Alliances to Disseminate Addiction Prevention and Treatment (ADAPT):

A Statewide Learning Health System to Reduce Substance Use among Justice Involved Youth in Rural Communities

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Outline

• Topic: Cross-system collaboration and implementation
• Population: Youth involved in the justice system
• NIH Effort: JCOIN initiative
• Project: ADAPT
  • Learning health system
  • Examples of linked data for Cascade improvement
Model of Organizational Social Context

- Culture
  - Psychological climate
    - Work attitudes
      - Work behavior
    - Organizational climate
      - Work attitudes
    - Psychological climate
      - Organizational climate
  - Structure

- Organizational properties
  - Individual and shared perceptions
    - Work performance

- Work performance
  - Work behavior
Juvenile Justice System

- Punitive
  - Culture
  - Psychological climate
  - Work attitudes
- Flexible
  - Structure
  - Organizational climate
  - Work behavior
- Diversion
  - Organizational properties
  - Individual and shared perceptions
  - Work performance

Behavioral Health System

- Healing
  - Culture
  - Psychological climate
  - Work attitudes
- Rigid
  - Structure
  - Organizational climate
  - Work behavior
- Retention
  - Organizational properties
  - Individual and shared perceptions
  - Work performance
Juvenile In-Justice - Richard and Leela Cyd Ross
Juvenile Justice Structure

- Delinquent youth in Marion County

70,000 youth 13-18
Juvenile Justice Structure

- Delinquent youth in Marion County

- 70,000 youth 13-18
- 9,994 youth arrested (14%)
Juvenile Justice Structure

• Delinquent youth in Marion County

70,000 youth 13-18

9,994 youth arrested (14%)
1,390 youth detained (2%)
Juvenile Justice Structure

• Delinquent youth in Marion County

70,000 youth 13-18

- 9,994 youth arrested (14%)
- 1,390 youth detained (2%)
- 254 youth incarcerated (0.3%)
Juvenile Justice Structure

• Delinquent youth in Marion County

70,000 youth 13-18

- 9,994 youth arrested (14%)
- 1,390 youth detained (2%)
- 254 youth incarcerated (0.3%)
- ~200 youth waived (0.2%)
Disproportionate Minority Contact at Justice System Transitions

Number of Youth

Arrest (47.5% Black) | Detention (52.5% Black) | Juvenile Prison (58.5% Black) | Transferred to Adult Court (68.5% Black)

White
Black

Early End Criminal Justice Involvement → Deep End Criminal Justice Involvement
Substance Use of Detained Youth

- Detained youth
  - ~50% of detained youth meet criteria for a substance use disorder
  - ~10% have a comorbid mental health and substance use disorder
- Youth in general population
  - ~10% meet criteria for substance use disorder

- Generally, treatment for adolescents with SUDs has been found to be effective for reducing SU
- However, very few youth in criminal justice system utilize services
- SUD is a consistent predictor of recidivism
Indiana and Substance Use Treatment

Opioid crisis
• Indiana has 14th highest rate of drug overdose
• More than 60% overdoses attributed to opioids
• Rural jurisdictions have highest rates

Indiana is 46th worst for access to behavioral health/addiction care
• Rural counties lack workforce development
Justice Community Opioid Innovation Network (JCOIN)

Lori Ducharme, Ph.D.
JCOIN Science Officer
National Institute on Drug Abuse

https://heal.nih.gov/research/research-to-practice/jcoin
Justice System Responses to the Opioid Crisis
Missed Opportunities to Improve Public Health & Public Safety

- >10M arrested & 2M incarcerated annually
- 17-19% of inmates have used opioids; < 1% receive MOUD
- <5% of jails offer MOUD to inmates
- 13x risk of dying of a drug overdose during re-entry
- MOUD during incarceration cuts mortality by up to 75%
- 95% return to community; 4.7M on probation or parole
- Justice-referred patients are ~1/10 as likely to receive MOUD
- Many drug courts or probation officers prohibit MOUD
JCOIN Hubs: Protocols and Themes

