

GERIATRICS

THE PREVALENCE OF DEMENTIA AMONG VULNERABLE OLDER ADULTS ATTENDING AN URBAN PRIMARY CARE CLINIC. M. Boustanj¹, C.M. Callahan¹, F.W. Unverzagt¹, M.G. Austrom¹, S.R. Counsel¹, H.C. Hendrie¹; ¹Indiana University, Indianapolis, IN (Tracking ID #76833)

BACKGROUND: Primary care physicians provide the majority of care for patients with dementia. Although ethnic, economic, and educational backgrounds play very important roles in health care services, we are unaware of any epidemiological study that estimated the prevalence of dementia syndrome and its subtypes among vulnerable older adults in an urban primary care setting.

METHODS: Design: Cross-sectional screening program within primary care using the Community Screening Instrument for Dementia (CSI-D) followed by a confirmatory diagnostic stage for participants with positive screening. The CSI-D was specifically developed to minimize educational and racial bias in cognitive screening. Setting: 6 primary care health centers in Indianapolis. Participants: 2211 individuals aged 65 and older; 69% were women, 63% African-American, and 44% had eight years of education or less. Main Outcome measures: Dementia was diagnosed according to DSM-IV criteria by an expert panel including a geriatric psychiatrist, a neuropsychologist, a social psychologist, and a geriatrician using the results of formal neuropsychological testing and detailed information collected from patients, caregivers, and medical records.

RESULTS: Among 2,211 patients screened, 320 (14.5%) scored positive on the CSI-D and 170 (53% of the screened positive) agreed to formal diagnostic testing. The overall estimated prevalence of dementia was 6.6%. Among those who screened positive, 45.3% were found to have dementia, 26.1% had mild cognitive impairment (MCI), 23.6% were considered to have no cognitive deficit, and 5% had cognitive deficit due to mental retardation or long-standing psychiatric disorders. Among individuals diagnosed with dementia, 67% had possible or probable Alzheimer's disease, 8% had vascular dementia, 10% had mixed vascular dementia and Alzheimer's disease, and 15% had other types of dementia. The mean MMSE score was 17.6 (SD 5.2) for the dementia group, 22.6 (SD 3.2) for those with MCI, and 24.4 (SD 3.1) for those who screened positive but found to be normal.

CONCLUSION: Screening for cognitive impairment in primary care identifies patients with a diverse spectrum of cognitive deficits due to a range of neurodegenerative illnesses. A substantial proportion of patients refuse formal testing. These findings highlight the complexity of diagnosis and treatment decisions for dementia in primary care.

TIMES CHANGE: TUBE FEEDING DEMENTED PATIENTS. J. Braun¹, D. Urbauer², R.J. Beyth²; ¹Baylor College of Medicine, Houston, TX; ²Houston Center for Quality of Care & Utilization Studies, Houston, TX (Tracking ID #76193)

BACKGROUND: Patients with advanced dementia and inadequate caloric intake due to problems with chewing or swallowing have frequently been offered nutrition via a percutaneous endoscopic gastrostomy (PEG) tube. However, the use of PEG tube feeding for dementia patients is controversial since improved outcomes (survival, quality of life) have not been shown; and other goals like reduced episodes of aspiration, better wound healing and improved nutrition have also not been reached conclusively. Recent data about the use of PEG tube placement for dementia patients is not available.

METHODS: We designed a retrospective cohort study, using the Patient Treatment Files and the Beneficiary Identification Record Locator Subsystem, two large national databases of the Veterans Administration. We identified 3 cohorts of veterans aged 60 years or older using ICD-9-codes: all dementia patients discharged from a VA hospital between fiscal year 1990–2001, all patients who received a PEG tube in this time period, and all patients with

dementia and PEG tube placement (diagnosis of dementia had to precede PEG tube placement).

