PRM90
COMPARISON OF THE 4-ITEM AND 8-ITEM MORISKY MEDICATION ADHERENCE SCALE IN PATIENTS WITH TYPE 2 DIABETES
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OBJECTIVES: The Morisky Medication Adherence Scale (MMAS-4) and more recent 8-item version (MMAS-8) have both been validated and demonstrate concurrent and construct validity among patients with hypertension, but the extent to which the scales can be compared in other disease states is not yet known. This study assessed the comparability of adherence scores obtained with these scales in patients with type 2 diabetes (T2D) as well as the feasibility of integrating results across the scales using 4 items of the MMAS-8. METHODS: Data were taken from the 2011 and 2012 US National Health and Wellness Survey (NHWS). The NHWS is a large cross-sectional survey of the representative of the total adult population in several major markets; N=75,000/year in the US. A total of 13,007 respondents self-reported physician diagnosis of T2D and were identified in 2011 or MMAS-4 or MMAS-8. The two scales were evaluated by comparing the frequency distributions of the MMAS scores for the two scales, Cronbach’s alpha and inter-item correlations, and the creation of a new 4-item scale including the questions in MMAS-8 that best matched the questions in MMAS-4. RESULTS: The OTIS Antidepressants in Pregnancy Study cohort was used.
OBJECTIVES: We aimed to validate the telephone administration of the Revised Pre-DQ. The Ages and Stages Questionnaire (ASQ) and the Ages and Stages Questionnaire and the Revised-Pre-Screening Denver Questionnaire: RESULTS FROM THE OTIS ANTIDEPRESSANTS IN PREGNANCY STUDY
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OBJECTIVES: We aimed to validate the telephone administration of the Revised Pre-DQ. The Ages and Stages Questionnaire (ASQ), 2 tools used to pre-screen and screen children development, respectively, for feeder populations in Pregnancy Scoring Study cohort.
Women were recruited through nine North American Teratogen Information Services, were self-administered to mothers at 12-months postpartum. The ASQ includes five domains (communication, gross motor, fine motor, problem-solving and personal-social). The R-PDQ tests gross motor, fine motor, social and language. Both questionnaires were self and telephone-administered to mothers at 12-months postpartum. The ASQ includes five domains (communication, gross motor, fine motor, problem-solving and personal-social). The R-PDQ tests gross motor, fine motor, social and language. Both questionnaires were collected through telephone interviews. Concordance between the telephone and self-administration of both questionnaires were assessed with Intraclass Correlation Coefficient (ICC) with 95% Confidence Intervals (CI). RESULTS: Overall, 61 and 56 women filled the ASQ and R-PDQ, respectively. Concordance between the self and telephone-administered ASQ was substantial for the communication scale (ICC=0.76, 95% CI [0.63-0.84]), almost perfect for the gross motor scale (ICC=0.83, 95% CI [0.78-0.89]), and moderate for the fine motor, problem-solving and personal-social scales (ICC=0.44, 95% CI [0.21; 0.62]; ICC = 0.43; 95% CI [0.19; 0.61]; ICC = 0.52; 95% CI [0.31; 0.68], respectively). Regarding the R-PDQ, the following concordance estimates were found: gross motor scale (ICC = 0.90; 95% CI [0.83; 0.94]), language (ICC = 0.58; 95% CI [0.38; 0.73]), personal-social scales (ICC = 0.27; 95% CI [0.07; 0.49]). The agreement was perfect for the fine motor scale. CONCLUSIONS: The telephone administration of the ASQ is a valid method of child development screening. However, both the R-PDQ gross and fine motor and language scales should be administered through telephone when pre-screening infant development.
PRM13
VALIDATION OF CLAIMS DATA TO IDENTIFY SURGICAL SITE INFECTIONS WITH ANTIBiotic UTILIZATION DATA
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OBJECTIVES: International Classification of Disease (ICD-9-CM) diagnosis codes are increasingly being used to identify bacterial infections, including surgical site infections (SSI), but claims data must be validated to ensure evidence demonstrating validity of the codes used. Absent medical record verification, we sought to confirm a claims algorithm to identify surgical site infections (SSI) in Medicare beneficiaries using claims data. RESULTS: We performed a retrospective cohort study using private insurer claims data from persons < 65 years with ICD-9-CM procedure or CPT codes for anterior cruciate ligament (ACL) reconstruction from 1/2004-12/2010. SSIs occurring within 90 days after the procedure were identified by ICD-9-CM diagnosis codes. Antibiotic utilization, surgical treatment, and microbiology culture claims within 14 days of SSI codes were used for validation. RESULTS: Of 40,702 ACL reconstruction procedures, 409 (1.0%) were complicated by SSIs, 172 (4.4%) of which were specifically identified as septic arthritis. Most SSIs were associated with an inpatient admission (n=232, 57%), and/or surgical procedure(s) for treatment (n=258, 63%). Among SSIs included in the evaluation, temporally-associated antibiotics, surgical treatment procedures, and cultures were present for 84% (338/401), 61% (246/401), and 59% (238/401) respectively. Only 5.7% (23/401) of procedures coded for SSI post-procedure had no antibiotics, surgical treatment, or culture within 14 days of the SSI claim. CONCLUSIONS: Over 50% of patients identified by our claims algorithm received clinically expected treatment for infection, including surgery, cultures, and antibiotics, suggesting this algorithm has very good positive predictive value. This study may facilitate retrospective SSI surveillance and comparison of SSI rates across facilities and providers.
