to integrate its teaching as part of Duke's hospital discharge process. Graduate students from Duke School of Nursing participated in the DEFT caregiver program for course credits. Since 10 months of launching the DEFT caregiver training program, more than 200 consults were received from hospital providers in selected units for caregiver training. Of these, 76 were successfully approached and trained. Analyses of patient data revealed lower 30-day readmission rate of patients whose caregivers received DEFT training compared to those who did not (5.9% vs 22%). Overall, an improvement in levels of caregiver preparedness and readiness for hospital discharge was observed within 14 days of training. Lessons learned from the initial launch of DEFT included allowing case managers to write consults for DEFT in addition to physicians and advanced practice providers; optimizing training location for caregiver convenience; and strategizing informational sessions about DEFT for hospital clinicians.

POTENTIALLY INAPPROPRIATE MEDICATION USE BY DEMENTIA FAMILY CAREGIVERS

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Psychotropic medication prescribing is common among community-dwelling older adults with dementia, even though it is associated with a significantly increased risk of mortality. Family caregivers have an impact on whether or not a medication is prescribed to their loved one with dementia, but less is known about how caregivers dispense the medications. This micro-longitudinal study examined medication dispensing practices by dementia family caregivers to describe potentially inappropriate medication use (PIM), in which the medication is intentionally used to sedate to make care easier rather than to manage a symptom. Caregivers (N=50) who live with their care-recipient completed online diaries for 21 days responding to questions on PIM and other daily contextual factors. Across 731 days, 11 caregivers (22%) reported PIM 82 times (11%). Daily contextual factors that significantly increased the odds of PIM included nighttime behavioral symptoms of dementia (OR = 6.5 [2.5–16.4]), no self-care activity (OR=4.0 [2.4–6.7]), and spending all 24 hours with the care recipient (OR=2.2 [1.3–3.8]). In a multi-level mixed model, the intra-class correlation coefficient revealed that 92% of variability in PIM use was accounted for by caregiver characteristics rather than daily contextual factors. Some caregivers did not report any PIM while others reported using it 19 out of 21 days. These findings indicate a possible type of caregivers who may be dispensing psychotropic medications as a coping strategy in the context of dementia care. Identifying high risk family caregivers and targeting their daily triggers is critical to reducing the effects of PIM among persons with dementia.

CAREGIVER STRESS THEORY MAY EXPLAIN ELDER ABUSE BUT NOT NEGLECT IN DEMENTIA FAMILY CAREGIVING

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The caregiver stress theory is suggested as a causal theory for physical and psychological elder abuse (EA) and neglect within dementia, due to the high rate of behavioral symptoms

of dementia (BSD) and caregiver stress. The purpose of this micro-longitudinal study is to evaluate the caregiver stress theory among a sample of dementia family caregivers who co-reside with their care-recipient. Participants completed online diary surveys for 21 days. Using multi-level modeling of diaries (N=681) nested within participants (N=46), BSD behaviors (aggressive and non-aggressive agitation) and perceived stress were examined as predictors of EA and neglect. On days with non-aggressive BSD behaviors compared to no BSD, the odds of self-report EA were 2.5 times greater (CI 1.04–5.89, $p = 0.03$), while on days with both non-aggressive and aggressive BSD the odds of EA were 26.9 times greater (CI 9.62–75.15, $p < 0.001$). For neglect, non-aggressive BSD alone did not increase risk but when they co-occurred with aggressive BSD the odds increased by 5.3 (CI 1.7–16.71, $p < 0.001$). For every point a caregiver scored their perceived stress above their typical stress rating, the odds of EA increased by 1.9 (CI 1.37–2.55, $p < 0.001$), however the risk of neglect did not. This suggests support for the caregiver stress theory as an explanation for EA, as both BSD and perceived stress increased the risk. However, neglect may be driven by a different causal mechanism, as only certain BSD combinations increase odds of neglect.

PREDICTORS OF PSYCHOLOGICAL DISTRESS AND SLEEP QUALITY IN FORMER FAMILY CAREGIVERS OF PEOPLE WITH DEMENTIA

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The detrimental effects of active caregiving on the health of caregivers has been examined, but less is known about caregiver health after caregiving ends. Research revealed stress-related health conditions diagnosed during caregiving failed to improve for many years post-caregiving. The purpose of this cross-sectional, correlational study was to examine the influence of caregiver personal variables (e.g. personality traits, coping strategies, pre-loss depression), environmental variables (e.g. length of nursing home placement, length of post-caregiving), and post-caregiving guilt on psychological health (e.g. depression, anxiety, sleep quality) in former family caregivers of people with dementia. A convenience sample of former dementia caregivers (N=171) completed a 147-item online survey, containing 6 standardized instruments and demographic questions. Using Richard Lazarus' transactional theory of stress as a foundation, the relationships between post-caregiving guilt, personal and environmental variables, and psychological health were examined with Pearson correlation coefficients and hierarchical linear regression models. Post-caregiving guilt was moderately correlated with depression ($r=.39$) and anxiety ($r=.34$). After controlling for relevant covariates, use of dysfunctional coping strategies and neurotic personality explained 32% of the variance in depression and 24% of the variance in anxiety. Dysfunctional coping, pre-loss depression, and extraverted personality explained 17% of the variance in sleep quality. The study's findings highlighted a prominent relationship

between personal variables, guilt, and psychological health in former dementia caregivers. Implications for future research and practice include: further exploratory studies of associations between caregiver characteristics and post-caregiving health, and increasing health care providers' awareness about risk factors for poor psychological health in this population.