RESULTS: Mean age of patients with dementia and PEG (n = 6,836) increased from 74.6 years in 1990 to 77.8 years in 2001. Commonest comorbidities were cerebrovascular disease (60.02%), hypertension (58.59%), pneumonia/aspiration pneumonia (57.47%), and malnutrition (36.71%). Contrary to literature reports, we found that number and rate of PEG tubes placed in demented veterans nationally has decreased since 1997. Although PEG tube placement initially rose sharply, it peaked in 1996 (1990: n = 266, rate = 1.17%; 1996: n = 753, rate = 1.83%), and has decreased since, almost returning to the rate recorded in 1990 (2001: n = 455, rate = 1.25%). Additionally, we found that the rate and the change that occurred over time in the use of this procedure for dementia patients differ significantly by race/ethnicity. During every year of this study the rate of PEG tube placement in African Americans exceeded that in Whites (RR in 1990: 1.45, p = .0053, RR in 2001: 1.97, p < .0001), and the racial/ethnic disparity in the use of this procedure has not decreased, but rather increased over time. A logistic regression model showed that race and year affected PEG tube use in dementia patients (p < 0.0001), and that there was a race by year interaction (p = 0.002). The risk of receiving a PEG tube did not change at the same rate between black and white patients throughout the years.

CONCLUSION: Decision-making for end-of-life care for patients with advanced dementia seems to have changed during the last decade, with a reduced use of PEG tube feeding for these patients. However, the striking and increasing racial/ethnic disparities in PEG-tube use for dementia patients raise concerns about the decision-making process, and the quality of end-of-life care for minorities.

PERCEIVED PALLIATIVE BENEFIT OF MEDICATIONS AMONG HOSPICE MEDICAL DIRECTORS IS NOT UNIVERSAL. S.T. Bray-Hall¹, J.S. Kutner¹, C.T. Kossner¹; ¹University of Colorado Health Sciences Center, Denver, CO (Tracking ID #74392)

BACKGROUND: There are no established guidelines regarding the palliative benefit of medications in the hospice setting. Which medications will be continued during hospice care is often dependent upon the individual physician. The objective of this study is to better understand the reasons why physicians choose to discontinue certain medications when a patient is admitted to a hospice.

METHODS: We conducted a self-administered survey by mail and email of medical directors of hospices participating in the Population-based Palliative Care Research Network (PoPCRN). The respondents were asked background questions about their training, roles, and hospice experience. They were then given a list of 29 medications and asked to identify the most common reason they choose to discontinue each medication, if at all.

RESULTS: Of the 175 hospices surveyed, 54 medical directors have responded to date, representing 19 states and 45 hospices. The most common reason for stopping a medication, across all medications sampled, was that patients or family requested to discontinue it (30%). Consensus regarding benefit was present for only a small number of medications. Levodopa and sinemet were felt to have significant benefit, as more than 50% of respondents never stop them. In contrast, 79% of the respondents discontinue HMG CoA reductase inhibitors because there is no perceived palliative benefit. Cost predominated as the primary reason for discontinuing only erythropoietin and colony stimulating factors. Cost was noted to be a reason for discontinuing medication for only 8% of the responses. No consensus exists regarding the approach to the use of ACE inhibitors, digoxin, aspirin, anticoagulants, multivitamins, inhaled steroids, proton pump inhibitors, or amiodarone for atrial fibrillation in the hospice setting.

CONCLUSION: This study demonstrates that hospice medical directors clearly believe that some medications belong in the palliative therapeutic arsenal and others have no perceived palliative benefit. With uncertainty in benefit, patient-focused care is the deciding factor. This information may serve as a point of reference for individual practice and to improve care of dying patients and identifies key areas where a better understanding of the role of particular types of medications in the palliative setting is needed.

UNMET NEED FOR EYE CARE TREATMENT AMONG OLDER PERSONS WITH DIABETES IN FEE-FOR-SERVICE AND MANAGED MEDICARE. A.E. Brown¹, L. Jiang¹, D.S. Fong², A.L. Coleman¹, P.P. Lee³, C.M. Mangione¹; ¹University of California, Los Angeles, Los Angeles, CA; ²Kaiser Permanente Southern California, Pasadena, CA; ³Duke University, Durham, NC (Tracking ID #76941)

BACKGROUND: Older persons with diabetes are at risk for undertreatment of eye diseases such as diabetic retinopathy, cataracts, and glaucoma, particularly when there are administrative or financial barriers to seeing an eye care specialist. Compared to fee-for-service (FFS), managed care (MC) settings may enhance coordination of eye care for persons with diabetes, but some managed care practices may limit access to specialty eye care.

