Integrating Care for Alcohol and Drug use in Primary Care: Challenges and Opportunities

- **Universal screening for drug use** Richard Saitz, Daniel P Alford, Julie Witas, Don Allensworth-Davies, Tibor Palfai, Debby M Cheng, Judith Bernstein, Jeffrey H Samet

- **Initiation and engagement in addiction treatment integrated into primary care: the role of gender** Alexander Y. Walley, Kaylyn Duerfeldt, Joe Palmisano, Amy Sorensen-Alawad, Chris Chaisson, Mari-Lynn Drainoni

- **Chronic Disease Management for Substance Dependence: A Prospective Cohort Study** Theresa W. Kim, Richard Saitz, Debbie M. Cheng, Michael R. Winter, Julie Witas, Jeffrey H. Samet

- **Integrating Care for Hepatitis Virus Infection in Patients Receiving Office-Based Therapy for Opioid Dependence** Judith Tsui
Chronic Disease Management Care for Substance Dependence: A Prospective Cohort Study

Theresa Kim, Richard Saitz, Debbie Cheng, Michael Winter, Julie Witas, Jeffrey Samet

Addiction Health Services Research Conference
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Background

- Alcohol and drug dependence are often chronic diseases
- Care is not delivered as though they were chronic diseases
  - Episodic rather than longitudinal care
  - Focus on acute crisis
  - Difficult to access
  - Not coordinated with medical, psychiatric care
Background

• Payers and treatment providers are considering longitudinal care to improve the quality of addiction care.
  • Not clear how care should be organized
  • Potential for Chronic Disease Management (CDM) to be effective as in some other chronic diseases
• Randomized trial of CDM (AHEAD) found minimal effects
  • CDM was available but not mandated
  • Study participants were not treatment seeking
• Does actual receipt of CDM lead to improvements in substance use?
Hypothesis

• Receipt of Chronic Disease Management for substance dependence in a primary care setting is associated with abstinence and lower addiction severity.
Study Design

AHEAD RANDOMIZED TRIAL
• Objective: to test the effectiveness of CDM for substance dependence
• Intervention subjects were given access to CDM
• Control referral to primary care (i.e., no access to AHEAD CDM)

THIS STUDY
• Objective: to test whether receipt of CDM is associated with better addiction outcomes.
• Secondary study using prospective cohort data collected as part of the RCT
• Exposure groups based upon CDM receipt
Study Eligibility

- Adults with drug and/or alcohol dependence and past month drug or heavy alcohol use*
- Willing to establish or continue primary care at Boston Medical Center
- Willing to attend an outpatient clinic within 2-3 days of study enrollment

*Composite International Diagnostic Interview Short Form (CIDI-SF)
Women: $\geq 4$ drinks at least twice in past month or $\geq 15$ drinks/week in past month
Men: $\geq 5$ drinks at least twice in past month or $\geq 22$ drinks/week in past month
Study Protocol

• Recruitment
  • Screening at detoxification unit, referrals from primary care clinic, emergency department, and response to advertisement in community
• In-person follow-up interviews at 3, 6, and 12 months
AHEAD CDM Care

- Multidisciplinary team: RN care manager, SW, MD (internist with addiction expertise and psychiatrist)
  - Provide longitudinal care
  - Focus on improving self-management practices
  - Facilitate access to addiction care
  - Coordinate care for medical and psychiatric care
  - Proactively follow patients for periodic assessment
- Some services provided on-site (e.g., buprenorphine, motivational enhancement therapy, case management)
- Others by referral (primary care, specialty addiction treatment)
AHEAD CDM care

• Initial intervention
  • Assessment (alcohol, medical, social, psychological)
  • Feedback
  • Negotiate with patient re: treatment plan
  • Initiation of addiction, medical treatment
  • Referral to primary medical care, addiction treatment
• Continuing care: Nurse Care Manager
  • Keeps in contact with patient to assess needs, help with relapse prevention, facilitate referrals, care coordination, drop-in availability
Receipt of CDM: Engagement with CDM

<table>
<thead>
<tr>
<th>Index visit</th>
<th>Initiation</th>
<th>Engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td>AHEAD intake visit</td>
<td>1+ visits within 14 days of AHEAD index visit</td>
<td>2+ additional visits within 30 days of AHEAD initiation</td>
</tr>
</tbody>
</table>

