cancer registries. *CVD outcomes:* acute myocardial infarction, angina pectoris, pericarditis, valvular dysfunction, cardiomyopathy, dysrhythmia, congestive heart failure and stroke. *Exposure:* Completed radiation treatment (RT) *Statistical analysis:* Adjusted hazard ratios (HR) and 95% confidence intervals were estimated using Cox models with time dependent tamoxifen & radiotherapy use status. Covariates included age, year of diagnosis, race/ethnicity, stage, ER/PR status, laterality, comorbidities & health plan. **Results:** When comparing women who received RT with those who did not (full cohort, n=806), radiotherapy was not associated with greater risk of CVD after adjusting for multiple covariates including laterality (Table 2). However, within the subset exposed to RT (n=340), women treated for cancer of the left breast had a significant increase in CVD risk (HR=1.54, 1.07-2.23) compared with women treated with RT for the right breast. **Conclusions:** Preliminary results demonstrate that RT to the left breast may be associated with greater CVD risk. Our next study, "Long-Term Survivorship in Older Women with Early Stage Breast Cancer"(BOWII), will follow these women for an additional 5 years. This study will collect a wider set of risk factors for CVD to further evaluate these findings (2R01CA093772-05A2 R. Silliman). **Keywords:** Cancer, Cardiovascular disease, Radiotherapy
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C-A5-03:

Rapid Estimates of the Costs of Diagnosing Lung Cancers

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Background/Aims: The HMO Cancer Research Network received a request from the National Cancer Institute to provide an empirical estimate of the medical care costs of diagnosing lung cancers within a typical HMO setting. This estimate had to be completed within 24 hours. This paper summarizes the methods and data we used to generate our response to this request. We assumed that services delivered during the 90 days prior to the date of the lung cancer diagnosis would provide an acceptable order-of-magnitude estimate of the costs of a diagnosis work-up. We further assumed that additional imaging procedures performed after the date of diagnosis represented treatment costs because their primary purpose was to assist physicians in developing treatment plans. **Methods:** This analysis was conducted in four large group-model HMOs: Group Health Cooperative, Kaiser Permanente Colorado, Kaiser Permanente Northern California, and Kaiser Permanente Northwest. To be included in the estimates, patients with lung cancer had to be enrolled in one of the four participating health plans for at least 30 days between January 1, 2000 and December 31, 2008. Patients also had to have their lung cancers diagnosed at least 90 days after their effective date of enrollment. Furthermore, patients diagnosed at autopsy were excluded. The following elements of medical care utilization were included: hospitalizations, inpatient days, surgical procedures, doctor office visits, imaging procedures, laboratory tests, and medication dispensings. Outpatient procedures were weighted by Medicare's Resource-based Relative Value System (RBRVS). We used Medicare's RBRVS-to-dollars conversion coefficient for 2008 to compute total ambulatory care expenses. Inpatient expenses were computed by a DRG-weighted per diem cost (which preserved variations in lengths of stay). We also identified specific surgical, imaging, and laboratory procedures that were most consistent with a diagnostic work-up for a pulmonary disease in general and lung cancer in particular. **Results:** We were able to develop and run VDW programs to identify the study population in the four health plans; extract and summarize each utilization element; attach monetary weights to each service; and compute total costs of care for the diagnosis phase. **Conclusions:** Rapid costing is feasible for the CRN.

Keywords: Cancer, Costs, Diagnosis

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C-C1-03:

A GPS for Navigating Sensitive Research Topics: The Case of Adverse Events in Oncology

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Background: Adverse events and medical errors are challenging aspects of clinical care delivery, and also present challenges as topics for research. Nonetheless, understanding how and why such errors occur is critical to rendering improvements. Using examples from a multi-site study of problems in cancer care, we identify potential pitfalls and strategies to consider when researching sensitive or thorny topics in our delivery systems. **Methods:** In the context of the CRN Cancer Communication Research Center our team is studying adverse events and medical errors in cancer care (both in primary and specialty care settings), and how communication could be used to prevent problems and/or respond to patients when something goes wrong in their care. Throughout the course of developing the study, the three sites encountered challenging dilemmas pertaining to risk management, quality improvement, stakeholder "buy-in" to the study idea, and IRB review. **Results:** Case studies within the larger context of a study on communication in cancer care will be presented to illustrate our approaches to addressing the challenges in each area. We will review how, in some instances, the anticipated challenges did not manifest themselves, and what has been required on the part of the study team to ensure ongoing buy-in, even as findings from the actual research study illuminate deficits in care. **Conclusions:** Sensitive research topics, especially those which may reveal opportunities for improving medical care, or confronting a persistent problem in quality of care, require particular attention to partnerships with key leaders, frequent communication, and an openness to modifying the research to meet the needs of both the study team and the clinical setting.