METHODS: We studied a random sample of MC and FFS community-dwelling Medicare beneficiaries over the age of 65 years who lived in the same zip codes in Los Angeles County. All patients had been in the same system of care for >18 months. The MC participants were enrolled in one of 11 provider groups that contracted with the same for-profit network-model Medicare managed care plan. Information on individual characteristics was obtained through patient survey. Three trained ophthalmologists masked to the patient's system of care performed the dilated eye exams and rated the need for urgent care (e.g. for elevated intraocular pressure or retinal detachment) or nonurgent care (e.g. new glasses or cataract removal) over the next 6 months. To evaluate the association between system of care and need for treatment, we constructed hierarchical regression models adjusted for age, sex, race/ethnicity, income, education, health status, supplemental insurance, duration of diabetes, and a visit to an endocrinologist or eye care specialist in the prior year.

RESULTS: We report on 418 persons with diabetes (65% response rate). MC and FFS respondents reported similar rates of dilated eye exams in the prior year (85% vs. 80%, p = 0.59) and similar rates of preexisting eye diseases, but were significantly less likely to have had

cataract surgery (23% vs. 33%, $p = 0.04$). On masked clinical exam, MC respondents were more likely to have diabetic retinopathy, cataract, or glaucoma than FFS participants (68% vs. 46%, $p = 0.0002$). Additionally, in multivariate analyses, persons enrolled in MC were significantly more likely than the FFS participants to have eye disease that required further treatment in ≤ 6 months (70% vs. 37%, $p < 0.001$).

CONCLUSION: Although elders with diabetes in these MC settings reported baseline rates of eye disease similar to older persons in comparable FFS settings, on exam they had higher rates of unrecognized and untreated diabetic and age-related eye disease. Further study is needed to identify the reasons for these observed disparities.

DEVELOPMENT AND VALIDATION OF A FUNCTIONAL MORBIDITY INDEX TO PREDICT MORTALITY IN COMMUNITY-DWELLING ELDERLY. E.C. Carey¹, L.C. Walter², K. Lindquist¹, K.E. Covinsky¹; ¹UCSF, San Francisco, CA; ²SFVAMC, San Francisco, CA (Tracking ID #76693)

BACKGROUND: Worse functional status in older adults is associated with higher rates of mortality. However, it is unclear whether self-reported functional measures can be combined into an index to stratify community-dwelling elders at differential risk of mortality. The purpose of this study was to create a predictive index for 2-year mortality based on self-reported functional measures.

METHODS: We developed and validated a functional morbidity index predicting 2-year mortality using data from the AHEAD study, a cohort of community-dwelling U.S. elders age ≥ 70 . We developed the index in 4380 subjects from the eastern, western, and central regions of the country (mean age 78, 84% white, 61% female, 10.2% overall 2-year mortality) and validated it in 2819 subjects from the southern region of the country (mean age 78, 73% white, 61% female, 12.2% overall 2-year mortality). The index relied entirely on self-reported functional measures, age, and gender. Subjects or surrogates were asked about the subject's functional independence in 5 Activities of Daily Living (ADL), 5 Instrumental Activities of Daily Living (IADL), mobility, and higher order functional tasks, such as lifting heavy objects and walking several blocks.

RESULTS: In the development cohort, six independent predictors of mortality were identified and weighted, using logistic regression, to create a point (pt) scale: male gender, 2 pts; age [76–80, 1 pt; >80 , 2 pts]; dependence in dressing, 1 pt; dependence in shopping, 2 pts; difficulty walking several blocks, 2 pts; and difficulty pulling or pushing heavy objects, 1 pt. We calculated risk scores for subjects by adding the points of each independent risk factor present. The 2-year mortality rates by risk score and C-statistic (ROC area) for both the development and validation cohorts are shown in the table.

CONCLUSION: This prognostic index, which relies solely on self-reported functional measures, age, and gender, provides a simple and accurate method of stratifying community-dwelling elders into groups at varying risk of mortality.

