PACT Cyberseminar:
Improving Depression Care Following Psychiatric Hospitalization

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VA Ann Arbor Healthcare System
Poll Question 1

What is your primary relationship to VA patients with depression after they have been discharged from inpatient psychiatry?

a) Provide direct patient care
b) Oversee patient care (administrator)
c) Other clinician/administrator
d) Researcher
e) Other
Suicide Risk After Hospitalization

SMR = standardized mortality ratio

Troister, 2008
Suicide Risk Among Depressed VA Patients

Suicides per 100k py

- All time periods
- AD dose change
- AD agent change
- New AD start
- Hospitalization

Valenstein, 2009
Efforts to Reduce Suicide Risk

• Timely outpatient follow-up visit:
  VA and national standard

• High-risk list & case management:
  current VA practice

• Inpatient-based interventions:
  ongoing DoD work using CBT

• Insuring highest quality depression care:
  follow-up, medications (lithium?), and therapy
### Table 1. Demographic and Clinical Characteristics of Patients With a Psychiatric Hospitalization for Major Depressive Disorder (N = 45,587)

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Comorbid mental health conditions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Substance use disorder</td>
<td>21,183</td>
<td>46.5</td>
</tr>
<tr>
<td>Post-traumatic stress disorder</td>
<td>15,382</td>
<td>33.7</td>
</tr>
<tr>
<td>Other anxiety disorder</td>
<td>5353</td>
<td>11.7</td>
</tr>
<tr>
<td>Personality disorder</td>
<td>5272</td>
<td>11.6</td>
</tr>
<tr>
<td><strong>Mental health visit prior to hospitalization</strong></td>
<td>27,256</td>
<td>59.8</td>
</tr>
<tr>
<td><strong>Antidepressant treatment prior to hospitalization</strong></td>
<td>27,559</td>
<td>60.5</td>
</tr>
<tr>
<td><strong>Psychotherapy prior to hospitalization</strong></td>
<td>17,797</td>
<td>39.0</td>
</tr>
</tbody>
</table>
Post-hosp Treatment Indicators

• **Timely outpatient follow-up**
  → 7 or 30 days post-discharge

• **Adequate antidepressant coverage**
  → 72 out of 90 days supply (80%)

• **Psychotherapy**
  → 8 visits in 90 days
Trends in depression care following a psychiatric hospitalization for depression

- 7-day follow-up
- Psychotherapy
- Antidepressant
- Rehospitalization
Trends in depression care following a psychiatric hospitalization for depression

- 7-day follow-up
- Psychotherapy
- Antidepressant
- Rehospitalization

Year 2005 to 2010
Supporting Transitions and Improving Recovery Services
Goals:
- Assess barriers and preferences for post-hospital depression care

Survey:
- Mailed survey 2-4 weeks post-discharge
- Excluded only dementia patients
- VA Ann Arbor and Battle Creek
Table 1. Response Rate

<table>
<thead>
<tr>
<th></th>
<th>Ann Arbor</th>
<th>Battle Creek</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Eligible Mailed</strong>*</td>
<td>453</td>
<td>313</td>
<td>766</td>
</tr>
<tr>
<td><strong>Surveys Completed</strong></td>
<td>189</td>
<td>99</td>
<td>288</td>
</tr>
<tr>
<td><strong>Survey Response Rate</strong></td>
<td>41.72%</td>
<td>31.63%</td>
<td>37.60%</td>
</tr>
<tr>
<td><strong>Surveys Completed w/HIPAA</strong></td>
<td>160</td>
<td>82</td>
<td>242</td>
</tr>
<tr>
<td><strong>Survey w/HIPAA Response Rate</strong></td>
<td>35.32%</td>
<td>26.20%</td>
<td>31.59%</td>
</tr>
</tbody>
</table>
Table 3. Unmet needs for existing post-hospital services (N = 291)

