Disability Claims as a Pathway to Pain Treatment in Veterans: Screening, Brief Intervention and Referral to Treatment for Pain Management (SBIRT-PM)

Marc Rosen, MD
Steve Martino, Ph.D.
Yale School of Medicine – Department of Psychiatry
VA Connecticut Healthcare System
NCCIH/NIDA UH3 AT009758
UG3 AT012262
Disclosures

• Employees of VA and Yale University
• Research funding from NIH and VA
• Members of the NIH-DoD-VA Pain Management Collaboratory Coordinating Center (PMC3)
• The views expressed in this presentation are those of the authors and do not necessarily reflect the official policy or position of the Department of Veterans Affairs, the U.S. Government, or the PMC3
Partnership

- Compensation & Pension
- Addictions Treatment
- SUD Assessment
- VA Trial Methodology

- Motivational Interviewing
- Clinician Training and Fidelity
- Multisite Effectiveness Trials
- Implementation Science
C&P as an Intervention Opportunity

- Over half of post-9/11 Veterans treated at VA are service-connected for a musculoskeletal disorder. Comorbid substance misuse is common.
- In FY 2023, 1,453,400 awards were made for lumbosacral or cervical sprain
- Opportunity for early intervention.
<table>
<thead>
<tr>
<th>Grant-type</th>
<th>Dates</th>
<th>Grant focus</th>
<th>Therapy Delivery</th>
<th>Key Investigators</th>
</tr>
</thead>
<tbody>
<tr>
<td>R34</td>
<td>2014-2017</td>
<td>Therapy Development (efficacy)</td>
<td>Yale staff, post-doc (MacLean)</td>
<td>Anne Black, Will Becker, Robert Kerns, Carine Sakr, Ellen Edens, Ross McLean</td>
</tr>
<tr>
<td>UG3/UH3</td>
<td>2017-2024</td>
<td>Pragmatic Trial (effectiveness)</td>
<td>Yale staff West Haven hub to 8 sites in New England</td>
<td>Site Investigators, Qing Zeng (NLP), Paul Barnett (economist), Kathryn Gilstad-Hayden (stats), Kristin Mattocks (qualitative interviews), John Sellinger (pain health psych)</td>
</tr>
<tr>
<td>UG3</td>
<td>2023-2028</td>
<td>Implementation (hybrid)</td>
<td>VA MSWs and RNs in Military2VA Transition Care Program</td>
<td>M2VA leadership (Weede, Perez) and staff (Sullivan-Tibbs), Kristin Mattocks (qualitative interviews), John Sellinger (pain health psych), Gabriela Garcia Vassallo (patient simulations), Amos Turner (addiction), Ajay Manhapra (chronic pain), Ellen Edens (pain/addiction) Liam Rose (health economics)</td>
</tr>
</tbody>
</table>
Key Features

- Veterans contacted around time of C&P exam
- Motivational Interviewing-based counseling over 12 weeks
- First session delivered *in-person* (60 mins)
  - Inquire about pain and motivations for pain treatment engagement
  - Explain pain treatments at VACHS
  - Screen for risky substance use; brief intervention; referral to treatment (SBIRT)
  - Enhance motivation to engage in treatment
  - Develop change plan
- *One or Two brief* phone follow-ups (5-10 mins)
  - Enhance motivation and follow-up on change plan
Study Flow Diagram

735 Letters Inviting Participation

257 Completed Baseline Interview

156 no risky substance use

101 with risky substance use randomized

101 with risky substance use randomized

28 Pain Module only

20 completed (71%)  
43 minutes average  
(range 28 - 72 minutes)

51 SBIRT®PM Counseling

39 completed (78%)  
50 minutes average  
(range 29 - 96 minutes)

22 No Additional Treatment

39 completed (78%)  
50 minutes average  
(range 29 - 96 minutes)

Follow-up Data Collection

22/22 (100%) week 4 f/u

26/27 (96%) week 12 f/u

25/27 (93%) week 4 f/u

15/22 (68%) week 12 f/u

45/50 (90%) week 4 f/u

45/50 (90%) week 12 f/u
Study Results: Chart-Extracted VA Pain Treatment

Proportion engaged in treatment

Proportion newly-engaged in treatment
Veterans filing musculoskeletal disorder claims were hurting
  - Mean pain interference 5.0
  - 39% with risky substance use within 28 days

Veterans were receptive to SBIRT counseling around time of C&P

Counseling associated with
  - Less self-reported substance use
  - More use of VA pain services
  - No significant change in pain severity

