Services Task Force has published methods and tables to estimate the number of myocardial infarctions (MIs) and strokes prevented and estimated harms of using aspirin based on age categories in hypothetical cohorts of men and women. Translation of the guideline requires data and formulas to calculate risk which are not readily available to practicing clinicians. We took advantage of the opportunity to enhance the efficiency of provider and patient decision making regarding aspirin through the use of electronic health record data and computer program assistance to assess the risks and benefits.

Results: The decision support program for aspirin in HealthPartners Medical Group & Clinics was integrated with the electronic health record through a web-service called Cardiovascular (CV) Wizard. At the point of care, de-identified data including pertinent demographics, diagnosis codes, lab results, medications, and allergies are transmitted to the web service and run through a set of sophisticated algorithms to assess whether aspirin is indicated and to provide individualized treatment suggestions and safety alerts based on known allergies and intolerance, contraindications, and identification of previous bleeding risks. **Conclusions:** Using electronic decision support algorithms, it is possible to provide patients and providers with printable information to engage them in more evidence-based decisions about aspirin use for primary prevention.

Keywords: Aspirin; Decision Support; Treatment

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PS1-51:

Testing a Clinical Decision Support Process to Lower Cardiovascular Risk of Patients

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Background/Aims: More than 30% of adults in the U.S. have a 10% risk or greater of having a heart attack in the next 10 years. The proportion of adults with moderate and high cardiovascular risk (CVR) accounts for nearly half of the first major cardiovascular (CV) events in the United States. Shared decision support tools may reduce CVR by facilitating and prioritizing provider-patient communication about CV risk. **Methods:** CV Wizard was developed to identify and prioritize uncontrolled CVR factors and offer treatment suggestions. It was integrated into the electronic health record through a web-service and pilot tested with 14 providers at 6 HealthPartners Medical Group (HPMG) clinics. CV Wizard was triggered during patient visits for adults age 18-75 with known CV risk factors such as diabetes, heart disease, tobacco use, hypertension, and hyperlipidemia. Staff printed the patient and provider versions of the decision making support. Providers completed a satisfaction survey 6 weeks post-implementation. **Results:** Eleven providers completed the survey. Ten said CV Wizard fit well in their workflow. All found the information on the form useful and would recommend it to others. Providers also reported that patients were receptive, all or most of the time, to using the tool. Several (n = 3) were encouraged that patients paid more attention to smoking risks. **Conclusions:** Preliminary results show that the CV Wizard is promising for engaging patients in decisions to lower CV risk and providers had high satisfaction rates. The patient tool provides an easy to comprehend visual for communicating and prioritizing CV risk reduction, particularly around smoking.

Keywords: Decision Support; Risk; Cardiovascular Disease

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PS1-52:

Diagnosis of Pediatric Hypertension Depends on Clinical Practice Guideline Definitions

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Background/Aims: The National High Blood Pressure Education Program (NHBPEP) guidelines define hypertension (HT) in children and adolescents as blood pressure (BP) measures above the 95th percentile on three

consecutive clinic visits. In contrast, the Expert Panel of Integrated Guidelines for Cardiovascular Health and Risk Reduction in Children and Adolescents (Expert Panel) clinical practice guidelines define HT as the average of three consecutive BP measures above the 95th percentile. Here we quantify the impact of these two different case definitions of HT on occurrence of HT in a defined population of children and adolescents.

Methods: Study subjects were a cohort of 117,329 pediatric primary care patients, drawn from three large, geographically dispersed health systems. Subjects were 3-17 years old at entry between January 1, 2007 and December 31, 2010. Subjects having an elevated initial BP were not excluded, nor were subjects having BP diagnosis codes at baseline or follow-up. We estimated the period prevalence rate of HT using NHBPEP and Expert Panel definitions, applying a rolling window to the longitudinal BP measurements to consider each successive block of three BP measures. Analyses were performed separately for children (3-11 years) and adolescents (12-17 years). Data were analyzed by Poisson regression to estimate annual rates of HT.

Results: Subjects were followed for an average of 2.1 years. HT defined by elevated BP $\geq$ 95th percentile on 3 consecutive clinic visits occurred at a rate of 0.25%/year in children, and 0.42%/year in adolescents. HT defined as the average BP $\geq$ 95th percentile from 3 successive clinic visits occurred at higher rates; 0.49%/year in children ($P \leq 0.00005$) and 0.75%/year in adolescents ($P \leq 0.00005$). For subjects with HT defined by elevated BP $\geq$ 95th percentile on 3 consecutive clinic visits, the average time between elevated measurements was 19 weeks (s.d. 25 weeks). **Conclusions:** HT rates in children and adolescents were twice as high when using an average of 3 consecutive measures (Expert Panel method) as when using 3 consecutive hypertensive levels (NHBPEP definition). The impact of these differences in HT rates on downstream risk of persistent HT and CV events later in life requires further investigation.

Keywords: Hypertension; Pediatric; Blood Pressure

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Chronic Conditions

B2-2:

Impact of Automated Alerts to Primary Care Providers and Staff When Patients are Discharged from the Hospital: A Randomized Trial

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Background/Aims: Inadequate continuity of care puts patients at high risk during transitions from the inpatient to ambulatory setting. Several approaches for improving patient transitions from hospitals to home have been developed, but most require substantial commitments of personnel time. With the adoption of electronic medical records by medical group practices, there may be opportunities to improve the quality of care for patients discharged from hospitals. **Methods:** We conducted a randomized controlled trial of an HIT-based transitional care intervention in a particularly vulnerable patient population, patients aged 65 and older discharged from hospital to home. In addition to notifying providers about the patient's recent transition, the system provided information about new drugs added during the inpatient stay, warnings about drug-drug interactions, recommendations of dose changes and laboratory monitoring of high-risk medications, and reminded the primary care provider's support staff to schedule a post-hospitalization office visit. Randomization occurred at the time of hospital discharge during a one-year intervention period beginning in August 2010. Alerts were automatically delivered to the provider and staff in-basket within the Epic electronic medical record. The primary outcomes were: 1) having an outpatient office visit with the primary care provider within 30 days following discharge, and 2) having a rehospitalization within 30 days following discharge. **Results:** The study included 3667 discharges of which 1877 discharges were randomly assigned to the intervention arm. Forty-nine percent of discharges in the intervention arm were followed by office visits with the primary care provider within 30 days, compared to 51% in the comparison arm (RR 0.96, 95% CI 0.90, 1.03). Eighteen percent of discharges in the intervention arm were followed by a rehospitalization