**STATE POLICY ROLLOUTS**
- **BAYSTATE (MA)**: Eval of new state policy mandating MOUD in jails
  - Jail (7)
- **NYSPI (NY)**: Practice guidelines / state impl strategy for opioid court model
  - Drug Court (10)

**YOUTH / PREVENTION**
- **IUPUI (IN)**: Learning health systems + opioid care cascade in juvenile justice
  - Juvenile Justice (8)

**CASE MANAGEMENT / PEER NAVIGATION**
- **U. of CHICAGO (IL)**: Recovery case management + harm reduction
  - Jail (4) / Prison (2)
- **CHESTNUT (IL)**: Adaptive version of Recovery Management Checkups
  - Jail (6)
- **U. of KY (KY)**: Telehealth / MOUD engagement for women
  - Jail (9)
- **YALE (CT, MN, NY, NC, PR)**: Primary care + CHWs for OUD treatment engagement
  - Jail (6)

**MOUD COMPARATIVE EFFECTIVENESS TRIALS**
- **NYU SOM (NY, CT, DE, NH, OR)**: XR-Naltrexone vs. XR-Buprenorphine (Sublocade)
  - Jail (5)
- **FRI (MD)**: XR-Naltrexone vs. XR-Buprenorphine (CAM2038/Brixadi)
  - Jail (10)

Organizational intervention + client-level intervention
Alliances to Disseminate Addiction Prevention and Treatment (ADAPT)

A Statewide Learning Health System to Reduce Substance Use among Justice-Involved Youth in Rural Communities
ADAPT Purpose: Improve the Substance Use Disorder Care Cascade

Justice-Involved youth who need evidence-based (i.e., quality) addiction services are not getting access to or completing care.
Substance Use Disorder Care Cascade:

Justice-involved individuals navigate between two systems of care, but it is unclear which is responsible for the handoff.
Existing Biases → Polarized JJ and CMHC Agencies

• JJ representatives report that CMHCs don’t hold clients accountable and are too “soft” with the evidence-based recovery approach

• CMHC representatives report the JJ system is too punitive for adolescents in need of treatment, even though JJ may be trying to incorporate treatment
Juvenile Justice

• Reported readiness to implement screening practices (ORIC Mean = 4.1)
• Organization focused on providing EBP services (Focus on EBP Mean = 4.5)
• Expressed worry that CMHC would not have capacity to take referrals

Community Mental Health

• High sense of focus on EBP (Mean = 4.1) and sense that organization was ready to implement EBP (Mean = 4.0)
• Therapist worries about time
• Case manager excitement about being involved in more clinical work, administrator excitement about utilizing case manager time
ADAPT: Depolarization to Improve the Care Cascade

Juvenile Justice System
- Flexibility & autonomy
- Focus on diversion

Behavioral Healthcare System
- Formalized processes
- Emphasis on patient privacy and care retention
Alliance Building:

Generate joint local solutions
Communicate and address roles and goals (see below)
Learn about “black box” of referral

<table>
<thead>
<tr>
<th>Juvenile Justice</th>
<th>Community Mental Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>• High flexibility &amp; autonomy</td>
<td>• Formalized daily processes, little independence</td>
</tr>
<tr>
<td>• Focus on diversion</td>
<td>• Focus on care retention</td>
</tr>
<tr>
<td>• “CMHCs are like battle ships. The JJ system is like a speedboat, so it’s just a difference in how we move about and navigate care and treatment.”</td>
<td>• Funding requirements for multiple agencies</td>
</tr>
<tr>
<td></td>
<td>• Concern about time –</td>
</tr>
<tr>
<td></td>
<td>• “The therapist time [is] not easy to come by</td>
</tr>
<tr>
<td></td>
<td>... So devoting an extra hour a week [to regular meetings] might be a challenge.”</td>
</tr>
</tbody>
</table>
ADAPT: Learning Health System

• “A continuously learning health system in which science, informatics, incentives, and culture are aligned for continuous improvement and innovation, which best practices seamlessly embedded in the delivery process and new knowledge captured as an integral by-product of the delivery experience.” Institute of Medicine
ADAPT: Learning Health System