Implications
  - C&P as a gateway to treatment
  - Benefits of early intervention targeting pain and substance use

Findings from 101 Veteran RCT

Scaling Up SBIRT-PM

VA often uses a hub-and-spoke approach to scale up innovations

- Pragmatic
- Broad reach
- VISNs, Clinical Resource Hubs, and Centers of Excellence have hub-and-spoke configurations
Next Study: Pragmatic Trial in VISN 1

Investigative Team

- Marc Rosen & Steve Martino (Co-PIs)
- Kate Gilstad-Hayden (Biostatisticians)
- Christina Lazar (Project Director)
- John Sellinger (Co-I)
- Kimberly Ross & Lisa Navarra (SBIRT-PM Counselors)
- Linda Guillette & Jessenia Medina (Research Assistants)
- Paul Barnett (Consultant for Health Economics)
Pragmatic Trial in VISN 1 Partners

- Site Investigators
  - Tu Ngo (VA Bedford)
  - Diana Higgins & Nick Livingston (VA Boston)
  - Brad Brummett (VA Central Western Mass)
  - John Sellinger (VA Connecticut)
  - Brad Schimelman & Todd Stapley (VA Maine)
  - Alicia Semiatin & Jennifer Ault (VA Manchester)
  - Thom Reznik (VA Providence)
  - Carolyn Solzhenitsyn & Paul Holtzheimer (VA White River Junction)
- Comp & Pen/VBA: Cathy Popp, Glen Gechlik, Amir Mohammad
- VISN 1 MIRECC, Mental Health Clinical Trials Network, PRIME Center
- NCCIH/NIDA
Pragmatic Trial Study Aims

• **Aim 1** - SBIRT-PM vs Usual Care
  • Primary outcome: Pain severity
  • Secondary outcomes: Number of nonpharmacological pain modalities used, pain interference, health-related quality of life

• **Aim 2** - SBIRT-PM vs Usual Care
  • Primary outcome: Number of misused substances requiring intervention (measured by the ASSIST)
  • Secondary outcome: Severity of use for individual substances

• **Aim 3** – SBIRT-PM vs. Usual Care
  • Cost-effectiveness and budget impact
Study Progress so far...

Recruitment/Enrollment
- After sending letters, we contact 64% of veterans by phone
- 8% of potential participants are randomized
- 1101 (100% of goal) have been randomized

Retention
- 12 week = 81%
- 36 week = 76%

Counseling
- 86% allocated to SBIRT received at least 1 session
- 73% allocated to SBIRT received at least 2 sessions

Sample Characteristics
- 86% male, 79% white, 14% Hispanic
- 51% w problematic substance use
- Mean PEG = 5.7 (2.0 SD)
- 18% with suicidality on PHQ-9
Publications to date...


- Rosen et al., *Access to Pain Care from Compensation Clinics: A Relational Coordination Perspective*. Federal Practitioner July 2020; 336-341.

Other findings coming your way
Which patients with pain were most impacted by COVID-19?

COVID-19 impacts on different domains rated by 2333 Veterans from 4 pragmatic trials. Veterans with higher PEG scores were more likely to have “a lot worse” impact in each domain.

Figure 3. Mean PEG score by response category for Covid questions

More pandemic impact on:
- Younger
- Black or Latino
- Female
- More educated
- Unemployed
- Screened positive for depression

Notes: PEG = Pain, Enjoyment of Life and General Activity scale; Scores range from 0 to 10 with higher scores indicating more severe pain. Results of post-hoc ANOVA Tukey-Kramer tests are shown with letters. Means not statistically different at p<0.05 share a letter; those that are significantly different do not share a letter. Error bars show 95% confidence interval around mean PEG scores.

Do Veterans with Risky Substance Use (RSU) use Distinct Pain Treatment Modalities?

- **Sample:** Veterans (N=924) who filed service-connected benefit claims related to musculoskeletal conditions and rated their pain >= 4 on the Numeric Rating Scale
- **Method:** Self-reported use of 25 different pain services in the preceding 90 days. Recent Substance Use (RSU) was identified via ASSIST cutoffs and/or nail sample toxicology.
- **Pain treatment utilization did not differ based on Risky Substance Use.**
  - Destigmatizing finding
- **Overall, the most commonly used modalities were:**
  - Over-the-counter medications (71%)
  - Self-structured exercise (69%)
  - Non-opioid prescription medications (38%)

---

Sensitivity, specificity and discordance with self-report of nail sample testing for alcohol and cannabis

- 707 of 1101 respondents mailed in nail clippings. Those with returned nails were disproportionately married, **white race**, older, and less depressed.

