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Paper

1087 — Stability of Health Trajectories Among Iraq and Afghanistan Veterans: Insights from Central Nervous System Medication Use

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Objectives:
To identify trajectories of comorbid health conditions for Iraq and Afghanistan war Veterans (IAV), and examine trajectory stability using pharmacy data.

Methods:
We established an inception cohort of IAV who entered VA care 2007-2009 and who had > three years of VA care through 2011. Chronic disease and comorbidities associated with deployment (mental health, pain, traumatic brain injury (TBI)) were identified using ICD9-CM codes. We identified central nervous system-acting medication (CNS) in pharmacy data and classified year 1 CNS medication count (Baseline-CNS: 0, 1-3; 4+) and change in CNS count (year 1 to year 3; CNS-Change: reduced, stable, increased count). Latent class analyses identified comorbidity trajectories, and chi-square analyses examined Baseline-CNS and CNS-Change to describe stability within each trajectory.

Results:
We found seven IAV latent classes: Healthy, Chronic disease, Minor chronic disease, Mental health, Pain, Polytrauma Clinical Triad (PCT; TBI, PTSD, and pain) and PCT+Chronic disease). There were small increases in probability of diagnoses in all trajectories from year 1-3. At baseline, IAV in the Healthy trajectory were significantly more likely than expected to receive zero CNS medications (12%) while PCT trajectories were more likely to have 4+ unique CNS medications (19%; ?2 = 31,548 df = 12; $p < .001$). Within all trajectories there was evidence of CNS-Change: 1) reduced (range: healthy 9.1%, PCT 23.5%), 2) stable (range: healthy 76%, PCT 18%), and 3) increased (range: healthy 15%, PCT 60%; ?2 = 27,844, df = 12; $p < .001$).

Implications:
These findings suggest relative stability among the healthy and chronic disease trajectories. However, the most vulnerable (PCT) appeared to have declining functional status based on increasing numbers of CNS medications prescribed. Further evaluation using measures of functional status are needed to verify this proxy measure.

Impacts:
Trajectories based on diagnoses provide one perspective of comorbidity stability, improvement, or decline over time; however, medication data provides additional insight into changing health status. These findings suggest that VA may use available data as part of a learning healthcare organization to create algorithms predicting decline and improvement that may allow identification of individual Veterans at risk for declining health. This ability may lead to specific patient-centered interventions to improve outcomes for the Veterans healthcare system.