proportion of patients not adherent and not at goal. Targeted interventions based on LDL-c goal attainment should be undertaken to ensure that adherence to statin therapy is maintained in this high-risk population of CAD patients.

Keywords: Statins, Adherence, Coronary artery disease

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PS2-28:

Primary Non-adherence and Health Care Utilization

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Background: New prescriptions unfilled by patients (primary non-adherence) contribute to the overwhelming problem associated with medication non-adherence. Little research has been conducted in this area relative to refill non-adherence. The overall impact of unclaimed prescriptions is potentially significant depending on the medication and its indication. Because primary non-adherence has been recognized as an issue within our organization, we are conducting a retrospective study to evaluate fills up to twelve months following a new prescription in order to assess patient and clinical variables associated with primary non-adherence. **Objective:** Our objectives are to compute prescription fill rates among subgroups defined by patient and drug attributes, and to determine how subsequent health care utilization differs for those who do and do not fill their prescriptions. **Methods:** This pilot study is a retrospective review of electronic medical record (EMR), prescription orders and fills 1/1/2009-6/30/2009 for patients aged 18+ with 12 months of continuous medical and prescription coverage 1/1/2008-6/30/2010 who have a clinic or emergency room visit and a new prescription order for a new diagnosis. We will evaluate this cohort for prescription fill data over the following 12 months (through 6/30/2010) to gather EMR, census, and patient visit data linked to the prescription order. We will quantify the number of patient visits (primary, specialty, and urgent care, ER and inpatient) for members who fill the original prescription, those who ultimately fill with the same or similar drug, and those who never fill the prescription (within one year of prescription order). **Results:** The data dictionary has been developed and project programming is underway. We anticipate we will complete data collection by January 2011 and analysis by March 2011. **Conclusion and Implications:** We expect primary non-adherence to occur within our integrated health system and to vary by diagnosis. Variables predicted to vary among those who fill and those who do not include plan design, benefit structure, gender, race, age and SES. This pilot study will be used to identify target populations for future interventional studies.

Keywords: Prescription refill, Non-adherence

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C-B3-04:

Use of Alternative Lifestyle Methods to Control Hypertension in Individuals Entering a Blood Pressure Clinical Trial

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Background/Aims: Lifestyle therapies are recommended as initial treatment or adjunctive therapy for all patients with hypertension. We describe the alternative therapies and lifestyle changes reported by patients with uncontrolled blood pressure (BP) enrolled in a hypertension clinical trial. **Methods:** Alternative therapies and lifestyle changes were self-reported in a survey administered at the participant's pre-randomization baseline visit. Patients were asked to report their use of alternative therapies and lifestyle changes specifically to control their high BP in the 12 months prior to starting the trial. Alternative therapies included yoga, meditation, acupuncture, biofeedback, paced breathing, herbal medications and vitamin supplements. Lifestyle changes included low salt diet, other dietary, weight loss, alcohol

reduction, and increased physical activity. Multiple alternative therapy or lifestyle changes could be indicated. **Results:** Among the 296 participants who completed the baseline questionnaire, mean age was 62 years, 44% were female, 17% were minority race/ethnicity, and 49% were college graduates. Of these, 96 (32%) had tried an alternative therapy and 177 (60%) had made a lifestyle change to control BP. The most common alternative therapy reported for control of BP was vitamin supplements (20%), but other techniques, including meditation (12%), yoga or paced breathing (both 5%), herbal medications (4%), and acupuncture (1%) were used. No participants had tried biofeedback. Of the lifestyle changes, increasing physical activity was most popular (34%), followed by other dietary changes (27%), weight loss (22%), low salt diet (16%), and alcohol reduction (11%). The 89 (30%) of participants who tried neither an alternative therapy nor a lifestyle change were slightly younger (mean age 60), less likely to be female (33%, $p = 0.01$), less likely to be minority race/ethnicity (11%, $p = 0.1$) but have similar education (52% college graduates, $p = 0.5$). **Conclusion:** Patients with uncontrolled BP who volunteered for a clinical trial report using a variety of non-pharmacologic methods to control hypertension; however, many of the methods used have scanty or inconsistent evidence for efficacy in lowering blood pressure. Health care providers should ask about alternative therapies and attempt to re-direct patients to more efficacious non-pharmacologic treatment modalities.

