STRONGMINDS MENTAL HEALTH AFRICA

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Impact Evaluation

End of Phase Two Impact Evaluation for the Treating Depression at Scale in Africa Program in Uganda

July 2015

This Impact Evaluation was completed by StrongMinds. Dr. Katia Peterson, of In Situ Research LLC, executed the analysis and contributed to the report document.

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Acronyms

DSM-IV	Diagnostic and Statistical Manual of Mental Disorders
Disorders GEE	Generalized Estimating Equation
IPT-G	Group Interpersonal Psychotherapy
IPT	Interpersonal Psychotherapy
MHF	Mental Health Facilitator
MHS	Mental Health Supervisor
MOH	Ministry of Health
NGO	Non-Governmental Organization
PHQ-9	Patient Health Questionnaire-9
RCT	Randomized Controlled Trial
STATA	Statistical Software by StataCorp.

1. Executive Summary

An Impact Evaluation indicates that the StrongMinds' Treating Depression at Scale in Africa Program Phase Two pilot exceeded expectations by successfully reducing the depressive symptoms in 92% of the women treated using Group Interpersonal Psychotherapy (IPT-G). A separate control group, which consisted of depressed women who received no treatment, experienced a reduction of depressive symptoms in only 11% of members over the same 12-week intervention period.

This decrease in depression among the StrongMinds' intervention patients had an impact on the well-being of the participants and their families. Upon achieving depression-free status:

- The women were found to be spending more time working in their primary occupation (increase from 79% to 94%) and these women were also more likely to be satisfied with their jobs.
- The women and their families were consuming meals more regularly (families with no meals consumed over the last 24 hours reduced from 53% to 13%).
- Patients were believed to be in better physical health, as medical care visits reduced over the last month from 58% to 41%.
- Women and their families improved their physical homes, as the percentage of families sleeping in protected shelters increased from 65% to 83%.
- The patients' children were missing fewer days of school (days of school missed in the last week reduced from 43% to 33%).
- Women were found to have significantly improved their social networks, with the percentage nearly doubling of those members reporting the presence of someone in their lives they could rely upon for support.

Recommendations for the future scale up of the StrongMinds IPT-G intervention include addressing the recent appearance of social desirability bias among depressed patients, to ensure the accuracy of its impact findings. In addition, the organization needs to improve its Monitoring & Evaluation systems since data collection issues are leading to missed opportunities to analyze additional impact areas.

2. Impact Evaluation Purpose

Phase Two for the StrongMinds' Treating Depression at Scale in Africa Program took place in Uganda between November of 2014 and February of 2015. The purpose of this Impact Evaluation for Phase Two is to inform program activities for 2015 and beyond.

The Evaluation focused on three major questions:

a. Was the use of Group Interpersonal Psychotherapy, implemented at a scaled approach, effective in treating depression in Uganda?

b. What, if any, were the secondary positive impacts of using IPT-G on the depressed patients?

c. What actions are necessary for StrongMinds to improve its programmatic activities in light of the impact evaluation findings?

3. Project Background

Context: Depression in Africa

The single most prevalent mental illness in the world is major depressive disorder, more commonly known as depression. Globally, 350 million people suffer from depression. According to the World Health Organization, it is expected that by the year 2030, depression will be the second highest contributor to the global burden of disease, second only behind HIV/AIDS. In Africa, depression afflicts women at twice the rate of men and is the number one cause of disability for females between the ages of 10-49 years. The impact on the life of an African woman suffering from depression is wide-ranging and severe:

- Depression incapacitates a woman, leaving her physically and mentally debilitated.
- Depression harms the entire African family, and frequently leads to strife between the patient and her children, spouse and relatives.
- Depression sufferers exhibit more maladaptive parental behaviors such as harsh punishment and spending smaller amounts of time with their children.
- Children of mothers suffering from depression:
    - Have poorer overall health than children of mothers without depression, including a higher risk of being underweight, stunted and suffering more episodes of diarrhea
    - Generally have lower attendance and achievement during primary school years
    - Form less secure attachment relationships with their parents
    - Are at increased risk themselves for depression during childhood and adolescence
- People with mental disorders, including depression, are at a heightened risk of contracting HIV/AIDS.
- Depressed patients incur significantly higher health care costs.

Mental illness in the developing world, and especially Africa, continues to be one of the most neglected health problems, despite the growing prevalence of many such illnesses, like depression. Extreme poverty, terrorism, conflict, and instability in many African countries are creating a depression epidemic—rates of depression throughout Africa are several times higher than rates found in Europe or the U.S. However, the response to this health crisis is greatly lacking. The Ugandan Ministry of Health (MOH) spends just 2% of its health budget on mental illnesses, devoting most of those funds to the national mental hospital in Kampala, and thereby neglecting the large majority of the country's mentally ill population. International development assistance to promote mental health for developing world countries is extremely limited. As a result, in both Uganda and Africa in general, there is a startling lack of financial and human resources available to treat the growing mental health problem of depressive disorders. The ultimate impact of this situation is compelling: an average of 90% of Africans suffering from depression--90 million people, including 60 million women--have no access to effective treatment.

Project Background

In response to the depression crisis in Africa, StrongMinds in 2013 conducted extensive research and analysis in order to identify the most appropriate treatment intervention which would be effective and scalable. StrongMinds ultimately selected Group Interpersonal Psychotherapy (IPT-G) as its method of

intervention. IPT-G is a proven, simple and cost efficient community-based model to treat depression. This group psychotherapy focuses on the interpersonal relationships of depressed group members and is led by a facilitator who uses a structured model over a period of 12-16 weeks to help group members identify and understand the root causes and triggers of their depression, and then to formulate strategies to overcome those triggers. Since depression is episodic and will continue to recur throughout most people's lives, these newly acquired skills have both an immediate impact and a long-term preventive impact for the depressive sufferer.

IPT-G was first tested in Uganda by Johns Hopkins University in a randomized controlled trial (RCT) in 2002.[1] Using nine lay community workers with only a high-school education as their Mental Health Facilitators (MHFs), the researchers found that IPT-G was successful in reducing the depressive symptoms of 92% of the 224 patients they treated. A separate group therapeutic approach of psychotherapy also was successful in Africa in 2012, again led by researchers at Johns Hopkins University. These group therapeutic methods are well suited for the African culture, given its strong communal society.

As a talk therapy approach, IPT-G does not require the use of antidepressant medications for patients. Given that access to such medications is problematic for most of the African population, IPT-G's ability to treat depression without the use of such medications makes it particularly well suited for the African context.

The original 2002 IPT-G research study also showed that the positive effect of the intervention continued for 6 months after the intervention, and some of the groups actually continued to meet for many years while maintaining a reduction in their depressive symptoms. Thus, StrongMinds aims to replicate a similar IPT-G regimen for depressed patients, but at scale, helping them to learn coping strategies that both resolve their current depressive states and prevent future depressive episodes.

Project Overview and Status

During the period of January 2014 to February 2015, StrongMinds implemented a pilot program using Group Interpersonal Psychotherapy to treat 500 depressed women in Kampala, Uganda, a post-conflict and highly impoverished country where 1 out of every 4 adults suffers from depression. The pilot, "Treating Depression at Scale in Africa," tested, assessed and modified key program features over a 14-month period, and allowed StrongMinds to develop a refined model that is currently being implemented at a larger scale.

The pilot treated depressed patients in two Phases, or halves, of roughly equal cohort size. StrongMinds concluded Phase One of the pilot by treating 244 depressed women over a 16-week period via 26 Interpersonal Psychotherapy (IPT) groups on September 12, 2014. The 26 groups were led by four Mental Health Facilitators who are employed by StrongMinds. An Impact Evaluation completed in November 2014 indicated that the StrongMinds' Phase One pilot exceeded expectations by successfully reducing the depressive symptoms in 94-97% of the patients treated using Group Interpersonal Psychotherapy. This decrease in depression had an impact on the well-being of the participants. During

[1] Bolton, Paul, et al. Group Interpersonal Psychotherapy for Depression in Rural Uganda. JAMA, June 18, 2003: 289; 3117-3124. http://jama.jamanetwork.com/article.aspx?articleid=196766

the 16-week intervention, self-employment increased by 22%, unemployment was reduced by 67%, the number of women who were able to save part of their income increased by 63%, and women eating three meals a day increased 245%. Recommendations for Phase Two and scale up included changes in the type and quantity of data collected as well as the length of treatment and the severity of cases to be included in treatment. Please refer to the Phase One StrongMinds Impact Evaluation Report[2] for more details.