- False positive nails for THC-related problems were associated with being **African American**, **Hispanic**, and having had legal problems.

- Conclusions: Nail measures had low sensitivity and higher specificity. The groups who disproportionately submit positive nails/negative self-report could self-report inaccurately due to social pressures, have substance use patterns not captured by self-report, or have distinct drug metabolism.

### Table: Self-Report Risky Use on AUDIT-C

<table>
<thead>
<tr>
<th>ETG ≥8pg/mg in nail sample</th>
<th>+</th>
<th>-</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>123</td>
<td>57</td>
</tr>
<tr>
<td></td>
<td>122</td>
<td>387</td>
</tr>
</tbody>
</table>

Sensitivity = 0.5, Specificity = 0.87

High proportions of CIH costs are Community Care

- 1,068,327 Veterans had a request for a C&P examination for a back, neck, knee, or shoulder condition between 2000 and 2018.
- Most of them (799,836) received VA sponsored care in FY19. This care cost $10.9 billion (mean $13,615 per person).
- Community care was >35% of total costs for
  - Physical therapy
  - Spinal manipulation
  - Acupuncture

### Annual cost of VHA provided services

<table>
<thead>
<tr>
<th>Service Type</th>
<th>Care for musculoskeletal conditions</th>
<th>All care</th>
<th>% of care for musculoskeletal conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outpatient services</td>
<td>$1,186</td>
<td>$6,567</td>
<td>18.1%</td>
</tr>
<tr>
<td>Outpatient pharmacy</td>
<td>$436</td>
<td>$1,364</td>
<td>32.0%</td>
</tr>
<tr>
<td>Inpatient care</td>
<td>$206</td>
<td>$2,299</td>
<td>9.0%</td>
</tr>
<tr>
<td>Total</td>
<td>$1,828</td>
<td>$10,230</td>
<td>17.9%</td>
</tr>
</tbody>
</table>
Back to the main attraction...
Implementing SBIRT-PM in the VA

- Why a Hybrid Effectiveness-Implementation Study?
- Implement with whom? By whom?
- Design of Hybrid Effectiveness-Implementation Trial
- Implementation Strategy
  - Theoretical framework
  - Components of Strategy
Target Young Veterans fresh out of the military
  - Each year about 200,000 personnel leave U.S. military service
    - 51% of those seen at VHA receive service-connected disability for an MSD
    - C&P is private…need VBA-VHA liaisons to reach Veterans with private C&P exams
  - Pragmatic trial participants
    - Averaged 39 years old
    - Most had re-filed MSD claims

Have real VA clinicians deliver intervention instead of Yale-hired therapists

Nationwide roll-out, not just VISN 1

Sustainable roll-out not dependent on NIH $

Will it work if done this way?
Why an Effectiveness-Implementation Study?

- More need for outreach to Veterans at C&P
- More privatization of C&P exams.
- Best strategy to implement SBIRT-PM needs investigation
Poll Question:

Do you know about the Post-9/11 Military2VA (M2VA) Case Management Program?

No
Yes
• Every VHA medical center has a Post-9/11 Military to VA (M2VA) Team of social workers (mostly) and nurses

• M2VA contacts all separating service members and Post-9/11 era Veterans who are new to their VA health care system
  • Some separating service members get additional case management

• These case managers are uniquely situated to implement SBIRT-PM
  • No specific training in Motivational Interviewing, pain care, addiction
  • No specific organizational support for MI, pain care navigation

• M2VA national leadership wants them to learn SBIRT-PM

Implementation by Whom?
Answer: Military-to-VA (M2VA, OEF/OIF Coordinators)
Implementation by M2VA needs Relational Coordination with other Partners

Veterans new to VA

High Relational Coordination is when the arrows between workgroups have:
- Good Relationships
- Good Communication
Implementation by M2VA needs Relational Coordination with other Partners

- More privatization of C&P exams.
- More outreach to Veterans at C&P
- More involvement of M2VA Case Managers
- Requires more relational coordination
Who is Participating?

