DB1
CRITICAL PROBLEMS OF CODING DATA IN HEALTH CARE: OBESEY, SMOKING, AND ALCOHOL USE BY METHOD OF MEASUREMENT
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OBJECTIVES: The measurement of healthcare is increasingly based on risk-adjusted outcomes derived from coded comorbidities in large datasets. However inaccurate or haphazard assessment of risk factors for morbidity and mortality in medical record codes can have tremendous implications for quality improvement and healthcare reform. The purpose of this study is to compare the prevalence of obesity, over-weight, tobacco use and alcohol abuse of a large administrative dataset with a direct data collection survey. METHODS: We used the International Classification of Disease (ICD) version 9, Clinical Modification (ICD-9-CM) codes for obesity and alcoholic and comorbidities in the Nationwide Inpatient Sample (NIS) to compare them with a direct survey in the Behavioral Risk Factor Surveillance System (BRFSS) in 2011. The national and state estimates and the Pearson correlation coefficient for obesity, over-weight, smoking and alcohol use were calculated. RESULTS: Compared with direct participant questioning in BRFSS, NIS reported substantially lower prevalence of obesity, overweight, smoking and alcohol use. The prevalence of obesity, overweight, smoking and alcohol use were 27.7%, 35.8%, 20.1% and 18.3% in direct survey and 9.6%, 0.21%, 12.2% and 4.6% in NIS. The correlation between NIS and direct survey was 0.27 for obesity (p=0.06), 0.95 for overweight (p<0.05), 0.62 for smoking (p<0.01) and 0.40 for alcohol (p<0.05). CONCLUSIONS: The prevalence of obesity, over-weight, smoking and alcohol use based on ICD-9-CM code in NIS is not consistent with prevalence rates by direct questioning. Patient-level data extraction as a part of Meaningful Use standards, rather than ICD-9-CM codes, would improve the accuracy of these important outcomes in NIS. Ensuring accuracy of important comorbidities is critical to quality improvement efforts and healthcare policy reforms that are based on measuring risk-adjusted outcomes.

DB2
A NEW METHOD FOR COUNTING HEMOPHILIA-RELATED BLEEDING EVENTS IN CLAIMS DATA
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OBJECTIVES: Hemophilia-related bleeding events are difficult to quantify. Insurance claims data can capture a single bleeding event and assessed sensitivity of the time differences for rosiglitazone and pioglitazone on the utilization of these drugs and other oral antidiabetics. RESULTS: We identified 83,295 and 269 hemophilia A and B patients using ICD-9 codes in NIS. Increasing from a 60-day to 90-day window (hemophilia A: 2.21 (1–31), hemophilia B: 1.81 (1–14)) and 14-day window (hemophilia A: 2.21 (1–31), hemophilia B: 1.81 (1-14) and 14-day window (hemophilia A: 2.10 (1–24), hemophilia B: 1.69 (1-12)) for hemophilia A and B patients. Using a 7-day window, average annual bleeds (total bleeds + patient-months)12 among patients with ≥ 1 bleed equaled 2.31 (range: 1-33) for hemophilia A and 1.8-1.0 (range: 1-18) for hemophilia B. Results for 30, 60, 90, and 10-day window (hemophilia A: 2.21 (1-31), hemophilia B: 1.81 (1-14) and 14-day window (hemophilia A: 2.10 (1–24), hemophilia B: 1.69 (1-12)). A 1-day window produced somewhat higher numbers (hemophilia A: 2.99 (1-66), hemophilia B: 2.72 (1-43)), but pairwise rank correlation remained high across the four assumptions (coefficients ≥ 0.99, p-values <0.01 for both disease types). Frequencies are comparable to a large US-based study reporting bleeds in moderately-severe patients, albeit smaller than studies of severe patients. CONCLUSIONS: Claims data can be utilized to construct stable, robust indices of bleeding events in hemophilia patients, permitting reliable studies of factors influencing bleeding frequency and healthcare burden.

DB3
THE IMPLICATIONS OF USING A 30-, 60-, OR 90-DAY GAP IN TREATMENT TO SPECIFY LINEs OF CARE IN GASTRIC CANCER TREATMENT
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OBJECTIVES: The identification of patients with gastric cancer is increasingly based on risk-adjusted treatment strategies that are useful for determining adjuvant treatment strategies; however, there is no evidence to indicate molecular subtypes should influence choice of surgical treatment. RESULTS: We developed an algorithm for real-world research.