<table>
<thead>
<tr>
<th>Service</th>
<th>Desired but did not receive the service</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
</tr>
<tr>
<td>Individual counseling</td>
<td>69</td>
</tr>
<tr>
<td>Housing assistance</td>
<td>47</td>
</tr>
<tr>
<td>Employment assistance</td>
<td>47</td>
</tr>
<tr>
<td>Group counseling or support group</td>
<td>42</td>
</tr>
<tr>
<td>Family or couples counseling</td>
<td>42</td>
</tr>
<tr>
<td>Review of medications</td>
<td>33</td>
</tr>
<tr>
<td>Daily intensive outpatient program</td>
<td>27</td>
</tr>
<tr>
<td>Electroconvulsive therapy</td>
<td>10</td>
</tr>
</tbody>
</table>
Table 4. Barriers to post-hospital counseling (N = 291)

<table>
<thead>
<tr>
<th>Barrier</th>
<th>Reported barrier as moderately difficult to impossible</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
</tr>
<tr>
<td>Problems with transportation</td>
<td>129</td>
</tr>
<tr>
<td>Talking about upsetting issues</td>
<td>106</td>
</tr>
<tr>
<td>Lack of energy or motivation</td>
<td>104</td>
</tr>
<tr>
<td>Physical symptoms (fatigue, pain, etc.)</td>
<td>95</td>
</tr>
<tr>
<td>Lack of available services</td>
<td>94</td>
</tr>
<tr>
<td>Daily responsibilities</td>
<td>93</td>
</tr>
<tr>
<td>Cost</td>
<td>89</td>
</tr>
<tr>
<td>Problems aren't severe enough</td>
<td>89</td>
</tr>
<tr>
<td>Means cannot solve own problems</td>
<td>79</td>
</tr>
<tr>
<td>Physical problems getting around</td>
<td>77</td>
</tr>
<tr>
<td>Don't expect it to be helpful</td>
<td>74</td>
</tr>
<tr>
<td>Having family/friends know</td>
<td>72</td>
</tr>
<tr>
<td>Heard about or had bad experiences with counseling</td>
<td>71</td>
</tr>
<tr>
<td>Having counseling in medical record</td>
<td>70</td>
</tr>
<tr>
<td>Preference</td>
<td>N</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>----</td>
</tr>
<tr>
<td>Prefer in-person counseling at hospital</td>
<td>212</td>
</tr>
<tr>
<td>Prefer counseling over the phone</td>
<td>36</td>
</tr>
<tr>
<td>Prefer counseling using internet video</td>
<td>4</td>
</tr>
<tr>
<td>chat</td>
<td></td>
</tr>
<tr>
<td>Prefer no counseling</td>
<td>22</td>
</tr>
</tbody>
</table>
Table 6. Preferences for new post-hospital services (N = 291)

<table>
<thead>
<tr>
<th>Service</th>
<th>Reported service as moderately to very helpful</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
</tr>
<tr>
<td>Increasing support from family/friends</td>
<td>203</td>
</tr>
<tr>
<td>One-to-one support from other Veteran</td>
<td>182</td>
</tr>
<tr>
<td>Home visit from VA clinician</td>
<td>114</td>
</tr>
<tr>
<td>Internet-based Veteran support group</td>
<td>64</td>
</tr>
<tr>
<td>Internet self-help program</td>
<td>60</td>
</tr>
</tbody>
</table>
STAIRS: Initial Qualitative Findings

• Patients appreciate phone calls to “check in”, want to know someone cares
  – Doesn’t matter much the discipline of the person calling as long as they have had some training in working with mental health

• Want therapy at the hospital clinic, but not necessarily every week
Peer Support Interventions

• Peers can:
  – Provide various types of social support: emotional, tangible, informational, companionship
  – Support outside and between health visits
  – Role model recovery
  – Identify red flags
  – Assist in navigating/advocating within health system
Post-hospital Peer Support

• Observational studies suggest peer support services helpful in reducing use of crisis services and readmission

• Most trials of mixed SMI population

• None of VA population

• Only 1 single-site, small RCT (N = 74), positive effect of peer support on readmission*

*Sledge, 2011
Peer Support vs. UC for Depression

**Not Blinded**
- Ayen: SMD = -1.95 (-2.87, -1.02), Weight = 9.81
- Chen: SMD = -0.71 (-1.23, -0.19), Weight = 16.06
- Evans: SMD = -0.83 (-1.44, -0.22), Weight = 14.45
- Kelly: SMD = -0.70 (-1.36, -0.03), Weight = 13.56
- Subtotal (I-squared = 48.5%, P = .121): SMD = -0.95 (-1.41, -0.49), Weight = 53.89