- Adapted from Washington Circle performance measure outpatient treatment engagement
- Similar specifications except that we were interested in AHEAD visits only and not any outpatient visit
Receipt of CDM: Quality of CDM

Secondary Analysis

• Quality of CDM delivered by any substance abuse treatment provider

• Patient Assessment of Chronic Illness Care (PACIC)
  • Assesses extent that care is aligned with the Chronic Disease Management Model from the patient’s viewpoint
  • Instrument used to evaluate the implementation of CDM for chronic diseases such as diabetes

• Participants rated any substance abuse treatment utilized since study entry using the PACIC
  • This measure captures “Receipt of CDM” regardless of group assignment /access to CDM clinic
## Summary of Receipt of CDM Definitions

<table>
<thead>
<tr>
<th>Measure of CDM receipt</th>
<th>Definition</th>
<th>Exposure groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engagement with CDM</td>
<td>2 or more AHEAD visits within 30 days of initiation of care</td>
<td>1) Engaged with care  2) Not engaged with care  3) No access to AHEAD care (AHEAD trial “control” group)</td>
</tr>
<tr>
<td>Quality of CDM delivered by <em>any</em> substance abuse treatment provider*</td>
<td>Patient Assessment of Chronic Illness (PACIC)</td>
<td>PACIC score, tertiles (regardless of group assignment/access to CDM)</td>
</tr>
</tbody>
</table>
Outcomes

• Primary outcome
  • Abstinence from opioids, stimulants, and heavy alcohol use*

• Secondary outcomes **
  • Alcohol severity
  • Drug severity

*Time Line Follow Back, past 30 days
**Addiction Severity Index, past 3 months
Analysis

• Separate multivariable regression models predicting
  • Abstinence (GEE logistic regression)
  • Lower alcohol severity, lower drug severity (GEE proportional odds model)
• All models adjust for age, sex, race/ethnicity, time, housing status, depression (Patient Health Questionnaire, PHQ-9)
### Table 1: Patient Characteristics at Baseline

<table>
<thead>
<tr>
<th>Total N=533</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, median (25\textsuperscript{th}, 75\textsuperscript{th} quartiles)</td>
<td>39 (29, 46)</td>
</tr>
<tr>
<td>Female</td>
<td>149 (27%)</td>
</tr>
<tr>
<td>Race/ethnicity, non-white</td>
<td>293 (53%)</td>
</tr>
<tr>
<td>Homeless, any (past 3 month)</td>
<td>327 (59%)</td>
</tr>
<tr>
<td>Depression*</td>
<td>460 (84%)</td>
</tr>
<tr>
<td>Dependence, type</td>
<td></td>
</tr>
<tr>
<td>Alcohol only</td>
<td>65 (12%)</td>
</tr>
<tr>
<td>Drug only</td>
<td>123 (22%)</td>
</tr>
<tr>
<td>Alcohol and drug</td>
<td>365 (56%)</td>
</tr>
</tbody>
</table>

*Patient Health Questionnaire, PHQ-9*
## No Association Between Engagement with CDM and Addiction Outcomes

<table>
<thead>
<tr>
<th>Engagement</th>
<th>Abstinence AOR (95%CI)</th>
<th>Lower Addiction Severity Alcohol AOR (95%CI)</th>
<th>Lower Addiction Severity Drug AOR (95%CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engagement vs. Control</td>
<td>0.94 (0.61, 1.43)</td>
<td>1.08 (0.64, 1.82)</td>
<td>0.86 (0.59, 1.26)</td>
</tr>
<tr>
<td>No Engagement vs. Control</td>
<td>0.76 (0.56, 1.03)</td>
<td>0.94 (0.69, 1.27)</td>
<td>0.84 (0.64, 1.10)</td>
</tr>
<tr>
<td>Engagement Yes vs. No</td>
<td>1.24 (0.79, 1.93)</td>
<td>1.16 (0.68, 1.97)</td>
<td>1.03 (0.69, 1.54)</td>
</tr>
</tbody>
</table>

