Gold Coast Health Plan℠
A Public Entity

Gold Coast Health Plan Pharmacy Services Newsletter

Issue 3
Quarter 1
January 15, 2013

Enhancing Medication Adherence:

On a worldwide basis, the World Health Organization (WHO) projects that only about 50 percent of patients typically take their medicines as prescribed. In the U.S., non-adherence affects Americans of all ages, both genders and is just as likely to involve higher-income, well-educated people as those at lower socioeconomic levels. Furthermore, since lack of medication adherence leads to unnecessary disease progression, disease complications, reduced functional abilities, a lower quality of life, and even premature death, poor adherence has been estimated to cost approximately $177 billion annually in total direct and indirect health care costs.

Although the challenge of poor medication adherence has been discussed and debated for at least three decades, these problems have been generally overlooked as a serious public health issue and, as a result, have received little sustained attention by medical practitioners. As a consequence, Americans have inadequate knowledge about the significance of medication adherence as a critical element of their improved health. Further, adherence rates suffer from a fragmented approach by the healthcare system. Consequently, many leading medical societies are now advocating a multidisciplinary approach through coordinated action by healthcare professionals, researchers, health planners, and policymakers.

Patient adherence to a medication regimen is central to good patient outcomes. Central to adherence is the quality of the provider/patient relationship. Effective provider/patient communication is empirically linked to positive outcomes of care including patient satisfaction, health status, recall of information, and adherence.

Resources:

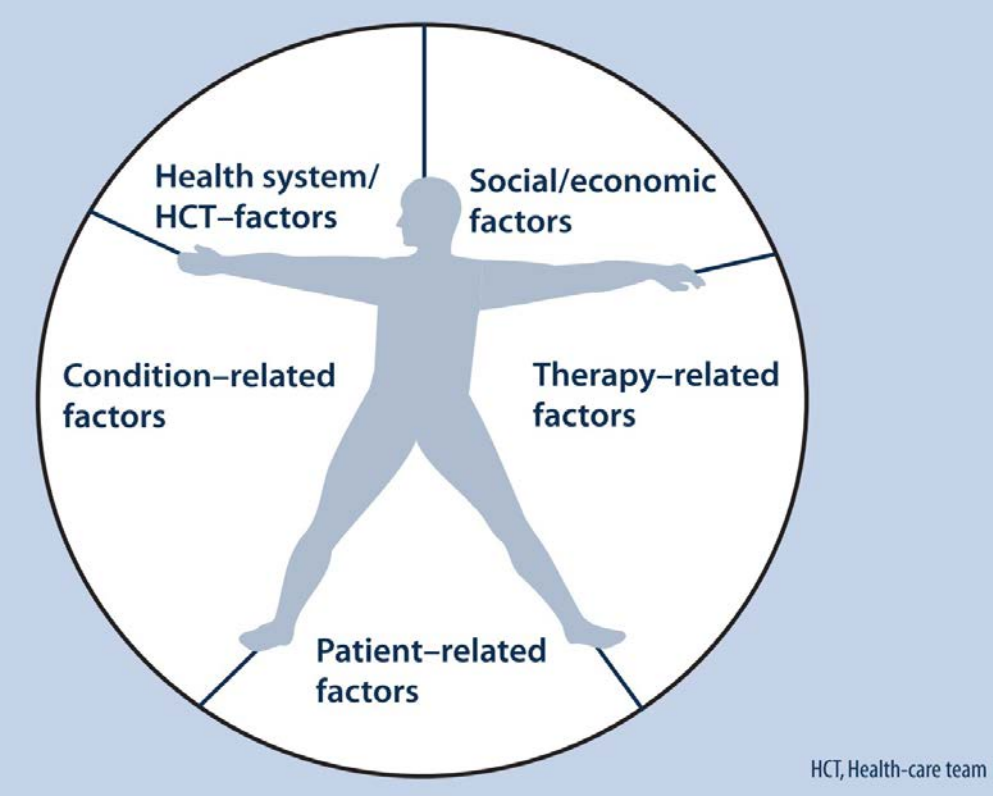
American Society of Consultant Pharmacists. Adult Meducation. Improving medication adherence in older adults. http://www.adultmeducation.com/downloads/Adult_Meducation.pdf

