encryption embedded transmissions (H.235 and IEEE 802.1 x authentication); and remote monitoring equipment (exam camera, ENT/otoscope, electronic digital audio stethoscope (frequency: 40 Hz-2000 Hz, response: 45 Hz-1.6 KHz). Legal requirements involved the review of both federal and state statutes governing the use of TM for patient care and geographical/population requirements. Billing and regulatory requirements entail ensuring the use of the correct CPT and modifiers codes for TM and making sure these are operational within the medical record. Establishing criteria to ensure patients are appropriate for TM, the contents for TM informed consent, rules governing the use of TM for Medicare/Medicaid and non-Medicare/Medicaid patients. Establish clinical workflows for TM between the primary care and specialty care clinics. **Conclusions:** Involve legal counsel early to review state statutes and develop TM patient/provider consent forms. Coordinate services with IT department. Coordinate documentation requirements with the billing and coding department. Work with clinic staff to incorporate TM into the clinic and administrative workflow. Define roles and responsibilities. Early planning and inter-department coordination is essential for a successful TM project.

Keywords: Telemedicine services, Medically underserved communities, Improving access to care

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PS3-29:

The Benefits of Stakeholder Involvement in Research

Kathryn Horner, MS¹; Ed Wagner, MD, MPH¹; Erin Aiello Bowles, MPH¹; Beth Kirlin, BA¹; Leah Tuzzio, MPH¹

¹Group Health Cooperative

Background and Aims: The Oncology Nurse Navigator randomized clinical trial at Group Health is testing whether providing oncology “nurse navigators” to patients newly diagnosed with lung, breast or colorectal cancer affects quality of life and satisfaction with care compared with patients in enhanced usual care. While implementing our research interventions, we integrated input from patients, community groups and the delivery system. **Methods:** Group Health patients and community groups were invited to participate through word-of-mouth outreach by the study team. Our delivery system partners were distributed materials for input via e-mail, phone calls and team meetings. To date, stakeholders have been involved in three main activities. First, our enhanced usual care resource guide was developed after a panel discussion with Group Health patients, caregivers and a community advisor. Second, our nurse navigator training incorporated firsthand patient experiences. Third, our intervention protocols and processes were constructed from input with our oncology department and nurse navigator team. **Results:** Patients and caregivers provided valuable insights and practical feedback while developing our study’s enhanced usual care resource guide. Their involvement revealed the importance of making materials feel accessible and upbeat. We have since presented the guide to Group Health’s cancer support group who commented they were, “Perfect!” The initial panel discussion was so useful that we invited stakeholders to participate in our nurse navigator training. Patients shared their experiences about feeling overwhelmed and unable to process information during a training session. The involvement of Group Health patients was especially enlightening for our seasoned nurses and emphasized the patient-centered design of our study. Since it is important for our nurse navigator intervention to be a viable delivery system program, input from clinical groups was integral to our protocols and processes. We have not only incorporated standard Group Health work into our intervention (e.g., fatigue assessment) but also, programmed our intervention into Group Health’s electronic medical record. **Conclusions:** Stakeholders were willing and often eager to provide feedback on our research. Furthermore, obtaining guidance from these groups early on in this study was critical to building and implementing a truly patient-centered cancer care program.

Keywords: Nurse navigators, Patient-centered cancer care program, Patient navigation

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PS3-30:

The Group Health Plain Language Network: A System-wide Initiative to Improve Communication from the Ground Up

Jessica Ridpath, BA¹; Sarah Greene, MPH¹

¹Group Health Research Institute

Background/Aims: Limited health literacy negatively impacts health care costs, quality, and outcomes. Complex language and other communication barriers prevent 93 million U.S. adults from finding, understanding, and acting on essential health information—leading to medication and treatment errors, failure to seek preventive care or manage chronic illness effectively, increased use of emergency rooms for primary care, and higher health care costs. The Group Health Plain Language Network is a staff-driven initiative to reduce these barriers by establishing a standard of clear communication with patients throughout the system. **Methods:** The Group Health Plain Language Network was founded in 2007 by a small group of multidisciplinary staff interested in system-level communication improvements to advance health literacy. The Network’s overarching strategy is promotion of plain language—a concise, patient-centered communication style that achieves clarity through common vocabulary and straightforward organization. Network leaders set annual goals tied to organizational priorities and emerging health literacy innovations. We also meet at least quarterly to monitor projects carried out by subgroups of the now 30+-member coalition. **Results:** Network membership tripled in just two years, thanks to successful engagement of dozens of individuals and departments in a leadership-endorsed plain language initiative. Primary outcomes include: creating a plain language charter and securing executive-level buy-in; developing an online plain language toolkit for all staff; providing plain language training for subgroups of staff; revising dozens of print and Web-based health education materials; and partnering with the Group Health legal department to revise consent templates for medical procedures—many of which went from >15th-grade reading level to <7th grade. Formal evaluation of improvements to consent templates is planned for 2010. **Conclusions:** The Network’s many accomplishments have occurred without allocating additional resources—demonstrating that system-level communication improvements are possible even when resources are scarce. We attribute the Network’s early success to our focus on a solution-oriented approach that facilitates wide-ranging buy-in: plain language clearly aligns with other organizational goals, cuts across system silos, and engages staff who may not otherwise feel connected to or see the impact of low health literacy. We hope our experience can serve as a helpful example for other health systems striving to advance health literacy through improved communication.

