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

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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

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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 (HeartAwareTM) 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

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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

(50-64 compared to 65 years and older), sex, education, race/ethnicity, residence rurality, body mass index, presence of cardiovascular risk factors, perceived access to care, medication adherence scores based on economic factors (6 items, $\alpha=0.77$), and having visited the ER within the previous 12 months. Two independent logistic regression analyses were performed to identify variables associated with medication nonadherence and the frequency of ER visits. **Results:** Over half of respondents (54.8%; 317 of 578) self-reported having cardiovascular disease (CVD) risk factors and 14.5% (84 of 578) reported having a cardiovascular incident. Medication nonadherence was reported by 25.3% (146 of 578) of respondents and 20.1% (116 of 578) reported having visited the ER in the previous 12 months. Medication nonadherence was associated with being younger ($OR=0.431$, $P<0.001$), having cardiovascular disease risk factors ($OR=1.756$, $P<0.001$), and perceiving less access to healthcare ($OR=0.715$, $P<0.001$). Visiting an ER in the previous 12 months was associated with having risk factors for cardiovascular disease ($OR=1.441$, $P<0.05$). **Conclusion:** Medication nonadherence associated with economic constraints remains a problem for a small but significant group of community residing adults, which emphasizes a need for greater surveillance by the healthcare system. Even before the full implementation of Medicare Part D, persons age 65 years and older tended to adhere to medication regimens. The significance of CVD in this Medicare-eligible group as a predictor of ER visits suggests that additional self-management support and training are needed to recognize and address signs of disease exacerbation.

Keywords: Medication adherence, Healthcare utilization, Economic factors and medication use

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PS1-03:

Health Behaviors in Adults with Risk Factors for Cardiovascular Disease

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Background/Aims: Health behaviors of adults with cardiovascular disease (CVD) risk factors impact risk. We compared health behaviors of adults with diabetes, hypertension, high cholesterol, and obesity to those without. **Methods:** We conducted 30-minute random-digit-dial household telephone surveys in 2007 ($n=3607$). Over 92% of adults willing to answer questions completed surveys, representing their household. Protective behaviors included meeting fruit and vegetable (FV) recommendations (5+ servings/day), reporting "often/always" eating healthy diets, consuming low/very low dietary fat, eating breakfast 6-7 days/week, meeting walking and moderate physical activity (PA) recommendations (≥ 30 minutes 5+ days/week), and meeting vigorous PA recommendations (≥ 20 minutes 3+ days/week). Harmful behaviors included drinking soda $\geq$ once/week, drinking ≥ 12 ounces of soda at a time, and eating at fast food restaurants $\geq$ once/week. **Results:** Respondents included Whites (36.5%), Asians (28.5%), Hawaiians/part-Hawaiians (17.0%), female (65.3%), married (59.1%), college educated (54.7%), and mean age 54 ($sd=15.8$). CVD risk factors included obesity (18.5%), high cholesterol (16.4%), hypertension (15.9%), and diabetes (6.2%; 62.6% of those had Type II). For health behaviors, obese participants were less likely to obtain all seven protective health behaviors; they were more likely to engage in all three harmful nutrition behaviors. Participants with high cholesterol were less likely to do three protective behaviors, but also less likely to eat fast food. Participants with hypertension were less likely to do five protective behaviors. Diabetics were less likely to do three protective behaviors, but were also less likely to drink soda. Logistic regression indicated that obese participants were 1.69 times less likely to eat a healthy diet, a low fat diet ($OR=1.61$), or meet walking recommendations ($OR=2.19$), and were 4.02 times more likely to eat at fast food restaurants. Those with high cholesterol were 1.98 times less likely to meet FV recommendations, have a low-fat diet ($OR=2.21$), or meet vigorous PA ($OR=1.64$); but were 3.90 times more likely to eat breakfast and avoid fast food ($OR=1.9$). Those with hypertension were 2.17 times less likely to eat a healthy diet or meet vigorous PA ($OR=1.66$), but were also 2.01 times less likely to drink soda. Diabetics were 1.66 times less likely to eat a healthy diet

or meet vigorous PA ($OR=1.83$). **Conclusions:** Individuals with CVD risk factors reported worse health behaviors, especially those with obesity. Healthcare interventions should monitor disease progression while reducing harmful and increasing protective health behaviors in individuals at greatest CVD risk.

Keywords: Cardiovascular disease, Adult health behaviors, Cardiovascular disease risk factors

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PS1-04:

Home Blood Pressure Telemonitoring and Case Management to Control Hypertension: HyperLink Trial Design and Baseline Characteristics

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Background/Aims: Blood pressure (BP) is not controlled in the majority of people with hypertension (HTN) in the U.S. We describe a study of long-term hypertension outcomes that compares home BP telemonitoring and pharmacist case management vs. usual care. **Methods:** HyperLink is a cluster-randomized trial ($N=450$ patients) being conducted at HealthPartners Medical Group clinics. Sixteen clinics were randomly assigned to either the Telemonitoring Intervention (TI) or Usual Care (UC). Recruitment materials are mailed to adult primary care patients in these clinics whose last 2 BP measurements were uncontrolled in the previous 12 months ($>140/90$, or $>130/80$ if diabetes or kidney disease present). To be eligible, they are required to have uncontrolled BP confirmed at a research clinic visit. Other medical exclusion criteria are minimal: pregnancy, recent cardiovascular events, symptomatic heart failure, stage 4/5 kidney disease, and dementia. Participants in the TI group receive a home BP telemonitor that stores and transmits all BP measurements to the clinic pharmacist via a modem to a secure web site. Following one intake clinic visit with the pharmacist, participants and pharmacists communicate by telephone every 2-4 weeks for 6 months. HTN treatment is adjusted based on home BP according to an approved written protocol under a collaborative practice agreement with physicians. UC participants may visit a clinic pharmacist but do not receive telemonitoring. The primary outcome is BP control measured at the research clinic visit at 6 months. Secondary outcomes are BP control maintenance at 12 and 18 months, satisfaction and costs. **Results:** Recruitment began March 1, 2009, and is on track to be completed as predicted in September 2010. During the first 8 mo, 195 participants were recruited, of whom 47% were female, 17% were minority race/ethnicity and 53% were from TI clinics. Detailed baseline characteristics of participants recruited as of February 28, 2010 will be reported. **Conclusions:** Meaningful and sustained improvement in hypertension control will likely require fundamental changes in the current physician-centered office-visit based model of caring for hypertension. This novel intervention could be implemented widely in diverse and large patient populations based on performance in this randomized trial.

Keywords: Blood pressure control, Hypertension outcomes, Telemonitoring and blood pressure

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PS1-05:

Hyperglycemia Stimulates Intracellular Renin Expression in Both Cardiac Myocytes and Fibroblasts: Implications for Diabetic Cardiomyopathy

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Background / Aim: The upregulation of the renin-angiotensin system (RAS) represents a major pathological mechanism in diabetes. We have previously