- Continuous quality improvement
- Core principles
  - Focus on systems
  - Data-driven
  - Collaborative
  - Empirical testing done locally
- Rarely employed outside of hospital/healthcare setting
- Evidence on effectiveness is lacking
- “Learning system of care” – (Blanco et al., 2020)
ADAPT: Learning Health System

- SUD specific
- Review local Cascade data to visualize gaps in care
- Tailor solutions to local needs
  - Screening at intake
  - Improve referral processes for diversion/informal probation
  - Connection to care (Peer recovery coaches; navigators, caseworkers, etc.)
  - Brief substance use interventions
  - Comprehensive SUD treatment
Plan/Do/Study/Act
ADAPT Specific Aims

**AIM 1: Implement LHS alliances between JJ agencies and CMHCs.**
We will establish LHS alliances: novel, collaborative partnerships between JJ agencies and CMHCs.

**AIM 2: Generate and track local solutions to address gaps in the Cascade for YJJ in rural Indiana counties.**
Quantifying local Cascade data will enable JJ agencies and CMHCs to suggest and implement tailored, evidenced-based interventions, which will be tracked through LHS quality improvement cycles.

**AIM 3: Assess implementation outcomes and processes.**
We will assess implementation outcomes, such as system alliance, among JJ and CHMC personnel using mixed methods.

**AIM 4: Assess the impact of ADAPT.**
Conduct a stepped wedge cluster randomized controlled trial to assess the impact of LHS alliances on the Cascade for YJJ. We will analyze administrative data linked across JJ and health systems to assess the long-term, community-wide effects of ADAPT on public health and safety outcomes (e.g., lower rates of SU-related outcomes and criminal recidivism).
LHS Fidelity & Adherence Monitoring

- Coaching sessions (monthly and tapers off)
  - Clarify PDSA steps
  - Share EBP expertise

- LHS process survey (monthly)
  - Identify key activities by PDSA cycle step
  - Self-rating, 5-point Likert scale
  - Inform study team of process issues
Implementation Activities and Strategies by EPIS Stage
## ADAPT Outcomes

<table>
<thead>
<tr>
<th>Public Health</th>
<th>Definition</th>
<th>Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>YJJ intake cohort</td>
<td>All arrested youth 11-17</td>
<td>Medicaid / INPC Addict. Data Commons JJ</td>
</tr>
<tr>
<td>% Screened for SU</td>
<td>Screened in JJ intake / YJJ intake cohort</td>
<td>X</td>
</tr>
<tr>
<td>% In Need of SUD tx</td>
<td>Screened positive / YJJ screened</td>
<td>X</td>
</tr>
<tr>
<td>% Referred to SUD tx</td>
<td>1. JPO or court-ordered SUD tx / YJJ in need of tx 2. JPO or court-ordered SUD tx / YJJ intake cohort</td>
<td>X</td>
</tr>
<tr>
<td>% Initiated SUD tx</td>
<td>1. BH visit with ICD-10 SUD dx / YJJ referred 2. BH visit with ICD-10 SUD dx / YJJ intake cohort</td>
<td>X</td>
</tr>
<tr>
<td>% Engaged in SUD tx</td>
<td>2+ BH visits w/in 30 days post initiation w/ ICD-10 SUD dx / YJJ initiated</td>
<td>X</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SUD Care Cascade</th>
<th>Definition</th>
<th>Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>OUD prevalence</td>
<td>ICD-10 OUD dx / YJJ intake cohort</td>
<td>X</td>
</tr>
<tr>
<td>Opioid-related overdoses</td>
<td>ED/EMS visit, ICD-10 overdose dx / YJJ intake cohort</td>
<td>X X</td>
</tr>
<tr>
<td>Opioid-related inpatient</td>
<td>ED/Hospital visit with ICD-10 OUD dx / YJJ intake cohort</td>
<td>X X</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Opioid Outcomes</th>
<th>Definition</th>
<th>Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recidivism</td>
<td>Arrest associated with new charge / YJJ intake cohort</td>
<td>X</td>
</tr>
</tbody>
</table>
Stages of Implementation Completion (SIC)