Keywords: Health literacy, Communication within Health systems, Group Health Plain Language Network

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Cardiovascular

C-B4-01:

Cognitive Impairment in Patients Hospitalized for Decompensated Heart Failure

Jane Saczynski, PhD¹; Darleen Lessard, MS²; Jerry Gurwitz, MD¹; Catherine Emery, RN²; Frederick Spencer, MD³; Robert Goldberg, PhD²

¹Meyers Primary Care Institute; ²University of Massachusetts Medical School; ³McMaster University

Background/Aims: Cognitive impairment (CI) is increasingly being recognized as an important clinical issue in the context of providing care to older adults with other prevalent medical conditions, including cardiovascular disease. The purpose of this study was to describe the prevalence of CI among older adults hospitalized with decompensated HF, and examine factors associated with cognitive status. **Methods:** Preliminary data from the Observational Study of Heart Failure Delays are currently available from 277 patients (mean age = 76 years; 46% female) who received care in four area hospitals. Patients were interviewed using a 25-minute standardized

questionnaire within 72 hours of hospital admission to obtain information regarding occurrence and timing of HF symptoms, care seeking behavior, and general knowledge of HF. Cognitive function in 3 sub-domains was assessed using standardized measures of memory, processing speed, and executive function. Cognitive impairment, defined using established norms, was calculated separately for each sub-domain. **Results:** One half of patients (51%, 141 of 277) had impaired processing speed, 42% (117 of 277) had impaired memory, and 65% (180 of 277) had impaired executive function. Approximately one third of patients (32%, 89 of 277) were impaired on only 1 domain, one third (34%, 95 of 277) were impaired in 2 of 3 domains and one fifth (19%, 53 of 277) were impaired on all 3 domains. Only 14% (40 of 277) had no evidence of CI. Patients with a high degree of CI (those impaired in multiple domains) were older, more likely to have less than a high school education, and were more likely to have a history of HF compared to patients with less CI (all p 's <0.01). Patients with a high degree of CI also had significantly lower overall knowledge of the signs, symptoms, and self-management activities associated with HF (p <0.05). **Conclusions:** These preliminary data suggest that most patients hospitalized for decompensated HF are cognitively impaired. Cognitively impaired patients with HF may have poorer knowledge of the signs and symptoms associated with an exacerbation of HF as well as poorer knowledge of self-management techniques which may lead to poorer care seeking practices and long-term outcomes.

Keywords: Cognitive impairment, Decompensated Heart Failure, Care for older adults

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C-B4-02:

Determining Genetic Risk Factors for Post- Hospitalization development of Deep-Vein Thrombosis

Deanna Cross, PhD¹; Mark Craven, PhD²; Steven Yale, MD³

¹Marshfield Clinic Research Foundation; ²University of Wisconsin-Madison;