Engagement with AHEAD CDM: 23% (95% CI 18-28%)  
All global p-values $\geq 0.05$
# CDM Quality Associated with Abstinence and Lower Alcohol Severity

<table>
<thead>
<tr>
<th>PACIC (tertiles)</th>
<th>Abstinence** AOR (95%CI)</th>
<th>Lower Addiction Severity Alcohol* AOR (95%CI)</th>
<th>Drug AOR (95%CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highest vs. Lowest</td>
<td>1.99 (1.34, 2.95)</td>
<td>1.24 (0.81, 1.88)</td>
<td>1.45 (1.04, 2.04)</td>
</tr>
<tr>
<td>Highest vs. Middle</td>
<td>1.75 (1.24, 2.48)</td>
<td>1.68 (1.16, 2.45)</td>
<td>1.16 (0.83, 1.63)</td>
</tr>
<tr>
<td>Middle vs. Lowest</td>
<td>1.13 (0.76, 1.68)</td>
<td>0.73 (0.49, 1.10)</td>
<td>1.25 (0.89, 1.76)</td>
</tr>
</tbody>
</table>

Global *p-value < 0.05  **p-value < 0.001  Drug severity p-value 0.09
Limitations

• Observational study, residual confounding
• No information about type of substance abuse treatment that participants were rating
• Generalizability
Conclusions

• We did not detect associations between engagement with CDM and abstinence and lower addiction severity.

• Adults with substance dependence who received addiction treatment with core features of the Chronic Disease Management Model were more likely to be abstinent and have lower alcohol severity.
Questions

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## Receipt of CDM Care and Addiction Treatment

**Adjusted Odds Ratio (95% CI)**

<table>
<thead>
<tr>
<th></th>
<th>Specialty addiction treatment</th>
<th>Addiction pharmacotherapy</th>
<th>12-step, mutual self-help</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engagement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>vs. Control</td>
<td>2.34 (1.51, 3.64)**</td>
<td>3.55 (2.02, 6.25)**</td>
<td>1.18 (0.74, 1.87)</td>
</tr>
<tr>
<td>No Engagement</td>
<td>1.24 (0.94, 1.64)</td>
<td>1.50 (0.99, 2.27)</td>
<td>0.81 (0.59, 1.09)</td>
</tr>
<tr>
<td>vs. Control</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engagement</td>
<td>1.88 (1.19, 2.97)</td>
<td>2.37 (1.32, 4.24)</td>
<td>1.46 (0.90, 2.39)</td>
</tr>
<tr>
<td>Yes vs. No</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Global *p*-value < 0.05, **p-value < 0.001, *** p-value < 0.0001
# CDM Quality and Addiction Treatment

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<tr>
<th>PACIC (tertiles)</th>
<th>Specialty addiction treatment</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Highest vs Lowest</td>
<td>1.83 (1.30, 2.59 )*</td>
<td>1.37 (0.84, 2.26)</td>
<td>1.86 (1.26, 2.75)*</td>
</tr>
<tr>
<td>Middle vs Lowest</td>
<td>1.18 (0.83, 1.67)</td>
<td>1.27 (0.77, 2.09)</td>
<td>1.49 (1.02, 2.18)</td>
</tr>
<tr>
<td>Highest vs Middle</td>
<td>1.55 (1.11, 2.17)</td>
<td>1.08 (0.68, 1.72)</td>
<td>1.25 (0.86, 1.82)</td>
</tr>
</tbody>
</table>

Global *p*-value < 0.05
PACIC

• Patient Assessment of Chronic Illness Care (PACIC)
• Subscales: core components of CDM care
  • Patient activation (patient input and involvement in clinical decisions)
  • Delivery system/practice design (organization care, help to enhance understanding of care)
  • Goal setting/tailoring
  • Problem-solving (barriers to treatment)
  • Follow-up/coordination (proactive contact with patient, extends/reinforces treatment)
AHEAD CDM Care

• Case management for concrete needs such as food, transportation, and housing
• Motivational enhancement therapy
• Addiction pharmacotherapy primarily buprenorphine, naltrexone, and/or acamprosate
• Psychiatric assessment and treatment
• Relapse prevention counseling
• Referrals to addiction treatment provided outside the AHEAD clinic