Keywords: Communication, Cancer, Quality of care

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C-C1-04:

Use of Health Plan EMR Data to Identify Chemotherapy Regimens for Advanced Lung Cancer

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Background: Several studies have demonstrated that chemotherapy prolongs survival by upwards of 3 months in patients with advanced (stage IIIB-IV) non-small cell lung cancer (NSCLC), but often at considerable costs. Analyses of SEER-Medicare data suggests that only 25% of older patients receive chemotherapy, however, little is known about how these treatment rates compare to younger patients and to those receiving care in an HMO. **Aims:** Using the HMO Cancer Research Network's (CRN) Virtual Data Warehouse (VDW) at 4 CRN sites, we examine the characteristics of stage IIIB-IV NSCLC patients who receive chemotherapy, and we assess the first-line chemotherapy patterns overtime. **Methods:** Patients aged ≥21 years with stage IIIB and IV NSCLC diagnosed between 2000-2007 at 4 CRN sites were included in the analysis. Patients were followed from diagnosis date through the end of 2008 (or death or disenrollment). Patient characteristics, clinical information, chemotherapy treatment data, and mortality were obtained from the CRN Virtual Data Warehouse. Current Procedural Terminology codes and National Drug Codes from the VDW were used to identify chemotherapy regimens. Descriptive statistics were performed to describe the study samples, both overall, overtime, and by subgroups (age category, stage, etc). Differences in the proportion of patients receiving various chemotherapy regimens, (by health plan, age category, stage, etc) were tested using

parametric and non-parametric statistics. **Results:** Preliminary finding suggest, that while slightly more than half of our study population received chemotherapy, the proportions varied by stage and age, with younger patients (<65) and those diagnosed at a lower stage (IIIb) were significantly more likely to receive treatment. The most common first line treatment was Carboplatin and paclitaxel. However, with the introduction of taxenes, monoclonal antibodies, antimetabolites, and targeted agents in the later years of the study period, the distribution of first line therapy changed significantly overtime. **Conclusions:** The findings from this analysis could have significant clinical and policy relevance given that NSCLC is the number one cause of cancer death. Future analyses will compare the variation in treatment patterns overtime for CRN enrollees as compared to SEER-Medicare, NCCN data and ASCO guidelines.

Keywords: Lung cancer, Chemotherapy, Patterns of care
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C-B2-02:

Epidemiology of Tamoxifen and Thromboembolism

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Background/Aims: Tamoxifen is a widely prescribed endocrine therapy for prevention and treatment of breast cancer in pre- and post-menopausal women and is commonly recommended for five years duration. While most people tolerate tamoxifen reasonably well, thromboembolic events such as deep vein thrombosis, pulmonary embolism, myocardial infarction or cerebrovascular accident can be serious complications. Study aims include evaluation of epidemiology of tamoxifen-related thromboembolic event in a large community setting, determination of rate and temporal distribution of thromboembolic events, description of patient clinical characteristics, analysis of time from tamoxifen initiation to first thromboembolic event, description of incidence of events among subgroups of patients related to antiplatelet, anticoagulant and statin medication use. **Methods:** Retrospective electronic extraction of tamoxifen-use patient data from Marshfield Clinic/ St. Joseph's Cancer Registry and the Marshfield Clinic Electronic Medical Record (EMR) from 1/1/1992 - 6/31/2009, with manual data validation. Medication use was identified by MedsManager and by Freepharma™. Thromboembolic events and comorbidity diagnoses were identified by ICD9 codes, and cancer diagnosis by ICD9 code or inclusion in the Registry. Analysis included descriptive statistics, Kaplan-Meier estimates of event-free survival over time and estimates of event rates and hazard ratios. Risk factors were assessed in univariate and multivariate analyses. **Results:** Primary analysis was limited to 3283 women with breast cancer. Mean age at first tamoxifen use was 62.1 years (range 22 – 97). Tamoxifen adherence rates (censored for death or 18 months after last visit) showed 88.6% of women on tamoxifen at year one, 78.1% at year 2, 67.4% at year 3 and 56.9% at year 4. Thromboembolic events (venous and arterial) occurred in 5% of women under age 45, 7% of women age 45-54, 14% in women age 55-64, 19% in women age 65-74 and 27% in women older than 75 years. Thromboembolism continued to occur over time, unlike other studies that reported clustering of thromboembolism in the first year. **Conclusions:** Tamoxifen use should be recommended with caution, and patients monitored closely over the entire period of tamoxifen use for development or prevention of thromboembolic events. Further investigation into tamoxifen discontinuation rates is warranted.

