Illness Trajectories Among Nursing Home Residents (TH318-D)

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Objectives

- Understand trajectories of illness among nursing home residents and how these differ from traditional trajectories in general populations.
- Understand how trajectories differ with comorbid conditions, independent of age.

Original Research Background: By 2020, 40% of all deaths in the United States are expected to occur in nursing homes. Trajectories of illness prior to death have traditionally been defined using four general patterns to include (a) sudden death, (b) a short period of decline, (c) long-term limitations with intermittent serious episodes, and (d) prolonged dwindling.

Research Objectives: The purpose of this study was to determine if these trajectories are observed among a cohort of nursing home residents.

Methods: Data for 324,435 residents of the Veterans Administration’s (VA’s) Community Living Centers (CLC) were extracted and analyzed within the VA Informatics and Computing Infrastructure. Data included diagnoses from 1,617,693 inpatient records; 145,575,072 outpatient visits; and 1,901,354 functional status evaluations given as the Minimum Dataset (MDS). The Barthel Index was constructed from MDS Data using nine ADLs (stair climbing was excluded). Diagnoses originally present as ICD-9 codes were converted to Charlson Comorbidity Categories (Deyo version).

Results: A total of 144 trajectories were analyzed for combinations of Charlson comorbidities and Barthel Index items. Daily likelihood ratios (probabilities) of ADL impairments were calculated for the 5-year period preceding MDS evaluation to form trajectories of decline over that period.

Four general patterns of trajectories were identified:
1. Steady decline—MI, dementia, renal failure, diabetes, peptic ulcer
2. Accelerated decline—observed in a unique trajectory for AIDS
3. Stable function—COPD, CVD, CHF, PVD
4. Overall decline with periods of recovery—metastatic cancer, rheumatologic disorders, liver disease, stroke

Conclusions: Trajectories of illness prior to death in this cohort of nursing home residents occurred in patterns distinct from those observed in other populations.

Implications for Research, Policy, or Practice: Given the lack of change in functional impairment prior to death for many common comorbid conditions, reliance on functional measures to aid in prognostication may not be sufficient.