CO-DESIGNING IMPLEMENTATION GUIDELINES TO MAXIMIZE ACCEPTABILITY, FEASIBILITY, AND USABILITY OF MOBILE PHONE SUPERVISION IN KENYA

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Children's Mental Health Treatment Gap
TASK SHIFTING MAY ADDRESS HUMAN RESOURCE SHORTAGES

- Lay providers are trained to implement psychological interventions under supervision.
  - Effective
  - Acceptable
  - Sustainable.
Task shifting is limited by available resources

- Post-training supervision is important for fidelity
  - Prevent fatigue and burnout.

- Limitations of in-person supervision:
  - Costly
  - Supervisors are limited in number
  - Transportation
OPPORTUNITIES FOR MOBILE PHONES & TASK-SHIFTING

• Support providers from afar?
• Reduce costs and travel time?
• Augment task-shifting and improve access to care?
CAN MOBILE PHONES REPLACE OR SUPPLEMENT IN-PERSON SUPERVISION?

Network Connectivity?

Availability of Phones?

Supervisor and Lay Counselor Preferences?
DESIGN OVERVIEW & FRAMEWORK

• Iterative and mixed methods approach
• Human-Centered Design (HCD)
• “accessible and effective by grounding their development in the needs and preferences of those who will ultimately use them.”
Parent Trial:

Building and Sustaining Interventions for Children (BASIC)

Dorsey & Whetten, MPIs; Wasonga, Kenya PI; NIMH R01 MH112633

Education Sector/Schools:
Teachers

Health Sector/Communities:
Community Health Volunteers
Intervention: Trauma-focused Cognitive Behavioral Therapy (TF-CBT)

“Pamoja Tunaweza”
Together We Can

• **Group-based TF-CBT**
  - Posttraumatic stress and grief among children ages 11-14
  - Parental death
  - 8 concurrent group sessions, 2-3 individual sessions

• **Building capacity using task-shifting**
  - Lay counselors lead treatment groups (N=240)
  - Kenyan trainers and supervisors (N=5)
  - Supervision includes face-to-face meetings with lay counselor groups and ad hoc mobile phone communications.

O'Donnell et al., 2014; Dorsey et al., 2015; Dorsey, Lucid, Martin et al., 2020
BASIC (PARENT TRIAL) DESIGN

Key:
- Control Condition
- Intervention Condition
- Transition Period
- Control Condition Measurement
- Intervention Condition Measurement (Included in power calculation)
- Intervention Condition Measurement (Not included in power calculation)
- Step Number

Number of Village Clusters:
- 10
- 5
- 5
- 5
- 5
- 5
- 5
- 5
- 5
- 5

0 = Control Condition
1 = Intervention Condition
T# = Time Period

Sequence 1
01111111111

Sequence 2
00001111111

Sequence 3
000011111111

Sequence 4
00000001111

Sequence 5
000000001111

Sequence 6
000000000011

Sequence 7
000000000001

Year 1 Year 2 Year 3 Year 4
IMPLEMENTATION SUPPORT DEVELOPMENT

Semi-Structured Interviews
IMPLEMENTATION SUPPORT DEVELOPMENT

Semi-Structured Interviews

Guideline Development

"Co-Creation Session"
IMPLEMENTATION SUPPORT DEVELOPMENT

Semi-Structured Interviews
Guideline Development

“Co-Creation Session”
Outreach Visits
IMPLEMENTATION SUPPORT EVALUATION

Semi-Structured Interviews

Guideline Development

“Co-Creation Session”

Outreach Visits

Evaluation
STEPPED WEDGE CLUSTER RANDOMIZED DESIGN
METHODS

Approach
- QUAN → qual mixed-methods data explanation

QUAN (N=59):
- Measures of Acceptability, Feasibility, and Usability

qual (n=15):
- Perceptions of educational outreach visit and guidelines

<table>
<thead>
<tr>
<th>Measure</th>
<th>Example Item</th>
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<tbody>
<tr>
<td><strong>Acceptability</strong> of</td>
<td>“I like mobile phone supervision.”</td>
</tr>
<tr>
<td>Intervention Measure</td>
<td></td>
</tr>
<tr>
<td><strong>Feasibility</strong> of</td>
<td>“Mobile phone supervision seems possible in this school.”</td>
</tr>
<tr>
<td>Intervention Measure</td>
<td></td>
</tr>
<tr>
<td><strong>Usability</strong> Scale</td>
<td>“I found mobile phone supervision too challenging.”</td>
</tr>
</tbody>
</table>
GUIDELINES & OUTREACH
IMPROVED ACCEPTABILITY

No Guidelines (Sequence 6)  Guidelines (Sequence 7)

$t(57) = -2.05, p = .04$

Hedges $g = 0.53,$
95% CI: 0.01 - 1.05
There was no evidence of difference in feasibility.

\[ t(57) = -1.92, \ p = .06 \]

\[ \text{Hedges } g = 0.49, \ \text{95\% CI: } -0.03 \ - 1.02 \]
GUIDELINES & OUTREACH IMPROVED USABILITY

\[ t(57) = -2.34, \ p = .02 \]

Hedges \( g = 0.60, \ 95\% \ CI: 0.08 - 1.13 \)
QUALITATIVE RESULTS: IMPACT OF PROGRAM

- Set Expectations
- Emphasize Importance
- Increase Counselor Comfort
- Share Strategies
QUALITATIVE RESULTS: IMPACT OF PROGRAM

The meeting “let the counselors know that it’s not all about in-person [supervision]. Because initially, [counselors] were thinking that supervision is mainly important if it's in person, but then they took the phone supervision more seriously.” - Supervisor
QUALITATIVE RESULTS: IMPACT OF PROGRAM

- Set Expectations
- Emphasize Importance
- Increase Counselor Comfort
- Share Strategies
Interviews suggested that strategies from each goal were used.
Co-developed implementation guidelines and educational outreach visits were associated with improved acceptability and usability of mobile phone supervision.

- Pragmatic and flexible implementation supports are needed.
- Models that empower partners to co-create, lead, and adapt strategies are important for health and research equity.

Limitations

- Use of HCD in a culturally distinct setting with no in-country experts
• Shannon Dorsey, PhD
• Pamela Collins, MD MPH; Sean Munson, PhD; Bryan Weiner, PhD;
• RISE-MH Lab
• BASIC Study Team

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