Phase Two of the pilot treated 270 women with 26 groups and four MHFs who were supervised by one Mental Health Supervisor (MHS). The treatment period was shortened to 12 weeks based on the Phase One learning that the majority of patients received maximum impact by the end of week twelve. The overall group session attendance rate for these 270 women throughout the 12-weeks was 91%, compared with an 86% attendance rate for Phase One. With the completion of Phase Two in February 2015, StrongMinds treated a total of 514 women in the entire pilot, exceeding the pilot goal of treating 500 women.

StrongMinds plans to maintain contact with a representative sample of the 514 patients treated during this pilot for a 6-month period post-intervention, during which their depressive states will be monitored. This 6-month post-intervention engagement will permit StrongMinds to evaluate the longer term impact of IPT-G on the patients' depressive conditions, and provide early indication on the effectiveness of this intervention for preventing the recurrence of future depressive episodes among treated patients.

Further details on StrongMinds' program strategies can be found in the appendices:

- Appendix A: StrongMinds Model Overview
- Appendix B: Depressed Patient Diagnosis Using the PHQ-9 and PHQ-9 Form
- Appendix C: Depressed Patient Identification and Recruitment
- Appendix D: Group Interpersonal Psychotherapy: How does it work?
- Appendix E: Training of Mental Health Facilitators (MHFs)
- Appendix F: Functionality Assessment Tool

[2] http://strongminds.org/wp-content/uploads/2014/11/StrongMinds-Impact-Evaluation-Report-November-2014.pdf

4. Evaluation Methods and Analysis

Methods

The Impact Evaluation for Phase Two primarily used quantitative techniques and was comprised of all the 270 depressed female participants in the treatment intervention group and all the 36 depressed female participants in the control arm. Participants were located in various villages within three clusters of the Bulenga and Maganjo parishes in suburban Kampala. Basic demographic data was collected at pre-assessment. Map 1 provides a geographical representation of these three clusters; Table 1 provides a specific listing of the number of participants per each village location.

Map 1. Site Location Map (Kampala, Uganda environs)

Table 1. Study Participant Locations

Location	Intervention Size N (%)	Control Size N (%)
Bulenga Parish		
Nakabugo Rashida	15 (6%)	5 (14%)
Kisisira 1	14 (5%)	1 (3%)
Nakabugo Kiwanuka	14 (5%)	5 (14%)
Kalambi 2	13 (5%)	
Kalambi 1	12 (4%)	2 (6%)
Kirimamboga	12 (4%)	
Mayumba	10 (4%)	1 (3%)
Bbira	10 (4%)	1 (3%)
Nnsale'A	10 (4%)	
Kisisia 2	9 (3%)	
Ntongo	6 (2%)	3 (8%)
Maganjo Parish		
Wabitembe	27 (10%)	
Brac	16 (6%)	
Kamanya	15 (6%)	3 (8%)
Nakyesanja Katende	15 (6%)	3 (8%)
Nakyesanja	14 (5%)	3 (8%)
Jinja Karoli Kasatiro	13 (5%)	4 (11%)
Kubiyinja	10 (4%)	
Lukadde	8 (3%)	
Jinja Karoli	8 (3%)	4 (11%)
Nakyesanja Saaka	6 (2%)	
Kayii	6 (2%)	
Wabitembe 3	6 (2%)	
Nakyesanja Norah	1 (0%)	1 (3%)

Participants in the treatment intervention group and control group were screened using the Patient Health Questionnaire-9 (PHQ-9, a quantitatively based depression diagnostic tool) and diagnosed with depression in October and November of 2014. Participants in the treatment intervention group agreed to join IPT groups.

The control arm was formed by those who declined to join the IPT groups during screening; although they were also diagnosed with depression, they preferred individual therapy which StrongMinds does not provide. The control arm participants did not receive any official treatment for depression during this 12-week intervention period, but they were offered the opportunity to join an IPT group with StrongMinds later during 2015. In an ideal setting, the control group would have consisted of depressed women who had consented to join a StrongMinds IPT group—which StrongMinds would have provided after the Phase Two program concluded.

Given the limited time-frame and budget of the pilot, the determination was made that the priority for the control group was to ensure that it was composed of depressed women of similar demographic background to those participants in the intervention group—which was the case.

For the treatment intervention group, raw scores from the PHQ-9 were recorded at pre-assessment (baseline), again at every other IPT group meeting from weeks 2-12 (bi-weekly), and once more at a post-assessment (end line) in Week 14. Data on patient functionality, for both the treatment intervention and control group, was collected at baseline and end line only. Pre-assessment is the point in time (before formal IPT groups begin) at which StrongMinds identifies participants, diagnoses them with depression, and recruits them into IPT groups. Post-assessment is the point in time (after formal IPT groups end) at which StrongMinds re-diagnoses participants to understand their final depressive status.

Limitations of the evaluation included the existence of social desirability bias (further discussed); the composition of the control group (previously discussed); the subjectivity of self-reported data; some missing data; and logistical and time constraints to organize and analyze the sizeable amount of data.

As background, the PHQ-9 is contained within the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) published by the American Psychiatric Association and is supported by the WHO for use in the developing world. The PHQ-9 is a series of 9 questions which score the severity of depressive symptoms for a patient, and provides an overall Raw Score for a patient's level of depression, as seen in Table 2. The Raw Score, in turn, equates to a level of depression, or Depression Severity Score. Appendix B contains further information on the PHQ-9 tool.

Minimal Depression, which equates to a PHQ-9 Raw Score of between 1-4, can also be referred to as a normative level of depression. Minimal Depression, in lay terms, means that the individual is not able to be diagnosed with any significant level of depression, and is thus, "depression-free." The goal of the StrongMinds' pilot intervention was to reach the Minimal Depression state for its patients.

Table 2: Raw Score to Depression Score Conversion

PHQ-9 Raw Score	Depression Severity Score
1-4	0 = Minimal Depression
5-9	1 = Mild Depression
10-14	2 = Moderate Depression
15-19	3 = Moderately Severe Depression
20-27	4 = Severe Depression

A total of 56 participants with Minimal or Mild Depression (anyone with total raw scores between 1-9) at baseline in both the treatment intervention (46 participants) and control (10 participants) groups were dropped from the GEE analysis of determining the depression reduction impact. In typical practice around the world, individuals with Minimal/Mild Depression are not considered for inclusion in group therapy because their depressive symptoms are relatively insignificant. StrongMinds consciously included these Minimal/Mild cases in Phase Two because these patients indicated suicidal thoughts in their PHQ-9 evaluation. However, their removal from the GEE analysis serves to ensure that the Impact Evaluation is not artificially inflated, since reducing the depressive symptoms of Minimal/Mild Depressive cases is generally easier to do.

Analysis

A generalized estimating equation (GEE) model was utilized to analyze correlated data and intra-subject changes in raw PHQ-9 score changes over the 12-week study period and at post-assessment (Week 14) among both treatment intervention and control groups. The GEE model was selected in order to determine the overall impact of the intervention on the average scores of individuals in the treatment intervention group relative to those in the control group, and to determine the effect size in score changes. After performing exploratory data analysis with a continuous response variable, a hypothesis was formed that it may be reasonable that the correlation structure would be autoregressive and thus fit an AR(1) correlation structure to the GEE model.