- Track completion of implementation activities
  - County Specific
  - JJ vs. CMHC variables

- Universal SIC modified for ADAPT
  - Using project-specific language (i.e., "Alliance", PDSA cycles)
## Stages of Implementation Completion (SIC)

<table>
<thead>
<tr>
<th>Stage</th>
<th>Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engagement</td>
<td>Initial communication with study sites, Agencies first learning that ADAPT is in their community, interest is first indicated, &amp; more</td>
</tr>
<tr>
<td>Consideration of Feasibility</td>
<td>Discussing the feasibility of joining the ADAPT project, discussions of information sharing, identifying potential AI champions from agencies, &amp; more</td>
</tr>
<tr>
<td>Readiness Planning</td>
<td>Alliance Team Members are identified, Alliance Team Readiness meeting, First Data Meeting, date JJ Champion is trained, &amp; more</td>
</tr>
<tr>
<td>Staff Hired &amp; Trained</td>
<td>AI fidelity trainings are held, dates when first data trials are completed, &amp; more</td>
</tr>
<tr>
<td>Fidelity Monitoring and Processes in Place</td>
<td>Agency Information System Administrative calls, data transfer trials completed, data linking trials completed, &amp; more</td>
</tr>
<tr>
<td>Services and Consultation to Services Begin</td>
<td>LHS Data Meetings, Coaching Calls, Alliance Performance fidelity reviews, First Care Cascade gaps identified, &amp; more</td>
</tr>
<tr>
<td>Model Fidelity and Staff Competence &amp; Adherence Tracked</td>
<td>Counties decide implementation sprints; identifying gaps and solutions; completing minimal standard operating procedures, evaluation plans, sustainability plans, and termination plans; &amp; more</td>
</tr>
<tr>
<td>Competency</td>
<td>Developed a Sustainability Plan, Leadership Individual is Identified, &amp; more</td>
</tr>
</tbody>
</table>
Indiana's Juvenile Detention Alternative Initiative (JDAI)

- Developed by the Annie E. Casey Foundation
  - A model for youth justice system improvement
  - Elements of JDAI Counties:
    - use data-driven decision making
    - have strong data quality
    - have funds available for local interventions
    - are supported by a state infrastructure that increases sustainment

- 8 Moderate/Rural JDAI Counties Chosen for ADAPT
  - Each with a JJ & CMHC system
  - Eligibility Criteria:
    - 1) rate of drug/opioid overdose/prescriptions above the state average and/or
    - 2) fewer than the state average number of behavioral healthcare providers per individuals suffering addictions
ADAPT Sites: & Intervention Dates

Cohort 1, 01/01/21:
County A
County B

Cohort 2, 07/31/21:
County C
County D
County E

Group 3, 01/31/22:
County F
County G
County H
CMHC Partners

Centerstone
  Bartholomew, Delaware, Monroe, & Madison Counties
Porter Starke Services
  Porter County
Cummins Behavioral Health
  Hendricks County
Four County Counseling Center
  Pulaski County
Bowen Center
  Wabash County
Focus Groups and Needs Assessments: Overview

Setting:
- JJ and CMHC Key Personnel
- Virtual over Zoom for Cohort 1; in person at site visit for Cohort 2

Strategies adapted from:
- JJ-TRIALS System Mapping (Belenko)
- NIATx Walk Throughs

Areas of focus:
- Cascade-related processes
- Need identification, screening, assessment, referrals
- Current relationship with CMHC or JJ personnel
- Parent engagement
## Pre-Implementation Focus Groups: Takeaways

<table>
<thead>
<tr>
<th>Overall</th>
<th>JJ</th>
<th>CMHC</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Varying levels of communication &amp; pre-existing partnership&lt;br&gt; • Parent engagement can be a barrier</td>
<td>• Not using screening tools consistently&lt;br&gt; • Working virtual changed probation practices (i.e., fewer cases)&lt;br&gt; • Inconsistent data entry practices</td>
<td>• Limited treatment options for youth&lt;br&gt; • Often youth are on a waitlist – limited staff capacity</td>
</tr>
</tbody>
</table>
Surveys with Justice System and CMHC Personnel

