UTILIZING PEER COHORT NETWORKS TO DISSEMINATE INFORMATION AND TO PREVENT AND MITIGATE COVID-19 IN NURSING HOMES

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The COVID-19 pandemic disproportionately impacted residents, families, and staff of nursing homes and senior care communities. Even with federally mandated emergency planning, the pandemic highlighted the lack of preparation to meet the daily challenges faced in senior care. In response, the federal CARES Act including funding for a nationwide network of nursing home cohorts led by academic health centers to disseminate clinical guidance in infection control and pandemic mitigation strategies. We present a case study of a successful diffusion model as implemented in Minnesota with seven cohorts comprised of 242 nursing homes and 544 employees. Experts in geriatric care, long term care regulatory management, and public health led ninety-minute sessions held over the span of sixteen weeks. The session format included foundational evidence-based practices in pandemic management (including infection control, social isolation, leadership, and other topics), individual case studies, peer to peer knowledge diffusion, and expert guidance.

COVID-19 IN LONG-TERM CARE FACILITIES WITH ADVANCED PRACTICE REGISTERED NURSES

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The purpose of our report is to give our analytical description of COVID-19 response. The study placed two APRNs in each of five participating nursing facilities (NF), 5-7 days/week for up to two years with the purpose of quantifying if employment of a full-time, salaried APRN, as part of the NF care team, improved the quality of care for the NF residents. Secondarily, we studied policies that influenced ability to provide APRN care in the NF. Resident data collected and evaluated to determine if this model of care reduced the rates of adverse events among NF residents. Data included re-hospitalizations, inappropriate prescribing (antipsychotics, antibiotics, opioids and polypharmacy), observational data, and clinical outcomes negatively affecting the quality of life for NF residents (such as falls and pressure injuries). Factors influencing APRN employment in the NF setting were NF mission, environmental aesthetics, resources, NF administrator interactions, state law, and medical director support.

CASE STUDY OF AN OUTBREAK: RESIDENT, STAFF, AND COMMUNITY INDICATORS

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Outbreak investigation is not infection control. We present a self-study of factors influencing outcomes inside a single nursing home during the early stage of the outbreak - February to May 2020. We examine 3 sources of influence: Practice / Operations; Local, State & Federal Policies; Uncontrollable operational factors. Outcomes of interest include: mortality and resident / staff health. Data consists of clinical records, review of communications, and interviews with staff present during the critical period. Infection control is different from outbreak investigation. There must be a balance between staff empowerment and adherence to guidelines. In an outbreak, staff need the confidence to make decisions based on incomplete knowledge. The presentation concludes with lessons learned – what worked and what actions need improvement. There are areas requiring further analyses of policy and ethics.

Session 1230 (Paper)

DISPARITIES AND ALZHEIMER'S DISEASE

CAUSES OF THE RACIAL DISPARITIES IN THE RISK OF ALZHEIMER'S DISEASE

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The risk of Alzheimer's disease (AD) is not uniform across race-specific subpopulations: Blacks face approximately 50% higher risk of AD onset compared to Whites(Hazard Ratio=1.50; 95%CI:1.46-1.54). We used Blinder-Oaxaca decomposition, modified for censored data, to explain the disparities in the risk of AD between these races in Medicare beneficiaries aged 65+. This approach measures the contributions to the total difference in AD risks from the differences in the prevalence and the difference in magnitude of the effects of each potential explanatory variable. We used hypertension, diabetes mellitus, depression, cerebrovascular and renal diseases as the potential causes of the racial disparities in AD risk. We found that the greatest contribution was due to the impact of arterial hypertension, of which 24% of the effect was due to differences in prevalence and 76% due to the differences in effect magnitude. Unexpectedly, the contributions of other studied diseases explained only a small part of the racial disparity in AD risk. The remaining incidence rates, which could not be explained by the contributions of hypertension and other included diseases in the age-specific analysis, were lower for the Black population, although initially, the total age-specific incidence rates of AD were higher for the Blacks when compared to the Whites. Therefore, our results suggest that targeted interventions in the Black subpopulation are urgently needed to mitigate the adverse health effects of hypertension, independent of the possible causes, such as access to hypertension care, or race-related differences in adherence to antihypertensive treatment.

DOCUMENTATION OF DEMENTIA AS A CAUSE OF DEATH AMONG MEXICAN-AMERICAN DECEDENTS WITH DEMENTIA

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There is lack of data on the frequency and correlates of dementia being documented as a cause of death in Hispanic populations. We investigated characteristics associated with dementia as a cause of death among Mexican-American decedents diagnosed with dementia. Data came from the