The analysis was also re-computed on a subset of the population and by removing all persons who came in with Minimal or Mild Depression (anyone with total raw scores between 1-9) at baseline in both treatment intervention and control groups to gauge whether there was any difference in the effect size on the entire group without those starting off with mild symptoms. This dropped the sample size to 26 in the control population and 224 in the treatment intervention group.

Data was analyzed using STATA /SE version 12.1 using the xtgee commands. Missing data was not imputed since they were found to be missing at random (and that the probability of drop out may be related to covariates and pre-drop out responses). Further, GEE models use the "all available pairs" method, in which all non-missing pairs of data are used in estimating the working correlation parameters. In this case the GEE model only lost the observations where the subject was missing, not all measurements.

Baseline and end line functionality data was descriptively analyzed and specific indicators of functionality were compared using a z-test. McNemar's test was used to analyze dependent categorical variables (i.e. yes/no answers) from paired matches. The purpose of McNemar's test is to determine whether row and column frequencies are different. The Wilcoxon Signed Rank Test was used to analyze dependent ordinal variables (i.e. pain scale). Given the nature of the analysis—before vs. after comparison of the same individual—only complete pairs of data were included. A complete pair has no missing values or discordant values between pairs. Discordance refers to the situation when there is one response and one missing or N/A value.

5. Findings, Discussion and Recommendations

Findings

Demographic Descriptive Statistics (all participants)

Descriptive statistics were generated for both the treatment intervention and control groups. Demographic data consisted of age, location (as noted above), marital status, and parity. The treatment intervention group consisted of 270 women with an average age of 36 years. The control group consisted of 36 women with an average age of 29 years. Approximately 65% of respondents in the treatment intervention group reported being married at the beginning of the study while nearly 91% reported having at least one child. Control group findings were similar. Tables 3a and 3b below illustrate demographic characteristics of the treatment intervention and control groups.

Table 3a. Baseline Demographic Characteristics

Characteristics	Intervention Size N (%)	Control Size N (%)
Age （years）	270	36
15–19	5 (2%)	5 (14%)
20–24	28 (10%)	8 (22%)
25–29	56 (21%)	7 (19%)
30–34	58 (22%)	9 (25%)
35–39	40 (15%)	3 (8%)
40–44	22 (8%)	2(6%)
45–49	21 (8%)	1 (3%)
50–54	15 (6%)	1 (3%)
55+	25 (9%)	

Table 3b. Baseline Demographic Characteristics

Characteristics	Intervention Size N (%)	Control Size N (%)
Marital Status	270	36
Married	175 (65%)	23 (64%)
Divorced	51 (19%)	5 (14%)
Widowed	31 (12%)	7 (19%)
Single	13 (5%)	1 (3%)
Have Children		
Yes	245 (91%)	32 (89%)
No	25 (9%)	4 (11%)

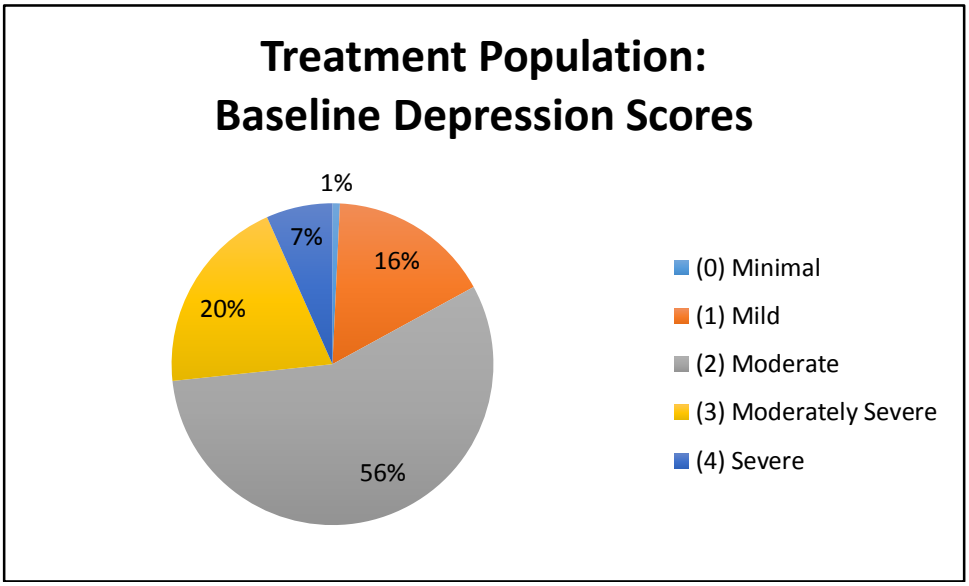
Treatment Effects

Table 4 outlines descriptive statistical data on depression scores and prevalence for both the treatment intervention and control groups at pre and post-assessment. Figures 1 and 2 represent those scores graphically.

Table 4. Treatment Intervention Pre and Post-Assessment Depression Scores (All Participants)

Characteristics	Intervention N (%)		Control N (%)	
	Pre	Post	Pre	Post
Median PHQ-9 Raw Score	12	0	11	10
Median Depression Score	2	0	2	2
Prevalence of Depression by Type				
(0) Minimal	2 (0%)	267 (99%)	2 (6%)	4 (11%)
(1) Mild	44 (16%)	3 (1%)	8 (22%)	11 (31%)
(2) Moderate	152 (56%)	0 (0%)	19 (53%)	17 (47%)
(3) Moderately Severe	54 (20%)	0 (0%)	4 (11%)	4 (11%)
(4) Severe	18 (7%)	0 (0%)	3 (8%)	0 (0%)

Figure 1. Treatment Intervention Population Pre and Post-Assessment Depression Scores (All Participants)



