Strengthening Medication Adherence
Evidence-Based Approaches

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National Kaiser Permanente
Geriatrics and Palliative Care Conference
June 19, 2008

The Bottomline

“Drugs don’t work if people don’t take them.”
C. Everett Koop
Former U.S. Surgeon General

“Sometimes the best drug, is no drug at all.”
David Sobel, MD
Let's Get Personal: Self-Assessment

- Have you ever had any difficulty taking a medication as prescribed? If so, why?
  - "I am worried about side-effects"
  - "I forget"
  - "I'm not really sick"
  - "I'm already taking too many medications"
  - "Too busy"
  - "I'm not sure they do me any good"
  - "Too expensive"
  - etc.

Presentation Objectives

At the conclusion of this interactive workshop participants should be able to:

- Describe the extent and impact that nonadherence has on clinical outcomes
- Describe three evidence-based strategies that improve adherence
- Assess adherence through improved clinician-patient communication strategies and awareness of cultural biases

Health Improvement in Chronic Conditions

Requires:
- Correct diagnosis
- Prescribing correct treatment
  (and intensifying treatment as needed)
- Treatment adherence over time:
  a shared responsibility

Taking medications is a fundamental self-management task for patients with chronic conditions.
What exactly is adherence?

- Taking 80+% of pills or doses of one or more prescribed medications

Polypharmacy of “Heart Protective” Medications

Patient without symptoms are prescribed:
- Antithrombotic agent
- ACE inhibitor
- Statin
- Metformin, glyburide, etc.
- +/- Beta-blocker

Patients with diabetes & cardiovascular risk factors often prescribed 4 to 7 medications

Nonadherence: Example of Clinical Impact

Patients with stable coronary artery disease:
- "In the past month, how often did you take your medication as the doctor prescribed?"
- Self-reported medication nonadherence (75% or less of medications) was associated with a 2-fold increased rate of subsequent cardiovascular events*

*after adjusting for baseline disease severity, traditional risk factors and depressive symptoms

McDonald HP. JAMA 2002;288:2868-2879

Gehi AK: Arch Intern Med 2007;167:1798-1798
Dimensions of Adherence

Unique combination of 5 different factors:

- **Health system & health care team**: health care coverage, patient-clinician relationship, clinician skill and training, etc.
- **Social and economic**: patient SES, literacy & education levels, age, culture, degree of social support, etc.
- **Therapy**: regimen complexity, duration of treatment, immediacy of beneficial effects, side effects, etc.
- **Health condition**: severity of symptoms, level of disability, rate of progression, co-morbidities, etc.
- **Patient and caregiver**: resources, knowledge, attitudes and motivation, beliefs, expectations, etc.


Can you predict adherence?

- 63 year old Mexican American woman
- 10th grade education; English speaking
- Type 2 diabetes; HTN; BMI 27; osteoarthritis
- No depression or other psychiatric problem
- No physical disability

Can you predict adherence?

- Clinicians do not demonstrate more than chance accuracy in predicting adherence of their patients
- Age, sex, race, intelligence, cultural, education level not reliable
- History of depression is associated with poor adherence
- People with physical disabilities more likely to adhere
- Adherence rates fluctuate over time. Cannot assume ongoing high or low adherence.
- Suspect nonadherence if patient not making progress on clinical or laboratory indicators and/or if patient fails to keep appointments

Note: Certain characteristics in specific disease populations linked to adherence, e.g. in older women with asthma: greater severity, lower SES, increasing age & other factors associated with treatment nonadherence

McDonald HP. JAMA 2002;288:2868-2879
Health Literacy: Prevalence

- What percentage of patients understand what we tell them or give them to read?
  a) 12%
  b) 52%
  c) 74%
  d) 83%

IOM Report: Health Literacy: A Prescription to End Confusion 2004

Depressive Symptoms and Medication Nonadherence

- Depressive symptoms were significantly associated with antihypertensive medication nonadherence.
- No association between adherence and knowledge about HTN, health beliefs, social support, satisfaction with care, alcohol or tobacco use.

Wang PS: J Gen Int Med 2002;17:504-11

Depressive Symptoms and Medication Nonadherence

- Screen for depression
  1. “During the past month, have you often been bothered by feeling down, depressed, or hopeless?”
  2. “During the past month, have you often been bothered by little interest or pleasure in doing things?”
- Carefully monitor adherence in patients with depressive symptoms
Nonadherence to Prescribed Medications

“The Other Drug Problem”

- **Common:** Average nonadherence rates estimated at **25-50 percent**. Lower rates with long term and complex regimens. Problem grows as burden of chronic disease grows.
- **Costly:** Lack of medication adherence is associated with poorer prognosis, hospitalization, mortality & significantly higher health care costs
- **Complex:** Usually more than 1 factor involved.

McDonald HP. *JAMA* 2002;288:2868-2879.

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**Improving Adherence to Prescribed Medications:**

**The Potential Impact**

Strengthening adherence may have greater impact on improving health outcomes than:

- Improved diagnosis
- More effective treatments

McDonald HP. *JAMA* 2002;288:2868-2879.