American Society of Consultant Pharmacists. Nonadherence risk assessment tool. http://www.adultmeducation.com/downloads/Nonadherence_Risk_TOOL.pdf

Partnership for Clear Healthcare Communication. Ask Me 3. What Can Providers do? http://www.npsf.org/askme3/PCHC/what_can_provid.php

World Organization of Family Doctors. **http://www.globalfamilydoctor.com/**

There Are Five Interacting Dimensions of Adherence:



Poor adherence to prescribed medication is associated with reduced treatment benefits and can obscure the clinician's assessment of therapeutic effectiveness.

Non-adherence is thought to account for 30 to 50 percent of treatment failures. Non-adherence leads to worse medical treatment outcomes; higher, avoidable hospitalization rates; institutionalization for the frail elderly; and increased healthcare costs. Attention to adherence is especially important in the current economic climate where we are seeing an uptick in patients foregoing medications by not filling or refilling prescriptions and hoarding medications due to high costs. Considering all of the factors listed in below that contribute to poor adherence, on the surface, it would appear that the provider role is very small. Yet this is not the case.

Physicians play an integral role in medication adherence. Patients who trust their physicians have better two-way communication with their physician. Trust and communication are two elements critical in optimizing adherence. Numerous studies show that physician trust is more important than treatment satisfaction in predicting adherence to prescribed therapy and overall satisfaction with care. Physician trust correlates positively with acceptance of new medications, intention to follow physician instructions, perceived effectiveness of care, and improvements in self-reported health status:

Adherence is the key mediator between medical practice and patient outcomes.

A recent meta-analysis of physician communication and patient adherence to treatment found that there is a 19% higher risk of non-adherence among patients whose physician communicates poorly than among patients whose physician communicates well. Statistically, the odds of patient adherence are 2.26 times higher if a physician communicates well. This translates into more than 183 million medical visits that need not take place if strong interpersonal physician/patient communication occurs.

Communication contributes to a patient's understanding of illness and the risks and benefits of treatment. Hence, the major challenge is to improve:

- Verbal and nonverbal communication (patient-centered care)
- Interviewing skills (improved competency)
- Discussions and provide greater transmission of information (task-oriented behavior)
- Continuous expressions of empathy and concern (psychosocial behavior)
- Partnerships and participatory decision-making (patient-centered care)

Poor adherence to medical treatment is widespread and well recognized, as are its consequences of poor health outcomes and increased healthcare cost. Non-adherence to medications is estimated to cause 125,000 deaths annually. Consider these other statistics:

Overall, about 20% to 50% of patients are non-adherent to medical therapy

- People with chronic conditions only take about half of their prescribed medicine.
- Adherence to treatment regimens for high blood pressures is estimated to be between 50 and 70%.
- 1 in 5 patients started on warfarin therapy for atrial fibrillation discontinue therapy within 1 year.
    - Underuse of anticoagulant therapy for prevention of thromboembolism is attributed to the risk factors of younger age, male gender, low overall stroke risk, poor cognitive function, homelessness, higher educational attainment, employment and reluctant receptivity of medical information.
- Rates of adherence have not changed much in the last 3 decades, despite WHO and Institute of Medicine (IOM) improvement goals.
- Overall satisfaction of care is not typically a determining factor in medication adherence.
- Adherence drops when there are long waiting times at clinics or long time lapses between appointments.
- Patients with psychiatric disabilities are less likely to be compliant.

Gap Between a Written Prescription and Actual Medication Use
[Source: National Association of Chain Drug Stores, Pharmacies: Improving Health, Reducing Costs, July 2010. Based on IMS Health data.

