Care Group Model Sustainability Study

Halkeno Tura
Outline

- **Overview** of motivation to study sustainability of CGM
- **Describe** problem statement
- **Present** a methodology used and study results, conclusion and recommendations
Research Interest

Community-owned interventions

Innovative community-based interventions

• Long-term

Mechanism of Action

• Short-term

Improve maternal, newborn and child health outcomes

Examine the effect of cultural and social norms, social relationships, social network, gender role, empowerment, and collective actions at family and community levels and their impact on health behaviors, particularly, MNCH
A community-based strategy for improving coverage and behavior change

Focuses on building teams of volunteer women who represent, serve, and do health promotion with blocks of 10-15 households each

Fig 1. Cascade group volunteer teaching health message to her neighbor (FH, 2010)
Why this study

- Whichever way you look at the world, disparity in MNCH affects every country, so even small contributions to reduce the problem are worth trying.

Fig 2. Image showing different continents on a map (http://www.vectortemplates.com/raster-globes.php)
Why this Study?

- There is a shift in Health Promotion Approach
- There is growing interest in the use of community-based approaches, the approaches that decrease malnutrition and child deaths through a structure that brings:
  - Behavior change
  - Target the right/influential group
  - Equity, universal coverage
  - Trusted relationship
  - Social Support
  - Continuity
  - Cost-effective

Care Group Model
Why Study Sustainability of CGM?

Evidence from these community-based approaches is mounting (Haines et al., 2007; Howard, 2010; Andrew et al., 2004; Davis et al., 2010; Perry et al., 2015)

- Care group studies from Mozambique and Uganda are good examples (FH & WR) & Uganda (HCU & CW).
- However, little is known about the sustainability of these health gains.
- Much remains to be understood regarding the long-term effectiveness of community health workers (such as CVG) serving in a “health promotion-only” role.
Study aims

1) Evaluate the long-term impact of the use of CGM as a health promotion strategy,
2) Measure sustainability of health gains, and
3) Share the findings with those who want to replicate the model or components of it in the future
Research Questions

1) Does the tested intervention and health impact continue after the end of the program?

2) To what extent have the community volunteers continued cascading the healthy behavior knowledge, skills and practices among their community?

3) What magnitude of effects can be expected from a community-based health promotion programs like this one five years after the program?
Data

- Ethical approval
  - All study methods were reviewed and approved for compliance with ethical standards

- Data source
  - Survey women with children under the age of five

- Analytic sample
  - 504 women who have given birth in the last five years
  - 579 children under age of five

- Unit of analysis
  - Women and children
Data analysis

- SPSS to measure health behavior
- Anthro to measure abnormal departure of height/weight from median at a given age/sex in a well nourished population
  - Weight-for-age
  - Height-for-age
  - Weight-for-height
  - BMI-for-age
Response variables (Indicators)

- **Child Health**
  - Nutrition status
  - Diarrhea and other diseases management
  - Health-seeking behavior (preventive)
    - Vit. A
    - Deworming
    - Vaccinations
  - Feeding practices

- **Maternal health**
  - Child spacing
  - ANC, delivery, PNC
  - Knowledge of PP danger signs
  - Knowledge of HIV prevention practices
  - TT injection

- **Hygiene and sanitation practices**
Research Q#1

1) Does the tested intervention and health impact continue after the end of the program?
Result: Undernutrition

Fig 3. Percent underweight/undernutrition compared to the previous studies
Result: Health-Seeking Behavior

Fig 4. Percent underweight/undernutrition compared to the previous studies
Result: Feeding Practices

![Graph showing feeding practices indicators compared to previous data]

