

APHA Annual Meeting 2007

Health Care Utilization and Costs of Depressed Veterans with Comorbid Posttraumatic Stress Disorder (PTSD)

Domin Chan, MHS, PhD

Co-authors: Allen Cheadle, Gayle
Reiber, Edmund Chaney

Travel Sponsors: University of Washington, Dr. Choeng-Hoy Chung

Objective

- Among depressed primary care veterans, to evaluate the association between PTSD+ screen and
 - Health care utilization
 - Health care costs

Background

Depression

- Depression → functional impairment, loss of productivity, high health care costs

PTSD

- Predicts higher health care costs for medical & mental health care in Veterans

Depression & Comorbid PTSD

- Greater functional impairment
- PTSD+ patients:
 - more severely depressed
 - Higher risk of suicidal behavior

Significance

- Current PTSD rates among Iraq service members are 9.8-12.9%.
- PTSD rates are expected to rise.
- VA Health care spends over \$3 billion annually on mental health care.
- Few studies focused on PTSD & depression comorbidity's association with health care utilization and costs.

Study Design

- **Design:** Cross-sectional study
- **Setting:** Clinic-randomized trial of collaborative care
 - 10 VA clinic sites across 5 states
- **Data sources: Well-being Among Veterans Enhancement Study (WAVES)**
 - Utilization & cost data – VA admin. claims data
 - Patient characteristics – Baseline CATI survey
 - **Inclusion:** major depression or dysthymia
 - **Exclusion:** suicidal thoughts or bipolar disorder

Primary-Care PTSD Screen

Prins et al. 2004

- **Experienced a trauma and 3 out of 4 PTSD symptoms (in past month):**
 - Re-experiencing trauma
 - Avoidance
 - Hypervigilance - watchful/on-guard
 - Detachment/Emotional numbing
- **Sample:** 36% screened PTSD positive

Analysis

- **Utilization:**

- Outpatient & primary care visits: negative binomial regression
- Primary care depression, mental health, & MH depression: zero-inflated negative binomial regression
- Any inpatient admissions & any antidepressant use: logistic regression

- **Costs:**

- One-part generalized linearized model (glm) gamma regression with log link
- Covariates: age, male, white, college+ education, work status, living alone, chronic illness (SIC), depression, alcohol use (AUDIT-C), social support, non-VA health insurance, effort to schedule & effort to go to appt.

Patient Characteristics

Characteristic	PTSD + n=216	PTSD- n=390	P- value
Age <55	35%	14%	<.001
Age 55-64	41%	26%	<.001
Age >65	23%	60%	<.001
White	80%	90%	.001
Work status: On Disability	52%	28%	<.001
Non VA Health Insurance	27%	73%	<.001
Mean Social Support	3.54	3.83	.005
Chronic Illness (SIC)	7.0	8.3	<.001

Patient Mental Health Characteristics

Characteristic	PTSD + n=216	PTSD- n=390	P- value
Mean Depression PHQ-9	17.3	14.7	<.001
Suicidal thoughts	41%	22%	<.001
Anxiety (past 6 mos)	83%	50%	<.001
Panic (past 6 mos)	66%	22%	<.001
Mean Alcohol Use (AUDIT-C)	1.9	1.7	N.S.

N.S.= not significant

Health Care Utilization (Unadjusted)

Mean Number of Visits over past 12 months	PTSD + n=216	PTSD - n=390	P-value
Total Outpatient Care	26.2	19.9	<.001
Primary Care	4.4	4.2	<.001 ^{n.s.}
Primary Care Depression	0.3	0.2	N.S.*
Mental Health Specialty	6.9	1.7	.001
Mental Health Depression	1.1	0.5	.002 ^{n.s.}
Any Inpatient Admission	11%	9.4%	N.S.
Any Antidepressant Use	61.2	40.4	<.001

* p= .02 after adjustment for male, white, SIC, & PHQ-9.

n.s.— not significant after adjusting for male, white & SIC.

Health Care Costs

Mean Costs (\$) over past 12 months	PTSD + n=216	PTSD - n=390	Adj. Diff.
Total Outpatient Costs	4257	3173	1399*
Primary Care Costs	738	660	94*
Primary Care Depression Costs	49	30	59*
Mental Health Care Costs	1196	332	1381*
Mental Health Depression Costs	100	221	481*
All Medication Costs	1482	1148	473*
Antidepressant Costs	285	144	199*
Total Inpatient Costs	1561	1539	-3295 ^{n.s.}
Total Costs	7300	5860	2161*

* p= <.001; n.s.– not significant

Limitations

- Cross-sectional study – cannot determine causation
- **Sample:** elderly white male veterans probably exposed to combat trauma
- Limited generalizability to women/non-vets
- PC-PTSD screen did not assess trauma exposure

Conclusions

For depressed Veterans who screen positive for PTSD:

- Reported higher levels of depression, anxiety, panic & suicidal thoughts & more likely to be a minority.
- Higher utilization for:
outpatient services, mental health services,
primary care depression services
- Higher % on antidepressants
- Higher costs for:
total outpatient care, mental health services, primary
care depression services & antidepressants.

Policy Implications

- PCPs should be aware of PTSD & depression comorbidity → higher severity of emotional problems & suicidality in PTSD+ patients.
- Rates of emotional problems in returning vets from Iraq & Afghanistan 17-19%:
 - PTSD+ depression is likely to rise.
 - Health services (esp. Mental Health/Outpatient) use & costs are likely to rise
 - This could lead to even higher disability compensations
 - VA and other health systems need to plan/prepare