Designing Interventions for End Users: Effectiveness and Implementation of an Autism Intervention in Publicly-Funded Mental Health Services

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ASD Community Services Research Context

Mental Health
Early Int. & Education (IDEA)
ASD/ID Specialty
Child Welfare Services
Transition Services
Primary Care and Medical Spec.

Community Service Systems Caring for Children
Community Service Systems Caring for Children with ASD

Mental Health

Early Int. & Education (IDEA)

ASD/ID Specialty

Child Welfare Services

Transition Services

Primary Care and Medical Spec.

>70% psychiatric comorbidity
Psychiatric Comorbidity in Children Ages 5 to 13 with ASD Receiving MH Services (Outpatient & School-Based)

Percent of Children Meeting Criteria for Adapted MINI-KID Diagnoses (n=202)

- ANY DX: 92%
- ANY ADHD: 78%
- ODD: 58%
- ANY ANXIETY DISORDER: 56%
- ANY MOOD DISORDER: 30%

77% of these children meet criteria for 2 or more non-ASD diagnoses

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Challenging behaviors interfere with child and family functioning.

Responding to the Need for Scalable Mental Health Intervention for ASD

“We’re probably somewhat all out of the scope of practice when we’re dealing with these kids ... we don’t really have a whole lot of training. We’re getting it as we go.”

-Community Therapist
An Individualized Mental Health Intervention for Children with ASD (AIM HI)

- Package of evidence-based parent-mediated and child focused strategies to reduce challenging behaviors in children with ASD ages 5 to 13 served in MH settings
  - Function-based approach to address challenging behaviors
  - Individual components of intervention are “well established”
  - Includes adaptations to structure psychotherapy for ASD characteristics

- Developed in collaboration with MH providers, families and ASD experts based on assessment of routine care practice, child clinical needs and provider training needs
- Designed to be delivered by providers who have limited experience with ASD or behavioral interventions

© 2016 The Regents of the University of California | An Individualized Mental Health Intervention for Children with ASD Version 2 by Brookman-Frazee, Drahota, & Chlebowski
AIM HI Training Model

- **Attend introductory workshop**
- **AIM HI Training Components**
  - Deliver AIM HI to actual client/student with performance feedback from trainer (6 months)
- **Self-study using therapist training materials**

AIM HI Certification Requirements

- Attend introductory workshop
- Complete consultation series (9 group, 2 individual)
- Meet Protocol Fidelity
- Meet Session Fidelity based on video recorded session
- Complete AIM HI practice case
AIM HI Timeline

- **Needs Assessment & Protocol Development ‘07-’09**
  - NIMH Grant K23MH077584

- **Pilot Test and Revision ’09-’10**
  - NIMH Grant K23MH077584

- **Effectiveness/Implementation Trial ‘12-’17**
  - NIMH Grants R01MH094317; R01MH094317-S

- **Implementation / Effectiveness Trial ‘17-’21**
  - NIMH Grants R01MH111950; R01MH111950-S

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Ongoing Refinement to optimize fit and therapist training process

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*Dyson, Chlebowski, Wright, & Brookman-Frazee (in press); Brookman-Frazee, Stadnick, Chlebowski, Baker-Ericzen, & Ganger (2017); *Stadnick, Chlebowski, & Brookman-Frazee (2017); *Stadnick, Chlebowski, Baker- Ericzén, Dyson, Garland, & Brookman-Frazee (2017)
AIM HI Community Effectiveness Trial

1) What is the impact of AIM HI on child/family outcomes?

2) Do any child/family characteristics or therapist fidelity influence effects of AIM HI?

3) Characterize implementation process and outcomes and identify influences on these outcomes.

4) Are there differences in treatment process by child/family ethnicity?

- Randomized waitlist control design
- Programs randomized:
  1) Immediate (Wave 1) AIM HI training
  2) Usual Care Control/ Wave 2 AIM HI Training
- Therapist and child dyads recruited from participating programs

NIMH Grants R01MH094317 and R01MH094317-S (Disparities)
Participants

- Outpatient and school-based programs within 19 participating agencies with therapist/child dyads enrolled in San Diego and LA Counties

- Unique therapists providing psychotherapy services in participating programs and enrolled with a child

- Children ages 5 to 13 with existing ASD diagnosis served by participant therapist

29 Programs

172 Therapists

- 86% Female
- 34% Latino
- 36% Bilingual
- 42% MFT; 27% SW

202 Children Receiving MH Services

- 84% Male
- 60% Latino
- M = 9.1 years old
Child Outcomes (Effectiveness)

Reductions in child challenging behaviors over 18 months greater when therapists receive AIM HI training

Therapist fidelity moderates reductions in child behavior problems
Therapist Outcomes (Implementation)

- 74% successfully complete AIM HI certification process
- Increased use of evidence-based strategies
- Increased confidence using behavioral strategies and ASD
- Generalization of strategies to clients without ASD
Understanding Variability in Therapist Outcomes

Provider Engagement

Leadership Support
AIM HI Timeline

Needs Assessment & Protocol Development ‘07-’09
NIMH Grant K23MH077584

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Ongoing Refinement to optimize fit and therapist training process
Testing Implementation Strategies for ASD Interventions

- Two Collaborative R01s
- 3 CA sites

- Lauren Brookman-Frazee, Ph.D. (UC San Diego), Mental Health Project Director & San Diego Site Director
- Aubyn Stahmer, Ph.D. (UC Davis), Education Project Director; Sacramento Site Director
- Anna Lau, Ph.D. (UCLA), LA Site Director
Translating Evidence-based Interventions for ASD: A Multi-Level Implementation Strategy (TEAMS)

AIM HI Study: R01MH111950; R01MH111950-S (Disparities)
CPRT Study: R01MH1198101
TEAMS AIM HI Implementation Trial

1) Test the effectiveness of the TEAMS modules individually and in combination when paired with AIM HI Training.

2) Test the impact of TEAMS modules on mechanisms of change (Implementation leadership, provider attitudes & engagement).

3) Identify moderators and mediators of implementation outcomes.

4) Disparities Supplement: Develop and pilot test AIM HI Educativa Toolkit aimed to improve parent engagement and provider competence when delivering AIM HI with Latino families.

Randomized factorial dismantling design
- Programs & districts randomized:
  1) Standard Provider Training Only
  2) Standard Provider Training + Leadership Training (TLI)
  3) Enhanced Provider Training (TIPS)
  4) TLI + TIPS

**Leaders, provider-family dyads recruited from participating programs & districts
<table>
<thead>
<tr>
<th>Table 1. TEAMS Participants by Study and Type</th>
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</thead>
<tbody>
<tr>
<td>AIM HI Study  (37 MH Agencies &amp; School Districts)</td>
</tr>
<tr>
<td>37 Program Managers</td>
</tr>
<tr>
<td>295 Therapists</td>
</tr>
<tr>
<td>295 Caregivers</td>
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<tr>
<td>627 TOTAL AIM HI</td>
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Building capacity to serve children with ASD

Identify implementation strategies that can be applied to other interventions/populations
Maximizing Public Health Impact:

Designing scalable interventions for end users
Community partnered approach
Hybrid research designs
Linking clinical interventions with effective implementation strategies to facilitate uptake and sustainment of ASD interventions