Methamphetamine Treatment in Rural Western North Carolina

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Introduction

- 2003: ↑ in reports of manufacture and use (NCLD, 2008)
- Watauga County (WC): children found in labs → Dept. of Social Services’ (DSS) custody
- children reside in approximately 1/3 of MA manufacture sites (NDIC, 2002)
- WC organized a team, which developed Meth Lab Response Protocol
- NC DMHDDSAS recognized need and encouraged submission of grant proposal
Introduction (con’t.)

- WC developed model treatment program, which eventually became Family Solutions (FS)

- By 2006, NC DMHDDSAS provided grants to 4 Local Management Entities (LMEs), each selected 2 counties to participate
  - New River: Watauga and Ashe (FS)
  - Foothills: Caldwell and McDowell
  - Smoky Mountain: Haywood and Macon
  - Western Highlands: Buncombe and Rutherford
(North Carolina Department of Transportation, 2010)
Each LME was to develop its own treatment model
Community collaboration and partnerships were encouraged
Appalachian State University research team involved from the beginning
NC Methamphetamine Initiative/ASU Partnership for Treatment Program Development and Evaluation

(Renkert, Reed-Ashcraft, & Thorp, 2008)
Family Solutions Model
(Developed by NR, DSS, ASU, other agencies)

- Intensive treatment for meth user and family
- Rapid Entry intake process: DSS and FS staff conduct home visit within 24 hrs of abuse/neglect report to DS
- FS rapid entry assessment/intake occurs during acute 7–10 day withdrawal
- All family members assessed for treatment and service needs
- UDS or SDS administered on site

(Renkert, Reed–Ashcraft & Thorp, 2008)
Within 2 weeks, Support Network Intervention Team (SNIT) selected with client: family members, friends, FS clinicians/staff, DSS workers, other school, agency, and community reps (Winek et. al, 2010)

SNIT developed and begins to meet during subsequent 2-week subacute phase

(For discussion of phases, see McGregor et. al, 2005)

SNIT met regularly: support, problem solving, overcomes barriers, accountability
Other interventions used as needed:

- IOP, individual, family, and group therapies
- AA/NA
- Case management and support
- Transportation, child care, and meals provided at group therapy meetings
- Services delivered in homes, schools, community, and office
Family Solutions Model (con’t.)

- UDS and SDS administered randomly and routinely
- Clients progress through defined levels of treatment
- Treatment ≈ 1 year
- Weekly supervision (for treatment fidelity)
Matrix Model (Center for Substance Abuse Treatment, 2006; Rawson et al., 2004)

- All other counties adopted this model

- NC DMHDD SAS encouraged use at all sites and provided ongoing training and supervision

- Manualized psycho-educational and cognitive-behavioral IOP treatment intervention

- 16 weeks: Early Recovery Skills, Relapse Prevention, Family Education, Social Support groups
Matrix Model (con’t.)

- AA, NA, and drug screens expected
- Previous “graduate” becomes peer co-leader
- Specific topics addressed in individual sessions and included in the manual
- NC DMHDDSAS adopted the model as a Best Practice intervention
Program Evaluation

- 3 year longitudinal study 2004–07
- Quasi-experimental design with comparison groups to be selected from other NC counties
- Qualitative process evaluation surveyed clients, clinicians, administrators, n = 29
  
  (Renkert, Reed–Ashcraft, & Thorp, 2008)

- Quantitative study included data collected from client case records at treatment sites and local DSSs, N = 317
Demographics
<table>
<thead>
<tr>
<th>Local Management Entity</th>
<th>n</th>
<th>%</th>
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</thead>
<tbody>
<tr>
<td>Foothills (Caldwell, McDowell)</td>
<td>19</td>
<td>7.6</td>
</tr>
<tr>
<td>New River (Ashe, Watauga)</td>
<td>123</td>
<td>49.4</td>
</tr>
<tr>
<td>Smoky Mountain (Haywood, Macon)</td>
<td>79</td>
<td>31.7</td>
</tr>
<tr>
<td>Western Highlands (Buncombe)</td>
<td>28</td>
<td>11.3</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>249</td>
<td>100</td>
</tr>
</tbody>
</table>
Demographics