- Achieved < 80% participation from all agencies
- 28 Juvenile justice personnel (i.e., probation officers, intake staff)
- 85 CMHC staff (i.e., case managers, therapists, administrators)
- Surveys focused on:
  - Readiness for organizational change (Organizational Readiness to Implement Change Scale)
  - Openness to evidence-based practice (Implementation Climate Scale)
  - Assessment of organization leadership (Implementation Leadership Scale)
## Survey Sample:

<table>
<thead>
<tr>
<th>Category</th>
<th>CMHC (N = 85)</th>
<th>JJ (N = 28)</th>
<th>All (N = 113)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender (female)</strong></td>
<td>68 (80.0%)</td>
<td>25 (89.3%)</td>
<td>93 (82.3%)</td>
</tr>
<tr>
<td><strong>Race (white)</strong></td>
<td>72 (84.7%)</td>
<td>26 (92.8%)</td>
<td>98 (86.7%)</td>
</tr>
<tr>
<td><strong>Ethnicity (Hispanic/Latino)</strong></td>
<td>3 (3.5%)</td>
<td>1 (3.6%)</td>
<td>4 (3.5%)</td>
</tr>
<tr>
<td><strong>Age (between 26 – 35)</strong></td>
<td>35 (41.2%)</td>
<td>8 (28.6%)</td>
<td>43 (38.1%)</td>
</tr>
<tr>
<td><strong>Time in current position (&lt; 1 year)</strong></td>
<td>26 (30.6%)</td>
<td>7 (25%)</td>
<td>33 (29.2%)</td>
</tr>
<tr>
<td><strong>Time at current agency (&lt;1 year)</strong></td>
<td>21 (24.7%)</td>
<td>4 (14.3%)</td>
<td>25 (22.1%)</td>
</tr>
<tr>
<td><strong>Education level (&gt; bachelor’s)</strong></td>
<td>67 (78.8%)</td>
<td>19 (67.9%)</td>
<td>86 (76.1%)</td>
</tr>
<tr>
<td><strong>Job satisfaction (&gt; satisfied)</strong></td>
<td>71 (83.5%)</td>
<td>27 (96.4%)</td>
<td>98 (86.7%)</td>
</tr>
</tbody>
</table>
## Survey Results

<table>
<thead>
<tr>
<th></th>
<th>CMHC M (SD)</th>
<th>JJ M (SD)</th>
<th>t(df)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Organizational Readiness for Implementation Change (ORIC)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ORIC - Commit</td>
<td>3.5 (0.9)</td>
<td>3.8 (0.9)</td>
<td>-1.2 (166)</td>
<td>0.22</td>
</tr>
<tr>
<td>ORIC - Efficacy</td>
<td>3.6 (0.9)</td>
<td>3.8 (0.9)</td>
<td>-1.2 (166)</td>
<td>0.21</td>
</tr>
<tr>
<td><strong>TCU Stress Scale</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.7 (0.9)</td>
<td>3.0 (0.9)</td>
<td>4.50 (165)</td>
<td>&lt; .001</td>
</tr>
<tr>
<td><strong>Cultural Exchange Inventory (CEI)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CEI - Outcomes</td>
<td>3.6 (1.6)</td>
<td>3.8 (1.8)</td>
<td>-0.7 (111)</td>
<td>0.47</td>
</tr>
<tr>
<td>CEI - Process</td>
<td>3.9 (1.4)</td>
<td>2.9 (1.6)</td>
<td>3.2 (111)</td>
<td>0.002</td>
</tr>
</tbody>
</table>
Data Processing

- Multi-step process with many key individuals
- Data collection systems vary across county and system
- Three justice information systems and four CMHC electronic health record systems
Sample LHS Process
ADAPT CASCADE: Trends in Charges

