

discussion of interventions, communication tools (e.g. written instructions from the physician, a home medication calendar with communication tools such as check boxes to indicate when a dose had been administered, and others) were high priority for parent participants. **Conclusions:** Parents can understand and perform an FMEA. The parent-team identified modifiable failure modes, many communication-related, which could lead to significant patient injury in home medication use. Parents prioritized tools that could lead to system improvements and reduce errors.

Keywords: FMEA, Medication administration, Pediatric cancer
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PS1-17:

H1N1 Flu and Pregnancy: The Kaiser Permanente Experience

Craig Hansen, PhD¹; Sheila Desai, MPH¹; Craig Cheetham, PharmD, MS²; Di-Kun Li, MD, PhD³; Marsha Raebel, PharmD, BCPS⁴; Jason Glanz, PhD⁴; Christine Bredfeldt, PhD⁵; Mia Hemmes, MPH, CHES¹; Robert Davis, MD, MPH¹

¹Kaiser Permanente Georgia; ²Kaiser Permanente Southern California; ³Kaiser Permanente Northern California; ⁴Kaiser Permanente Colorado; ⁵Kaiser Permanente Mid-Atlantic

Background/Aims: It is known that seasonal influenza infection disproportionately impacts pregnancy. Based on preliminary information, the pandemic H1N1 virus that first surfaced in spring 2009 appears to cause disproportionate morbidity and mortality among pregnant women - possibly to an even greater degree than that seen from seasonal flu. While it is estimated that over 10% of the pandemic influenza-related deaths in the United States have been in pregnant women-there is little data on the total impact of H1N1 infection upon pregnant women and their developing infants. This study will present a population-based assessment of the impact of H1N1 flu upon pregnancy, maternal, and birth outcomes. **Methods:** This is an open cohort study covering the seasonal (mid 2008-2009) and H1N1 (mid 2009-2010) influenza seasons, with follow-up for pregnancy and infant outcomes up to one month after delivery. All pregnant women in KPNC, KPSC, KPCO, KPMA and KPGA during this period (mid 2008-2010) will be categorized according to their infection status as defined via lab test and/or ICD-9 code for influenza-like-illness. Descriptive and regression analyses will be conducted to examine neonatal and pregnancy outcomes. **Results:** Due to time constraints in relation to availability of the most recent data within Kaiser Permanente, the final data extraction will not be completed until November 2010. Statistical analyses will be conducted on the following outcomes: pregnancy (pre-eclampsia, eclampsia, premature labor, premature delivery, pregnancy-induced hypertension; maternal (hospitalization for respiratory-related conditions, other hospitalizations, death); infant (intra-uterine growth retardation; low birth weight, major congenital anomalies); vaccine use and effect (extent to which pregnant women received H1N1 and seasonal flu vaccine; impact of vaccination upon the risk for adverse pregnancy, maternal and infant outcomes); antiviral use and effect (extent to which pregnant women received antiviral medication for H1N1 or seasonal flu, and the impact of these therapeutics upon the risk for adverse pregnancy, maternal and infant outcomes). **Conclusions:** This study will be both analytic and descriptive, showcase the abilities of CESR and inform the scientific and public health communities with a range of unique information related to H1N1 infection during pregnancy within the combined KP populations. Note: Final analyses and results will be presented at the HMORN Conference.

Keywords: H1N1, Pregnancy, Neonatal
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Chronic Illness Management

PS2-16:

Patient Knowledge and Beliefs Concerning Gout and Its Treatment

Leslie Harrold, MD, MPH^{1,2}; Kathleen Mazor, EdD^{1,2}; Daniel Peterson, MA^{1,2}; Cassandra Firreno, BA^{1,2}; Robert Yood, MD¹