- Age: $X = 32.2$ (SD = 9.25)
- 65% Female
- 92% Caucasian

- Marital Status
  - 45% never married
  - 31% divorced or separated
  - 22% married
  - 3% Widowed
Education
- 54% less than high school
- 33% high school diploma or GED
- 13% some college or college degree (n = 1)

Employment
- 32% employed (24% full-time)
- 62.5% unemployed
- 5.5% not in labor force
Preliminary Outcomes
Treatment Length

- Significant Difference ($p < .0001$)
  - Family Solutions
    - Mean Days = 356 ($SD = 269.7$)
  - Matrix
    - Mean Days = 141.5 ($SD = 131.4$)
Preliminary Outcome Variables

- Use based on UDS and SDS results
  - Average # = 8.6 (no difference between FS & Matrix)
  - Time period covered by UDS and SDS ($p < .0001$)
    - Family Solutions average 288 days
    - Matrix average 128 days

- (1) Ratio of positive screens to overall # of screens and (2) Continuous Abstinence Rates
  - Methamphetamine
  - Other Stimulants
  - Overall
Ratio of positive screens/screens: Methamphetamine

- Significant difference between Family Solutions and Matrix, $F(1, 248) = 5.09$, $p = .025$

- Family Solutions: Mean = .03 ($SD = .09$)
- Matrix: Mean = .08 ($SD = .23$)
Overall, 80.2% of clients were continuously abstinent from methamphetamine.

No differences were noted between Family Solutions (80.3%) and Matrix (80%).
Ratio of positive screens/screens: Other Stimulants

- No significant difference between Family Solutions and Matrix
Continuous Abstinence: Other Stimulants

- Overall, 63.6% of clients were continuously abstinent from other stimulants.

- No significant differences were noted between Family Solutions (59%) and Matrix (68%).
Ratio of positive screens/screens: Overall

- No significant difference between Family Solutions and Matrix
Overall, 31.7% of clients were continuously abstinent

Matrix (40.5%) resulted in higher levels of overall continuous abstinence compared to Family Solutions (22.8%), $X^2 (df = 1, N = 249) = 9.01, \ p = .002$

Possibly related to greater time-period assessed by drug screens (288 days vs. 128 days)
Limitations

- Quasi-experimental design
- Future analyses to control for time in treatment
- "Real World" data collection:
  - Missing data
  - DMHDDSAS eventually allowed sites to serve other stimulant users
  - Undocumented inconsistencies regarding eligibility
  - Mandated changes to meet Medicaid Service definitions, including shortening to 14 weeks
  - Inconsistent fidelity across sites
Implications: Who?

- Women
- Caucasian
- Early 30’s
- High school education or less
- Unemployed
- Never married

Similar to previous findings (Drug and Alcohol Services Information System, 2004)
Implications: Treatment

- Treatment can work

- Implications for real-world adoption of empirically-supported treatment programs even with various levels of fidelity

- Implications for locally-developed, culturally-sensitive treatment programs

- Appeared acceptable to clients
Implications: Treatment

- MA–focused treatment effective for MA use:
  - ↑ # of clients were continuously abstinent throughout treatment across sites
  - FS sites had significantly lower ratio of positive drug screens for meth

- Higher rates of overall continuous abstinent in Matrix sites
  - Use of non-stimulant substance increases across time?
  - FS primary focus on MA?
Future Research

- Implications of length of treatment and length of follow-up

- FS model includes family treatment and often DSS involvement \(\rightarrow\) child and family well-being outcomes to be examined across sites
For more info

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References


(Photos Courtesy of Watauga Democrat)
Resources

Matrix Treatment Manual:
