function in the Health, Aging and Body Composition study (n=2,529, mean age =75.9, 63.5% white, 44.9% men). Self-reported energy over the past month was recorded from 0-10 (least to most energy) and dichotomized at the median (≥7=high energy). Cognitive performance was measured using Modified Mini-Mental State Examination and Digit Symbol Substitution Test. Depressive symptoms were measured using the Center for Epidemiologic Studies Depression scale. Physical function was assessed via fitness (timed 400-meter walk), self-reported physical activity, and usual and rapid gait speed. Variables bivariately associated with energy entered a logistic regression model with higher energy as the outcome, adjusted for demographics, chronic conditions, strength, and body mass index (BMI). Overall, 58% of the sample reported high energy, and self-reported energy was greater for males and those without chronic conditions (p<0.05). Lower odds of higher self-reported energy were found for participants with more depressive symptoms (aOR 95% CI= 0.55 [0.50, 0.62]) and longer time to walk 400m (aOR = 0.79 [0.70, 0.89]). Increased odds of higher self-reported energy were found for participants with faster usual and rapid gait speeds (aOR = 1.3 [1.2, 1.5]; aOR = 1.2 [1.1 – 1.4], respectively). Associations with cognitive performance were not significant. Higher self-reported energy reflects fewer depressive symptoms and greater physical function independent of demographics, chronic conditions, strength, and BMI.

IDENTIFYING A POPULATION LIVING WITH ALZHEIMER'S: CONCORDANCE BETWEEN MEDICARE CLAIMS AND SURVEY REPORTS

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Community-level estimates of Alzheimer's disease and related dementias (ADRD) are necessary to assess health care needs and supports (to patients and family members), determine the burden of disease, conduct public health planning, improve access and care quality improvement, and to build a workforce with the necessary skills. Data from Medicare claims can provide efficient and timely estimates. However, earlier studies suggest that identifying ADRD populations solely from Medicare claims fails to capture many individuals that live with ADRD, with false-negative cases as high as 60%. We examined nationally representative data from the 2015-2017 Medicare Current Beneficiary Survey (MCBS) to assess the claims-based case ascertainment method, covering the transition to the International Classification of Diseases, Tenth Revision (ICD-10). The study population included community dwellers aged 65 or older, enrolled in traditional fee-for-service (n=12,409). Claims based method identified 1,325 cases (10.7% prevalence). However, there were 196 (1.6%) additional cases that self/proxy reported ADRD, but there was no ADRD diagnosis in any of their Medicare claims (hereafter referred to as self-report only). On average, the self-report only group reported higher numbers of limitations in activities, or instrumental activities of daily living, worse overall health, and more difficulty in concentrating or remembering, suggesting they are likely to be false negatives under claims-based case ascertainment method. In conclusion, claims based case ascertainment methods failed to capture some individuals with ADRD, but the magnitude of false-negative cases declined substantially in the era of ICD-10.

OUTPATIENT PHYSICAL THERAPISTS SHOULD BE COMPETENT IN CARE OF OLDER ADULTS: A TOTAL POPULATION REGISTER-BASED STUDY

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In Iceland, outpatient physical therapy (OPT) is traditionally not focused on older clients. Yet, the Icelandic population is aging as other populations in the world, and national policies endorse aging in place. The objective of this study was to explore 17 years of demographic information on OPT clients and to identify if this information reflects the total population aging. The research was built on 17 years (1999-2015) of complete data from: the Icelandic Health Insurances register with information on the total population of OPT clients (N=172071), and the Statistics Iceland register with demographic information on the total general population. The results revealed that in 1999, older adults comprised 18.3% of all OPT clients, and in 2015 it had increased to 23.5% Therefore, OPTs were 23% more likely to treat an older adult in 2015, compared to 1999 (Risk Ratio [RR] 1.23; 95% Confidence Interval [CI] 1.19-1.27). In the same time period older people became 15% more prevalent in the general population (RR 1.15; 95%CI 1.10-1.21). Linear modelling revealed a yearly 3.45% (95%CI 3.05-3.85) increase from 1999 to 2015 in the overall proportion of older OPT clients. This yearly trend, however, varied depending on age group and sex with the highest yearly increase in the ≥ 85 years old men (9.1%; 95%CI 7.90-10.35). This case of Iceland presents 17 years of continuous growth in older adults seeking OPT service. These findings reinforce an urgent need to enhance the geriatric competence of OPTs, who in their clinical practice frequently encounter older adults.