CAREGIVER RELATIONSHIP TO DEMENTIA PATIENT: IMPACT ON DISEASE PROGRESSION AND CAREGIVER PSYCHOLOGICAL WELL-BEING

M. Tolea, J. Galvin, *Florida Atlantic University*

Alzheimer's disease (AD) and Lewy Body Dementia (LBD) are the two most common forms of dementia, together affecting over 7 million Americans. LBD tends to progress more rapidly than AD to nursing home placement and death. Many of the rating scales used to stage AD and LBD patients require significant input from caregivers, however we do not yet know if there are differences in how determination of progression is influenced by the relationship of the caregiver to the patient. Using a detailed online survey of caregivers (N=686), we created an estimate of disease progression using informant based assessments of cognitive, functional, behavioral, and psychosocial constructs, and used regression models to explore caregiver relationship to patient on rates of disease progression and perception of psychological well-being, adjusting for significant covariates. Moderation by dementia type (LBD vs AD) was also assessed. We found that patients cared for primarily by their adult children tend to progress faster compared to those cared for by spouses (OR slow progression=0.397; 95%CI: 0.243–0.646), particularly patients with LBD (β interaction term=-0.875 ($p=0.009$)). Adult child caregivers (vs. spouse) of LBD patients had higher levels of burden and depression and lower psychological well-being suggesting possible contribution to observed differences. In addition to the development of therapeutics to treat the symptoms of LBD in patients, our study supports the need to develop interventions designed to alleviate psychological stress and grief in caregivers, particularly adult children, which may negatively impact their direct care and possibly exacerbate rates of progression.

SESSION 2755 (SYMPOSIUM)

GENERATING HIGH-QUALITY OBSERVATIONAL EVIDENCE TO INDIVIDUALIZE PHARMACOTHERAPY IN OLDER ADULTS

Chair: D.H. Kim, *Division of Gerontology, Beth Israel Deaconess Medical Center, Boston, Massachusetts*

Discussant: R.J. Glynn, *Divisions of Preventive Medicine and of Pharmacoepidemiology, Brigham and Women's Hospital, Boston, Massachusetts*

Drug-related adverse events remain a major cause of mortality, morbidity, and health care utilization in older populations. The risk may be greater in individuals with frailty who are more vulnerable to adverse health outcomes. Due to underrepresentation of older adults with frailty in clinical trials and lack of systematic frailty assessment, little is known about how the effectiveness and safety of a pharmacotherapy changes across different levels of frailty. We recently developed and validated a claims-based frailty index (CFI) to identify individuals with a greater burden of health deficits,

poor physical performance, and increased risk for mortality, disability and health care utilization in Medicare data. In this symposium, we will illustrate how CFI can be applied to generate evidence to individualized pharmacotherapy using routine healthcare data. We will feature 4 research presentations on use of CFI to 1) improve prediction of drug-related adverse events beyond clinical risk factors; 2) adjust for confounding; and 3) assess treatment effect heterogeneity. In these presentations, several commonly used, high-risk medications (anti-diabetic, benzodiazepine and cardiovascular therapy) in older adults were examined using data from commercial insurance and Medicare data. Following individual presentations, Dr. Glynn will lead an interactive discussion about key methodological challenges and recommendations in conducting high-quality geriatric pharmacoepidemiologic studies using routine healthcare databases. We anticipate that this symposium will introduce researchers to pharmacoepidemiologic research using routine healthcare databases. Moreover, it will provide health care providers with new evidence to guide individualized pharmacotherapy based on frailty.

PREDICTING DRUG-RELATED ADVERSE EVENTS USING A CLAIMS-BASED FRAILTY INDEX

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We aimed to examine whether frailty, measured using CFI (mild <0.15, moderate 0.15–0.24, severe ≥0.25), improves prediction of drug-related adverse events beyond clinical risk factors in older adults. In the MarketScan database including 4,303,333 individuals ≥60 years of age with type-2 diabetes, the rates of severe hypoglycemia (per 1,000 person-years) for mild, moderate and severe frailty were 3.8, 9.9, 26.5 events, respectively; the increasing rates with greater frailty were consistent across the risk strata defined by clinical risk factors. In the 584,356 Medicare beneficiaries with atrial fibrillation initiating warfarin, the rates of ischemic stroke for mild, moderate and severe frailty were 23.6, 106.7, 174.9 events, respectively; the corresponding rates of major bleeding were 19.3, 76.4, 114.2 events, respectively. The results were consistent across the risk strata defined by CHA2DS2-VASc and HAS-BLED. Our results suggest that CFI can measure the risk of drug-related adverse events not captured by clinical risk factors.

BENZODIAZEPINES AND THE RISK OF ALL-CAUSE MORTALITY IN OLDER PATIENTS

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