Enhancing Evidence Based Assessment and Treatment of Substance Use Disorders in Adolescents and Adults

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DMHA
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3 Pronged Approach: SAMHSA Approved Plan

1. Reduce barriers to evidence based care: LOCI
2. Implement MET-CBT
3. Implement CAT-SA Assessments
Part 1: Reduce Barriers to EBP
Implementation: LOCI
Leadership and Organizational Change for Implementation

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Why LOCI (lō-sī)

- A large proportion of EBP implementation efforts fail
  - After training, EBPs no longer used
  - EBPs used, but not well enough to get results
  - Poor alignment of system, service organizations, and clinic leadership
EPIS is Our Implementation Framework

• Focused on Inner Context and Preparation and Implementation Phases of EPIS Framework

**EXPLORATION**

**OUTER CONTEXT**
- Sociopolitical Context
- Funding
- Interorganizational networks
- EBT Fit
- Internet use
- Insurance availability

**INNER CONTEXT**
- Organizational characteristics
- Individual adopter characteristics
- EBT fit with client characteristics
- Fiscal viability

**PREPARATION**

**OUTER CONTEXT**
- Sociopolitical
- Leadership at policy level
- Funding
- Interorganizational networks
- Availability of EBT materials

**INNER CONTEXT**
- Organizational culture and climate
- Leadership
- Staffing and staff characteristics
- EBT Fit
- EBT Adaptation
- Fiscal viability & resources
- Medication dose control
- Training availability

**IMPLEMENTATION**

**OUTER CONTEXT**
- Sociopolitical
- Funding
- Intervention developer engagement
- Leadership
- Interorganizational networks
- External ratings/report cards

**INNER CONTEXT**
- Organizational culture and climate
- Leadership
- Staff attitudes to EBT
- Individual adopter characteristics
- Incentivizing providers
- Fiscal viability
- Fidelity monitoring & support

**SUSTAINMENT**

**OUTER CONTEXT**
- Sociopolitical
- Funding
- Leadership

**INNER CONTEXT**
- Organizational culture and climate
- Training
- EBT fit
- Fidelity monitoring/support
- Staffing
- Child & parent outcomes
- Fiscal viability
- Technology supported practice
What is LOCI (lō-sī)

• Leader Development
  
  • Usually focuses on top executives
  
  • First-Level leaders interact directly and can influence staff
  
  • Leaders at multiple levels can create organizational climate to support EBP
MI Implementation Success

VS

Executives  Supervisors  Counselors

Counselors  Supervisors  Executives

Poor Implementation
Impact of LOCI on Leadership, Implementation Climate, and Outcomes

- SYSTM/DMHA-LEVEL STRATEGY
- ORGANIZATIONAL-LEVEL STRATEGY
- CLINIC-LEVEL LEADERSHIP
- IMPLEMENTATION CLIMATE
  - EBP ATTITUDES
  - IMPLEMENTATION CITIZENSHIP
    - EBP Quality
    - EBP Fidelity
  - Patient Outcomes

Clinician

LOCIC

CLINIC

CMHC

DMHA
What is LOCI (lō-sī)

• Developing leaders and climate for EBP implementation takes time, timing, and ongoing support
  • DMHA Strategies
  • CMHC Strategies
  • CLINIC level leader training
  • + coaching
  • + org strategy
LOCI Leadership Condition

**Organizational Strategy**
- 4 Org. Strategy Meetings (OSMs)
  - Monthly OSM Check-in calls
  - Agency wrap-up to conclude project @ 16-months

**LOCI Condition (12-months)**
- Didactic Leadership Training
  - 2-day in-person LOCI leadership training
  - Two 1-day in-person leadership booster trainings
  - Graduation

**Data Driven 360-degree Assessments**
- 5 web-based surveys assessing climate & leadership
  - Completed by counselors, supervisors, & executives
  - Occurs at baseline, 4-, 8-, 12-, & 16-months

**Leadership Coaching**
- Weekly one-on-one coaching calls with LOCI trainer
- Monthly group collaborative call with other LOCI leaders
Sample LOCI Timeline