**Blinded**
- Dennis: SMD = -0.21 (-0.37, -0.05), Weight = 22.06
- Ong: SMD = 0.07 (-0.81, 0.95), Weight = 10.41
- Verduyn: SMD = -0.25 (-0.91, 0.41), Weight = 13.64
- Subtotal (I-squared = 0.0%, P = .815): SMD = -0.21 (-0.36, -0.05), Weight = 46.11

Overall (I-squared = 70.8%, P = .002): SMD = -0.59 (-0.98, -0.21), Weight = 100.00

*NOTE: Weights are from random effects analysis*
Peer Support vs. Grp CBT for Depression

<table>
<thead>
<tr>
<th>Author of Study</th>
<th>SMD (95% CI)</th>
<th>Percent Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Blinded</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ayen</td>
<td>0.60 (0.03, 1.18)</td>
<td>14.42</td>
</tr>
<tr>
<td>Bright (professional-led groups)</td>
<td>0.32 (-0.30, 0.95)</td>
<td>13.07</td>
</tr>
<tr>
<td>Bright (paraprofessional-led groups)</td>
<td>-0.35 (-1.11, 0.42)</td>
<td>10.22</td>
</tr>
<tr>
<td>Evans</td>
<td>-0.29 (-0.87, 0.28)</td>
<td>14.47</td>
</tr>
<tr>
<td>Kelly</td>
<td>-0.36 (-1.01, 0.29)</td>
<td>12.51</td>
</tr>
<tr>
<td>Maynard</td>
<td>1.03 (-0.06, 2.12)</td>
<td>5.95</td>
</tr>
<tr>
<td>Michielin</td>
<td>0.24 (-0.36, 0.86)</td>
<td>13.19</td>
</tr>
<tr>
<td>Subtotal (I-squared = 47.8%, P = .074)</td>
<td>0.12 (-0.23, 0.47)</td>
<td>83.82</td>
</tr>
<tr>
<td>Blinded</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Verduyn</td>
<td>-0.02 (-0.54, 0.49)</td>
<td>16.18</td>
</tr>
<tr>
<td>Subtotal (I-squared = .%, P = .)</td>
<td>-0.02 (-0.54, 0.49)</td>
<td>16.18</td>
</tr>
<tr>
<td>Overall (I-squared = 40.1%, pt = 0.111)</td>
<td>0.10 (-0.20, 0.39)</td>
<td>100.00</td>
</tr>
</tbody>
</table>

NOTE: Weights are from random effects analysis
Peer Support Implementation in VHA

• VHA has hired 800+ Peer Specialists in past 1-2 years

• VA Peer Specialists often experience role confusion and could benefit from “more training, supervision, and discussion about the content and process of their jobs”

Chinman (2008)
Post-hospital Intervention Model

PS (or IC) receives information on the patient’s status via e-mail and has access to reports via a web page. PS (or IC) receives tailored information on how to support the patient’s self-care.

CarePartner IVR Program

Patient

Fewer readmissions, improved treatment adherence and depression-related outcomes.

PS (or IC) Follow-up

MHP Follow-up

MHP receives information about the patient’s current symptoms and treatment adherence via website; urgent problems are reported by fax.

RRP

Existing Program

Peer Specialist (PS) OR Informal Caregiver (IC)

MHP can communicate with IC via telephone or during in-person patient visits. PS can additionally communicate with MHP as a member of the patient’s treatment team.

Mental Health Provider (MHP)

Patient reports information about current depression symptoms and treatment via weekly automated calls and receives immediate tailored feedback and psychoeducation.
Current Pilot Intervention

• Acceptability:
  – Out of 42 patients approached:
    • 21 chose Peer Specialist, 7 chose family/friend
    • Mean calls completed: 9

• 90-day outcomes (N = 17)
  – Change in PHQ-9: 16.7 (baseline) to 11.8
  – Readmission: 12%
Acknowledgments

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- **Research Coordinators:** Erin Miller, Jennifer Burgess, Jennifer Henry

- **Data Analyst:** Dara Ganoczy

- **Funding:** VA Ann Arbor PACT Demo Lab, QUERI
References


5. Pfeiffer PN, Ganoczy D, Bowersox NW, McCarthy JF, Blow FC, Valenstein M. Depression Care Following Psychiatric Hospitalization in the Veterans Health Administration. Am J Manag Care. 2011;17(9):E358-E64.


