The Importance of Medication Adherence

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“Drugs don’t work in patients who don’t take them.” –C.Everett Koop, MD
Typical Quality Measure

- Treatment.
- Adherence.
- Outcomes.
Definitions

• **Adherence**: the extent to which a person’s behavior taking medication, following a diet, and/or executing lifestyle changes corresponds with agreed recommendations from a health care provider.

• **Medication Adherence**: is a collaborative process of communication and understanding between the patient and their health care professionals that promotes optimal usage of medication therapies.

\[
\frac{\text{Number of pills absent over a period of time}}{\text{Number of pills dispensed over a period of time}} \times 100\% \geq 80\%
\]

World Health Organization, 2003; Mayo Clinic, 2011; Osterberg L, Blaschke T, 2005; Winkler A, et al., 2002
Non-Adherence

• For every 100 medications prescribed in a clinic or office:
  • 88% of the prescriptions are dispensed.
  • 76% are started.
  • 47% are continued.

• Return to Stock:
  • Overall 4.4%.
  • Per-site average is 4% to 8%.
Non-Adherence (cont.)

Persistence with secondary prevention medication in the 24 months after ischemic stroke in Sweden. Persistent use of secondary preventive drugs declines rapidly during the first two years after stroke.

Medication Adherence

• 50% of patients are persistent with chronic medication therapy.

• Poor medication adherence leads to:
  • Increased morbidity and death.
  • Increased health costs $300 billion per year.
  • One-third to two-thirds of all medication-related hospitalizations.

Osterberg L, Blaschke T, 2005;
Measures of Adherence

• Clinical Reporting System (CRS):
  • Pharmacy Quality Alliance (PQA) report:
    • Proportion of Days Covered (PDC).
    • Gaps in Therapy.
PDC: Diabetes Medications

PDC = Portion of days covered ≥ 80%
GAP = gap in therapy ≥ 30 days

PDC and Gap: 2011 - 2014

- Higher is better
- Lower is better

<table>
<thead>
<tr>
<th>Medication</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biguanide</td>
<td>42.4%</td>
<td>41.3%</td>
<td>38.7%</td>
<td>56.1%</td>
</tr>
<tr>
<td>Sulfonylurea</td>
<td>57.5%</td>
<td>57.4%</td>
<td>40.7%</td>
<td>65.5%</td>
</tr>
<tr>
<td>TZD</td>
<td>55.6%</td>
<td>56.6%</td>
<td>42.2%</td>
<td>45.7%</td>
</tr>
</tbody>
</table>

Number of patients prescribed for reports in 2014: 56,048

For internal IHS use ONLY. Data from 164 sites (100 Tribal & 64 IHS). Collected from ONM reports 2013.
PDC: HTN Medications

PDC = Portion of days covered ≥ 80%  
GAP = gap in therapy ≥ 30 days

PDC and Gap: 2011 - 2014

Higher is better  
Lower is better

Beta Blocker: 53.3, 52.7, 52.6, 49.3, 48.2, 46.0, 45.8, 48.8  
RASA (ACEI/ARB): 51, 50.7, 47.7, 49.5, 47.7, 48.4, 47.6, 48.3  
CCB: 55.1, 54.1, 54.5, 51.0, 42.5, 45.1, 43.8, 40.1

# of patients prescribed for reports in 2014: 42955, 104180, 30472

For internal IHS use ONLY. Data from 164 sites (100 Tribal & 64 IHS). Collected from ONM reports 2013

Importance of Medication Adherence
PDC: Statin Medications

PDC: Portion of days covered ≥ 80%
GAP: gap in therapy ≥ 30 days

PDC and Gap: 2011 - 2014

Higher is better
Lower is better

# of patients prescribed for reports in 2014

For internal use ONLY. Data from 164 sites (100 Tribal & 64 IHS). Collected from ONM reports 2013
PDC: Antiretrovirals

PDC = Portion of days covered ≥ 90%

PDC: 2011 - 2014

Higher is better

For internal IHS use ONLY. Data from 164 sites (100 Tribal & 64 IHS). Collected from ONM reports 2013
Impact

• Increasing the effectiveness of adherence interventions may have a far greater impact on the health of the population than any improvement in specific medical treatments.