³Marshfield Clinic

Background: Venothromboembolism (VTE) including deep venous thrombosis (DVT) and pulmonary embolism (PE) are significant health care problems. A highly specific DVT risk stratification model requires a combination of genetic, environmental, clinical, laboratory and radiographic measurements. Genetic factors associated with DVT in post-hospitalized medical and surgical patients are incompletely understood. **Aim:** Using the Personalized Medicine Research Project (PMRP) population and a limited number of disease associated polymorphisms were used to determine whether these markers were associated with DVT in the post-hospitalization period. **Methods:** Marshfield Clinic patients who have experienced a DVT between 1999 and 2007 enrolled in the PMRP were genotyped for 52 disease associated polymorphisms (N=1124). From these individuals we identified 451 who experienced a DVT after post-hospitalization for a medical (N=164) or surgical (N=136) procedure or both (N=151). This cohort was compared to the PMRP population that had a recorded hospitalization without a post-hospitalization DVT during the same time period (N=1662). **Results:** Polymorphisms in APOB (rs1042031), PLA2 (rs2227564), HTR2A (rs6313) and the Vitamin D receptor haplotype (rs731236 and rs7975232) were associated with post hospitalization DVT. When the population that incurred a DVT was stratified by DVT category (post medical, post surgical or both), the PLA2 polymorphism was most strongly associated with individuals experiencing a DVT post-surgically. Vitamin D receptor haplotype was significantly associated with individuals experiencing both post medical and post surgical DVTs, and polymorphisms associated with cholesterol and lipid levels were most likely to be associated with post-medical DVTs. **Conclusions:** This hypothesis generating study demonstrates that there are many polymorphisms that are associated with DVT that have yet to be characterized. Categorization of associated DVT polymorphisms will involve careful interrogation of both the environmental conditions as well as genetic alleles of individuals. Genes such as PLA2, HTR2A, and Vitamin D are just now being investigated for thrombogenic effects and in future may lead to a better

understanding of indentifying the individuals at risk for a DVT post hospitalization.

Keywords: Deep Venous Thrombosis, Post medical deep venous thrombosis, Deep venous thrombosis post-hospitalization

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C-B4-04:

Underuse of Aspirin in Women for Primary and Secondary Prevention of Cardiovascular Disease Events

Cathleen Rivera, MD, MS¹; Catherine McNeal, MD, PhD¹; Juhee Song, PhD¹; Joji Varghese, MD¹; Marcia Ory, PhD, MPH²

¹Scott and White; ²Texas A&M Health Science Center

Background and Aims: Cardiovascular disease (CVD) is the leading cause of death among women. Consistent with studies documenting that aspirin (ASA) use decreases the risk of CVD events in certain groups, the American Heart Association (AHA) published specific evidence based guidelines for ASA use in women. This paper evaluates the self-reported use of ASA among women and examined characteristics of those most likely to be adhering to clinical guidelines. **Methods:** Data from 127 healthcare centers across the U.S. using a commercial, web-based CVD risk assessment tool (HeartAware™) were analyzed. Volunteer respondents answered questions about their CVD risk factors, the presence or absence of coronary, cerebral, peripheral arterial disease, diabetes, and medication use including daily ASA. Individuals who, based on the AHA 2007 guidelines should be taking ASA (for primary and secondary prevention) were included in the analysis. Univariate and multivariate logistic regression analyses were performed to identify factors significantly associated with ASA intake. **Results:** Of the 21,199 women who should be on ASA based on guideline information, only 42% reported the use for primary prevention and 68% for secondary prevention. Multivariate regression analysis found that African Americans (OR = 0.61, 95% CI 0.53-0.70, p <0.0001) and Hispanics (OR = 0.67, 95% CI 0.53-0.83, p =0.0004) were less likely than Caucasians to be taking ASA. Other factors that contributed significantly (p <0.001) to ASA use were a relationship with a PCP or cardiologist, taking blood pressure medications, past history of smoking, a family history of heart disease, and a family history of high cholesterol. **Conclusions:** Findings from a large cross-sectional cohort revealed that 58% of women who should be taking ASA for primary prevention and 32% of women who should be taking ASA for secondary prevention of CVD events were not following national guidelines. Individuals from racial/ethnic minorities were less likely to be taking ASA compared with Caucasians suggesting targets for intervention. These findings emphasize the need for ASA education among clinicians to provide guidance for targeting educational efforts that can improve CVD outcomes in women.

Keywords: Cardiovascular disease in women, Aspirin use, Cardiovascular disease outcomes

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PS1-02:

Factors Associated with Medication Adherence and Emergency Room Visits in the Brazos Valley

Matthew Smith, PhD, MPH¹; Marcia Ory, PhD, MPH¹; Angela Hochhalter, PhD^{1,2}; Alan Stevens, PhD^{1,2}; SangNam Ahn, PhD, MPSA¹

¹Texas A&M Health Science Center; ²Scott & White Healthcare

Background and Aims: Medication nonadherence has been linked to poor cardiovascular health outcomes and increased healthcare utilization and costs. While studies examine medication pill counts, less is known about intentional adjustments in medication use due to economic factors. The purpose of this study is to examine factors affecting economically-driven medication nonadherence and the role of cardiovascular risk factors and disease in explaining emergency room (ER) use. **Methods:** In 2006, survey instruments were mailed to a random sample of households in the seven county Brazos Valley region of Texas (n=1,935). Data were analyzed from a sample of 578 adults age 50 years and older. Study variables include: age