PRM14
DEVELOPING A COHORT OF LINKED MOTHER-BABY PAIRS TO STUDY PRETERM LABOR: HARMONIZING REAL-WORLD DATA FROM FOUR LARGE UNITED STATES INTEGRATED DELIVERY NETWORKS
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OBJECTIVES: Integrated delivery networks (IDNs) capture patient data across the continuum of care and are valuable tools for real-world research, with potential to study large, diverse cohorts with rich information on patient characteristics, treatments, physician decisions and outcomes. However, using multiple IDNs requires combination of dissimilar data to create a uniform post hoc analysis dataset. We used this approach to create a novel cohort to examine maternal and neonatal characteristics with the goal of better understanding preterm labor, a critical step in developing effective tocolytic treatments. METHODS: Retrospective data on births from 2001-2012 were available from New Mexico and central states [Missouri/Arkansas/Kansas/Oklahoma] participating in Quintiles’ COMparative Effectiveness Patient Safety and Surveillance (COMPASS) Research Network. The IDNs were geographically well-matched with similar types of electronic medical records, catchment areas and institution types. Detailed data specifications were defined, mothers and babies were linked using medical record numbers to produce one overall cohort of 109,583 mother-baby pairs among women with uncomplicated, singleton pregnancies was built each associated with their clinical records. Data were collected on maternal medication use and specific pregnancy complications (e.g., eclampsia/ HELLP, gestational diabetes, and infections) and neonatal characteristics including demographics, weekly gestational age, procedures, treatments and hospital-based clinical outcomes. CONCLUSIONS: IDNs offer an in-depth source of real-world data to evaluate characteristics of otherwise difficult-to-study populations. However, employing routine care information from diverse settings for research presents challenges and varying definitions, coding processes and facility characteristics should be considered before analyses. Processes must be developed to translate clinical records and standardized analysis to research datasets. Development of detailed specification and harmonization processes allowed creation of a cohesive and unique mother-baby linked data resource that could be extended to a broad range of peri-natal epidemiology and health outcomes research questions.
PRM15
A183
SOME STATISTICAL CONSIDERATIONS IN ESTIMATING A DISEASE PROGRESSION MODEL FOR CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)
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OBJECTIVES: To estimate associations between attributes of COPD and to develop a model that predicts economic outcomes associated with disease progression. METHODS: We utilized data from ECLIPSE (clinicaltrials.gov identifier: NCT00292552), a three year cohort study of COPD patients to estimate the associations between COPD attributes (exacerbations, lung function, exercise capacity and smoking status) while adjusting for comorbidities, body composition (BMI), biomarkers, smoking history, age, and gender. As disease progression endpoints we used the total score of the St. George’s Respiratory Questionnaire (SGRQ) and mortality. We applied random coefficient models to assess the relationships between the central COPD attributes longitudinally and thereby describe patient trajectories over time. As appropriate, non-linear functional forms were explored to characterize the nature of the data. Endogeneity among the central attributes of COPD was addressed by time-lagging in the regression models. RESULTS: Severe exacerbations in the preceding 12-months were associated with an average decline in lung function (FEV1) of up to 10 ml (P<0.05) and with a reduced exercise capacity (6 minute walk test) of 13 meters (P<0.001). A 1% increase in FEV1, % predicted was also associated with a 5% reduction in the probability of experiencing dyspnea on most days/week (P<0.0001). All central attributes were found to significantly impact disease progression, measured by the SGRQ, with the largest estimated effect for dyspnea on most days/week (18 point increase in the SGRQ score; P<0.0001). Lung function and exercise capacity, however, were the only central attributes that were significant predictors of mortality (P<0.05). CONCLUSIONS: The use of appropriate analytical techniques to account for the longitudinal nature and endogeneity of COPD attributes enables the estimation of their impact on important health outcomes. Our results confirm the expected associations between the central attributes of COPD and their effect on patient health status (SGRQ) and mortality.
PRM16
CAUSAL INFERENCE: COGNITIVE FUNCTIONING AND DEPRESSIVE SYMPTOMS IN MIDLIFE: A LONGITUDINAL MARGINAL STRUCTURE MODEL
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OBJECTIVES: The association between depressive symptoms (Center for Epidemiological Studies Depression Scale [CES-D]) and subsequent cognitive functioning...