PREDICTING LIFE EXPECTANCY USING VETERANS AFFAIRS ELECTRONIC HEALTH RECORD DATA

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Electronic health records (EHRs) are a rich source of health data that could be used to create individualized life expectancy predictions to aid in clinical decision-making for long-term preventative treatments, such as cancer screening. Few previous studies have incorporated all possible predictors from the EHR. We aimed to screen and incorporate a large number of possible predictors from EHR data into a life expectancy (LE) prediction equation. Using the national Veteran's Affairs (VA) EHR databases, we identified all patients aged 50+ with a primary care visit during 2005 and assessed demographics, diseases, medications, laboratory results, healthcare utilization, and vital signs during the one year prior to the visit. Mortality follow-up was complete through 2017. We used an 80% random sample for model development and a 20% random sample for model validation. We used a Gompertz survival model with backwards selection to identify approximately 100 variables for the

final LE prediction equation. In 1,263,595 VA patients, the mean age was 68 years and the majority were male (94%) and white (87%). During 12 years of follow-up, 602,576 (47.7%) died. Of 930 predictors from the EHR, 99 were included in the LE prediction equation. Harrell's C-statistic was 0.7705 (95%CI: 0.7693, 0.7718). The model estimated 10-year life expectancy with sensitivity of 81.6% (81.4%, 81.8%) and specificity of 68.8% (68.5%, 69.1%). In conclusion, we developed an LE prediction equation from hundreds of predictors in the VA EHR with good discrimination and calibration that may help clinicians weigh the potential benefit of long-term preventative treatments.

SLEEP QUALITY AMONG OLDER WOMEN AND MEN IN THE UNITED STATES BY SEXUAL ORIENTATION

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Sleep problems may increase the risk for, and result from, other health problems and negatively impact quality of life. Lesbian, gay, and bisexual older adults report more sleep problems compared to their straight counterparts when such problems are measured in the aggregate (e.g. "one or more of four specific sleep problems"). However, scant national research has examined if specific types of sleep problems vary by sexual orientation among older adults. Using 2015-2018 National Health Interview Survey (NHIS) data, we used logistic regression to separately model five sleep problems among women 50+ and men 50+ (lesbian/gay women: n=377, bisexual women: n=142, straight women: n=33,216; gay men: n=508, bisexual men: n=115, straight men: n=25,998) as functions of sexual orientation, controlling for age, race, education, and income. Sexual minority older adults were more likely than their straight counterparts to have taken sleep medication in the past week (women AOR=2.04, 95% CI:1.55, 2.67; men AOR=1.81, 95% CI:1.36, 2.40). The only other difference by sexual orientation found for men was bisexual older men's greater likelihood, compared to straight men, of having difficulty falling asleep (AOR=2.02, 95% CI: 1.08, 3.79). Older women did not differ by sexual orientation in difficulty falling asleep, difficulty staying asleep, or waking up not feeling rested for four or more days in the past week, or meeting National Sleep Foundation recommendations for hours of sleep per night, whether lesbian/gay and bisexual women were examined together or disaggregated. Future research may examine why sleep quality only sometimes varies by sexual orientation.

USING BIG DATA FOR CLINICAL DECISION MAKING

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The current workforce is ill prepared for the rise in Americans 65 and older from 46.3 million in 2010 to 98.2 million by 2050, a national increase of 112.2 % accompanied by increasing chronic conditions. The increase in older Americans, the prevalence of those with dementia, accompanied by behavioral symptoms of dementia (BSD) is increasing. Innovative technology may alert health providers to early signs of decline in frail older adults with multiple chronic conditions. Remote monitoring in the home and community living spaces can address complex care needs for older adults. Monitoring may identify and predict deviations in a person's daily routine that herald a change in a chronic condition. We present two examples that can potentially assist in clinical decision making. The first exemplar used 24/7 sensor data to identify changes, potentially clinically significant, such that early intervention may prevent hospitalizations; the second exemplar presents the use of pattern recognition software (THEME TM) for temporal pattern analysis, to identify and quantify behavior patterns with regard to intensity, frequency and complexity, such that interventions may be individually tailored and timed. Clinical researchers and technology developers need to collaborate early in the process to consider the sources and frequency of clinical measures for meaningful predictions. One major challenge lies in the interpretation of the vast amounts of within individual data. Our insights strive to improve future interdisciplinary development of monitoring systems to support aging in place and support clinical decisions for timely and effective care for frail older adults.

VALIDATING OLDER ADULT MORBIDITY TRAJECTORIES USING MULTIPLE COMORBIDITY INDICES

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Many older adults lead healthy lives while aging, with little or no morbidity. This group has been identified as "Escapers", for escaping the 10 most common lethal diseases in older adults. "Morbidity Trajectories" (MOTRs) are a metric based on the temporal patterning of comorbidity, which is used to characterize changes in disease status as a person ages. While these trajectories have been used to identify Escapers in various populations, they are sensitive to the choice of the disease metric. This study seeks to describe the differences in MOTR scale by alternative comorbidity indices. Understanding these differences is important because of the need to validate the potential end-point in health trajectory risk scores that may be used in a clinical setting. We found that 15-19 percent of a Medicare utilizing population (n=321722) aged >= 65 between 1992 and 2012 fall into the Escaper category, where there is a consistent Quan modification Charlson Comorbidity Index (CCI) score of 0 during the entire study period. Using the vanWalraven (vW) Elixhauser Comorbidity Index modification, we found that about a third (35.2%) of the study population have a vW Elixhauser score of 0 over the span, a significantly higher portion than the CCI estimate. We will discuss this difference and the resulting varying trajectories from each of these indices. Future work includes further validation of the MOTR scale using unsupervised machine learning clustering methods, and using supervised machine learning models to identify clinical factors and early life conditions that may influence MOTR membership.