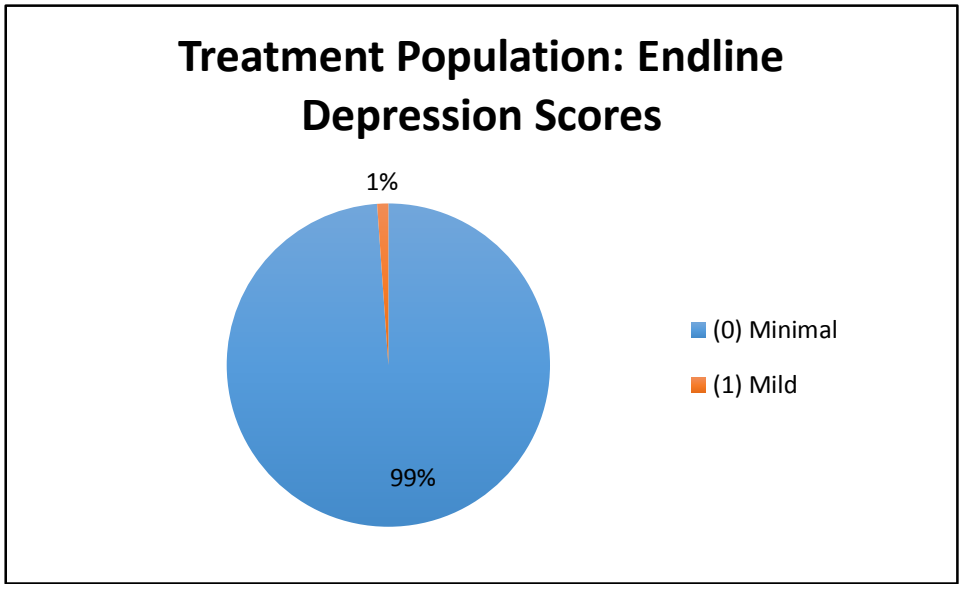
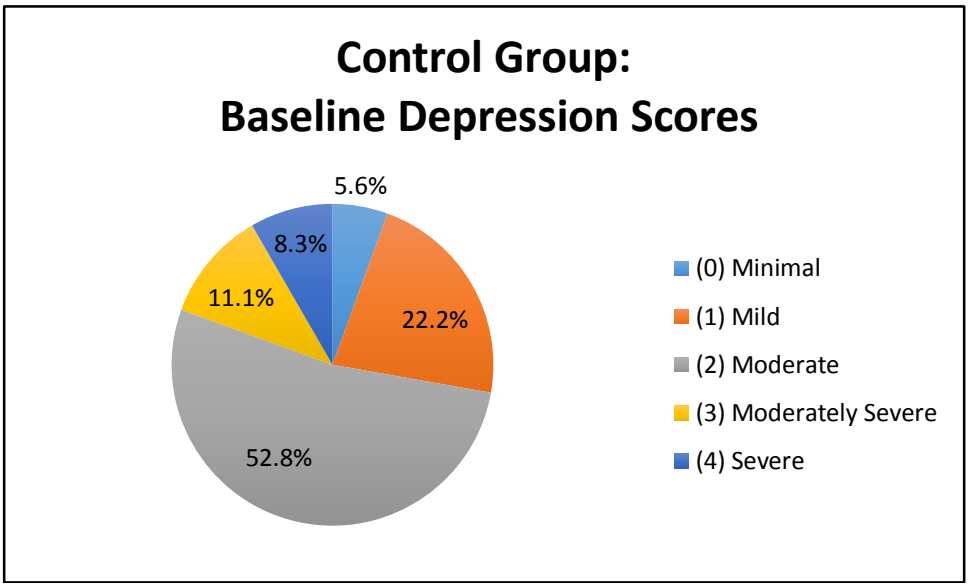
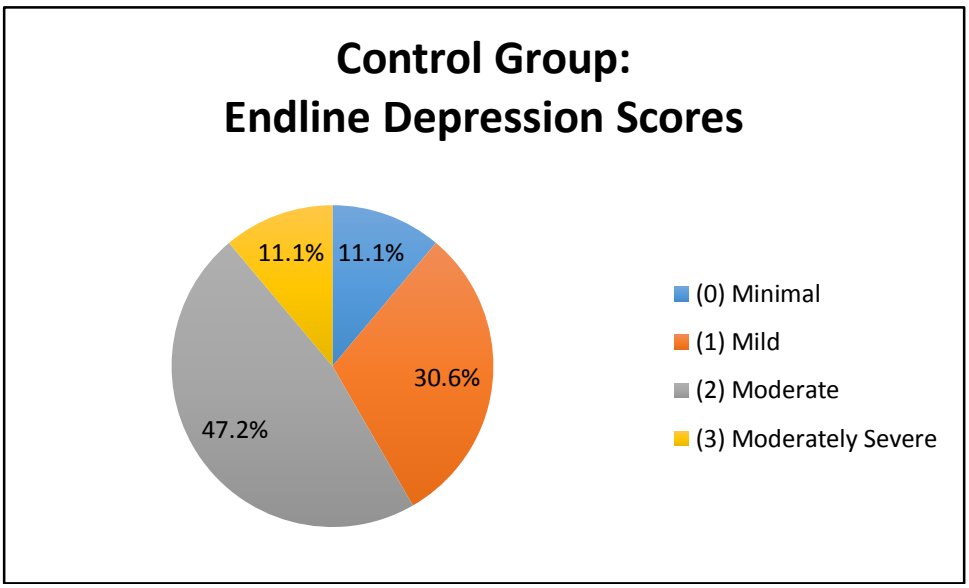


Figure 2. Control Group Population Pre and Post-Assessment Depression Score (All Participants)





As seen in Figures 1 and 2, the number of patients in the Phase Two treatment intervention group scored with Minimal Depression (or depression-free) at post-assessment (Week 14) is 99%, whereas that figure is 11% for the control group.

It is highly unlikely that the IPT-G intervention was 99% effective in reducing depression among the women it served as suggested by the Week 14 post-assessment. Bias or quality-control issues among the actual Mental Health Facilitators who collected the PHQ-9 data during the post-assessment seems unlikely for a number of reasons. First, IPT group members were administered the PHQ-9 during post-assessment by neutral MHFs, not the MHFs who operated their groups for 12 weeks. Thus, group members and MHFs had no relationship or allegiance issues during post-assessment. Second, throughout Phase Two, the MHFs were supervised full-time by a highly experienced Mental Health Supervisor, a Ugandan national with over ten years of experience in IPT. Third, the ability of the MHFs to accurately administer the PHQ-9 tool without bias was confirmed by the StrongMinds Uganda Country Director during sample quality checks in May and June, 2015.

After careful consultation with several mental health experts and a literature review, the 99% finding at post-assessment in Week 14 is believed to have been influenced by social desirability bias—the tendency of survey respondents to answer sensitive survey questions in a manner which will be viewed favorably by the interviewer. In this specific case, some IPT group members likely over-stated their reduction in depressive symptoms. These IPT group members were aware that the post-assessment gathering was being conducted to collect final depression scores only, and social desirability was likely triggered. **For this reason, the 99% finding is found to be invalid.**

It is interesting to note that social desirability bias did not impact all the group members. An analysis shows that 14% of the members actually experienced slightly increased depressive symptoms between the final week of group meetings (Week 12) and the post-assessment (Week 14). While the level of symptoms were still within the depression-free range, and was likely the result of some stress the members were experiencing from the ending of their formal IPT groups, it does indicate that social desirability bias was not pervasive.

The assumed presence of social desirability bias within the StrongMinds depression intervention treatment group is an important learning from Phase Two. The Recommendations Section of this report addresses future actions which StrongMinds should take to minimize this bias in future programming.

A separate analysis using PHQ-9 data from the final week of the IPT groups (Week 12) finds that 92% of patients (207 patients out of 224 total) in this Phase Two treatment intervention group responded to Minimal Depression (or depression-free). The 92% depression-free rate found at Week 12 appears to be the correct figure to use as the impact result for the treatment intervention group. Since this impact figure was collected at a regular IPT group meeting, as had been done bi-weekly throughout the 12-week intervention, it is unlikely that any bias influenced the figure. It is also worth noting that this 92% figure is consistent with the findings from the Phase One Impact Evaluation (94%) and the 2002 RCT for IPT-G in Uganda (92%).

GEE Analysis

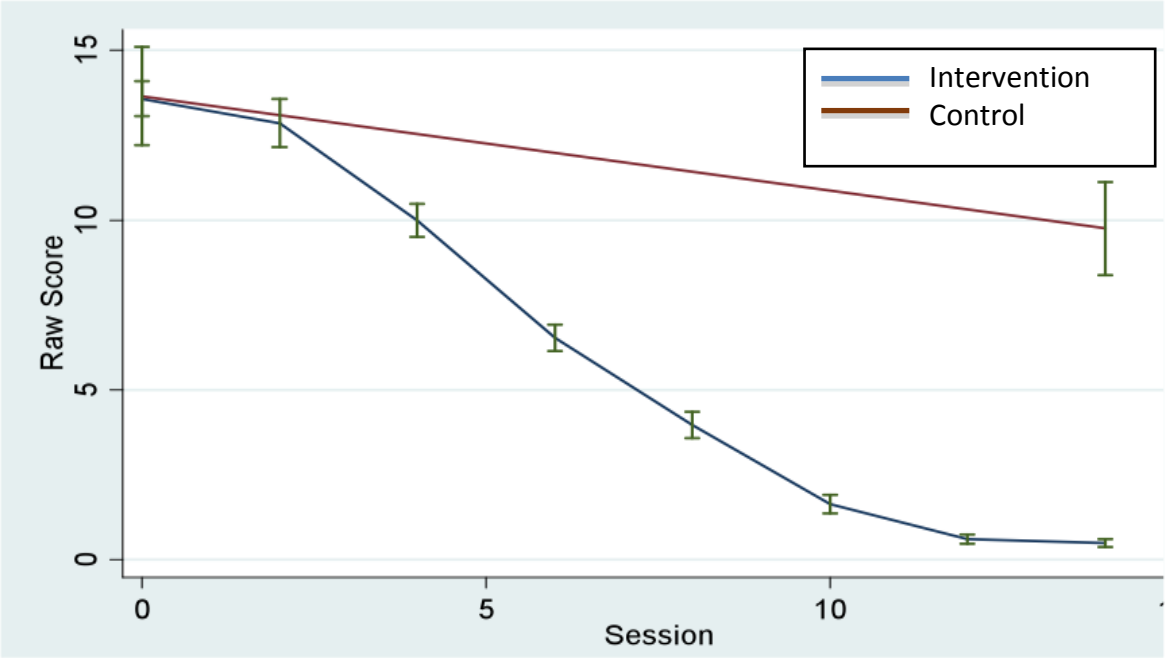
As evidenced in Table 5, **members in the treatment intervention group, on average, had a 4.5 point reduction in their total PHQ-9 Raw Score over the intervention period**, as compared to the control populations. Further, there is also a significant visit effect when controlling for group membership. **The PHQ-9 Raw Score decreased on average by 0.86 points for a participant for every two groups she attended.** Both of these findings are statistically significant.