¹Fallon Clinic; ²UMASS Medical School

Aim: We sought to examine patients' knowledge and beliefs concerning gout and its treatment in order to identify ways to improve gout care. **Methods:** We identified all members (≥ 18 years of age) of a group-model health maintenance organization (HMO) with documentation of at least one health care encounter associated with a gout diagnosis during the period 2008-2009 (n=1346). From this population a random sample of 500 subjects were sent a questionnaire assessing knowledge with regard to gout, beliefs about prescription medications used to treat gout, satisfaction with physician-patient communication, and trust in the physician. **Results:** Two hundred and forty patients returned surveys and research authorization forms (response rate of 51%). The majority of patients were male (80%), white (94%), and aged 65 and older (66%). Only 14 (6%) patients were cared for by a rheumatologist. Many participants were unaware of foods that may lead to a gout flare. Specifically, more patients reported vegetables (58%), chicken (55%) and legumes (39%) as triggers as compared to seafood (23%), beef (22%) and pork (7%). Only 43% reported beer could increase the chances of a gout flare. Awareness of dietary triggers was not greater among those with more encounters for gout or chronic gout (identified by use of urate-lowering drugs [ULDs]). For the management of acute flares, nonsteroidal anti-inflammatory drugs were considered easy to take (86%) and effective in decreasing pain (78%) with only 22% having side effects to the agents. Among colchicine users, colchicine was considered easy to take (91%) and effective (76%) but 37% reported side effects to the medication. There were 101 patients prescribed a ULD of whom 21% reported forgetting to take their medication in the past month. Only a minority of ULD users (12%) were aware of the risk of flare when initiating treatment with this medication class. **Conclusion:** In this gout patient population cared for mostly by primary care providers, we identified several knowledge deficits that may worsen disease management including lack of knowledge regarding dietary triggers and lack of awareness of the risk of gout flare with initiation of ULDs.

Keywords: Gout, Disease management, Urate-lowering drugs (ULDs)
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PS2-08:

Adherence to Statins and Low-Density Lipoprotein Cholesterol Goal Attainment in Patients with Coronary Artery Disease

Margaret Chi, MPH¹; Southida Vansomphone, PharmD¹; T. Craig Cheetham, PharmD, MS¹; Kelley Green, RN, PhD¹; Kristi Reynolds, PhD, MPH¹

¹Kaiser Permanente

Background/Aims: While it is known that cholesterol control in coronary artery disease (CAD) patients is essential for preventing recurrent coronary events, studies continue to show that adherence to lipid-lowering drugs is suboptimal. The clinical decision on how best to manage a patient with suboptimal adherence and at goal for LDL-c is different than for a patient with optimal adherence and not at goal. **Methods:** We examined the rate of LDL-c goal attainment, defined as < 100 mg/dL, by level of adherence to statins in CAD patients aged ≥ 18 years in a diverse integrated health care delivery system serving over 3.2 million members. Patients in the May 2010 CAD Registry and dispensed ≥ 2 statin prescriptions on two unique dates between June 2009 and May 2010 were identified through electronic medical records. Patients with rhabdomyolysis, creatinine kinase $> 10,000$ IU/L, allergy or intolerance to statins and those without LDL-c results, continuous membership or drug benefits in the previous 12 months were excluded. Medication adherence was calculated as the ratio of the number of days supply to the number of days between the first and last fill over 400 days. Adherent behavior was defined as $\geq 80\%$. **Results:** Altogether, 67,100 CAD patients (63% male) with a mean (SD) age of 71.4 (10.7) years were identified. Over 85.8% were at LDL-c goal attainment and 79.8% had $\geq 80\%$ adherence with 53.1% having 96-100% adherence. LDL-c goal attainment had a positive association with increasing adherence, but goal attainment leveled off once adherence was over 86%. Over 65% of patients not at goal were adherent while 23.9% of patients not at goal were not adherent (26.9% in women and 21.8% in men). Patients aged ≥ 65 years had the highest rates of adherence (81.6%) and men had consistently higher rates of adherence compared with women in all age groups. **Conclusions:** Although overall LDL-c goal attainment was high in this population, there is still a substantial

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

Pamala Pawloski, PharmD¹; Richard Bruzek, PharmD¹; Brita Hedblom, BS¹; Stephen Asche, MA¹; Sharon Rolnick, PhD, MPH¹

¹HealthPartners

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

Tessa Kerby, BA¹; Stephen Asche, MA¹; Michael Maciosek, PhD¹; Patrick O'Connor, MD, MPH¹; Rachel Pritchard, BS¹; Jaime Sekenski, BS¹; JoAnn Sperl-Hillen, MD¹; Karen Margolis, MD, MPH¹

¹HealthPartners

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

Kathleen Walsh, MD, MSc¹; Christopher Keuker, MD²; Colleen Biggins, BA³; Shira Fischer, BA²; Steve Christiansen, BA⁴; Timothy Woolley, BS⁴; Kathleen Mazor, EdD, MS³

¹UMass Medical School, Meyers Primary Care Institute; ²University of Massachusetts Medical School; ³Meyers Primary Care Institute-UMass Medical School, Fallon Clinic, FCHP; ⁴Inter Vision Media

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