- Alaska VA
- Atlanta VA
- Columbia VA
- Durham VA
- Greater LA VA
- Hampton VA
- Illiana VA
- Long Beach VA
- Maryland VA
- North Texas VA
- Puget Sound VA
- San Diego VA
- Southern Nevada VA
- Texas Valley VA
<table>
<thead>
<tr>
<th>Group</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>M2VA Leadership, Broader Transition Care Management Teams</td>
<td>Implementers. Operational Partners. Interface with numerous other DoD and VA groups</td>
</tr>
<tr>
<td>Primary Care</td>
<td>Pain care goes through primary care. Sites vary on how much they use M2VA input</td>
</tr>
<tr>
<td>Care-in-the-Community Programs</td>
<td>Pain care pathways vary by site, some sites provide care in the community instead of on-site</td>
</tr>
<tr>
<td>VHA Pain Care Apparatus</td>
<td>Recruiting PMOP coordinators to be internal facilitators. Research vs. Clinical Care role.</td>
</tr>
<tr>
<td>Research Community</td>
<td>Health Services Research, PRIME Center, MIRECC, Painiacs</td>
</tr>
<tr>
<td>Addictions</td>
<td>OIG report on need for OUD treatment in recently separated military personnel. Increase use of non-opioid pain treatments</td>
</tr>
<tr>
<td>Veterans</td>
<td>Veterans Engagement Board</td>
</tr>
<tr>
<td>VHACO Patient Centered Care and Cultural Transformation</td>
<td>Increasingly the pathway to complementary/alternative pain care</td>
</tr>
<tr>
<td>VBA Medical Disability Examination Office and Contracted Exams</td>
<td>Performance Analysis and Integrity provides C&amp;P claimant lists. Case finding for intervention.</td>
</tr>
</tbody>
</table>
Implement to whom?
Age of Veterans with M2VA case management separated in the past year

<table>
<thead>
<tr>
<th>Sex</th>
<th>Uniques</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>8,802</td>
<td>22.1%</td>
</tr>
<tr>
<td>M</td>
<td>31,009</td>
<td>77.9%</td>
</tr>
<tr>
<td>Totals</td>
<td>39,811</td>
<td>100%</td>
</tr>
</tbody>
</table>

Avg Age: 32.6, Min: 18, Max: 70
Hybrid Effectiveness-Implementation Trial Study

- Implementation Clinical Trial components
  - Intervention: SBIRT-PM
  - Implementation Strategy: Implementation Facilitation
  - Theoretical Framework for Implementation: Relational Coordination

- Study Design:
  - 28 sites in 2 cohorts randomized to
    - SBIRT-PM Training or
    - SBIRT-PM Training plus Implementation Facilitation

- Hybrid Type 2 Effectiveness-Implementation Clinical Trial with two primary aims
  - Coprimary Aim: Determine effectiveness of an implementation strategy
  - Coprimary Aim: Determine effectiveness of a clinical intervention
• 1 year to plan the implementation in collaboration with the Post-9/11 M2VA Case Management Program
• 4 years to run a 2-cohort (14 sites each) staggered, cluster randomized, type 2 hybrid trial
• Within cohorts, sites randomized to Training or Training plus Implementation Facilitation
• 1848 Veterans enrolled in an observational study with assessments at baseline, 3 months, 9 months,
• 3-part formative evaluation

Randomization to Implementation-Facilitation:

<table>
<thead>
<tr>
<th>Cohort</th>
<th>Sites</th>
<th>Task</th>
<th>UG3 Planning Phase</th>
<th>UH3 Research Execution Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Year One</td>
<td>Year Two</td>
</tr>
<tr>
<td>1</td>
<td>1-7</td>
<td>Formative Eval</td>
<td>1-3 4-6 7-9 10-12</td>
<td>1-3 4-6 7-9 10-12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Training + IF</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Recruit</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Follow-up</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>8-14</td>
<td>Training Only</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Recruit</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Follow-up</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>15-21</td>
<td>Formative Eval</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Training + IF</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Recruit</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Follow-up</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>22-28</td>
<td>Training Only</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Recruit</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Follow-up</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Study Aims

- **Implementation Aim**: Training as Usual vs. Implementation Facilitation
  - Primary implementation outcome will be the proportion of participants who receive any SBIRT-PM (Reach).
  - Other implementation outcomes:
    - Proportion of case managers who receive training in SBIRT-PM and proportion of those trained who used SBIRT-PM with at least three participants (Adoption)
    - Integrity of case managers’ use of Motivational Interviewing in SBIRT-PM sessions (Implementation)
    - Qualitative analyses of implementation process.