Keywords: Hypertension, Alternative therapies, Lifestyle changes

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C-B3-05:

Help for Parents of Children with Cancer: a Web-based Intervention

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Background: Children with cancer take complex life-saving chemotherapy regimens, many of which are administered at home by their parents. Our research indicates that errors in home medication use are common among children with cancer. In home visits, we found that the use of support tools significantly reduced the risk of errors. **Method:** We developed a web-based Home Medication Support intervention (HoMeS). The intervention development process steps were: convene work group, consult parent advisors, develop paper mock-ups, web-based development, and test-retest cycles. **Results:** Our work group consists of a pediatric oncologist, patient safety expert, cancer communication expert, and health information technology expert. We also consulted with four parents of children with cancer who were undergoing or recently completed home oral chemotherapy treatment. Parents identified needed improvements to a printed calendar which they received often, but not always, from their oncologist. Improvements included: check boxes to record when a dose was given, generic and brand names, metric conversion, and dosing support. Pediatric oncologists requested a computer program to create and save the medication calendar which they could save for each patient from month to month. We developed a paper mock up of a patient-specific monthly Home Medication Support (HoMeS) calendar, with both generic and brand names for each of the child's medications (e.g., meperidine = Demerol), abbreviations and generic names (e.g., 6-MP = 6-mercaptopurine), and dosing support. To prevent errors, we included color coded medication names, included check boxes for recording medication administration at home to support parent to parent communication, descriptions of how to prepare the medicine, and dosages for all as needed medicines, including pain medication. We are currently testing the HoMeS calendar, and developing supplemental educational tools to enhance parent understanding of cancer treatment. By spring 2011, we will implement and evaluate HoMeS using time-series methods. **Conclusions:** Parents and oncologists requested improvement in the home medication calendar to increase usability and prevent errors in home medication use among children with cancer. We developed a Home Medication Support (HoMeS) intervention

and will be enhancing, implementing, and pilot testing this intervention to support communication and prevent errors.

Keywords: Medication errors, Pediatric cancer, Health information technology

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C-B3-02:

Primary and Early Non-Adherence in an HMO Population

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Background: Adherence to prescribed medications is associated with improved health outcomes in many chronic conditions. Measures of adherence typically depend on administrative data from pharmacy dispensing databases and require a minimum of two drug dispensings to calculate (ongoing adherence). Patients who do not pick up the initial prescription (primary non-adherers) or who fill it only once (early non-adherers) are excluded from calculations based on pharmacy databases. Reasons for non-adherence in primary and early non-adherent patients could be different from those in patients with ongoing dispensings who discontinue or who are not fully adherent to their medications and could vary across diseases or drug classes. **Aim:** To characterize primary and early non-adherers among a population of patients with diabetes, hypertension, and/or hyperlipidemia enrolled in an integrated health system. **Methods:** We identified Kaiser Permanente Colorado (KPCO) members with a newly-initiated order for a medication of interest in 2007 and 2008. Orders were identified using electronic health record data; these orders were sent to the pharmacy information management system (PIMS). From PIMS we determined if/when dispensing occurred. We classified patients into ongoing adherence and primary and early non-adherence groups. If patients had new orders for more than one drug of interest, we classified them as early or primary non-adherers only if they were not in the ongoing adherence group for any of the drugs. Patients were also classified according to drug group (antidiabetic, antihypertensive, antihyperlipidemic, or multi-drug). **Results:** Of 15,417 patients with a newly-initiated order for a drug of interest, 1147 (7.4%) were in the primary non-adherence group and 3355 (21.8%) were early non-adherers. Individuals initiated on more than one drug were most likely to be in the ongoing dispensing group. Almost 10% (754 of 7636) of individuals prescribed an anti-diabetic or antihyperlipidemic drug did not fill their first prescription, twice as many as among those prescribed an antihypertensive drug. **Conclusions:** Excluding the relatively large proportion of patients who do not receive ongoing dispensings of a newly-initiated drug yields an incomplete picture of medication adherence and thereby the potential factors contributing to non-adherence. For example, we found primary non-adherence differed across therapeutic classes.