HEALTH CARE MANAGEMENT STUDIES
HMT1
DEVELOPMENT AND VALIDATION OF ALGORITHMS TO IDENTIFY STATIN INTOLERANCE IN A US ADMINISTRATIVE DATABASE
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OBJECTIVES: Develop and validate an algorithm to define statin intolerance (SI) in an administrative database (AD). METHODS: Adults with ≥1 qualifying change in statin therapy and ≥1 prior diagnosis of hyperlipidemia, hypercholesterolemia, or mixed dyslipidemia were identified from the AD of the Health Alliance Plan at Henry Ford Health System (HFHS). A sample of 1000 patients was drawn from the pool of eligible adults using an 80/20 ratio of patients taking a moderate- to low-intensity statin or a high-intensity statin at the time of qualifying change in therapy. Statin utilization and adverse events data were abstracted from the AD and the HFHS electronic medical record (EMR). Patients were stratified by high or low cardiovascular risk based on comorbidities, and any SI was categorized as absolute (AI) or titration (TI). In both the AD and the EMR, identification of SI was based on statin treatment patterns and potential statin-related adverse events. With EMR as the reference, measures of concordance (Cohen’s kappa [κ] and accuracy), sensitivity, specificity, positive and negative predictive values (PPV and NPV) were calculated. RESULTS: The sample population (n=990), any SI was defined in 11.5% and 14.0%, AI in 2.2% and 3.1%, and TI in 9.7% and 11.8% of patients in the EMR and AD, respectively. The algorithm identified from any SI with κ = 0.66 and good sensitivity (78.1%), but modest PPV (64.0%). The TI algorithm performed better (κ = 0.74, sensitivity=85.4%, PPV=70.1%) than the AI algorithm (κ = 0.40, sensitivity=50.0%, PPV=55.5%). Specificity was high (>94%) across both algorithms. In high cardiovascular risk populations, the algorithm identified from any SI was in agreement with the EMR data. CONCLUSIONS: A conservative and comprehensive, easily implementable, and valid SI algorithm from an AD is available for real-world research.

HMT2
OBJECTIVES: We examined the effects of the FDA safety announcements for rosiglitazone and pioglitazone on the utilization of these drugs and other oral antidiabetics. METHODS: We linked safety announcements from the FDA MedWatch database to Medicare drug claims (Parts D & B) from 2006 to 2010. We examined the timing, direction and level of demand responses to safety announcements, and compared these responses by patient race, gender, income status, and plan type (PDP vs MA-FA). We then estimate the fraction of patients that continue using an “altered” medication, switch to another oral antidiabetic, or stop use altogether (without adding another oral medication), and how these responses differ by patient demographic characteristics. RESULTS: The demand for rosiglitazone plummeted after the safety announcement, and rosiglitazone was dropped from many drug plans after this warning was issued (in August). The alert, 27% to 28% of rosiglitazone users switched to another oral antidiabetic (predominantly pioglitazone) within 6 months of the alert depending on patient group and plan type; 28% to 33% discontinued use of rosiglitazone, but did not add another oral antidiabetic; 38% to 44% continued using pioglitazone. After the warning, the numbers were 17% to 19%, 30% to 32% and 49% to 52% respectively. Discontinuation rates were slightly higher among Hispanics (32%) and those in MA-PD plans (32%). In contrast, the demand response for pioglitazone was more muted, while it increased slightly after the warning (in August). CONCLUSIONS: The demand response to safety warnings for rosiglitazone was large and abrupt, and a substantial fraction of those who stopped did not replace it with another oral antidiabetic. The demand response was fairly constant across race/ethnicity, socioeconomic status, and plan type, although large responses raise concern about adverse health consequences.

HMT3
DIFFERENCES IN MASTECTOMY RATES BASED ON HORMONE RECEPTOR STATUS IN EARLY STAGE TUMORS: A SEER DATABASE ANALYSIS
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OBJECTIVES: Breast cancer molecular subtypes provide important prognostic information that is useful for determining adjuvant treatment strategies; however, there is no evidence to indicate molecular subtypes should influence choice of surgical treatment. RESULTS: There were 6,509 (3,486 NM; 1,469 M1; 654 M2) and 3,203 (1,820 NM; 469 M1; 274 M2) patients in each of the databases meeting all inclusion criteria. Comparing the 30- and 90-day gaps, mean length of treatment (days) increased for M2 patients from 69.8-71.0 to 83.4-84.5 in first, 55.4-56.6 to 57.5-60.3 in second, and 58.5-59.7 to 60.1-64.9 in third line. Using a 30-day gap, 46.4%-54.2% of M1 and 36.1%-46.6% of M2 received second line while 25.6%-32.9% of M1 and 18.2%-25.1% of M2 received third line. The rate of second-line therapy slightly for M1 patients to 43.0%-51.3% and to 33.0%-45.1% for M2. The rate of third-line therapy was similarly lower at 23.0%-30.0% for M1 patients and 17.3%-23.2% for M2. Increasing from a 60-day to 90-day gap resulted in an increase in the percentage of receiving chemotherapy in M1 patients to 61.6%-66.8% and in M2 patients to 58.6%-63.5% in third line across both the M1/M2 groups. CONCLUSIONS: The data are in agreement between the 2 databases, and analysis by varying treatment gaps did not significantly impact results.