- **Clinical Aim**: Training as Usual vs. Implementation Facilitation:
  - The primary clinical outcome is the PEG measure of pain.
  - Secondary outcomes: ASSIST-3 measure of substance use (with biochemical verification of alcohol report using fingernails)
  - EHR-derived number of non-pharmacologic pain management services used

- **Cost Aim**: Cost-effectiveness and budget impact of implementation facilitation relative to training-as-usual
Virtual Experiential Workshop for M2VA staff

- Motivational Interviewing as “a way of doing what you do”
- Description of VA approach to pain care
- Screening for substance use
- Integrate motivational interviewing approach to address pain and substance use and engage Veterans in multimodal pain care/SUD services during M2VA encounters
- 8 hours over 2 days
- Multiple offerings across time zones
Post-Workshop Simulated Patient Encounters

- 8 cases involving recently separated Veterans with musculoskeletal disorders, service-connected ratings, chronic pain, and in some cases problematic substance use
- Cases vetted by the CORE Veterans Engagement Panel
- Hiring 8 Veterans who will be trained to enact the simulations
- Performance feedback from actors to case managers
- One baseline SP encounter following workshop followed by up to 7 follow-up SP practice encounters during 21-month implementation phase (opportunity once every 3 months)
Justin is a 25-year-old Coast Guard Veteran

- Left the military 11 months ago
- Worked as a Damage Controlman maintaining vessel systems
- Chronic pain resulted from an injury in 2018
  - A swell crashed into his cutter (boat) dropping him hard to the floor
  - Leg trapped in a door that crashed closed
  - Muscle injuries, no fractures
- Pain persisted
  - Briefly prescribed oxycodone but stopped due to side effects (light-headedness, constipation, and dry mouth)
  - Pain is 4/10 on most days but pushes to a 7 or 8 when taxed at work (contractor)
- Received a 50% service-connection rating for multiple musculoskeletal disorders involving his back, leg, and shoulder
External Facilitation Team consisting of experts in pain care, addiction treatment, case management, implementation facilitation, and motivational interviewing.

Internal Facilitators ideally will be PMOP Coordinators at each site
Simulated patients call case managers for training sessions...

Maria Gabriela Garcia Vassallo, M.D.
Hi Steve.

All right.

And then thank you for talking to me today. So I want to tell you a little bit about the pain study and then we'll get talking you know about your pain. Um so um the saw when the counselors working on the pain study today what we're gonna do is we're gonna be talking about your pain. Um possibly pain services. Um and that if you decide that you may want to pursue services that that's something we can absolutely talk about. We're also gonna do a little bit later to go. I'm gonna do a substance use assessment. Um and that really is just to get a sense of you know if you know use any substances and um always more specific questions about that legal call. Okay. Um we're gonna have four goals in total including today. And um and then um we will um and then we will um we will just continue the conversations around pain management at pain services.
LYSSN
Software Using Artificial Intelligence to Train M2VA Case Managers

Transcript

00
8:20
16:40
25:00

Caseworker
Patient

General
MI
CBT

Talk Time
41% Caseworker
59% Patient

Questions
25% open
75% closed

Reflections
4.3 Reflections
for every Question

Reflections
28% of all Caseworker statements
LYSSN
Software Using Artificial Intelligence to Train M2VA Case Managers

Overall MI Fidelity 5

MI Non Adherent Behaviors 1%
1 Advise

Global Ratings
Empathy 3.3
Collaboration 2.7
Veterans seeking compensation for MSD
- Are numerous (half of post-9/11 VHA patients)
- Have high pain severity and high rates of comorbidities
- Usually attended proffered counseling
- Appear to benefit from the counseling
  - More pain service use
  - Other studies have found benefits of MI and patient care navigation approaches

Implementation work requires close work with key partners
- NIH/NCCIH
- VBA
- Military 2VA Transition Care Managers
- CORE Veterans Engagement Panel
- Comp and Pen services
- Primary Care
- Pain care providers/PMOP
- Addiction/Mental Health providers

Project combines quantitative and qualitative science and implementation work science work
- Relational Coordination framework driving mixed methods formative evaluation and implementation facilitation strategy
- Primary test is about effectiveness of implementation strategy
- Controlled data: RCT data, costs of implementing SBIRT-PM under both implementation strategies
Questions or Comments

Marc.Rosen@yale.edu
Marc.Rosen@va.gov

Steve.Martino@yale.edu
Steve.Martino@va.gov