Table 5. Results of the GEE Analysis

Treatment Session	Coefficient	Standard Error	Z	P> |z|	95% Confidence Interval	
group	4.526957	0.4828243	9.38	0.000	3.580639	5.473276
session	-.8634286	0.0209841	-41.15	0.000	-0.9045566	-.8223005
_cons	8.586239	0 .572214	15.01	0.000	7.46472	9.707758

The results from the GEE model demonstrate that the intervention did have a decreasing effect on the final PHQ-9 Raw depression scores. Although both the control and treatment intervention group did have an overall decrease in depression scores, the treatment intervention group had a statistically significant greater drop in PHQ-9 Raw depression scores. Figure 3 displays the average PHQ-9 scores for both the treatment intervention and control groups throughout the intervention period.

Figure 3: Line Graph Displaying Bi-weekly Average PHQ-9 Raw Scores Treatment Intervention vs. Control Group



Functionality

Functionality is defined as the ability of our intervention and control group members, and their families, to conduct their daily lives. It was measured on 46 factors and collected from 268 (of the 270 total) treatment intervention patients at baseline and end line. The 46 factors were grouped across 4 major topics: (1) physical status & health, (2) nutrition status, (3) economic status and occupation, and (4) household and child well-being. The Functionality Assessment Tool, which was used to collect this data, is included in Appendix F, and represents a more in-depth collection effort than that used by StrongMinds in Phase One. The Phase One effort surveyed 28 factors and was able to analyze 4 of the indicators.

Due to missing values, out of range responses, and incomplete data collection, some of the 46 indicators were not analyzed for results. The 36-member control group sample size was too small to conduct a similar functionality analysis.

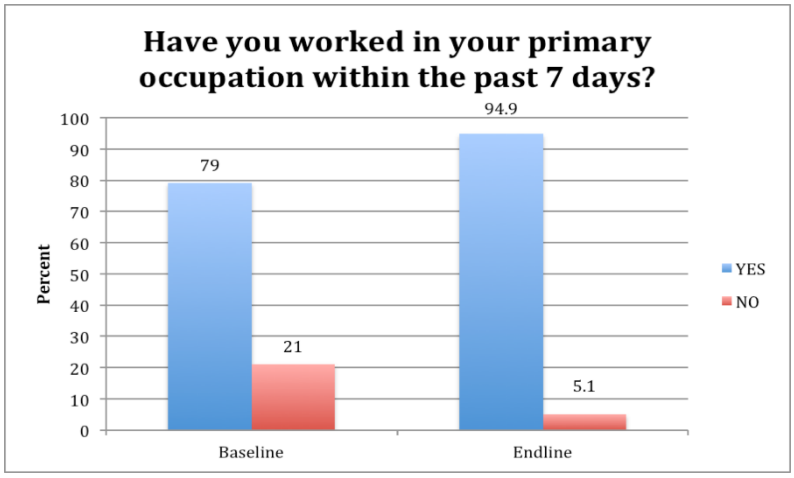
While social desirability bias influenced findings for the level of depression reduction impact, it is unlikely that this bias influenced the patients when they responded to the Functionality Assessment Tool. Demographic and basic behavioral questions are not typically subject to social desirability bias because these questions are not highly sensitive or intrusive. Further supporting the absence of social desirability bias in the Functionality analysis is that there were a number of analyzed indicators which showed no significant change from baseline to end line—if bias were present, a positive change would have been expected.

The following indicators for economic status and occupation, nutrition status, physical status and health, and household and child well-being status reported below are all statistically significant.

Economic Status and Occupation

Respondents were queried about their employment status at pre and post-assessment. In Phase One, there were notable improvements, specifically, there were more women who identified as 'self employed' and fewer who identified as 'unemployed' post intervention. In Phase Two, there was a significant increase from a baseline of 79.0% to end line of 94.9% in those who reported working in their primary occupation within the most recent seven days.

Figure 4. Percentage of Respondents Who Have Worked In Their Primary Occupation Within The Last Seven Days



There was a significant increase in job satisfaction scores over the preceding 30 days. The median score increased from 3 ('neither satisfied or dissatisfied') to 2 ('satisfied').

Table 6: Job Satisfaction Over The Last 30 Days

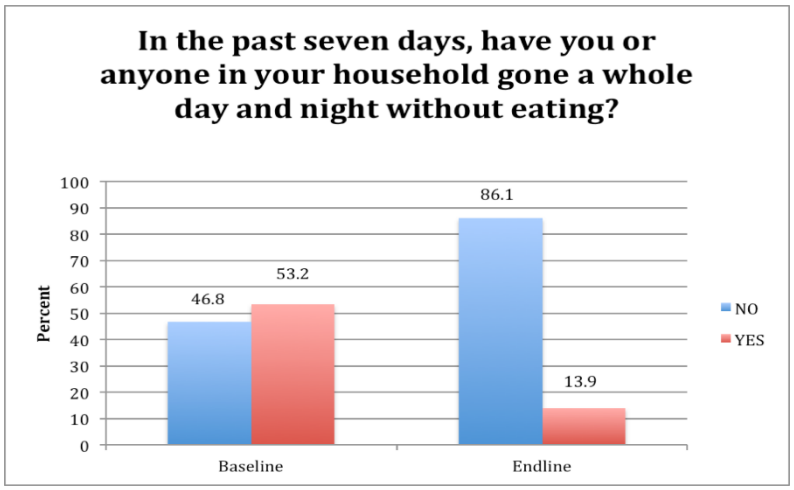
	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles		
						25th	50th (Median)	75th
ES12BL	154	3.39	.959	2	5	3.00	3.00	4.00
ES12EL	154	2.42	.711	1	5	2.00	2.00	3.00

Nutrition Status

The nutritional status of participants was captured in Phase One using the number of meals eaten within the previous 24 hours. The difference between pre and post-assessment for three meals a day posted the largest change in the number of meals eaten between the two assessments.

In Phase Two, interviewers asked how many times in the past seven days has anyone in your household gone a whole day and night without eating. There was a significant decrease in the number of people who reported going a whole day and night, or 24 hours, without a meal: 53.2% at baseline and 13.9% and end line.

Figure 5. Percentage of Respondents That Have Gone With Out Eating for 24 hours Within The Past Seven Days



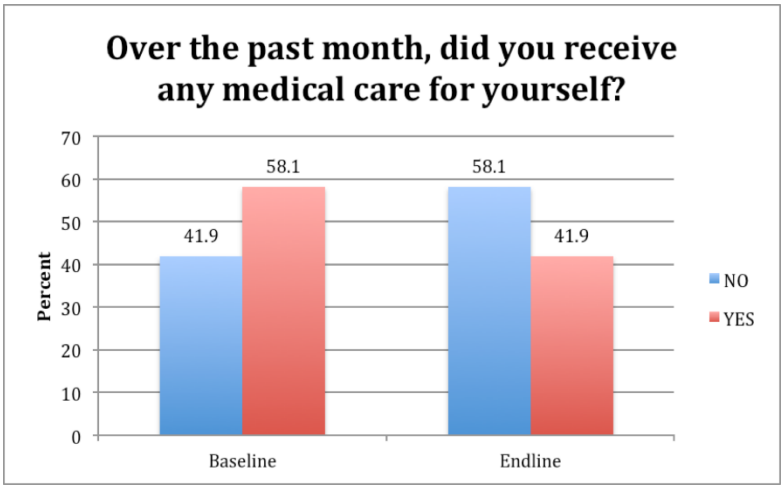
Further, there was a significant increase in the number of meals eaten within a 24 hour period from baseline to end line. The score increased from 3 (two meals per day) to a score of 4 (three meals per day).

