who underwent THA or TKA from 2004-2011, to assess infection, revision, 90-day readmission and mortality rates. Patients with less than 12 months follow-up, open fracture, prior joint surgery, pregnancy, or acute kidney injury were excluded. Chi-square analysis and Cox survival analysis compared these outcomes between the stage 1-2 and stage 3 groups, stratified by joint replaced (THA vs TKA). All models adjusted for age, sex and BMI at surgery. **Results:** No statistically different rates of revision or infection between Stage 3 vs. Stages 1-2 were seen, although there was a trend toward increased infections in Stage 3. THA patients with Stage 3 showed a significantly increased mortality rate compared to Stage 1-2 THA patients (HR 3.40, 95% CI = 1.25-9.23, $P = 0.02$). **Conclusions:** CKD affects nearly 15% of the U.S. population many of whom undergo joint replacement. End stage kidney disease (patients post-transplant or on hemodialysis) has been consistently associated with increased rates of infection and revision in excess of our observed outcomes, but the overall rate of infection/revision in our study population was only slightly higher than reported rates in the general population (2-7% vs. 1-2%, respectively). CKD should not preclude joint replacement, but these data can help clinicians engage in meaningful informed discussions with patients with mild kidney disease regarding risks for infection, revision and death following joint replacement.

Keywords: Chronic kidney disease; Total joint replacement

doi:10.3121/cmr.2014.1250.a2-3

A2-4:

Declining Rates of Major Cardiovascular Events in Adults With and Without Diabetes: 2005-2011

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Background/Aims: A major goal of diabetes care is the prevention of major cardiovascular events (CVE). Its success can be measured by quantifying trends over time in major CVE in adults with and without diabetes. To quantify trends in occurrence of major CVE in adults with and without diabetes who received care at 11 U.S. managed care organizations from 2005 to 2011. **Methods:** Study subjects included 2.4 million diabetes and non-diabetes subjects, frequency matched by age and gender (10,000,000 person-years). Clinical and demographic data were extracted from EMR at each site. Major CV events were identified based on primary discharge diagnoses from inpatient encounters for myocardial infarction/acute coronary syndrome (MI/ACS), stroke, and chronic heart failure (CHF). Age and sex-adjusted to the 2010 US census population even rates over time were computed. Generalized linear models were used to evaluate the significance of observed differences CVE trends in defined groups of subjects. **Results:** Mean age at cohort entry was 59 years (SD = 14), 48% female, and 46% Whites. Rates per 1000 of CVE in 2010 for diabetes subjects were (MI/ACS: 4.4, stroke 4.0, CHF 6.9); event rates were more than twice the rate of non-diabetes subjects. A 5-year decline of 32% was observed in diabetes subjects and 27% in non-diabetes subjects for MI/ACS. Similar decline was observed by gender and age groups. **Conclusions:** Between 2005 and 2011, rates of major cardiovascular events (CVE) declined significantly among adults with diabetes. Decline was greater in patients with diabetes, likely associated with improvements in diabetes care.

Keywords: Diabetes; Chronic disease

doi:10.3121/cmr.2014.1250.a2-4

A2-5:

Addressing Missing Data and Clinical Relapse Can Improve Composite Diabetes Quality of Care Measure

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Background/Aims: To identify strategies likely to improve composite measures of diabetes care quality. **Methods:** Study subjects were 14,750 adults with diabetes identified in one care delivery system in the SUPREME-DM project (HS19859) who had BP measures in both 2005 (Y1) and 2010 (Y2). We report the proportion of patients who met clinical goals (A1c <8%, LDL <100 mg/dl, BP <140/90, no tobacco use, or composite D4 goal requiring all 4 components to be at goal) in Y1 but not in Y2, based on the last available assessments in each of the two 12-month periods. **Results:** Among those with measures in Y1 and Y2 and at goal in Y1, the proportion not at goal in Y2 for A1c, BP, LDL, tobacco, and the D4 was 13.7%, 8.5%, 12.8%, 1.6%, and 20.7% respectively. When those missing measures in Y2 were classified as not at goal in Y2, the proportion of those in control in Y1 but not in Y2 for A1c, BP, LDL, tobacco, and the D4 was 25.7%, 8.5%, 27.1%, 24.1%, and 52.6% respectively. Among those with measures in both Y1 and Y2, the proportion of all those not at goal in year 2 who had been at goal in Y1 for A1c, BP, LDL, tobacco and the D4 was 21.1%, 45.2%, 25.9%, 14.1%, and 14.7% respectively. The proportion of those who failed to meet the D4 goal because of missing measures of one or more D4 components was 52.2% in Y1 and 54.1% in Y2. **Conclusions:** Strategies to improve composite measures of diabetes quality include: (a) Record measures of A1c, LDL, and tobacco use more frequently, and (b) Implement strategies to prevent clinical relapse in those at highest risk of relapse, especially for BP.

Keywords: Diabetes; Quality of care

doi:10.3121/cmr.2014.1250.a2-5

D2-2:

How Did Pharmacists Help Patients Achieve Blood Pressure Control in a Randomized Trial of Home Blood Pressure Telemonitoring Plus Pharmacist Management?

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Background/Aims: The Hyperlink trial tested a 12-month intervention combining home blood pressure (BP) telemonitoring with pharmacist case management in patients with uncontrolled hypertension. The intervention resulted in improved BP control compared to usual care at both 6 and 12 months (57% vs. 30%, $P = 0.001$). The mean number of medication classes increased compared to usual care (0.63 vs. 0.22, $P < 0.001$). We use process of care data recorded by the pharmacists and BP telemonitoring data to elucidate reasons for intervention success. **Methods:** Hyperlink randomized 450 patients with uncontrolled BP from 16 primary care clinics, and 228 intervention group patients were enrolled from clinics. They used a home blood pressure telemonitor to transmit BP readings to a study pharmacist. Following an in-person intake visit, pharmacists consulted with patients over the phone every 2-4 weeks during the first 6 months, and at 2 month intervals thereafter. They adjusted antihypertensive therapy using a specific treatment algorithm based on BP telemonitoring data. The home BP goal was <135/85 mm Hg (<125/75 for patients with diabetes or kidney disease.) **Results:** Mean BP at the research clinic enrollment visit was 148/85, and 143/85 at the pharmacist intake visit. At this visit, pharmacists changed the antihypertensive drug regimen for 10% of patients, while medication changes occurred for 33% at phone visit 1, 36% at phone visit 2, and 19% at phone visit 3. Thereafter, medication changes continued to decline. At the intake visit, pharmacists judged medication adherence to be high (>80%) in only about half of patients, but at subsequent phone visits in >90% of patients. The mean home BP recorded by the pharmacists for patients at the first phone visit was 136/80, and fell steadily to a mean of 126/74 at 3 months, and thereafter declined more slowly to 123/73 at 5 months, with little change thereafter. **Conclusions:** Improved adherence and appropriate adjustments to the antihypertensive treatment regimen based on home BP telemonitoring resulted in rapid lowering of BP over a 3-month period. Our results imply that intensive intervention may only be needed for about 3 months in many patients with uncontrolled hypertension.

Keywords: Hypertension; Team-based care

doi:10.3121/cmr.2014.1250.d2-2