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**Medication Adherence and Health Outcomes**

- Taking a medication has both a *physiological and psychological* effect that influences health outcomes
Medication Adherence and Mortality

Coronary Drug Project (clofibrate)

- 5-Year Mortality %
  - All Subjects: High Adherence
  - All Subjects: Low Adherence
  - High Adherence
  - Low Adherence

Medication Adherence and Mortality

Beta Blocker Heart Attack Trial (BHAT)

- 1-Year Mortality (%)
  - High Adherence
  - Low Adherence

Medication Adherence and Health Outcomes

- Patients who adhere to treatment, even when the treatment is a placebo, have better health outcomes than poorly adherent patients
- Good adherence to placebo associated with 56% lower overall mortality (meta-analysis 21 studies, 46,000 pts*)
- The effect of adherence remains even when controlling for severity of disease, race, gender, marital status, smoking and life stress.

Each time patients swallow a pill they are swallowing their expectations along with the medication.

*Horwitz RI, Arch Int Med 1993;153:1863-1868
*Simpson SH, BMJ 2006; 333:15-19
Framing Positive Expectations for Medications

- Underselling and Overselling
- Framing
  - Negative: “Chemotherapy is highly toxic and you will lose your hair and become nauseated.”
  - Positive: “You will be receiving some very powerful medicine capable of killing rapidly producing cells. Cancer is the most rapidly producing cell, but there are other rapidly producing cells such as hair. And since the medication cannot tell the difference between hair and cancer cells, you may lose some hair temporarily. Fortunately, your normal, healthy cells can recover from the medication and reproduce themselves, but the weak, poorly formed cancer cells cannot.” (N. Fiore)
  - “Heart Protective Medication” or “Preventive Medicines”
- Informed decision-making for medications
- Risks of taking or not taking the medication

Adherence to Prescribed Medications: What Does NOT Work?

- Patient instruction alone did not have a lasting effect on adherence
- Attempts to coerce or instill fear (may also cause withdrawal from treatment)

Adherence to Prescribed Medications: What Works?

**Interventions:**
- Combinations of the following interventions are the most effective approaches to increase adherence to treatments for chronic conditions:
  - Instruction and counseling and educational materials
  - Simplifying the regimen
  - Group sessions
  - Reminders for medications and appointments
  - Cueing medications to daily habits and events
  - Reinforcement and rewards, e.g., explicitly acknowledge efforts to adhere
  - Self-monitoring with regular clinician review and reinforcement
  - Involving family members and significant others
- Asking patients about adherence detects 50% non-adherence
- Nonjudgmental, supportive communication and problem-solving
Patient-Centeredness and Shared Decision-Making

At this stage, no specific intervention aimed at improving adherence to lipid lowering drugs can be recommended. Instead, increased patient-centeredness with emphasis on the patient's perspective and shared-decision-making might lead to more conclusive answers when searching for tools to encourage patients to take lipid lowering medication.

Schedlbauer A. Cochrane Database of Systematic Reviews. 4, 2006.

Hypertension and Adherence

- One third to one-half of hypertensive patients do not adhere to prescribed regimen
- Half of those with "refractory" hypertension are nonadherent
- Predictors of adherence inconsistent
- Simpler regimens associated with higher adherence

  - QD dosing ~8% > multiple daily dosing and ~ 6% > BID

Clin Ther 2002;24:302

A Tasty Solution to Antihypertensive Medication Adherence

- Randomized, crossover trial, 13 subjects with mild isolated systolic hypertension
- 14 day trial of polyphenol-rich dark or polyphenol-free white chocolate (~100gr, 480 kcal)
- Dark chocolate lowered blood pressure an average of 5.1 mm Hg systolic and 1.8 mm Hg diastolic (P<.001)
- BP returned to preintervention values within 2 days.

Taubert D. JAMA 2003;290:1029-30
Reality Matters

- If a patient with type 2 diabetes tried to follow all the recommendations for self-care, it would require more than 2 extra hours daily.
  - Includes home monitoring (3 min), record keeping (5), taking medications (4), foot care (10), problem-solving (12), meal planning (10), shopping (17), preparing meals (30), exercise (30), blood pressure monitoring (3), stress management (10), administrative tasks (5).
  - Time spent on self-care: median 48 minutes per day. When asked about obstacles to managing diabetes, over a fifth of patients answered “Not enough time.”

- Implications
  - Consider patient preferences
  - Respect patient’s time
  - Help patients prioritize


Screening for Adherence

- **Ideal**: Screen everyone, at each encounter
- **Real**: Periodically screen higher risk
  - Nonattenders: missed appointments
  - Nonresponders: not meeting treatment goals
  - Nonrefillers: not refilling medications at appropriate intervals (on eChart, KP HealthConnect, CIPS, etc)

Importance of Updating Medication Lists in eRx and KP HealthConnect

- Patient safety
- Improves accuracy patient instructions in AVS and Discharge Summaries
- Eliminates unnecessary alerts regarding drug interactions for medications patients no longer taking
- Improves accuracy of information for our colleagues caring for our patients
- Identifies potential problems and opportunities for improving medication adherence
Medication Adherence: Medication Adherence:  
Screening and Counseling

- If a patient is reliably and consistently following your medication instructions, TELL THEM!
- If a patient is not consistently taking medications you prescribe, consider collaborative communication strategies to engage patient in problem-solving.