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles		
						25th	50th (Median)	75th
NS1BL	269	2.83	.898	1	6	2.00	3.00	3.00
NS1EL	269	3.74	.833	1	6	3.00	4.00	4.00

Physical Status and Health

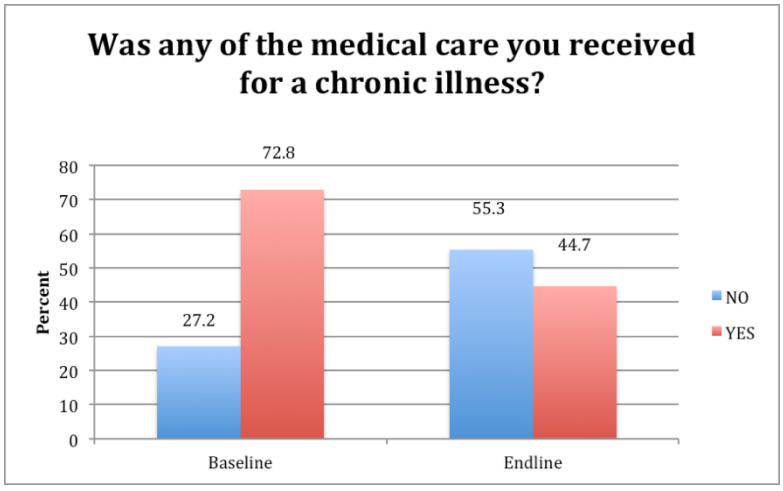
There was a significant decrease in the number of people who sought medical care at baseline (58.1%) compared with end line (41.9%).

Figure 6. Percentage of Respondents Who Received Medical Care Over The Past Month



There was also a significant decrease in the number of people who sought medical care for a chronic condition from baseline (72.8%) to end line (44.7%).

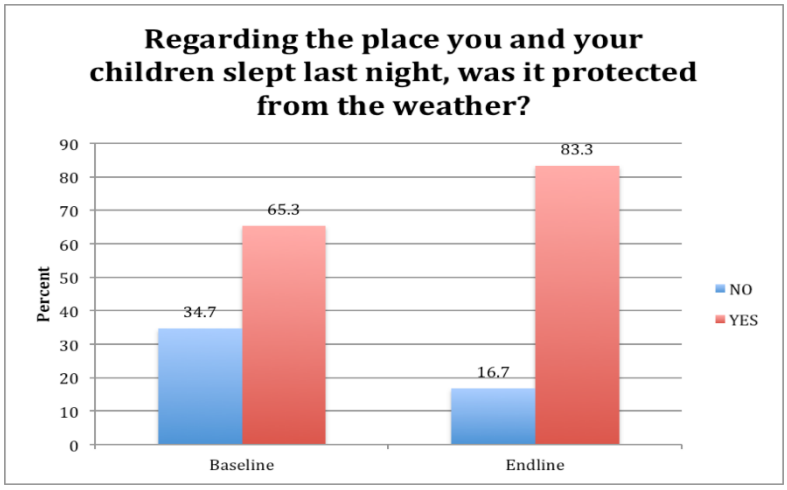
Figure 7. Percentage of Respondents Who Received Medical Care for a Chronic Illness



Household and Child Well-Being Status

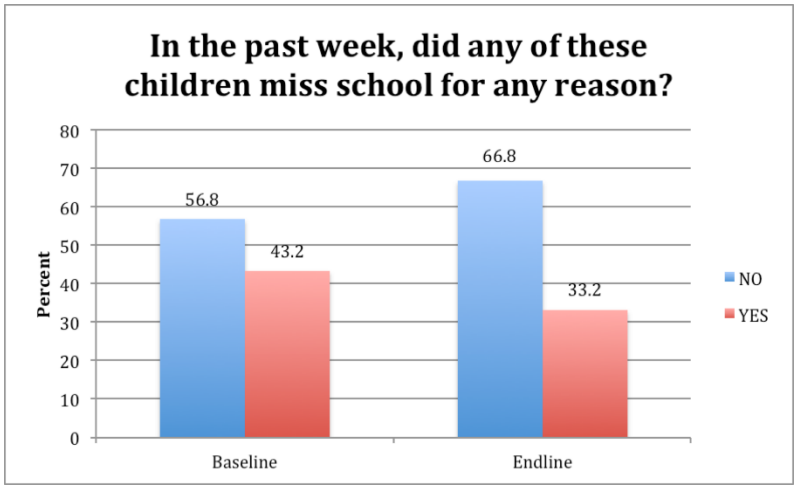
There was a significant increase in people reporting that the place where they and their children slept the previous night was protected from the weather (65.3% to 83.3%).

Figure 8. Percentage of Respondents Who Were Able To Sleep With Their Children In A Protect Shelter The Preceding Night



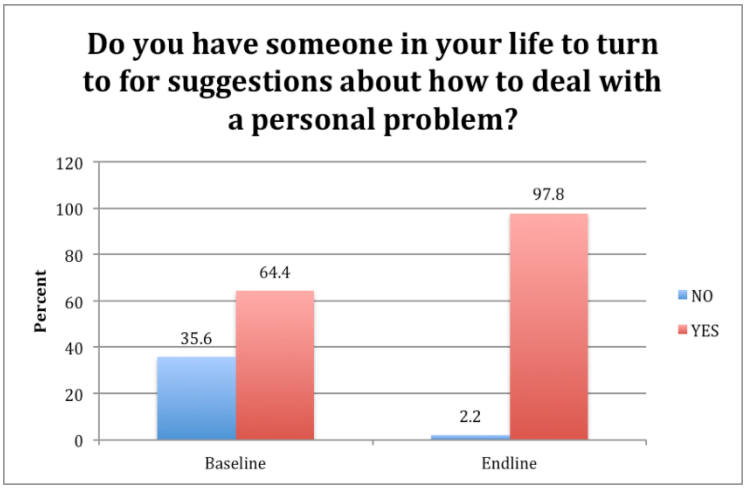
There was a significant decrease from baseline to end line (43.2 to 33.2%) in those who reported a child absent from school (for any reason excluding holidays) within the most recent 7 days.

Figure 9. Percentage of Respondents Who Reported That Their Children Missed School In The Preceding Week



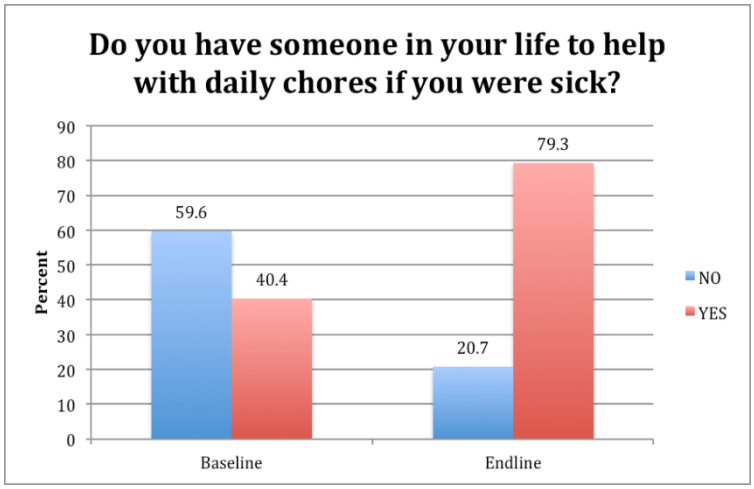
There was a significant increase in those who report having someone to turn to for help dealing with a personal problem (64.4% to 97.8%).