Keywords: Tamoxifen, Thromboembolism, Breast cancer
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PS2-29:

KRAS Testing in Metastatic Colorectal Cancer: The CERGEN-C Comparative Effectiveness Study

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Genetic testing to inform health professionals and patients of disease risk, diagnostic, prognostic, or treatment information such as KRAS mutation testing to determine colorectal cancer (CRC) treatment is an evolving health care approach. KRAS, a pharmacogenomic marker normally expressed in wild type form, confers a lack of response to epidermal growth factor receptor (EGFR) inhibitor treatment in metastatic CRC when mutated. Mutations occur in 30-50% of CRC cases and a gap in knowledge exists regarding the impact of KRAS testing on treatment outcomes in metastatic CRC. The CERGEN-C (Comparative Effectiveness Research in Genomics & Personalized Medicine for Colorectal Cancer) study is a collaboration of eight Cancer Research Network members and four academic partners evaluating connections between evidence synthesis and evidence generation in cancer-related genomics and personalized medicine. We are conducting a comparative effectiveness study to evaluate overall survival in patients who received KRAS testing during routine medical care compared to those who did not before and after recommendations for KRAS testing were published in mid-2008. We identified 800 members from seven integrated health care organizations diagnosed with stage III (n=200) or IV (n=600) colorectal cancer from 1/1/05-7/31/2010. To date, 293 charts have been reviewed, 224 (76%) from pre-KRAS testing recommendations (pre-) and 69 (24%) from post-KRAS testing (post-) recommendations. All cases were Stage IV and the majority of cases were Caucasian, 133 (61%) pre and 51 (76%) post. A family history of any cancer was identified in 97 (43%) pre- and 29 (42%) post- cases and KRAS testing was performed in 60/293 (20%) of cases reviewed to date, 41 (18%) pre- and 19(26%) post-, respectively. Wild type KRAS was found in 28 tested cases, 21 pre- and 7 post- cases. Of the identified wild type cases, 17 pre- and 6 post- were treated with EGFR inhibitors. Overall, EGFR inhibitors were administered in 48 cases, 42 (18%) pre- and 6 (19%) post-. EGFR inhibitor treatment began with 3rd line therapy in those tested for KRAS compared to first line in those not tested. The most common chemotherapy regimen including an EGFR inhibitor was irinotecan and cetuximab, n=25 (52%).

Keywords: KRAS, Metastatic colorectal cancer, CERGEN
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Cardiovascular Disease

C-A4-01:

Primary Non-Adherence to Statin Therapy in an Integrated Delivery System: Patients' Perceptions

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Background/Aims: Statin medications are commonly prescribed to lower cholesterol and the risk for cardiovascular events. Few published studies have, however, explored factors that may contribute to primary non-adherence with statins. We aimed to determine patients' reasons for non-adherence with newly prescribed statin medication. **Methods:** We identified Kaiser Permanente (KP) Southern California members aged ≥24 years with a new order for a statin prescription between May 10 and June 5, 2010 not redeemed within five weeks of the order date and with 12 months of continuous membership prior to the statin order. New orders were defined as the patient having no statin prescriptions in the previous 12 months. Among 1,157 eligible patients indicating English as their preferred language, we randomly selected patients and conducted 98 semi-structured telephone interviews about factors and perceptions that contribute to non-adherence. **Results:** At six weeks post-index prescription date, 73% of respondents (74/98) reported not filling their new statin prescription while 23% (21/98) picked it up from a non-KP pharmacy. The three most commonly cited reasons for primary non-adherence were general concerns about taking the medication (63%; 46/73), a decision to try lifestyle modifications instead of taking the medication (63%; 46/73), and fear of side effects (53%; 39/73). One-third of respondents (33%; 24/72) reported taking over-the-counter products to lower their cholesterol. The majority of respondents agreed with the importance of the medication (63%; 45/73) but worried that the prescription would cause more harm than good (62%; 46/73). Fewer respondents (22%; 16/74) were burdened by the out-of-pocket expenses for the medication. **Conclusions:** Although most respondents were convinced of the importance of their newly prescribed statin medication, they expressed