**Fig 5. Feeding practice Indicators compared to the previous data**

<table>
<thead>
<tr>
<th>Year</th>
<th>Exclusive Breastfeeding</th>
<th>Breast Milk and Comp. food</th>
<th>At least 3+ meal a day</th>
<th>Incr. fluid during illness</th>
<th>Oil added to meal</th>
<th>Vit. A rich food</th>
<th>Same or greater food during illness</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>23.9</td>
<td>80</td>
<td>31.2</td>
<td>35.2</td>
<td>36.2</td>
<td>30.5</td>
<td>32.5</td>
</tr>
<tr>
<td>2010</td>
<td>74.5</td>
<td>97.1</td>
<td>75.7</td>
<td>55.6</td>
<td>86.9</td>
<td>58.7</td>
<td>81.4</td>
</tr>
<tr>
<td>2015</td>
<td>65.3</td>
<td>81.8</td>
<td>76.3</td>
<td>68</td>
<td>91.9</td>
<td>69.2</td>
<td>84.9</td>
</tr>
</tbody>
</table>
Result: Maternal Health

Fig 6. Other health related behavior
Result: Hygiene and Sanitation

**Fig 7. Hygiene and sanitation behavior**

<table>
<thead>
<tr>
<th>Year</th>
<th>Hand Washing</th>
<th>Purifying Water Before Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>1</td>
<td>41.1</td>
</tr>
<tr>
<td>2010</td>
<td>50.5</td>
<td>85.4</td>
</tr>
<tr>
<td>2015</td>
<td>29.2</td>
<td>74.7</td>
</tr>
</tbody>
</table>
Research Q#2

To what extent have the community volunteers continued cascading the healthy behavior knowledge, skills and practices among their community?
Result

- 51.5% of CGVs (Leader Mothers) were still active five years after the project ended,
- 59% said they received visit from CGVs during labor, delivery and afterward,
- 57% said care givers, other than the mother, received health info from CGVs,
- 60.7% said they received visit from CGVs in the last two weeks
- 65% said they have come in contact with CGVs at least one time and at most 4 times in the last one month
- 66.6% said they get advice from CGVs on health or nutrition
- 63.6% said they see ML as their general source for health information
Table 1 Mothers' sources of health information

<table>
<thead>
<tr>
<th>Sources of health information</th>
<th>Age Category in months</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0-12</td>
<td>12.01-23</td>
</tr>
<tr>
<td>CGVs</td>
<td>61.3%</td>
<td>58.5%</td>
</tr>
<tr>
<td>TV News</td>
<td>50.7%</td>
<td>55.1%</td>
</tr>
<tr>
<td>Radio</td>
<td>21.3%</td>
<td>22.0%</td>
</tr>
<tr>
<td>News Journal</td>
<td>6.7%</td>
<td>7.6%</td>
</tr>
<tr>
<td>Others</td>
<td>13.3%</td>
<td>14.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Research Q#3
What magnitude of effects can be expected from a community-based health promotion programs like this one five years after the program?
Result: Stunting Prevalence Rate

Fig 8. Percent underweight/undernutrition compared to the Countrywide data
# Result: Annual Rate of Reduction

Table 6 Mean annual rate of decline in the project area compared to countrywide data, 2005-2015

<table>
<thead>
<tr>
<th>Location</th>
<th>% of Children &lt; 2 SD below the standard median weight-for-Age score</th>
<th>Ave. rate of decline/year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source</td>
<td>Baseline (Dates)</td>
<td>Endline (Dates)</td>
</tr>
<tr>
<td>(This study)</td>
<td>(2006)</td>
<td>(2015)</td>
</tr>
<tr>
<td>Countrywide</td>
<td>20.0%</td>
<td>19.0%</td>
</tr>
</tbody>
</table>
**Table 6** Mean annual rate of decline in the project area compared to countrywide data, 2005-2015