Reductions in Ambulatory Care Sensitive Condition (ACSC)-Related Hospitalizations among Veterans with Mental Illness seen in the VHA Patient Centered Medical Home

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Dept. of Psychiatry and Behavioral Sciences, Stanford University
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Poll Question #1

- What is your primary role in VA?
  - student, trainee, or fellow
  - clinician
  - researcher
  - manager or policy-maker
  - Other
Poll Question #2

- What, if any, is your involvement with patient aligned care teams (PACT)?
  - VA Operations
  - Physician
  - Nurse Practitioner
  - Case manager
  - Social worker
  - Mental health provider (psychologist, psychiatrist)
  - Trainee (intern, resident, postdoctoral fellow)
  - Other staff
  - Not involved with PACT
Background

- Ambulatory care sensitive conditions (ACSCs) are medical conditions thought to be sensitive to the receipt of high quality primary care
- Mental illness is associated with higher ACSC-related hospitalization rates
- Veterans have a high rate of mental illness and may be especially vulnerable
  - Depression: 13.5%
  - PTSD: 9.5%
Background

• To address the needs of Veterans with mental illness, VA integrated mental health in primary care in 2007

• In April 2010, the VA further implemented a patient centered medical home model, Patient Aligned Care Teams (PACT)

• Therefore, it is important to evaluate effect of PACT rollout on outcomes among mentally ill Veterans
Objective

To determine the association of PACT on the rate of ACSC-related hospitalizations among Veterans with depression and PTSD
Methods

- Included Veterans seen in VHA primary care between 2003Q4 to 2012Q3 (N= 8,068,030)

- ICD9 codes used to determine a diagnosis of depression (296.XX, 300.4, 311) or PTSD (309.81)
  - 1+ inpatient or 2+outpatient dx in previous year

- Observation unit: facility-diagnosis cohort-quarter level
Methods

- Interrupted time series analysis with Poisson model of hospitalizations
  - Changes in hospitalizations using a PACT indicator $= 1$ after FY10 Q3

- Control for seasonality, existing trend in hospitalizations, patient age, sex, health risk, facility size, and facility area economic climate

- Include facility-cohort level random effects for time trend and pre-PACT and post-PACT intercepts
Methods

• Predicted rate of admissions based on pre-PACT ACSC hospitalization data

• Calculated differences between observed and predicted rate of ACSC-related admissions

• Separate models:
  – Depression and PTSD
  – Veterans ≥65 y and <65 y
Table 1: ACSC-hospitalization rates among Veterans with depression

<table>
<thead>
<tr>
<th></th>
<th>&lt;65 y</th>
<th>≥65 y</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td>5.34%</td>
<td>16.19%</td>
</tr>
<tr>
<td>No Depression</td>
<td>2.68%</td>
<td>4.48%</td>
</tr>
</tbody>
</table>
Trends in ACSC-related hospitalizations
Veterans with Depression, ≥65 y

PACT Rollout

8.77%
Table 2: ACSC-hospitalization rates among Veterans with PTSD

<table>
<thead>
<tr>
<th></th>
<th>&lt;65 y</th>
<th>≥65 y</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTSD</td>
<td>4.59%</td>
<td>9.95%</td>
</tr>
<tr>
<td>No PTSD</td>
<td>3.10%</td>
<td>5.04%</td>
</tr>
</tbody>
</table>
Veterans with PTSD, <65 y

PACT Rollout

10.6%
Veterans with PTSD, ≥65 y

PACT Rollout

VETERANS HEALTH ADMINISTRATION
Discussion

- ACSC–related hospitalization rates high among Veterans with depression or PTSD

- Veterans with depression or PTSD show decreases in ACSC-related hospitalizations since PACT
  - Especially among those <65 y
Limitations

- Use of administrative data
  - Cannot determine illness severity of depression or PTSD
- Observational data limits causal inferences
- Limited to Veterans seen in primary care and patients seen in an integrated medical systems
Conclusions

- Depression and PTSD are potentially modifiable causes of ACSC-related hospitalizations

- The PACT model of patient centered medical home may result in better management of these conditions
  - In addition to VA’s PCMHI and primary care program
Questions?

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