Collaborative Problem-Solving for Medication Adherence

Behavior Change Principles

- **PERVERSITY PRINCIPLE**: If you are told what to do, it is likely that you will do the opposite.
- **SELF-TALK PRINCIPLE**: Your beliefs are more influenced by what you hear yourself say than by what others say to you.
- **CHANGE TALK**: Self motivating statements made by patients
  - Recognition of an issue
  - Personal reasons for making a change
  - Potential consequences of current behavior
  - Hope or confidence about making a change

Clinician style is one of the most powerful predictors of motivation for behavior change

- Non-Judgmental
- Empathic
- Genuine
- Collaborative
- Curious

Miller & C de Baca 1993; Miller et al 1993
Normalize Non-Adherence and Ask Permission

Preamble to set the stage:
"Many people have trouble taking their medicines all the time. To create a medication plan that is safe and effective for you, it's important to know how you are taking your medications. Can we take the next few minutes to talk about that?"

Communication Suggestions for Medication Adherence

Screening for Medication Adherence

1. "During the past 7 days, (including last weekend), on how many days have you missed taking any of your doses?"
   OR
   "During the past month approximately what percentage of your medication have you taken? For example, 0% means you have taken no medications, 50% means you have taken half of your medications, 100% means you have taken every dose of your medications."

   Adherence = Taking > 80% of doses prescribed

2. "Have you decided to stop or start any medications on your own?"

Ask Open-Ended Questions

Elit the patient's perspective and engage the patient in problem-solving

- Build on Strengths
  On the days you take your medicines, what helps you stay on track?
- Explore Barriers and Solutions
  What gets in the way of taking your medicines on some days?
  What are your ideas for taking your medicines in those situations?
- Explore Ambivalence (Pros and Cons)
  What are some reasons for not taking your medications?
  What are some reasons for taking the medications?
- Provide Education & Check for Understanding ("Teach Back")
  Explain use of medication (purpose, duration, how to take)
  We’ve discussed some strategies for taking your medication regularly. To help me know whether I’ve explained things thoroughly, please tell me how you plan to take your medications.

Summarize

Summarize patient’s perspective, link to patient symptoms and aspirations, affirm ideas for success, reinforce/clarify education prn, strong closing
"We have discussed some ideas for taking your medications regularly. I strongly encourage you to take your medications as prescribed. This is one of the best things you can do to manage your ______ and to prevent health problems in the future. Of course, the decision to take medications is entirely yours. I am confident that should you decide to carry out the plan we developed today, you can find a way to make it work for you."

**Communication Suggestions for Medication Adherence**

**Know Your Resources**

- Medical assistant (medication review)
- Pharmacists
- Clinical Health Educators and Behavioral Medicine Specialists
- Drug Encyclopedia and Health Encyclopedia (kp.org)
- Care for Your Health (online HealthyLifestyles program from HealthMedia for chronic conditions)
- Online Clinician Training Program for Medication Adherence (http://kphealtheducation.org)

**Featured Health Topic**

Kp.org/healthdecisions
Medication Adherence: Online Resources

Know and Prescribe Your Home Page and kp.org!
- Medication refills online
- Drug encyclopedia
- Health Encyclopedia
  - Decision Points
  - Action Sets

Care for Your Health (HealthMedia):
Online, Tailored Program for Chronic Conditions
- Free for members
- Requires kp.org registration
- English only
- Relevant for over 40 conditions
- Accessed through Physician Home Page or kp.org (HealthyLifestyle Programs)
- Addresses lifestyle, managing common symptoms, medication management, sleep, psychosocial support, etc.

Care for Your Health (HealthMedia):
Improved Medication Adherence
- Of the participants who were never or rarely compliant with their medication at baseline, 37% increased to being sometimes or always compliant with their medication at 90 Days post program completion
- Of the participants who were sometimes compliant with their medication at baseline, over 25% increased to being always compliant with their medication at 90 Days post program completion
Motivating Change Online Programs
for Clinicians

http://kphealtheducation.org

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Watch the “Motivation Meter” as each response influences your Patient’s motivation

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Roll over the bubble to see what your Patient is thinking

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Principle of Dialog Education

"Never do what the learner can do.
Never decide what the learner can decide.
The learning is in the doing and deciding."

Jane Vella
Learning to Listen, Learning to Teach
Jossey Bass, 2002

Address 4 questions today

1. What are key factors in medication adherence?
2. What is the extent of medication nonadherence?
3. What is the impact of poor adherence?
4. What are evidence-based strategies to screen for nonadherence and strengthen adherence?