<table>
<thead>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baseline (Dates)</td>
<td>Endline (Dates)</td>
</tr>
<tr>
<td>Intensive phase</td>
<td>29.5% (2006)</td>
<td>17.8% (2010)</td>
</tr>
<tr>
<td>Post-Test</td>
<td>17.8% (2010)</td>
<td>15.8% (2015)</td>
</tr>
<tr>
<td>Countrywide</td>
<td>20.0% (2003)</td>
<td>19.0% (2011)</td>
</tr>
<tr>
<td>Category</td>
<td>Area A 2006 % (95% CI)</td>
<td>Area Sub-A (Manga) 2010 % (95% CI)</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>Children 0-23 m who are underweight (WAZ &lt; -2.0 SD)</td>
<td>25.9 (22.1-29.7)</td>
<td>17.8 (14.5-21.0)</td>
</tr>
<tr>
<td>Infants 0-5 m who were fed only breast milk in the last 24 hours</td>
<td>23.9 (11.1-36.7)</td>
<td>74.5 (61.5-87.4)</td>
</tr>
<tr>
<td>Children 9-23 m who receive food other than liquids at least 3 times/day</td>
<td>31 (22.4-40.0)</td>
<td>75.7 (67.7-87.4)</td>
</tr>
<tr>
<td>Children 6-23 m with oil added to their weaning food</td>
<td>36 (27.7-44.5)</td>
<td>86.9 (81.3-92.5)</td>
</tr>
<tr>
<td>Children 6-23 m who have consumed at least one Vitamin A-rich food in the previous day</td>
<td>30.5 (22.5-38.5)</td>
<td>58.7 (50.7-66.6)</td>
</tr>
<tr>
<td>Children 0-23 m with diarrhea in the last 2 weeks who were offered the same amount of, or more, food during the illness</td>
<td>32 (20.9-43.8)</td>
<td>83 (71.6-95.1)</td>
</tr>
<tr>
<td>Children 12-23 m who have received a Vitamin A capsule in the past 6 months (card-confirmed or mother’s report)</td>
<td>82 (74.2-90.3)</td>
<td>93.6 (88.6-98.7)</td>
</tr>
<tr>
<td>Outcome</td>
<td>Area A 2006 % (95% CI)</td>
<td>Area Sub-A (Manga) 2010 % (95% CI)</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>------------------------</td>
<td>------------------------------------</td>
</tr>
<tr>
<td>Children 12-23 m who received deworming medication in the last 6 months (mother's report)</td>
<td>28.6 (18.7-38.4)</td>
<td>78.7 (69.2-88.2)</td>
</tr>
<tr>
<td>Children 0-23 m who were weighed in the last 4 months (card-confirmed)</td>
<td>73 (66.0-80.1)</td>
<td>88 (83.3-93.1)</td>
</tr>
<tr>
<td>Children 0-23 m with diarrhea in the last 2 weeks who receive ORS and/or RHF</td>
<td>58 (46.0-69.9)</td>
<td>93 (85.8-100.9)</td>
</tr>
<tr>
<td>Mothers of children 0-23 m who can correctly prepare ORS</td>
<td>43.5 (36.1-50.9)</td>
<td>84.7 (79.6-89.8)</td>
</tr>
<tr>
<td>Mothers of children 0-23 m who report that they wash their hands with soap/ash before preparing food, before eating, after defecating, and after attending to a child who has defecated</td>
<td>1.0 (-0.4-2.4)</td>
<td>50.5 (43.3-57.7)</td>
</tr>
<tr>
<td>Mothers of children 0-23 m who report that they purify their water using any effective method (by boiling or using point-of-use water purification)</td>
<td>41 (31.2-50.9)</td>
<td>85 (79.8-91.1)</td>
</tr>
</tbody>
</table>
There is strong evidence to support that Care Group Model used in the project area sustains the health impact five years after the end of the program.

There is strong evidence of CGVs transferring the knowledge, skills, tools, and passion needed for effective and sustainable community health development.

The annual rate of decline in undernutrition is faster in the project area.
Recommendations

- The CM deserves stronger support from donors and from the Mozambique MOH for replication and scale up in other parts of the country.

- Future implementers should collaborate with MOH counterparts to assess the most optimal way that Care Groups can be integrated into MOH systems.

- Caution must be exercised when interpreting this result.

- Further study is needed to
  - Document what aspects of CGM have contributed to sustainability of health gain.
Acknowledgment

- Tom Davis
- Emma Hernandez
- Team in Mozambique
- Mary DeCoster
- Sarah Borger
References


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Thank You

Feel free to contact me at the following address
Halkeno Tura,
Department of Community and Behavioral Health
University of Iowa, College of Public Health
halkeno-tura@uiowa.edu