Hispanic Established Populations for the Epidemiologic Study of the Elderly, Medicare claims files, and the National Death Index. Of the 744 decedents diagnosed with dementia before death, 26.9% had dementia documented as a cause of death. More health comorbidities (OR=0.38, 95% CI=0.25-0.57), older age at death (OR=1.05, 95% CI=1.01-1.08), and longer dementia duration (OR=1.09, 95% CI=1.03-1.16) were associated with dementia as a cause of death. In the last year of life, any ER admission with (OR=0.56, 95% CI=0.32-0.98) or without (OR=0.31, 95% CI=0.14-0.70) a hospitalization, more physician visits (OR=0.95, 95% CI=0.92-0.98) and seeing a medical specialist (OR=0.41, 95% CI=0.24-0.70) were associated with lower odds for dementia as a cause of death. In the last 30-days of life, any hospitalization with an ICU stay (OR=0.57, 95% CI=0.37-0.88) and ER admission with (OR=0.58, 95% CI=0.40-0.84) or without (OR=0.48, 95% CI=0.25-0.94) a hospitalization were associated with lower odds for dementia as a cause of death. Receiving hospice care in the last 30-days of life was associated with 2.09 (95% CI=1.38-3.16) higher odds for dementia as a cause of death. The possible under-documentation of dementia as a cause of death on death certificates may result in underestimation of healthcare resource need of dementia care for Mexican-Americans.

GEOGRAPHIC DISPARITIES OF ALZHEIMER'S DISEASE MORTALITY IN FEMALES WITH BREAST CANCER

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Our estimates showed significant gaps in mortality rates between the West and East parts of the U.S. when these rates are based on death certificate data. These geographic disparities were persistent over time and could not be fully explained by differences in demographic and socioeconomic characteristics, comorbidities, and/or differences in AD coding between these regions. However, incidence and incidence-based mortality rates based on Medicare data do not reproduce these geographic disparities. Death certificate-based patterns hold for the subset of the population with breast cancer, e.g., for subpopulation for which breast cancer was listed as a secondary cause of death. Therefore, SEER-Medicare data, which contains both death-certificate records and Medicare administrative claims for the same individuals can be used to resolve this inconsistency in findings. Analysis of breast cancer patients from two SEER registries in NJ and WA states in SEER-Medicare data (2000-2013) showed that the fraction of deceased individuals with an underlying cause AD among those who had a Medicare diagnosis of AD is 2.5-3.5 times (depending on the Medicare ascertainment algorithm) higher in WA comparing to NJ ($p<0.0001$). The odds ratio of not-having AD as an underlying cause is 1.3 for WA vs. NJ and increases with age, for non-white races, and unmarried individuals. Our findings do not support the hypothesis of higher rates of AD in WA state but show that AD is likely underrepresented in death certificate in NJ and possibly other East coast states.

NEIGHBORHOOD DEPRIVATION AND INCIDENT ALZHEIMER'S DISEASE: A REGIONAL COHORT STUDY OF ELECTRONIC MEDICAL RECORDS

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The prevalence of Alzheimer's disease (AD) is anticipated to increase drastically. Neighborhood socioeconomic position (SEP) has been related to multiple processes of health. Understanding whether SEP is related to AD can inform who is at greatest risk of developing this disease. We analyzed electronic medical records of 394892 patients from the two largest health systems in Northeast Ohio to evaluate the relationship between Ohio Area Deprivation Index quintiles (defined at the census tract level) and hazard for a composite outcome of AD diagnosis or primary AD death. We included residents of Cuyahoga and neighboring counties, and used the first outpatient visit beyond age 60 occurring between 2005 and 2015 as study baseline. Outcome data were censored at the earlier of a) the beginning of any 3-year time period without visits or b) non-AD death. We estimated a Cox proportional hazards regression model, adjusting ADI quintile effects for the interaction between age at baseline, sex and race as well as birth year. We used quadratic terms for continuous predictors. After adjusting for these factors, ADI quintile was significantly related ($\chi 2 = 83.0$ on 4 d.f.; $p < 0.0001$) to the composite time-to-event outcome. Compared to the lowest-deprivation quintile, ADI quintiles 4 (adjusted hazard ratio [95% confidence interval]: 1.18 [1.10, 1.26]) and 5 (1.37 [1.28, 1.47]) had significantly higher hazard for the composite outcome. In conclusion, neighborhood deprivation may be a risk factor for AD independent of demographic factors. Preventive efforts should target individuals living in neighborhoods with high levels of deprivation.

RACIAL DIFFERENCES IN THE EFFECT OF ALZHEIMER'S DISEASE ON ADHERENCE TO MEDICATION THERAPY FOR CHRONIC DISEASES

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Multiple dementia (the presence of one or more types of dementia in a single individual) and multi-morbidity (the presence of multiple chronic diseases in an individual) present a major challenge to the U.S. healthcare system. The reduction in cognitive function associated with neurocognitive disorders such as Alzheimer's Disease (AD) and Related Dementias (ADRD) reduce the ability of the affected individual to take care of him/herself. This can manifest as reduced adherence to medication regimens designed to manage other chronic conditions, in reduced ability to engage in healthy behavior such as exercise, or in other ways. The result is an increase in the probability of otherwise avoidable adverse health outcomes and related healthcare costs. In this study, we showcase two high impact chronic conditions common in the elderly: