Improving Population Mental Health Impact
The Role of Primary Care Integration

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Learning Objectives

• Define how intervention reach and effect size relate to population health impact

• Describe the components of effective primary care mental health integration models
Overview

• Why Reach Matters
• Reach & Primary Care
• Mental Health Integration Components
• Making It Work
Overview

- Why Reach Matters
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Population Impact

Percent of those in need who receive intervention

Magnitude of improvement from those who received intervention

Population Impact

Remember the denominator

Zatzick et al., 2009
## A Tale of Two Trials

<table>
<thead>
<tr>
<th></th>
<th>CBT</th>
<th>Collaborative Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target Population</td>
<td>10,000</td>
<td>10,000</td>
</tr>
<tr>
<td>Reach</td>
<td>27</td>
<td>1762</td>
</tr>
<tr>
<td>PTSD Prevention</td>
<td>50%</td>
<td>7%</td>
</tr>
<tr>
<td>Impact (cases prevented)</td>
<td>13.5</td>
<td>123.3</td>
</tr>
</tbody>
</table>

Reach and effectiveness are needed to impact a population.

Zatzick et al., 2009
Better Known Examples of Reach and Health Impact

Flouride treatment of water supply and improved dentition

Speed limit reductions & deaths due to motor vehicle accidents
Overview

• Why Reach Matters
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Example of Mental Health in the Military

★ Approaching 3 million American men & women have deployed & returned since 9/11
★ Depression & anxiety disorders are common after combat deployment (e.g., Tanielian et al, RAND, 2008)
★ Most service members with disorder do not receive adequate mental health services (e.g., Hoge et al, Psychiatr Serv, 2014)
★ Half or less of those receiving services obtain minimally adequate care (e.g., Tanielian et al, RAND, 2008)
★ Stigma and barriers reduce or delay access to needed care (e.g., Hoge et al, N Engl J Med, 2004)
PTSD, physical symptoms, primary care utilization & absenteeism

2,863 Iraq War returnees one-year post-deployment

**Graph:**
- **X-axis:** Various health indicators
  - 15+ on PHQ-15
  - Limb pain
  - Back pain
  - 2+ sick call visits/mo
  - 2+ missed work days/mo
- **Y-axis:** Percent of Soldiers

**Legend:**
- PTSD
- No PTSD

**Note:**
- Twice as many sick call visits & missed work days

**Source:**
*Hoge et al, Am J Psychiatr, 2007*

**STEPS UP**
Stepped enhancement of PTSD services using primary care
Primary Care is the ‘De Facto’ Mental Health System

Wang P, et al., Twelve-Month Use of Mental Health Services in the United States, Arch Gen Psychiatry, 62, June 2005
Systems & Access for PTSD
 Lifetime Probability of Treatment Contact

7% contact within year of PTSD onset and
12-year median delay to first treatment contact

Patients Making Treatment Contact, %

<table>
<thead>
<tr>
<th>Disorder</th>
<th>Contact Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panic Disorder</td>
<td>95%</td>
</tr>
<tr>
<td>Dysthymic Disorder</td>
<td>94%</td>
</tr>
<tr>
<td>Bipolar Disorder</td>
<td>90%</td>
</tr>
<tr>
<td>Major Depression</td>
<td>88%</td>
</tr>
<tr>
<td>Generalized Anxiety Disorder (GAD)</td>
<td>86%</td>
</tr>
<tr>
<td>PTSD</td>
<td>65%</td>
</tr>
</tbody>
</table>

GAD, generalized anxiety disorder.
How Can We Improve Mental Health Service Reach?

• Increase the reach of effective treatments
• Intensify efforts to engage those with needs
• Maximize continuity once treatment is initiated
Overview

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seventy-nine RCTs met criteria for inclusion
24,308 participants

“Collaborative care is associated with significant improvement in depression and anxiety outcomes compared with usual care, and represents a useful addition to clinical pathways for adult patients with depression and anxiety.”

Primary care and collaborative mental health care - Randomized controlled trial evidence

★ Depression and anxiety (e.g., Archer et al, Cochrane, 2012)
★ Suicidal ideation and depression (e.g., Bruce et al, JAMA, 2004)
★ Depression & chronic illnesses (e.g., Katon, et al, N Engl J Med, 2010)
★ Chronic pain (e.g., Kroenke et al, JAMA, 2015)
★ Somatic symptoms & related syndromes (e.g., Smith et al, Arch Gen Psychiatry, 1995)
★ Dementia and their caregivers (Callahan et al, JAMA 2006)
★ Hazardous alcohol use among men (e.g., Kane, et al, Drug Alcohol Rev, 2009)

STEPS UP
Stepped enhancement of PTSD services using primary care
What is Collaborative Care?

“Collaborative Care is a specific type of integrated care that operationalizes the principles of the chronic care model (E. Wagner, 2001) to improve access to evidence based mental health treatments for primary care patients.”

Principles of Collaborative Care

**Patient-Centered Collaboration.** Primary care and mental health providers collaborate effectively using shared care plans.

**Population-Based Care.** A defined group of patients is tracked in a registry so that no one falls through the cracks.

**Treatment to Target.** Progress is measured regularly and treatments are actively changed until clinical goals are achieved.

**Evidence-Based Care.** Providers use treatments that have research evidence for effectiveness.

**Accountable Care.** Providers are accountable and reimbursed for quality of care and clinical outcomes, not just volume of care.
BUT: not all programs are effective.

Approaches that don’t work:

• Screening without adequate treatment
• Referral to specialty care without close coordination: 50 % fall through the cracks
• Co-located behavioral health specialists without effective oversight or evidence-based treatments
• Lack of accountability: patients ‘fall through the cracks’ or stay on ineffective treatment for too long.
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Re-Engineering Systems of Primary Care Treatment in the Military

Defense Centers of Excellence for Psychological Health & TBI
Office of The Surgeon General, Army
Deployment Health Clinical Center
Uniformed Services University
3CM®
3 Component Model
systems-based care

PREPARED PRACTICE

CARE MANAGER

BH SPECIALIST

PATIENT

an extra resource that links patient, provider & specialist

Oxman et al, Psychosomatics, 2002;43:441-450
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Evidence-based systems approach to PTSD & depression care

- Codified hardcopy manuals
- Web-based provider training
- Military self-help materials
- PHQ-9 and PTSD Checklist used to monitor outcome
- Uses ‘FIRST-STEPS’ web registry to track treatment effects in real time
- 97 worldwide Primary Care clinics
- Screening for PTSD and depression rose from 2.5% to 93% of PC visits
- ~3.5M visits screened (2007-2013)
Implementing Collaborative Primary Care for PTSD and Depression in the Military Health System

A Pragmatic Randomized Trial with Cost & Qualitative Analyses

STEPS UP
Stepped enhancement of PTSD services using primary care

Charles C. Engel, Lisa Jaycox, and Terri Tanielian
for the STEPS-UP Trial Team

Supported by a DoD grant (DR080409) from the Congressionally-Directed Medical Research Program (CDMRP)
“Three Component” integration model

Primary Care Clinician
- Recognition, assessment, follow-up

Care Manager
- Support, adherence, measurement

Psychiatrist
- Consultation, care manager case review, safety monitoring

Patient

Oxman et al, Psychosomatics, 2002
Intervention Description

STEPS-UP Adds...

1. **Central assistance** to maximize model fidelity and scalability and to extend hours and resources for clinics
   - central program implementation assistance
   - centrally assisted care management for difficult or mobile patients
   - centrally delivered phone therapy approach
   - central program psychiatrist completes weekly case reviews with nurse care managers

2. **Ongoing care manager training in engagement** to maximize duration and continuity of follow-up
   - motivational interviewing
   - behavioral activation
   - problem solving therapy

STEPS UP
Stepped enhancement of PTSD services using primary care
3. Stepped psychosocial treatment options for primary care
   - web-based, nurse assisted self-administered CBT
   - phone-based CBT with flexible, modularized delivery sequence
   - face-to-face brief therapy with a mental health specialist working in primary care

4. Population emphasis bolstered with web-based decision support
   - produces registries that stratify risk and monitor outcomes
   - supports timely stepping of care for non-response
   - speeds time to treatment
   - increases treatment duration and continuity
STEPS-UP Three Step Intervention Protocol
Targeting PTSD and Depression

Step 1: Care Management
- Motivational Interviewing
- Symptom Monitoring & Activity Scheduling
  (computerized symptom & activity tracking)
- Psychoeducation
  (video & discussion on PTSD, Depression, treatment)

Step 2: Primary Care
- Medication via PCP
- CBT via phone by CM

Step 3: Local Specialist
- Psychiatrist / ARNP
  and/or
- Specialty Mental Health / CBT
  including Moral Injury Care

PATIENT NOT IMPROVING
AFTER 3-4 WEEKS
<table>
<thead>
<tr>
<th>Service Area</th>
<th>Usual Care</th>
<th>CACT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implementation</td>
<td>installation responsibility</td>
<td>central assist: clinical services and implementation</td>
</tr>
<tr>
<td>Clinical Screening</td>
<td>PTSD depression</td>
<td>PTSD depression alcohol mania</td>
</tr>
<tr>
<td>Nurse Case Management</td>
<td>local</td>
<td>local central</td>
</tr>
<tr>
<td>Stepped Care</td>
<td>psychoactive medications</td>
<td>psychoactive medications psychosocial therapies</td>
</tr>
<tr>
<td>Online Self Management</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>Health IT Support</td>
<td>clinical status</td>
<td>clinical status panel registry</td>
</tr>
<tr>
<td>Measurement-based Care</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>Psychiatrist Case Review</td>
<td>installation assist</td>
<td>central assist</td>
</tr>
<tr>
<td>Primary Care-based Mental Health Specialist</td>
<td>yes</td>
<td>yes</td>
</tr>
</tbody>
</table>
CACT improvements in depression & PTSD were clinically significant.

**PTSD ≥50%**

- CACT: n=73
- Usual Care: n=49

**Depression ≥50%**

- CACT: n=86
- Usual Care: n=59

*P<0.05
**P<0.01

<table>
<thead>
<tr>
<th>Month</th>
<th>Percentage of Sample (%)</th>
<th>CACT</th>
<th>Usual Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>10</td>
<td>1.25 (0.74, 2.09)</td>
<td>0.74 (0.50, 1.10)</td>
</tr>
<tr>
<td>6</td>
<td>15</td>
<td>1.55 (0.99, 2.40)</td>
<td>0.98 (0.62, 1.55)</td>
</tr>
<tr>
<td>12</td>
<td>20</td>
<td>1.62 (1.08, 2.43)</td>
<td>1.08 (0.68, 1.70)</td>
</tr>
</tbody>
</table>

**12-Month NNT**

- PTSD: 12.5 (95% CI, 6.9 – 71.9)
- Depression: 11.1 (95% CI, 6.2 – 50.5)

**Odds Ratio (95% CI)**

- >50% Improvement, PTSD
  - 0-3 Months: 1.25 (0.74, 2.09)
  - 0-6 Months: 1.55 (0.99, 2.40)
  - 0-12 Months: 1.62 (1.08, 2.43)

- >50% Improvement, Depression
  - 0-3 Months: 1.14 (0.70, 1.88)
  - 0-6 Months: 1.70 (1.11, 2.61)
  - 0-12 Months: 1.65 (1.13, 2.42)
CACT linked to improved matching of complexity to specialist referral & med management

Belsher et al, Med Care, 2016

STEPS UP
Stepped enhancement of PTSD services using primary care
CACT linked to greater number of visits across primary and specialty care

Belsher et al, Med Care, 2016
12-month participant QALYs*

* from SF-12 converted to SF-6D
12 month costs
CACT > Usual Care

$1000

$12,000
$10,000
$8,000
$6,000
$4,000
$2,000
$0

Intervention
Outpatient
Inpatient
Medication
Lost work days

Usual Care
CACT

STEPS UP
Stepped enhancement of PTSD services using primary care
Results were sensitive to our decision to include productivity costs...

<table>
<thead>
<tr>
<th>Perspective</th>
<th>Δ Cost</th>
<th>Δ QALY</th>
<th>ICER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Care</td>
<td>$2200</td>
<td>0.02</td>
<td>$110,000 per QALY</td>
</tr>
<tr>
<td>Societal</td>
<td>$1000</td>
<td>0.02</td>
<td>$50,000 per QALY</td>
</tr>
</tbody>
</table>
Core Elements of Collaborative Care

• Behavioral health case management
• Self management support
• Measurement-based care
• Population registries
• Stepped care
• Routine psychiatrist case review
• Remote/central implementation assistance
Central Assistance Helps Practices Remain In Orbit
Centrally Assisted Collaborative Telecare for Posttraumatic Stress Disorder and Depression Among Military Personnel Attending Primary Care: A Randomized Clinical Trial

Charles C. Engel, MD; Lisa H. Jaycox, PhD; Michael C. Freed, PhD; Robert M. Bray, PhD; Donald Brambilla, PhD; Douglas Zatzick, MD; Brett Litz, PhD; Terri Tanielian, MA; Laura A. Novak, BS; Marian E. Lane, PhD; Bradley E. Belsher, PhD; Kristine L. Rae Olmsted, MSPH; Daniel P. Evatt, PhD; Russ Vandermaas-Peeler, MS; Jürgen Unützer, MD; Wayne J. Katon, MD†
Overview

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• Making It Work
"The picture's pretty bleak, gentlemen. ... The world's climates are changing, the mammals are taking over, and we all have a brain about the size of a walnut."
How do we evolve into mammals?

Or

How can we truly implement effective “integrated care”?
## Scaling

### Feasibility Study vs. September 2013

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Feasibility Study</th>
<th>September 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td># Clinics</td>
<td>1</td>
<td>108</td>
</tr>
<tr>
<td># Installations</td>
<td>1</td>
<td>40</td>
</tr>
<tr>
<td># Patient Visits Screened</td>
<td>4,159</td>
<td>3,238,810</td>
</tr>
<tr>
<td># of Positive Screens</td>
<td>404 (9.7%)</td>
<td>424,042 (13.1%)</td>
</tr>
<tr>
<td># Referred to RESPECT-Mil</td>
<td>80 (19.8%)</td>
<td>65,863 (15.5%)</td>
</tr>
<tr>
<td>Engagement Rate</td>
<td>56.7%</td>
<td>65.3%</td>
</tr>
</tbody>
</table>
RESPECT-Mil

Implementation Approach

- **Micro**: Clinic level implementation
- **Meso**: Site level implementation (R-SIT)
- **Macro**: Program implementation (R-MIT)
As of September 30, 2013, the Patient Centered Medical Home - Behavioral Health Initiative was:
- Carrying out and reporting on screening for behavioral health conditions at 35 of 41 targeted installations.
- Conducting behavioral health care facilitation activities at 38 of 41 targeted installations.

Program Outcomes:
- 93.4% of primary care visits were screened.
- 98.8% of positive screens had documented suicide risk assessments.
- 64.6% of referrals were accepted.
- 74.4% of new referrals contacted within 10 days.
- 54.5% of depression patients improved.
- 63.4% of PTSD patients improved.
Benefits of Central Assistance

Suicide Assessment Monitoring

- Performed semi-annual monthly centralized monitoring of missed primary care suicide assessments by site
- Discovered one high volume installation that performed poorly
- RSIT notification, site visit, command brief
- Increased frequency of monitor to monthly
Program Monitoring

Missing Suicide Risk Assessment Rate - Ft. BRAVO

Corrective Action Taken

STEPS UP
Stepped enhancement of PTSD services using primary care
10 Key Organizational Practices

1. Formalized Partnerships (Co-location?)*
2. Population Management /Predictive Modeling*
3. Effective Communication*
4. Care Management with Relentless Follow-Up*
5. Clinical Registries for Tracking and Coordination*
6. Decision Support for Measurement-Based/Stepped Care*
7. Access to Evidence-Based Psychosocial Services
8. Self-Management as Part of a Recovery Framework*
9. Link with Community Services/Resources*
10. Data-Driven Quality Measurement and Improvement*

* = Health Information Technology-sensitive practice
Dissemination

• In the Civilian Health System
  – Capacity
  – Fidelity
  – Coordination
  – Incentives
  – Accountability
  – Culture!
Summary Points

• Collaborative care is a systems approach to behavioral health care integration

• Goal is to improve the routine the quality and outcomes of behavioral health care in medical settings

• Trials to date suggest that greater emphasis on psychosocial intervention may lead to improved outcomes

• Exclusive intervention focus in improving medication prescribing and greater sample heterogeneity appears to reduce intervention effect
Behavioral Health Integration Extends the Reach of Evidence-based Treatment
Thank You!

Questions?

Charles Engel

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