From Design to Scalability: The Value of Implementation Science

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Acknowledgements

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Context

• Brought on to replace prior Implementation Science Core Lead 3 years into the project.
• Four projects at very different stages:
  1. Bauer: ADHD group support, end stages
  2. Hannon: Adolescent diabetes management, end stages
  3. Bennet: Gastroenterology and mental health, early stages
  4. Musey: MRSA treatment, early stages
• Implementation core focused largely on protocol implementation and quality improvement.
Differences between implementation science and quality improvement

**Implementation science**
- Uses theory and methods to understand and implement solutions to problems that can work across sites.
- Aims to develop generalizable knowledge
- Scientific and research-oriented.

**Quality improvement**
- Focus on immediate issues, rapid identification and addressing of issues
- Seeks to solve a local problem.
- Pragmatic and solution-oriented
Approach to working with the projects

• Bauer (ADHD support group)
  • Employed framework to develop fidelity guidelines
  • Strategize way to utilize scaling-out activities to collect additional data
  • Continued mentoring in implementation science

• Hannon (Adolescent diabetes)
  • Supported development of next-stage PD3 grant proposal.
  • Included implementation science aims guided by CFIR
Approach to working with the projects (cont)

• Bennet (Gastroenterology and mental health)
  • Utilized implementation science course
  • Students collected qualitative data guided by normalization process theory to assess implementation feasibility

• Musey (MRSA treatment)
  • Had already worked with another group on acceptability and appropriateness of intervention
  • Reach out on a regular basis, but has not had need
TEACH: Tailoring Education for ADHD & Children's Health

Family-level intervention designed so primary care pediatric clinicians can fill the gap of unmet health care needs of families struggling with ADHD
Improving ADHD Chronic Care Management in Pediatric Clinics

TEACH Components

- 5 in-person sessions
- Separate caregiver & child curriculum
- 2 trained facilitators
- Family toolkit
Where are we now?

1 clinic (n=13 families)
- Attended more clinic visits than controls
- Improved child functioning in the home
- Improvements in quality of life
- Feasible & acceptable to stakeholders

2 clinics (n=55 families)
- Attended more clinic visits than controls
- Improved child functioning in the home
- Improvements in parental perception of time, misbehavior
- Feasible & acceptable to stakeholders

PRIOR STUDIES
Fidelity Checklist

Originally developed with intention of:
1. Developers to have an ability to provide feedback to facilitators they were directly observing
2. Provide learners with an ACTIVE task to understand what they are observing
As we try to implement elsewhere, fidelity is KEY

Completed a learning site visit through my Implementation Research Institute (IRI) fellowship at Oregon Social Learning Center

Witnessed how they train facilitators and monitor fidelity in a parent management training based program for foster parents: KEEP (PI: Patricia Chamberlain, PhD).
As interventions go into clinical practice, important to monitor FIDELITY

- Fidelity of implementation mediates contextual antecedents (e.g. leadership engagement, culture) & intervention effectiveness
- Fidelity: measures how well the intervention is used as intended
- Failure to meet expected outcomes may be due to insufficient fidelity to the intervention rather than to a pitfall of the intervention’s itself (Type III error)
Fidelity

Five elements to measure:
1. Adherence to intervention*
2. Exposure or dose
3. Quality of delivery
4. Participant responsiveness (delivering & receiving)
5. Program differentiation (unique features of intervention and which are essential)

Development of a fidelity checklist

Important methodological step in implementation of interventions on a larger scale

Ensures translation of evidence-based interventions in practice

Need to identify the critical elements of the program based on the theory underlying the intervention and facilitation model

Construction of scale items related to adherence to both content and competence in delivering intervention
Changes after site visit to fidelity checklist

• Change measuring Yes/No to Yes/Somewhat/ Not at all
• Added in items to capture quality of facilitation
• Wording changes to items for specificity
## Example Items on Facilitator Adherence Checklist-TEACH (FACT)

<table>
<thead>
<tr>
<th>Room Set-Up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ample physical space for all participants</td>
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<tr>
<td>Chairs organized in open circle</td>
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<tr>
<td>Agenda written on board or displayed in room where visible by participants</td>
</tr>
<tr>
<td>Had materials ready (i.e. name tags, handouts, etc)</td>
</tr>
</tbody>
</table>
Example Items on Facilitator Adherence Checklist-TEACH (FACT)

<table>
<thead>
<tr>
<th>Yes</th>
<th>Some what</th>
<th>Not at All</th>
<th>Group education portion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Facilitator welcomed participants to the group visit</td>
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<tr>
<td></td>
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<td></td>
<td>Session 1: Icebreaker/Introduction exercise done before group discussion</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Session 2-4: Asked to give brief update to others about &quot;homework&quot; &amp; recap of how things are going</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Session 2-4: Asked to give recap of how things are going</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Session 1: Generation of group rules</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Session 2-4: Brief reminder about group rules</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Facilitator delivered at least 80% of proposed content of the session</td>
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<tr>
<td></td>
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<td></td>
<td>Facilitator effectively used stories shared by participants as teachable moments for group</td>
</tr>
</tbody>
</table>
Example Items on Facilitator Adherence Checklist-TEACH (FACT)

<table>
<thead>
<tr>
<th>Facilitator used specific praise <strong>with enthusiasm</strong> towards participants when appropriate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facilitator clearly labeled positive parenting techniques/principles “in the moment”</td>
</tr>
<tr>
<td>Facilitator talked about rationale for parent-child activity</td>
</tr>
<tr>
<td>Facilitator effectively used role play to demonstrate or practice skills</td>
</tr>
<tr>
<td>Facilitator praised parent-child interactions during activity time</td>
</tr>
</tbody>
</table>