Non-adherence results in an economic burden of $100 to $300 billion per year.

Annually, non-adherence costs $2,000 per patient in physician visits.

- The rate of non-adherence is expected to increase as the burden of chronic disease increases.
- Non-adherence accounts for 10% to 25% of hospital and nursing home admissions.

Recent research has found medication non-adherence to result in:

- 5.4 times increased risk of hospitalization, re-hospitalization, or premature death for patients with high blood pressure.
- 2.5 times increased risk of hospitalization for patients with diabetes.
- More than 40 % of nursing home admissions.

1. SOCIAL AND ECONOMIC DIMENSION

- Limited English, language proficient
- Low health literacy
- Lack of family or social support network, unstable living conditions
- Homelessness, burdensome schedule
- Limited access to health care facilities
- Lack of health care insurance
- Inability or difficulty accessing pharmacy
- Medication cost
- Cultural and lay beliefs about illness and treatment
- Elder abuse

2. HEALTH CARE SYSTEM DIMENSION

- Provider-patient relationship
- Provider communication skills (contributing to lack of patient knowledge or understanding of the treatment regimen)
- Disparity between the health beliefs of the health care provider
- and those of the patient
- Lack of positive reinforcement from the health care provider
- Weak capacity of the system to educate patients and provide follow-up
- Lack of knowledge on adherence and of effective interventions for improving it
- Patient information materials written at too high literacy level
- Restricted formularies; changing medications covered on formularies
- High drug costs, copayments, or both
- Poor access or missed appointments
- Long wait times
- Lack of continuity of care

3. CONDITION-RELATED DIMENSION

- Chronic conditions lack of symptoms severity of symptoms
- Depression
- Psychotic disorders
- Mental retardation/developmental disability
- Complexity of medication regimen (number of daily doses; number of concurrent medications)
- Treatment requires mastery of certain techniques (injections, inhalers)
- Duration of therapy
- Frequent changes in medication regimen Lack of immediate benefit of therapy Medications with social stigma attached to use; actual or perceived unpleasant side effects
- Treatment interferes with lifestyle or requires significant behavioral changes

Physical Factors

- Visual impairment hearing impairment cognitive impairment
- Impaired mobility or dexterity
- Swallowing problems

Psychological/Behavioral Factors

- Knowledge about disease
- Perceived risk/susceptibility to disease understanding reason medication is needed expectations or attitudes toward treatment
- Perceived benefit of treatment
- Confidence in ability to follow treatment regimen
- Motivation
- Fear of possible adverse effects
- Fear of dependence
- Feeling stigmatized by the disease Frustration with health care providers
- Psychosocial stress, anxiety, anger
- Alcohol or substance abuse

CHANGES TO THE BETA-2 ADRENERGIC CLASS:

Anyone who has asthma can describe the uncomfortable experience of having difficulty breathing. A variety of medications are available to GCHP members to control their asthma, COPD, and other respiratory problems. The majority of these medications, however, do not stop the respiratory attack as in asthma once it has begun. Only a rescue inhaler can help alleviate the effects of respiratory distress on the lungs, including constriction and obstruction. Thus, those suffering from respiratory ailments generally have a rescue inhaler to depend on should, breathing become difficult. According to the Asthma and Allergy Foundation, the main rescue inhalers available are Ventolin® HFA, Proair® HFA, and Xopenex® HFA (a purer form of albuterol sulfate that may cause fewer side effects).

Proair ® HFA and Ventolin® HFA

Both forms of albuterol sulfate are considered equivalent in clinical efficacy. However, Ventolin® is one of the oldest and most prescribed inhalers for asthma and other respiratory conditions. Unlike Proair®, Ventolin® offers a feature, namely, a counter that lets the member know exactly how many inhalations are remaining. This can be extremely useful for GCHP members in determining how much medication is left in the canister. The counter removes all the guesswork in determining when a refill is needed and prevents wastage of medication. This may have a positive effect on compliance and cost effectiveness. Furthermore, Proair® is considerably more expensive than Ventolin®. Proair® uses ethanol as a cosolvent and Ventolin® does not. For many suffering from respiratory ailments such as asthma, ethanol may pose a problem. Ethanol is known to cause constriction of the lungs, thus making its presence in a rescue inhaler counterproductive.