January 2020 - May 2021

Choose Arrest Date Range
January 6, 2020 to May 25, 2021

Race/Ethnicity
All

Race/Ethnicity - YOC
All

Gender
All

Age Group
All

Top Charge Category
All

# of Cases
All

<table>
<thead>
<tr>
<th>Month</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 2020</td>
<td>23</td>
</tr>
<tr>
<td>February 2020</td>
<td>26</td>
</tr>
<tr>
<td>March 2020</td>
<td>18</td>
</tr>
<tr>
<td>April 2020</td>
<td>9</td>
</tr>
<tr>
<td>May 2020</td>
<td>6</td>
</tr>
<tr>
<td>June 2020</td>
<td>6</td>
</tr>
<tr>
<td>July 2020</td>
<td>5</td>
</tr>
<tr>
<td>August 2020</td>
<td>25</td>
</tr>
<tr>
<td>September 2020</td>
<td>15</td>
</tr>
<tr>
<td>October 2020</td>
<td>133</td>
</tr>
<tr>
<td>November 2020</td>
<td>46</td>
</tr>
<tr>
<td>December 2020</td>
<td>57</td>
</tr>
<tr>
<td>January 2021</td>
<td>43</td>
</tr>
<tr>
<td>February 2021</td>
<td>52</td>
</tr>
<tr>
<td>March 2021</td>
<td>56</td>
</tr>
<tr>
<td>April 2021</td>
<td>41</td>
</tr>
<tr>
<td>May 2021</td>
<td>26</td>
</tr>
</tbody>
</table>
### Juvenile Justice System

<table>
<thead>
<tr>
<th>Arrested</th>
<th>Drug-related Offenses</th>
<th>Screened</th>
<th>ID'd as having need for TX</th>
<th>Court-ordered Drug Test</th>
<th>Court-ordered SUD assessment</th>
<th>Referred</th>
<th>Assessed</th>
<th>Initiated</th>
<th>Engaged</th>
<th>Continued</th>
</tr>
</thead>
<tbody>
<tr>
<td>923 (100%)</td>
<td>728 (79%)</td>
<td>723 (78%)</td>
<td>896 (97%)</td>
<td>832 (90%)</td>
<td>773 (84%)</td>
<td>795 (86%)</td>
<td>477 (88%)</td>
<td>780 (85%)</td>
<td>844 (91%)</td>
<td>998 (97%)</td>
</tr>
<tr>
<td>195 (21%)</td>
<td>200 (22%)</td>
<td>27 (3%)</td>
<td>91 (10%)</td>
<td>150 (16%)</td>
<td>128 (14%)</td>
<td>68 (12%)</td>
<td>143 (15%)</td>
<td>79 (9%)</td>
<td>25 (3%)</td>
<td></td>
</tr>
</tbody>
</table>
ADAPT CASCADE: Engagement by REGGO Factors

- **YOC**
  - Initiated: 34 (4%)
  - Not Initiated: 233 (25%)

- **White**
  - Initiated: 101 (11%)
  - Not Initiated: 388 (42%)

- **Missing**
  - Initiated: 8 (1%)
  - Not Initiated: 159 (17%)
<table>
<thead>
<tr>
<th>Step</th>
<th>Median Length of Time</th>
<th>Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arrested to Screened</td>
<td></td>
<td>29</td>
</tr>
<tr>
<td>Screened to Referred</td>
<td></td>
<td>40</td>
</tr>
<tr>
<td>Referred to Assessed</td>
<td></td>
<td>36</td>
</tr>
<tr>
<td>Initiated to Engaged</td>
<td></td>
<td>43</td>
</tr>
<tr>
<td>Engaged to Continued</td>
<td></td>
<td>59</td>
</tr>
</tbody>
</table>

**ADAPT CASCADE: Time Lapse in the CASCADE**

Choose Arrested Date Range: 1/6/2020 to 5/25/2021

Race/Ethnicity: All
Race/Ethnicity - YOC: All
Gender: All
Age Group: All
Top Charge: All
# of Cases: All
Referred Provider: All
Summary

- Cross-system collaboration
- Data can take the emotion out of tense interactions
  - If data is not accurate...
  - If data is not timely...
  - If data source is not responsive...
- Automate linking process