wasted because patients don’t take their medications

• A typical mid-sized employer with $10 million in annual claims might be wasting over $1 million due to non-adherence
The Full Cost of Poor Health

Medical & Pharmacy costs
$3,376 PEPY

Health-related Productivity Costs
$10,128 PEPY

Total Costs = $13,504 PEPY

Personal Health Costs
Medical Care Pharmacy
25%

Productivity Costs
Absenteeism
Short-term Disability
Long-term Disability
75%

Presenteeism
Overtime
Turnover
Temporary Staffing
Administrative Costs
Replacement Training
Off-Site Travel for Care
Customer Dissatisfaction
Variable Product Quality

Nearly two-thirds of employers have analyzed prescription data for select health conditions to understand medication compliance, with another 29% planning to do so.
What can be done to improve medication adherence?

“A common assumption around cancer treatment is that a patient, given the choice of self-administered chemotherapy will be 100% compliant. Evidence suggests otherwise and points to patients administering these drugs inconsistently and irregularly.

Compliance rates in some studies are as low as 20% ”

Source: Oral Oncology Treatment Regimens and the Role of Medication Therapy Management on patient Adherence and Compliance. OncologyRx Care Advantage- A service of US Oncology and Inellogy health Designs
Adherence to long-term therapies: evidence for action. World Health Organization 2003

The Five Dimensions of Non-Adherence*

*Adherence to long-term therapies: evidence for action. World Health Organization 2003
Adapted from the Foundation for Managed Care Pharmacy
Figure 1. Three Pillars of Improved Adherence

- Improve Drug Regimen
  - Follow up
  - Make/Recommend changes; share information with MD
  - Conduct comprehensive medication review
  - Understand patient experiences and preferences
  - Create accurate medication use profile

- Reduce Cost Barriers
  - VBID
  - Formulary compliance
  - Generics
  - Prescription Assistance Programs

- Address Patient Behavior
  - Follow up
  - Engage patients in the care process
  - Address patient preferences, limitations and priorities
  - Educate patients about their condition, how and why to take medications

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 & Communication materials for patients
Simple Interventions Have Limited Impact

- Multi-factorial interventions substantially more effective than simple mailing or educational efforts (Kriplani, Archives 2006)

- Physicians are rather ineffective at promoting adherence (Cutrona & Shrank, JGIM 2010)
Refill Reminder Programs

• Studies in the 1980s showed that postcards with telephone calls could reduce missed refills
• Recent studies of IVR show an MPR boost of 2-3 percentage points (e.g., 78% vs 76%) for simple reminders.
• Newer programs involve e-mail or text messages, but not many rigorous studies
• AHRQ has developed a recommend script for refill reminders based on concerns for patients with low health literacy:
  http://www.ahrq.gov/qual/callscript.htm
Automatic Refill Programs

- Auto refills were introduced by mail-service pharmacies but are now being used by some community pharmacies in concert with a reminder message (e.g., CVS/Caremark ReadyFill)

- Auto refills WILL increase adherence as measured by Rx claims, but not clear whether patients are taking all the medications sent to them

- Concerns about potential waste should be balanced by improvements in adherence
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

Choudhry & Shrank, JGIM supplement 2010
Simplifying Therapy Can Improve Adherence (Harvard - CVS/Caremark Study)

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

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<thead>
<tr>
<th>STATINS</th>
<th>ACE/ARB</th>
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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.
Maybe reducing costs is not the best way to engage patients or promote adherence.

Medication cost affects perceptions of efficacy.
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

Lee JK, et al., JAMA 2006
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

Lee JK, et al., JAMA 2006
“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.”
PQA Demonstration Projects

- PQA is a multi-stakeholder, non-profit, alliance of 60 organizations with a shared interest in improving the safety and quality of medication use.

- PQA is coordinating multi-phase demonstrations that involve partnerships between health plans, retail pharmacies, technology providers and universities.

- Phase I examined methods for providing user-friendly feedback to pharmacies on quality metrics (including adherence measures for patients on diabetes and CVD medications)
PQA Demonstration Projects

• Phase II projects started in the summer of 2010 with the goal of testing pharmacist interventions for medication adherence, and constructing P4P models for retail pharmacy.

• Funding was provided by
  ▫ NACDS Foundation
  ▫ Community Pharmacy Foundation
  ▫ Pfizer
  ▫ GSK
  ▫ Merck
  ▫ Sanofi-Aventis
Compliance and Adherence Programs

Wellness +  Automated Courtesy Refills  Reminder Calls
Medication Therapy Management  Ask The Pharmacist
Patient Incentives and Interactions

- Loyalty Card programs can incent patients to fill their prescriptions properly with points earned toward tiered rewards including discounts and health screenings.

- Automated Courtesy Refill programs aid patients with on-time refills and also allows our pharmacists to monitor compliance.

- Automated calls are used as patient reminders.

- MTM provides patients with complex drug therapies an opportunity to measure adherence and outcomes.
What is the Pharmacy Quality Alliance (PQA)?

- Established in 2006 as a public-private partnership by former CMS administrator, Dr. Mark McClellan.