Ventolin® is the only rescue inhaler that does not contain ethanol. The use of ethanol gives Proair® one additional side effect aside from which the two inhalers are identical in possible side effects. These may include allergic reactions, breathing difficulties, dizziness, heart palpitations, heartburn, increased blood pressure, nausea and vomiting, nervousness, rapid pulse or heartbeat, respiratory tract infections, stuffy or runny nose, tremor and more.

Effective Changes 01/13 Proair® HFA is No Longer Covered:

The P&T Committee of Gold Coast Health Plan Pharmacy Services has deleted Proair® HFA from the List of Covered Drugs. Members currently receiving Proair® HFA will be required to utilize Ventolin® HFA either as initial rescue inhaler or with their next refill. Also, the maximum quantity in a 31 day period will be changed from 3 inhalers to 2 inhalers for Ventolin ® HFA.

GCHP Pharmacy Services Educational Series:

Lipid-lowering therapy

Pushing down cholesterol...

Lowering serum cholesterol has become one of our most powerful tools for controlling cardiovascular disease. Randomized trials of tens of thousands of patients have demonstrated the efficacy and safety of statins in reducing the risk of myocardial infarction, stroke, and cardiac death. Although most physicians are familiar with management of this condition, it is worthwhile reviewing a comprehensive approach to this common therapeutic challenge. This issue will address the use of statins, the most widely used class of anti-cholesterol drug.

But questions remain:
Who should be treated?
What is the right goal LDL level?
Which drugs should I choose?

Despite the nation's massive investment in managing cholesterol, we frequently miss the mark: diet and exercise messages go unheeded, medications are often underused, drug choices are sometimes arbitrary, and only a minority of patients reach their treatment goals. Better control of serum lipids presents an opportunity to improve care, reduce morbidity and mortality, and optimize therapeutic choices.

In which patients should I check serum lipids, and how?

A fasting lipoprotein profile including total cholesterol, LDL, and HDL should be measured in all adults 20 years and older, at least once every 5 years.

Who needs to be treated?

Identify patients with coronary artery disease (CAD) or the following "risk equivalents": symptomatic carotid artery disease, peripheral arterial disease, abdominal aortic aneurysm, or diabetes. Any of these puts the patient at over 20% risk of having a coronary event in the next ten years.

Assess other risk factors:

- Smoking;
- Hypertension (BP >140/90 mm/Hg, or taking an antihypertensive medication);
- Low HDL-cholesterol (<40 mg/dL); elevation of protective HDL-cholesterol >60 mg/dL counts as a "negative" risk factor;
- Family history of premature CAD (in male first degree relative <55 years, in female first degree relative <65 years) and age (men >45 years, women >55 years);
- Diets high in total fat, saturated fat, and cholesterol;
- Diabetes mellitus;
- Chronic kidney disease: Kidney disease is associated with hypertriglyceridemia;
- Hypothyroidism;
- Obesity: Excess weight is associated with increased total cholesterol, LDL, and triglycerides, as well as with decreased levels of HDL;
- Physical inactivity;
- Alcoholism;
- Steroid use; and
- Oral contraceptive pills

High Cholesterol: Total Cholesterol: LDL and HDL

Diagnosis

- The National Cholesterol Education Program (NCEP) recommends routine blood cholesterol assessment every five years beginning at age 20. More frequent screening should be performed for persons who have high total cholesterol, low HDL, or other risk factors for heart disease. Individuals should fast for at least 12 hours before blood sampling.