<table>
<thead>
<tr>
<th>Pre-Training</th>
<th>Month 1</th>
<th>Month 2</th>
<th>Month 3</th>
<th>Month 4</th>
<th>Month 5</th>
<th>Month 6</th>
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</thead>
<tbody>
<tr>
<td>Assessment</td>
<td>MI Training</td>
<td>LOCI Training</td>
<td>OSM*</td>
<td>Individual Coaching Calls and Monthly Group Calls</td>
<td>OSM Monthly Check-In Calls</td>
<td>Follow Up Training</td>
</tr>
<tr>
<td>Assessment</td>
<td>OSM*</td>
<td>Assessment</td>
<td>OSM*</td>
<td></td>
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<td></td>
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</tbody>
</table>

Month 7 to Month 12:

<table>
<thead>
<tr>
<th>Month 7</th>
<th>Month 8</th>
<th>Month 9</th>
<th>Month 10</th>
<th>Month 11</th>
<th>Month 12</th>
<th>Month 16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual Coaching Calls and Monthly Group Calls</td>
<td>OSM Monthly Check-In Calls</td>
<td>Follow Up Training</td>
<td>OSM Monthly Check-In Calls</td>
<td>Graduation</td>
<td>OSM*</td>
<td>Agency Project Wrap-up</td>
</tr>
<tr>
<td>Assessment</td>
<td>OSM*</td>
<td>Assessment</td>
<td>Assessment</td>
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</tbody>
</table>

*OSM = Organizational Strategy Meeting
TEAMS

TRANSLATING EVIDENCE-BASED INTERVENTIONS FOR ASD: MULTI-LEVEL IMPLEMENTATION STRATEGY

LOCIC NORWAY

Norway

Counties

Old
- Akershus
- Bratsberg
- Buskerud
- Finnmarken
- Hedmarken
- Jarmo
- Kristians
- Lakse og Mandal
- Nordre Bergenshus
- Nordre Trondelag
- Nedenes
- Nordland
- Romsdal
- Sande Bergenshus
- Sande Trondelag
- Smaalenenes
- Stavanger
- Tromsø

New
- Akershus
- Telemark
- Buskerud
- Finnmark
- Hedmark
- Vestfold
- Oppland
- Vest-Agder
- Sogn og Fjordane
- Nord-Trøndelag
- Aust-Agder
- Nordland
- More og Romsdal
- Hordaland
- Sør-Trøndelag
- Østfold
- Rogaland
- Tromsø

Municipal Counties

- Kristians
- Bergen

- Oslo
- Bergen
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Part 2: Implement MET-CBT
MET + CBT

- MET=Motivational Enhancement Therapy
- CBT=Cognitive Behavior Therapy
- Manualized interventions: FREE
- Typically 12 weeks of sessions
- Strongest data supporting its efficacy of any SUD intervention
- Should be combined with MAT, peer recovery coaching, contingency management, case management
- Applies to a myriad of drugs of abuse
- Well studied in youth and adults
Implementation + Fidelity Plan

• Year 1: 12 CMHCs
• Year 2: 12 CMHCs
• Each year staff are paid to attend 16 hours of training, expenses covered
• Train the trainer
• Attend Zoom call every other week for supervision and fidelity monitoring (divided into small teams), time is covered
• GOAL: EVERY CLIENT WITH A SUD IS ENROLLED IN HIGH FIDELITY MET/CBT
Part 3: Implement CAT-SA Assessment
Assessment Challenges in Behavioral Health

• How do you quickly and effectively assess behavioral health problems?

• How do you assess multiple, correlated domains?

• How do you do it with limited staff resources?

• How do you do it with limited patient burden?
What is Computer Adaptive Testing (CAT)?

Imagine a 1000 Item Math Test
What is the CAT-MH™?

- The CAT-MH™ is a computerized adaptive test (CAT) based on a multidimensional item response theory.

- Developed by Robert Gibbons (Univ. of Chicago) and David Kupfer (Univ. of Pittsburgh).

How Does the CAT-MH™ Work?

- Administer a question with medium severity.
- Estimate severity based on the response to the question (symptom).
- Select the next most informative question out of the remaining symptoms-item questions.
- Stop when we reach the desired precision of measurement (e.g. 5 points on a 100 point scale).
- For example, an average of 10 adaptively administered depression items maintains a correlation of $r \geq 0.95$ with the 400 item test score.
Measurement versus Diagnosis

CAD-MDD – Decision Tree

In Four ITEMS:
Sensitivity = 0.95
Specificity = 0.87

Gibbons et.al. JCP, 2013
# What can the CAT-MH™ Measure?