2-Year Mortality Rates by Risk Score

Risk Score	Development Cohort	Validation Cohort
0–2 points	75/2089 (3.6%)	59/1180 (5.0%)
3–6 points	205/1857 (11.0%)	155/1296 (12.0%)
7–10 points	139/434 (32.0%)	121/343 (35.3%)
C-statistic	0.747	0.732

INTERVENTIONS FOR THE PREVENTION OF FALLS IN OLDER ADULTS: A META-ANALYSIS OF RANDOMIZED CLINICAL TRIALS. J.T. Chang¹, S.C. Morton², L.Z. Rubenstein³, W.A. Mojica², M. Maglione², M.J. Suttrop², E.A. Roth², P.G. Shekelle²; ¹University of California, Los Angeles, Los Angeles, CA; ²RAND, Santa Monica, CA; ³VA Medical Center (11-E), Sepulveda, CA (Tracking ID #75998)

BACKGROUND: The relative effectiveness of the diverse, often multicomponent approaches used to prevent falls is not known. Despite many published randomized controlled trials, practitioners and policy makers faced with choosing an intervention to prevent falls have little quantitative information upon which to base their decisions. Thus, we quantitatively assessed the relative effectiveness of previously studied approaches to preventing falls in older adults.

METHODS: MEDLINE and other health-related databases and the reference lists from review articles and previous systematic reviews were used to identify studies. Randomized trials were included if they assessed the effects of a fall prevention intervention relative to either a usual care or control group and measured falls outcomes. Falls intervention components were classified as a multifactorial falls risk assessment with management program, exercise, environmental modifications, or education.

RESULTS: Thirty-eight studies contributed data. A random effects analysis combining all trials with risk ratio data yielded a reduction in the risk of falling (relative risk (RR), 0.89 [95% CI, 0.81–0.98]) while combining all trials with incidence rate data yielded a reduction in the monthly rate of falling (incidence rate ratio (IRR), 0.77 [95% CI, 0.68–0.87]). When we assessed the effect of individual intervention components using meta-regression, a multifactorial falls risk assessment and management program was the most effective intervention component on both risk of falling (RR, 0.80 [95% CI, 0.68, 0.95]) and monthly fall rate (IRR, 0.60 [95% CI, 0.44, 0.82]). Exercise interventions had a beneficial effect on the risk of falling (RR, 0.87 [95% CI, 0.73, 1.04]) and monthly fall rate (IRR, 0.84 [95% CI, 0.70, 1.01]), but this did not quite reach conventional statistical significance. Environmental modifications had a similar effect on risk of falling (RR, 0.95 [95% CI, 0.72, 1.25]) and monthly fall rate (IRR, 0.77 [95% CI, 0.49, 1.21]). Education did not show a statistically significant beneficial effect for either outcome.

CONCLUSION: Interventions to prevent falls in older adults are effective in reducing both the risk of falling and the monthly rate of falling. The most effective falls prevention intervention in these studies was a multifactorial falls risk assessment and management program.

EDUCATIONAL DISADVANTAGE AS A BARRIER TO FUNCTIONAL RECOVERY AFTER HOSPITALIZATION IN OLDER PERSONS. S. Chaudhry¹, R. Friedkin¹, R.I. Horwitz¹, S.K. Inouye¹; ¹Yale University, New Haven, CT (Tracking ID #75885)

BACKGROUND: While it is known that low education is associated with worse health, little is known about whether level of formal education affects recovery from illness. Seventy-five percent of older adults develop functional disabilities after hospitalization, increasing their risk of re-hospitalization, institutionalization, and death. The primary objective of this study was to assess whether education remained independently associated with functional recovery, even after controlling for other important biological and psychological factors that are presumed to be the pathways that convert social advantage into better health outcomes.

METHODS: We used data from a prospective cohort of subjects at least 70 years of age who were inpatients on the general medicine service at Yale New Haven Hospital between 1995 and 1998. Low education was defined as completion of less than high school. Covariates included race, age, sex, baseline functional and cognitive impairments, social support, depression, self-rated health, Charlson and APACHE scores. The outcome was functional decline, defined as a seven point Activities of Daily Living (ADL) score that was lower at six months than at one month before hospitalization. People who died after discharge were also considered to have declined.