Total cholesterol: According to NCEP guidelines, total cholesterol below 200 milligrams (mg) per deciliter (dL) is desirable. A borderline high level is 200 to 239 mg/dL. High cholesterol is defined as greater than 240 mg/dL. However, some evidence suggests that stricter standards may be appropriate. The risk of cardiac events decreases as total cholesterol levels fall, so many authorities suggest that the goal for total cholesterol should be approximately 150 mg/dL.

Triglycerides: Normal triglyceride level is less than 150 mg/dL. Borderline is 150 to 199 mg/dL, and high is 200 to 499 mg/dL. Levels of 500 mg/dL or higher are considered very high.

HDL cholesterol: Concentrations of 60 mg/dL or higher are ideal. In general, an HDL concentration below 40 mg/dL is considered a major risk factor for coronary heart disease. Some experts suggest, however, that HDL concentration should be considered in comparison with total cholesterol. In this way, the HDL value should be at least one-third that for total cholesterol.

LDL cholesterol: According to the NCEP, LDL cholesterol levels below 100mg/dL are considered ideal. A range of 100 to 129 mg/dL is near optimal. Borderline is 130 to 159 mg/dL. High is 160 to 189 mg/dL. However, increasing evidence supports stricter standards. Many researchers and clinicians believe that 100 mg/dL should be the upper limit for everyone, and some recommend reductions below 70 mg/dL for high-risk individuals.

Studies of hunter-gatherer populations and normal newborn babies have modified the concept of normal cholesterol levels. Normal human LDL cholesterol concentration may be as low as 50 to 70 mg/dL. Coronary heart disease risk decreases as LDL cholesterol concentration decreases, and may reach its lowest level at approximately 40 mg/dL.

Calculate risk: For patients without CAD or a CAD "risk equivalent," but who have two or more of these other risk factors, estimate the 10-year CAD risk using the Framingham scores (see accompanying online resource such as http://hp2010.nhlbihin.net/atpiii/calculator.asp)

How can I help my patients with therapeutic lifestyle changes ("TLC")?

All patients with LDL levels greater than their goal should begin TLC by increasing physical activity, reducing weight when appropriate, stopping smoking, and improving diet). Clinicians should actively encourage these behavior changes and monitor follow-up cholesterol levels to determine whether medication therapy is necessary. Practical recommendations about diet and exercise are on the American Heart Association website: http://www.americanheart.org/presenter.jhtml?identifier=4764.

If a drug is needed, which statin should I prescribe?

Statins are all members of the same therapeutic class, but no published head-to-head studies have compared statins at equipotent doses (e.g., atorvastatin 10 mg vs. simvastatin 40 mg) in achieving clinically important outcomes. Most statins reduce CAD events better than placebo, and seem to have the same risk of side effects at comparable doses. Therefore, at equivalent dose intensities, most statins will likely produce equivalent results.

As a result, which statin to prescribe should be based primarily on: (1) the extent of LDL lowering required to get to goal for a given patient, and (2) affordability.

Despite their clinical similarity, statins do differ substantially in price, and affordability is a major factor in compliance. Therefore, when choosing among statins of equivalent potency, cost may be a relevant consideration.

What is the role, if any, of ezetimibe (Zetia, Vytorin)?

Ezetimibe is not a statin, and it lowers LDL by a completely different mechanism. Unlike the statins, it has never been shown to protect against real clinical outcomes such as MI or stroke; it was approved solely on the basis of its ability to influence the surrogate marker of LDL levels. As a result, there is little clinical trial evidence that a patient whose LDL is lowered with these products will have the same actual benefit that would be achieved by reaching that goal through better-established and more cost-effective drugs (statins). Published results of clinical trials studying this question are still years away. **Therefore, at present, clinical efforts should be directed at reducing a patient's LDL to target levels using statins alone**. If an additional agent is needed, add another drug that has been shown to have clinical benefits (e.g., nicotinic acid, bile sequestrants, or fibrates - monitoring closely for myopathy if fibrates are used). Reserve ezetimibe for the rate patient who cannot tolerate statins or cannot get to LDL goal despite these steps.

