C-B4-03:

EMR-based Clinical Decision Support System Improved Glucose and Blood Pressure Control in Adults With Diabetes

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Context: Medical groups have invested billions of dollars in outpatient Electronic Medical Records (EMR), but few studies demonstrate a positive impact of EMR-based clinical decision support on clinically important patient outcomes. **Objectives:** To assess the impact of an EMR-based diabetes clinical decision support system on control of glycated hemoglobin (A1c), blood pressure (BP) and LDL Cholesterol (LDL) in adults with diabetes. **Design, Setting, and Participants:** The study was conducted from October 2006 to May 2007 in Minnesota. Eleven clinics with 41 consenting primary care physicians (PCP) and these physicians' 2556 diabetes patients were randomized either to receive or not to receive an EMR-based clinical decision support system designed to improve A1c, BP, and LDL in diabetes patients not at recommended clinical goals at the time of an office visit. **Main Outcome Measures:** Post-intervention levels of A1c, BP, and LDL controlling for pre-intervention levels. **Results:** Intervention group PCPs used the EMR-based decision support system at over 62.6% of all diabetes patient visits, and intensified drug therapy at 61.9%, 43.6% and 18.8% of visits with uncontrolled A1c, BP, and lipids, respectively. Intervention group diabetes patients had significantly better A1c (P=.014) and SBP (P=.035) but not LDL (P=.63) relative to patients of PCPs randomized to the control arm of the study based on general linear mixed models with a repeated time measurement to control for clustering. Additional analytic models that adjusted for patient age, gender, and co-morbidity showed similar results. Ninety-four percent of PCPs expressed satisfaction with the intervention, and moderate rates of use persisted for over a year after withdrawal of feedback and incentives to encourage use. **Conclusions:** An EMR-based diabetes clinical decision support significantly improved glucose control and BP control in adults with type 2 diabetes who were not at recommended clinical goals.

C-B4-04:

Personalized Physician Learning Intervention Improved Glucose Control in Adults With Diabetes

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Context: Personalization of learning interventions using opinion leaders improves care but is expensive. Automated methods to deliver personalized learning interventions to physicians have not been widely studied or rigorously evaluated. **Objectives:** To assess the impact of a computer-based personalized learning intervention for primary care physicians designed to improve control of glycated hemoglobin (A1c), blood pressure (BP) and LDL Cholesterol (LDL) in adults with type 2 diabetes. **Design, Setting, and Participants:** The randomized trial was conducted from October 2006 to May 2007 in Minnesota. Eleven clinics with 40 consenting primary care physicians (PCP) were randomized either to receive or not to receive a simulated personalized learning intervention designed to improve A1c, BP, and LDL in actual diabetes patients not at recommended clinical goals. **Main Outcome Measures:** Post-intervention levels of A1c, BP, and LDL controlling for pre-intervention levels and nesting of data. **Results:** Patients of intervention group PCPs had significantly better A1c (P=.044), SBP (P=.018), and DBP (P=.001), but not LDL relative to patients of PCPs randomized to the control arm of the study based on general linear mixed models with a repeated time measurement to control for clustering. Additional analytic models that adjusted for patient age, gender, and co-morbidity showed similar results. Nearly all PCPs were very satisfied with the intervention, which most completed in fewer than three hours in split sessions over one to two days. **Conclusions:** An inexpensive simulated personalized physician learning intervention for primary care physicians significantly improved glucose and BP control in adults with type 2 diabetes who were not at recommended clinical goals.

PS2-19:

Validation of Self-Reported Diabetes From the Women's Health Initiative (WHI) Clinical Trials

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Background: The Women's Health Initiative (WHI) clinical trials offer a wealth of data on patient outcomes including cancer, coronary heart disease, and hip fracture, which were confirmed via medical record review. Diabetes was self-reported, but was not validated by independent review. The literature shows wide variations on the validity of self-reported diabetes in diverse populations. **Aims:** To compare the rates of positive and negative predictive values of self-reports of incident and prevalent diabetes during the WHI trials. **Methods:** At four WHI field centers (Minneapolis MN, Winston-Salem NC, Birmingham AL, Portland OR), all WHI trial participants with a self-report of diabetes at baseline or follow-up were identified. A random sample of participants who did not self-report diabetes was also identified. Women were surveyed regarding details of their diagnosis and treatment of diabetes. Medical records were obtained and reviewed for consenting subjects using a standardized protocol based on documented treatment with anti-diabetic medications, or physician diagnosis of diabetes supported by laboratory measurements of glucose. **Results:** A total of 1280 eligible subjects were available across the four sites. To date, subject information from the Minneapolis field center has been collected and analyzed. Of the 295 eligible subjects contacted at the Minneapolis site, 227 (77%) consented to participate and provided survey data. Medical records were obtained for 224 (57 prevalent, 81 incident, and 86 no self-reported diabetes). Medical records confirmed 84% (95% CI 74%–94%) of self-reported prevalent diabetes and 85% (95% CI 74%–94%) of self-reported incident diabetes. Among those who never self-reported diabetes there was no medical record evidence for diabetes in 99% (95% CI 92% to 100%). Results from all four sites will be presented. **Conclusions:** Preliminary data suggest a high positive predictive value of both prevalent (84%) and incident self-report of diabetes (85%) from WHI and a low false negative rate of about 1%. These results indicate that self-reports of diabetes may be sufficiently accurate for use in epidemiologic studies.

PS2-20:

Racial Disparities in A1c Change and Medication Intensification

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Introduction: While it is well documented that disparities exist across racial groups of diabetes patients relative to glucose control, the underlying causative factors are not well understood. The purpose of this study was to examine differences in physician orders for adjustments of glucose control medications in diabetes patients between African Americans and Caucasians. **Methods:** A cohort of 434 African American and 1,471 Caucasian diabetes patients was followed for a period of 18 months from 6/1/2006 through 11/30/2007. All patients were being treated in one of 6 primary care clinics within a large mid-western medical group. First and last A1c values were collected during the study period and an A1c change score was calculated. Patients were also classified as to whether English was their primary