Figure 10. Percentage of Respondents Who Have Someone In Their Lives To Help With Problems



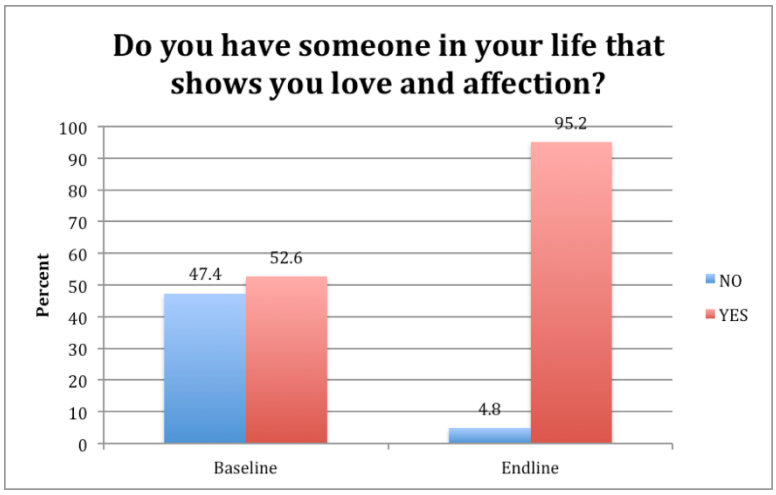
There was a significant increase in those who reported having someone to help with chores if they were sick (40.4% to 79.3%).

Figure 11. Percentage of Respondents Who Have Someone Who Could Help At Home Should They Fall Ill



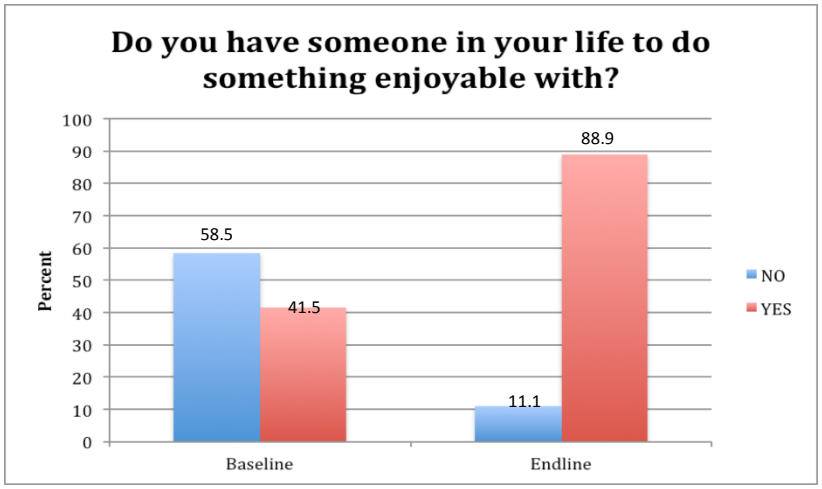
There was an increase in the number of people who reported they have someone in their life who shows them love and affection (52.6% to 95.2%).

Figure 12. Percentage of Respondents Who Have Someone Who Shows Them Love And Affection



There was an increase in the number of people reporting that they had someone in their life with whom they can do something enjoyable (41.5% to 88.9%).

Figure 13. Percentage of Respondents Who Have Someone With Whom They Can Do Something Enjoyable



Discussion

The first question posted in this Impact Evaluation was:

1. Was the use of Group Interpersonal Psychotherapy (IPT-G), implemented at a scaled approach, effective in treating depression in Uganda?

The Evaluation finds 92% of the patients treated by StrongMinds in Phase Two of this pilot program were depression-free after the 12-week IPT-G intervention. These results are similar to the Phase One Impact Evaluation findings, which found 94% of the StrongMinds patients were depression-free after a 16-week IPT-G intervention. Thus, it appears that StrongMinds has demonstrated that a 12-week IPT-G intervention is equally as effective as a 16-week intervention.

In this pilot, StrongMinds set a goal of reaching depression-free status for 75% of its patients. During this Phase Two 12-week intervention of IPT-G, the 75% goal was reached between weeks 8 and 10; whereas the 75% goal was reached at Week 12 during Phase One. The most likely reason why StrongMinds was able to accelerate the effectiveness of the IPT-G intervention from Phase One to Phase Two was the increased IPT-G capabilities of its MHFs. In Phase Two, the MHFs benefited from the presence of a full-time Mental Health Supervisor (MHS) hired by StrongMinds in October 2014. This MHS is a Ugandan national who participated in the 2002 RCT on IPT-G and has a decade of IPT-G experience in Africa. The MHS added tremendous value to the StrongMinds' MHFs and significantly increased their IPT-G skills and confidence throughout Phase Two (and presently). During Phase One, the MHFs only had two Uganda IPT-G consultants, available 1-2 days per week, for support.

Furthermore, these Phase Two results are identical to the 92% success rate achieved by a Randomized Controlled Trial for IPT-G conducted in Uganda in 2002. The 2002 RCT used 9 MHFs to treat 224 individuals over 16 weeks, whereas StrongMinds' scaled approach used 1 MHS and 4 MHFs over 12 weeks to treat 270 people. The RCT staff MHFs were lay individuals with high school training only; the StrongMinds' staff consisted of two nurses and three women with degrees in community psychology.

The control group in Phase Two experienced an 11% reduction in depression, compared to a 33% reduction in depression for a different control group in Phase One. As discussed in the Phase One Impact Evaluation Report, the Phase One control group was very likely contaminated and received some therapeutic benefit from the administration of multiple PHQ-9 surveys. In Phase Two, StrongMinds carefully isolated the control group and only administered the PHQ-9 at baseline and end line. **The 11% reduction in depression for the Phase Two control group, when compared to the 92% depression reduction for the intervention group, further indicates positive impact of this depression intervention.**

It is important to note that IPT-G is not the only group therapy which is achieving impact at the 90% rate or higher in Africa for treating depression. As noted, both the StrongMinds' Phase One and Two interventions exceeded 90% in reducing depression among its female participants, and the 2002 RCT was similarly successful. In 2013, researchers from the Johns Hopkins Bloomberg School of Public Health achieved a 90% success rate in reducing depression among female sexual-violence survivors in

the Democratic Republic of Congo, using group cognitive processing therapy.[3] Interestingly, the use of this group therapy in the Congo was much more effective for reducing depression than the use of individual therapy used in the same research effort.

The second question posed in this Impact Evaluation was:

2. **What, if any, were the secondary positive impacts of using IPT-G on the depressed patients?**

In addition to significantly reducing the depressive symptoms of these women patients, the IPT-G intervention appears to have had broad impact on the lives of these women and their families. The following is a high-level summary of the secondary positive impacts for the Ugandan women who completed the IPT-G intervention in Phase Two:

- Employment
    - After attaining depression-free status, these women are working more and are more satisfied with their occupations
- Physical Health
    - After attaining depression-free status, these women and their families are eating more regularly
    - These women are also seeking medical care much less often
- Family
    - After attaining depression-free status, these women and their families are more likely to be housed in protective shelters
    - The children of these women are missing fewer days of school
- Social Networks
    - After attaining depression-free status, these women are much more likely to have stronger social networks, friends, to whom they can turn for support

The increases in various well-being indicators collectively demonstrate that the IPT-G intervention appears to have had significant secondary positive impacts on the well-being of these women and their families. Since depression is the number one cause of disability for women in Africa, it is logical that by reducing their level of depression, these women have become "enabled." As a result, they are working more and have increased job satisfaction. Given the link between reduced depression and improved physical health, they also have reduced the need to seek medical care and can care for chronic illnesses themselves. It can be assumed that their depression-free status has given them higher energy levels, as well, and they are spending more time managing their children, and perhaps repairing their homes. Their social networks have improved, it is believed, in large part from the social bonding which has taken place with other IPT group members.