- Now operates as an independent, nonprofit 501 C-3 corporation;

- Consensus-based, membership alliance with 50+ members and over 250 active representatives from these companies;
PQA Mission Statement:

*Improve the quality of medication use across health care settings through a collaborative process in which key stakeholders agree on a strategy for measuring and reporting performance information related to medications.*
Pharmacy Quality Alliance Partnership

Highmark’s Enterprise Data Warehouse

Rx Claims Data for the 15 PQA measures

CECity’s *Lifetime™ Platform*

Performance Reports

Rite Aid Pharmacists

Quantitative & Qualitative Feedback

Collaborative Feedback and Analysis
Phase I Study

Highmark: Enterprise Data Warehouse

- Comprehensive and integrated medical & pharmacy data
- Data extracted based upon NCQA technical specifications
- Data set and delivered to CECity via a secure FTP protocol

CECity: *Lifetime™*

- Secure, web-based platform that supports customizable dashboards to present quality data/measures to the participating Rite Aid pharmacies
- Flexible technical framework to collect and report feedback
Phase I Study

Rite Aid Pharmacies
- A sample of 54 pharmacy locations in Western PA
- Pharmacists & field management trained at live meetings
- Pharmacists to provide feedback on readability, interpretability, and utility of performance reports

Feedback
- Electronic survey feedback hosted by Lifetime™
- Qualitative feedback from focus groups
- 3 cycles of performance reports delivered via Lifetime™
- Re-evaluated by the participating pharmacists in an iterative process
- Collaboration engaged in analysis & report
Report Summary Page

Rite Aid PQA Report
Rita Aid Store 19888
4453 Fifth Ave. Pittsburgh, PA 15213

Comparison against peers
Measure value and number of patients

<table>
<thead>
<tr>
<th>Measure</th>
<th>My Pharmacy</th>
<th>My Region</th>
<th>All Pharmacies</th>
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<tbody>
<tr>
<td>Proportion of Days Covered Measures</td>
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<td></td>
<td></td>
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<tr>
<td>Dyslipidemia Medications</td>
<td>87% (67)</td>
<td>76% (410)</td>
<td>77% (6,129)</td>
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<tr>
<td>ACEI or ARB</td>
<td>81% (56)</td>
<td>80% (387)</td>
<td>81% (6,445)</td>
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<tr>
<td>Beta-Adrenergic Blocker</td>
<td>68% (89)</td>
<td>63% (278)</td>
<td>66% (5,223)</td>
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<tr>
<td>Calcium-Channel Blocker (CCB)</td>
<td>85% (112)</td>
<td>82% (301)</td>
<td>76% (4,927)</td>
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<tr>
<td>Diabetes Medications</td>
<td>88% (45)</td>
<td>76% (458)</td>
<td>77% (6,138)</td>
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<tr>
<td>Gap In Therapy Measures</td>
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<td></td>
<td>35% (34)</td>
<td>36% (187)</td>
<td>40% (3,826)</td>
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<td></td>
<td>21% (22)</td>
<td>18% (143)</td>
<td>22% (2,871)</td>
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<td></td>
<td>27% (76)</td>
<td>29% (231)</td>
<td>35% (4,997)</td>
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• Arrow indicates direction of change from previous period.
• Color indicates if the change occurred in the recommended direction.
Report Measure Detail Page

**Additional information on peers**

**Detailed analysis over time**

**Measure Definition**

**Measure specific detail report**

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**Rite Aid PQA Report**

Rite Aid Store 19888
4453 Fifth Ave, Pittsburgh, PA 15213

**Current Performance**

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* My Region includes stores: 10888,10889,2277,10890,10906,4783

**Performance Over Time**

What is Being Measured

The percentage of days covered for persons prescribed either an angiotensin-converting enzyme inhibitor (ACEI) or angiotensin receptor blocker (ARB) with a Proportion of Days Covered threshold of 80%.
Phase I and Phase II study

• The Phase I study involved training pharmacists to understand the compliance and adherence measurements in the PQA program.
• The Phase II study involves providing tools to pharmacists and patient interventions to increase the understanding of the importance of compliance and adherence.
• The Phase II study has been expanded to 240 Rite Aid locations.
Phase II Study

- Provide the Pharmacists reports on their stores performance
- Provide each Pharmacist with screenings tools to identify potential barriers to patient compliance
- Continue to update Pharmacists in the latest education-based medicine parameters through CE programs
- Provide new and innovative Patient Education Materials
The Greatest Intervention: *The Pharmacist*

- Provide Pharmacists with motivational interviewing skills and positive reinforcement methods

- Provide pharmacists with screening tools to assist in initiating a conversation between a pharmacist and a patient
Future Trends

• Adherence – Based Contracting and P4P
  ▫ Between pharma and PBMs
  ▫ Between health plans, PBMs, pharmacies, patients

• Integration of medication reminders into social networking tools and calendars

• New technologies to deliver multiple drugs in a single pill/injection, or implantable devices to administer numerous doses over time
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?
Contact Information for PQA:

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