Barriers

• Barriers are individualized to the patient.

• Five Dimensions of Adherence:
  • Social and Economic.
  • Healthcare System.
  • Condition.
  • Therapy.
  • Patient.

• Adherence decreases as the number of barriers for the patient and provider increases.

Osterberg L, Blaschke T, 2005
Patients are responsible for taking their medications; however:

- Medication adherence is not exclusively the responsibility of the patient.
- Medication-taking behavior is complex and involves patients, the health care team, family support, and process components.

Medication adherence improvements are achieved more often than other aspects of self-management.
SIMPLE

• S=Simplify the regimen.
• I=Impart knowledge.
• M=Modify patient beliefs and human behavior.
• P=Provide communication and trust.
• L=Leave the bias.
• E=Evaluate adherence.
Simplify the Regimen

- Limit polypharmacy.
- Align with patient’s lifestyle.
- Coordinate medication lists.
Medication Lists

Clinical Summary from Anytown Indian Health Clinic
Printed 03/07/2013 13:15

Patient: John Smith HR#123456

Reason for Visit
- Head cold.
- Follow-up with studies for breast mass.
- Diabetes check.

Problems/Encounter Diagnosis
Active
- Diabetes Type 2 (controlled)
- Mild intermittent asthma
- Hypertension
- Breast mass
- Upper respiratory infection

Inactive (personal history):
- Pneumonia: 3 times in 2 years
- Chicken pox

*Reasons for today’s visit

Medications

*Given during visit:
- Albuterol 0.09 MG (ACTUAT); 2 puffs/day
- Tetanus immunization 0.5 mL; right arm

*Outpatient Medications
- Gliflozikyn 500 MG Oral Tablet; 7 days; 3 refills remaining
- Metformin Tartrate 25 MG Oral Tablet; 9 refills remaining; Oral tablet
- 

Outside Medications
- Aspirin 325 MG Oral Tablet; by mouth
- Loratadine as needed

Transitions of Care from Anytown Indian Health

Patient: JOHN SMITH
Date of Birth: May 1, 1980
Race: Black or African American
Preferred Language: English

Visit Date: April 25, 2013
Visit Location: Anytown Indian Clinic; Address

Table of Contents
- Problems/Encounter Diagnoses
- Allergies, Adverse Reactions, & Alerts
- Medications
- Procedures
- Reason for Referral
- Reason for Hospitalization
- Hospital Discharge Instructions
- Plan of Care
- Functional/Cognitive Status
- Social History (Smoking Status)
- Recent Lab Results
- Immunizations
- Recent Vital Signs
- Care Team

Importance of Medication Adherence
Personal Health Record

Importance of Medication Adherence
Medication Refills over Time

Importance of Medication Adherence
Automated Medication Refills

Importance of Medication Adherence
Medication Synchronization

Importance of Medication Adherence
Impart Knowledge

• Training.
• Patient Education.
Importance of Medication Adherence
Modify Beliefs and Behavior

Importance of Medication Adherence
Provide Communication

Importance of Medication Adherence
RPMS DIRECT

• Message Agent.
Evaluate Adherence

• Subjective.
• Objective.
• Biochemical.

Osterberg L, 2005.
ePrescribing

• 73% of physicians utilize ePrescribing in EHR systems.
Conclusion

• Medication adherence is an important facet of patient care.
• Medication adherence is a problem in the Indian Health System.
• There are many barriers that lead to poor medication adherence. Improving adherence is an individualized process of collaboration, understanding, and support.
• Many techniques can be used to assess and address medication adherence including health education, health literacy, health communications, patient engagement, and above all – keeping it SIMPLE.
References