Keywords: Adherence, Medication, Chronic conditions

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PS2-32:

Barriers and Facilitators for Medication Adherence

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Background: Literature has shown many patients do not adhere to prescribed medications. To help understand factors related to medication adherence, we conducted a survey of adherent and non-adherent patients. **Objective:** To determine factors that serve as barriers and facilitators to medication adherence for patients with diabetes and asthma. **Methods:** We identified all members >18 years with at least two prescription fills for > 28 days' supply from January 2007-March 2009. We focused on medications (n=128) to treat depression, hypertension, hyperlipidemia, diabetes, asthma/COPD, multiple sclerosis, cancer or osteoporosis. Diagnoses were identified by ICD-9 code and merged with pharmacy claims. Adherence was calculated by the

Medication Possession Ratio at a threshold of 80%. We randomly selected 500 individuals with the two conditions with the poorest adherence to survey (asthma 32% and diabetes (51%), half of whom were adherent and half who were not. Using the ASK-20 questionnaire as our basis, we added questions about facilitators and barriers to adherence. **Results:** Approximately 30% of patients forget to take their medications, 16% run out of medication because they don't refill in time, and 22% had taken a medication more or less than prescribed in the past month. Barriers most commonly noted were an irregular schedule (22%), having to take pills with food (13%), and being too busy to keep prescriptions filled (12%). Facilitators most frequently reported were taking medications at the same time daily (95%) and using a weekly pill reminder (47%). We are currently analyzing open-ended comments to identify additional barriers and facilitators. We will also conduct a subgroup analysis (e.g., by gender, age). **Conclusion and Implications:** Building routine into one's medication-taking behavior appears to be a key factor to ensuring adherence. Finding ways to help patients in this effort remains an important consideration of the health plan. The findings of this study will help guide discussion within the health plan's pharmacy administration team to assist patients in their efforts to adhere to the medication regimens prescribed and thus maximize the benefits of prescribed therapies.

Keywords: Medication adherence, Barriers, Facilitators

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PS2-23:

Reducing Rehospitalization in Survivors of Critical Illness: Description of a Novel Interventional Strategy

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Background/Aims: Older patients who survive a critical illness are at increased risk for mortality and rehospitalization. Ten percent of ICU survivors discharged to home are rehospitalized within a week, and nearly one-third are readmitted within 180 days. Contributors to these negative outcomes may include complex discharge plans, unrecognized ICU-associated illnesses and separation of inpatient and outpatient medicine through shorter outpatient visits and the hospitalist movement. These factors contribute to the challenges of care transitions and further limit the care coordination of the ICU survivor with complex medical problems. The purpose of the project is to pilot a model of transitional care for older ICU survivors. We propose an innovative model of transitional care for older ICU survivors that has the potential to reduce rehospitalization rates, improve morbidity and decrease risk of mortality. **Methods:** We will target patients 55 years of age or older who have survived a critical illness in the medical ICU and are to be discharged home. We will exclude patients who are unwilling or unable to assume patient responsibilities. Patients (and caregivers) will be empowered through the support of a transitional coach who encourages the patient and caregiver to have a more active role in the health of the patient. Such efforts include medication reconciliation, identification of patient-selected goals, and education about self-management and communication of medical issues. The ICU Survivors Follow-up Care Clinic will be created to address ICU-specific issues that we believe may contribute to the negative outcomes of critical illness. Through these two interventions, we will create a detailed care plan and deliver a coordinated handoff to the primary care physician. **Results:** The project will be evaluated for feasibility and effectiveness using the RE-AIM framework. We will conduct cost analysis to determine the long term sustainability of the program. **Conclusions:** Older ICU survivors are at risk of hospital readmissions for many reasons. A novel program that integrates patient empowerment and early recognition and follow-up of ICU associated illness may impact these negative outcomes.

Keywords: Rehospitalizations, Chronic disease management, Critical illness

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C-B4-01:

Provider Experience Using a Web-based Tool for Chronic Disease Management in Primary Care

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