RESULTS: The mean age of the study participants was 80 years (standard deviation 6.4 years), 60% were female, and 87% were white. Thirty-five% of the cohort were dependent in at least one of the ADLs one month prior to admission. Of the 882 men and women in the cohort, 41% experienced ADL decline ($N = 233$) or death ($N = 127$) at 6 months. Using binomial regression to predict the association of education with the outcome of functional decline, the unadjusted relative risk (RR) for low education was 1.34, 95% confidence interval (CI) 1.14–1.58. With the addition of demographic factors (race, age, gender), the association of low education with the outcome was relatively unchanged, with RR 1.36, 95% CI 1.16–1.60. The further addition of functional features (functional and cognitive impairments at baseline) brought the RR to 1.23, 95% CI 1.04–1.46. When psychosocial features (depression and social support) were added to the model, the RR was 1.27, 95% CI 1.07–1.49. The addition of clinical features (self-rated health, Charlson and APACHE scores) minimally changed the association of education with the outcome (RR 1.26, 95% CI 1.08–1.49).

CONCLUSION: Educational disadvantage is associated with poor functional recovery after hospitalization in older adults. The association is clinically important, statistically robust, and only modestly affected by the additional consideration of other important biological and psychological factors.

PROVIDING SELF-MANAGEMENT EDUCATION AND SUPPORT TO VULNERABLE ELDERLY ACCORDING TO GUIDELINES: IS IT FEASIBLE? D.O. Clark¹, S.R. Counsell¹, C.M. Callahan¹, T.E. Stump², A.B. Buttar¹, K.S. Bowers², G.D. Ricketts²; ¹Indiana University School of Medicine, Indiana University Center for Aging Research, Regenstrief Institute, Inc., Indianapolis, IN; ²Regenstrief Institute, Inc., Indiana University Center for Aging Research, Indianapolis, IN; ³Wishard Health Services, Indianapolis, IN (Tracking ID #76247)

BACKGROUND: Data from our team-based intervention study to improve diagnosis and treatment of common geriatric syndromes among low-income older adults provide an opportunity to explore the challenges of self-management education and support in primary care. Our objective is to determine the frequency of care recommendations requiring self-management education and support and explore patient resources/barriers for implementation of these recommendations.

METHODS: We captured sociodemographic and baseline health status data on 107 intervention patients by telephone interview. Geriatrics team recommendations based on published guidelines were documented using a web-based care management tool.

RESULTS: Study patients had a mean age of 72 years (range 65–92), 61% were African-American, and 78% were women. Out of 111 total care recommendations, 48 would require initial and 63 ongoing self-management education and support from the primary care provider. In the first 6 months of the intervention, patients had an average of 30 initial and 20 ongoing care recommendations. With an average of 3 physician visits over a 6-month period, self-management education and support at each visit would require attention to 10 initial and 20 ongoing recommendations. In regard to patient resources and barriers, baseline data showed that 82% reported $< \$10,000$ /yr household income, 34% less than 8 years of education, 10% vision too poor to read a newspaper, 52% hearing impairment, 20% clinical depression, and 48% lived alone. At least moderate interference with normal activities was reported by 38% of patients due to physical or emotional problems, and 45% due to pain. One of 3 patients reported regular assistance from a friend or neighbor and nearly 9 of 10 had access to such a person in case of need. In the six months prior to intervention, 19% reported a social worker visit and 3% a home health visit.

CONCLUSION: Among lower income older adults, self-management education and support demands on primary care providers are substantial. With considerable barriers and limited resources, lower income older adults' needs in education and support of self-management recommendations are unlikely to be met under the current health system.

PULSE PALPATION IS NOT A SENSITIVE SCREENING TOOL FOR PERIPHERAL ARTERIAL DISEASE. T.C. Collins¹, N.J. Petersen¹, M.E. Suarez-Almazor¹; ¹Baylor College of Medicine, Houston, TX (Tracking ID #75481)

BACKGROUND: Pedal pulse palpation is often the initial screen to determine the presence of arterial occlusion of the lower extremities. We seek to determine the role of pulse palpation in the diagnosis of peripheral arterial disease when compared to the more sensitive and underutilized screening tool, the ankle-brachial index.

METHODS: We screened patients 50 years and older for PAD within three primary care clinics located in the Houston VA Medical Center and the Harris County Hospital District (Houston, TX). PAD was diagnosed by an ankle-brachial index (ABI); the ratio of the systolic blood pressure in the ankle to the systolic blood pressure in the arm of < 0.9 . At each visit, pedal pulse (i.e., dorsalis pedis and posterior tibialis) palpation was performed for each leg. Of