Is elevated C-reactive protein a new indication for statins?

The JUPITER trial (Justification for the Use of Statins in Prevention: an Intervention Trial Evaluating Rosuvastatin) examined whether statins can benefit men aged >50 and women aged >60 years who have high-sensitivity C-reactive protein (hs-CRP) >2.0 mg/L but normal cholesterol levels (LDL <130 mg/dL). It found that statin therapy substantially reduced the primary outcome (a composite of MI, stroke, arterial revascularization, hospitalization for unstable angina, or death from CV causes) by 44% (p<0.00001).

While JUPITER was conducted using rosuvastatin (Crestor – not covered by Plan), there is good evidence from previous clinical trials that other statins are also effective in lowering C-reactive protein.

These are general recommendations only; specific clinical decisions should be made by the treating physician based on an individual patient's clinical condition.

References:

Grundy SM, Cleeman JI, Merz CN, et al. Implications of recent clinical trials for the National Cholesterol Education Program Adult Treatment Panel III guidelines. *Circulation*. Jul 13 2004;110(2):227-239.

Helfand M, et al. Drug Class Review on HMG-CoA Reductase Inhibitors (Statins). Obtained October 2006 at: http://www.ohsu.edu/drugeffectiveness/reports/final.cfm.

Jones P, Kofonek S, Laurora I, Hunninghake D. Comparative dose efficacy study of atorvastatin versus simvastatin, pravastatin, lovastatin, and fluvastatin in patient with hypercholesterolemia (the CURVES study). *Am J Cardiol.* Mar 1 1998;81(5):582-587.

Law MR, Wald NJ, Rudnicka AR. Quantifying effect of statins on low density lipoprotein cholesterol, ischaemic heart disease, and stroke: systematic review and meta-analysis. *BMJ*. Jun 28 2003;326(7404):1423.

Brown BG, Taylor AJ. Does ENHANCE diminish confidence in lowering LDL or in ezetimibe? N *Eng J Med*. Apr 3 2008;358(14):1504-1507.

Ridker PM, Danielson E, Fonseca FA, et al. Rosuvastatin to prevent vascular events in men and women with elevated C-reactive protein. *N Eng J Med*. Nov 20 2008;359(21):2195-2207.

Ridker PM, Rifai N, Clearfield M, et al. Measurement of C-reactive protein for the targeting of statin therapy in the primary prevention of acute coronary events. *N Eng J Med* 2001;344:1959-1965.

TRUEmanager ™ PRO Diabetes management Software Review:

The TRUEmanager™ PRO diabetes management software was created to assist the physician in identifying and understanding how patients' daily choices and actions affect their blood glucose levels. TRUE is the preferred test strip and monitor for GCHP members.

What does TRUEmanager™ PRO diabetics management software do to increase patient compliance? The software gives providers tools to help patients achieve target blood glucose levels. The design makes it easy and convenient to quickly identify glucose results that are out of target range, so you can consult with patients to help them understand how various lifestyle and behavior choices affecting their blood glucose levels. With this information and your expertise, patients are empowered to make better choices in daily self-management.

TRUEmanager™ PRO DMS lets you – and your patients – establish and maintain valuable testing records that include demographics, insurance information, medications, testing regimen recommendations, and results history. It is an all-in-one, easy-to-access diabetes management system.

TRUEmanager™ PRO DMS offers seven comprehensive reports. Each report interprets test results from varied, valuable perspectives and packages them in easy-to-view, printable reports for evaluation and discussion.

TRUEmanager™ PRO easily installs to a network server and offers a separate HL7 interoperabilty module for data exchange with electronic medical records or other systems.

TRUEmanager™ PRO DMS will help you to help your patients stay on track to a healthier course in diabetes management.