<table>
<thead>
<tr>
<th>Adult (English &amp; Spanish)</th>
<th>Perinatal (English &amp; Spanish)</th>
<th>Child &amp; adolescent (parent &amp; child ratings, ages 7-17)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression*</td>
<td>Depression*</td>
<td>Depression</td>
</tr>
<tr>
<td>Anxiety*</td>
<td>Anxiety*</td>
<td>Anxiety</td>
</tr>
<tr>
<td>Mania/Hypomania*</td>
<td>Mania/Hypomania*</td>
<td>Mania/Hypomania</td>
</tr>
<tr>
<td>Suicidality*</td>
<td></td>
<td>Psychosis</td>
</tr>
<tr>
<td>Substance Abuse*</td>
<td></td>
<td>Functional impairment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Quality of Life</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PTSD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Functional status and well being (Thyroid Cancer Survivors)</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Completed, validated and commercially available today</strong></td>
</tr>
</tbody>
</table>

* Completed, validated and commercially available today
Why is this So Important?

- Emergency Department University of Chicago
  - 1000 patients without a psychiatric indication
  - CAT for depression, diagnosis, and suicidality
  - Average of 2 minutes each

- 22% MDD positive screens (>90% confidence)
- 7% MDD Positive + moderate or severe
  - 300% increase in ED visits in previous year
  - 400% increase in hospitalizations in previous year
- 3% suicide-screen positive (ideation + intent or plan)

- Primary Care Spain and US Latino Samples (n=1000)
  - 25% MDD positive screens (>90% confidence)
  - 9% MDD Positive + moderate or severe CAT-DI
Ongoing Funded Work in EDs

- **Substance Abuse** (e.g., validate measure)
  - Massachusetts General Hospital, Boston Medical Center in Boston, University of Southern California Hospital, Fundación Jiménez Díaz in Madrid, & Hospital Vall d’Hebron in Barcelona

- **Suicidality in Adults** (e.g., validate measure)
  - University of Chicago & the University of Massachusetts

- **Suicidality in Youth** (e.g., validate and develop risk calculator)
  - University of Pittsburgh Medical Center & University of Michigan

- **Anxiety** (e.g., to differentiate panic attacks from cardiac event)
  - University of Illinois at Chicago
Advantages of the CAT-MH™

- Can dramatically increase precision of measurement while eliminating clinician burden and minimize patient burden.
- Quickly obtain diagnostic information comparable to semi-structured interview.
- Can assess multiple domains quickly and effectively.
- Receive scores, diagnoses, and estimates of the precision/confidence immediately.
- More reliable than standard assessments.
- The same person gets different items upon repeat testing, reducing response bias.
- The CAT-MH™ is cloud-based and can be used anywhere.
What are the limitations of the CAT-SA?

• Doesn’t break down SUDs according to diagnoses, just gives probability of general substance use disorders.
• What is needed to enhance this: Compare ”gold standard” assessment to revised CAT-SA
• Details being confirmed: Likely free access to full suite for IN CMHCs.
• Select people (n=250) receive both FREE telemedicine gold standard assessment and CAT-SA
Select Uses/ Users of the CAT-MH™

- UCLA Grand Challenge
  - Screen all undergraduates at UCLA and triage to iCBT
  - Screen 1.8 million to develop a Registry of 100,000 patients
- University of Chicago
  - Emergency Medicine – Depression and suicide risk
  - Integrated Primary and Behavioral Health Care
- Rush University Medical Center
  - Orthopedic Surgery – Does depression lead to poor outcomes?
- NorthShore University Health Systems
  - Perinatal depression screening and follow-up
- Cook County Health and Hospital Systems
  - Screen all inmates in Bond Court and the Cook County Jail
- Veteran’s Administration/Department of Defense
  - Develop new PTSD scale and further validate suicidality scale
- State of Tennessee
  - Foster Care, Juvenile Justice, Detection Centers – 300 case workers
- Indiana University
  - Assessment of large cohort in Precision Medicine Grand Challenge
  - Discussions with other agencies, such as Court Systems