secondary stressors, and support (patients in intervention or control group) were entered in blocks to predict depression levels at post-test. While no significant differences were found in post-test depression levels between intervention and controls, the final model was statistically significant (adjusted $R^2=.452$). Significant predictors of depression were: younger age (disabled adults), poorer self-rated physical and emotional health, greater loneliness, and less social support. Future analyses will examine effects of moderating variables on post-test depression levels. Practice implications of preliminary analyses include addressing disabled adults’ mental health needs, especially if they are isolated and lack social support.

Session 3040 (Symposium)

EXPANDING THE SCOPE OF ADMINISTRATIVE HEALTH RECORDS THROUGH ADVANCED STATISTICAL METHODS

Chair: Igor Akushevich Co-Chair: Carl V. Hill
Discussant: Konstantin Arbeev

The objective of the Symposium is to expand familiarity of the application of advanced methods of modern statistical modeling and data management, to administrative health data by combining methodological innovations with practical hands-on demonstrations. Topics will cover a range of methodological and substantive topics including: i) decomposition and partitioning approaches in analysis of disparities and time trends in AD/ADRD; ii) new artificial intelligence technologies that allow us to enrich electronic health record datasets with self-report scores in geriatrics; iii) using administrative data to model adherence to disease management and health-related behavior; iv) the use of longitudinal extension of the average attributable fraction to study health disparities and multimorbidity; and v) the geographic and racial disparities in total and remaining life expectancies after diagnoses of AD/ADRD and other chronic conditions. The increasing availability of large-scale datasets based on electronic health records and administrative claims records provide an unprecedented opportunity for obtaining nationally representative results based on individual-level measures that reflect the real care-related and epidemiological processes. This makes the reduction of barriers to entry to the use of such data of vital importance to the community of geriatrics and health researchers.

DECOMPOSITION OF DISPARITIES IN ALZHEIMER’S DISEASE AND RELATED DEMENTIA

Igor Akushevich, Duke University, Durham, North Carolina, United States

This study uses Medicare data to non-parametrically evaluate race- and place-of-residence-related disparities in AD/ADRD prevalence and incidence-based mortality, separate them out into the epidemiological causal components including race-related disparities in incidence and survival, and finally explain these in terms of health-care-related factors using causal methods of group variable effects (propensity scores and the rank-and-replace method) and regression-based analyses (extended Fairlie’s model and generalized Oaxaca-Blinder approach for censoring outcomes). Partitioning analysis showed that the incidence rate is the main predictor for temporal changes and racial disparities in AD/ADRD prevalence and mortality, though survival began to play a role after 2010. Arterial hypertension is the leading predictor responsible for racial disparities in AD/ADRD risks. This study demonstrated that Medicare data has sufficient statistical power and potential for studying disparities in AD/ADRD in three interacting directions: multi-ethnic structure of population, place of residence, and time period.

NEW AI TECHNOLOGIES TO ENRICH ELECTRONIC HEALTH RECORD DATA SETS WITH SELF-REPORT SCORES IN GERIATRICS

Ricardo Pietrobon, Spore Data, SporeData, North Carolina, United States

Although electronic health record data present a rich data source for health service researchers, for the most part, they lack self-report information. Although recent CMS projects have provided hospitals with incentives to collect patient-reported outcomes for select procedures, the process often leads to a substantial percentage of missing data, also being expensive as it requires the assistance of research coordinators. In this presentation, we will cover Artificial Intelligence-based based technologies to reduce the burden of data collection, allowing for its expansion across clinics and conditions. The technology involves the use of algorithms to predict self-report scores based on widely available claims data. Following previous work predicting frailty scores from existing variables, we expand its use with scores related to quality of life, i.e. mental health and physical function, and cognition. Accuracy metrics are presented both in cross-validation as well as external samples.

USING ADMINISTRATIVE CLAIMS TO MODEL HEALTH-RELATED BEHAVIORS: MEASURES OF SCREENING AND MEDICATION ADHERENCE

Arseniy Yashkin, Duke University, Morrisville, North Carolina, United States

We demonstrate how administrative claims records can be used to model certain behavioral patterns and associated health effects. The inability of administrative claims, which are in essence a billing record, to account for differences in behavior is a major limitation of such data which usually requires an externally linked source to overcome. However, for certain diseases, for which well-defined and accepted guidelines on screening and medication use exist, the claims themselves can provide a way for modeling health-related behavior. A practical application to screening and medication adherence for type ii diabetes mellitus is presented. Diverse methods of the calculation of such indexes with their pros, cons and variation in identified effects are discussed and demonstrated using results based on administrative claims drawn from a 5% sample of Medicare beneficiaries.

DIFFERENCES IN THE RACIAL CONTRIBUTION OF DEMENTIA AND CHRONIC CONDITIONS TO HOSPITALIZATION, SNF ADMISSION

Heather Allore, Yale School of Medicine, New Haven, Connecticut, United States

We estimate the contribution for experiencing hospitalization, skilled nursing facility admission and mortality using a measure of attributable fraction that incorporates both the prevalence, incidence and risk called Longitudinal Extension