[3] Bass, Judith, et al. Controlled Trial of Psychotherapy for Congolese Survivors of Sexual Violence. The New England Journal of Medicine, June 6, 2013: 368; 23; 2182-2191. http://www.nejm.org/doi/pdf/10.1056/NEJMoa1211853

There is a possibility that some or all of these positive impacts resulted from some other outside factor(s) non-attributed to this StrongMinds' intervention, and that these positive impacts, in turn, drove the positive improvements in the depressive states of the women patients. Future efforts by StrongMinds will need to address this issue.

Recommendations

The third question posed in the Impact Evaluation was:

1. What actions are necessary for StrongMinds to improve its programmatic activities in light of the Impact Evaluation findings?

In summary, the following actions are recommended:

- Develop the capability to address the existence of social desirability bias among the depressed women population served by StrongMinds.
    - Develop the means to negate this bias, either by determining a corrective percentage factor to apply or using some other innovative means, such as utilizing saliva cortisol stress testing. By testing the stress levels of depressed participants (proxy for depression), StrongMinds could theoretically determine whether they are being truthful when they indicate in their PHQ-9 responses that they are not depressed.
- Continue the IPT-G intervention at a duration of 12-weeks; the 16-week intervention should not be pursued further. Consider future tests to shorten the duration to less than 12-weeks until the optimal length is identified.
- Hire a Ugandan based Monitoring & Evaluation Officer to design and manage these efforts in the future.
    - Current efforts are time-consuming and inefficient; too much data is being lost by having MHFs collect data in addition to their regular workload.
- Leverage the functionality data that has been collected with the total 514 women treated in both Phases of the complete pilot program and collect future, longitudinal data from these same women to determine the longer-term impact of depression reduction on their lives.
- Reduce the geographical dispersion of current IPT groups to increase efficiencies of MHFs
    - Phase One and Two groups were widely dispersed and MHFs spent too much traveling between groups.
- Demographically stratify some IPT groups in the future (groups exclusively for certain age groups, professions, etc.) in order to cater to their specific needs and challenges.
    - Current IPT groups are 100% mixed along age/profession.
- Stop synchronizing MHFs and allow them to start IPT groups as soon as they have enough members to begin a group.
    - During Phase One and Two, MHFs began and ended groups at the same time, which lead to inefficiencies.

The table below lists the recommendations from the Phase One Impact Evaluation and whether those recommendations were implemented in Phase Two.

Recommended Actions from Phase One Findings	**Implementation in Phase Two**
Revise functionality data collection tools to reflect more appropriate indicators of patient and their family well-being, to include income, health, educational achievement, etc. and link these tools to local Uganda District Health Survey tools to allow for comparisons.	√
Consider the addition of qualitative methods such as in-depth interviews of random participants in order to capture context around quantitative results to better understand cause/effect.	X
Ensure functionality data collection is completed for both patient intervention group and control group.	√
Consider reducing data collection frequency to limit the burden and also the number of missing data values.	√
Consider automation of data collection efforts, using laptops/tablets/etc.	X
Develop new programmatic strategies for addressing depression with males.	X
Consider utilizing independent/external mental health experts to implement PHQ-9 diagnoses to 10% of participants from each intervention group in order to capture/correct any response and MHF bias, and to serve as a quality control check.	X
Consider excluding Minimal or Mild cases of depression in future groups unless there are extenuating circumstances (for example, suicidality). Determine if there are other, non-IPT-G methods by which StrongMinds can assist these case types.	√
Consider reducing the length of IPT-G interventions to less than 16 weeks, in light of the high degree of success by Week 12.	√
Ensure future control groups are not at risk of contamination; limit their contact with StrongMinds' MHFs and patients.	√

The four recommendations which were not implemented during Phase Two have or will be fully implemented by StrongMinds by the close of 2015.

- APPENDIX -

A, B, C, D, E & F

Appendix A: StrongMinds Model Overview

The StrongMinds model for depression treatment in Uganda includes the following core features:

- Use of lay community workers as the IPT-G facilitators, or Mental Health Facilitators (MHFs)
    - MHFs require at least a high-school diploma, and are employed and salaried by StrongMinds. They receive two weeks of training by a certified IPT-G expert and receive on-going supervision and guidance by a mental health professional. Since they are community members themselves, they are well-received by the depressed patients. The IPT-G training curriculum includes modules on mental illness in general, depression, interpersonal psychotherapy, management of suicidality, and the goals and objectives for each weekly session of the 16 total sessions that are held. The training extensively uses role-playing to recreate group meeting settings.
    - MHFs conduct several concurrent IPT groups per week, each group consisting of 8-12 members. Each IPT group meets for 90 minutes per week, for 12 weeks in total. At full-scaled implementation, each MHF treats approximately 360 patients per year.
    - In order to begin de-stigmatizing depression, the MHFs explain to patients, family members and community leaders that depression is a mental illness that can be effectively treated.
- The targeted population group is poverty-stricken women suffering from depression, and they are over the age of 15 years, married, have between 2-5 children and manage a daily household income of $2-5 per day.
- The tool we use to diagnose an individual with depression is the Patient Health Questionnaire (PHQ-9), which is contained within the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) and supported by the World Health Organization for use in the developing world.
- We have consultant psychiatric medical personnel to provide supervision and referrals to ensure quality care of those individuals who do not respond to IPT-G or, for example, when we identify patients in the community who may have suicidal tendencies and require emergency attention.
- We anticipate a small percentage of our patients will not respond fully to IPT-G and may need antidepressant medications; we will refer them to government clinics which typically have more reliable medication supplies and we will ensure they receive comprehensive treatment.

Appendix B: Depressed Patient Diagnosis Using the PHQ-9 and PHQ-9 Form

StrongMinds works in the local communities of Kampala to identify potential women and men suffering from depression. The tool we use to formally diagnose an individual with depression is the Patient Health Questionnaire (PHQ-9), which is contained within the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) published by the American Psychiatric Association and supported by the WHO for use in the developing world. The PHQ-9 is a series of 9 questions which score the severity of depressive symptoms for a patient. Scores over a certain threshold determine whether the patient suffers from depression, and also the severity of depression (mild, moderate, severe). At the conclusion of our talk therapy groups, we re-administer the PHQ-9 tool to each patient to determine the impact of our intervention. If a patient can no longer be diagnosed as suffering any level of depression after our intervention using the PHQ-9, we have successfully treated this patient.

Appendix B: PHQ-9 (cont.)

PHQ-9 Form: Assessing Depression and its Symptoms

Over the last 2 weeks, how often have you been bothered by any of the following problems? Use a "tick" to indicate your answer.

	Not all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling sad, depressed, or hopeless	0	1	2	3
3. Trouble falling/staying asleep, sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself – or that you are a failure (worthlessness) or that you have let yourself or your family down (Guilty).	0	1	2	3
7. Trouble concentrating on things, such as work, care of your children or other activities	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed or the opposite of being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead or of hurting/killing yourself in some way	0	1	2	3
For interpretation of TOTAL: Add scores to all items				

Raw Score	Depression Severity Score
1-4	0 = Minimal Depression
5-9	1 = Mild Depression
10-14	2 = Moderate Depression
15-19	3 = Moderately Severe Depression
20-27	4 = Severe Depression

Appendix C: Depressed Patient Identification and Recruitment

StrongMinds uses a variety of methods to identify community members who may be suffering from depression. Our over-arching approach, however, is to use existing groups of women and men and to sensitize those groups and create awareness about depression. Once contact is made in these groups, we can then follow-up privately with individuals to administer the PHQ-9. For example, we work with other NGO's in the community who provide livelihood or microfinance programs. For an NGO who is providing job training to 50 women to become hair-dressers, we reach agreements with that NGO to use the last 15 minutes of a training session to speak to these same 50 women about depression. We explain the symptoms and the proposed G-IPT solution that we will be implementing in their community. We have found that people are more comfortable talking about a sensitive subject like depression in a group, since they have some level of anonymity. We make contact with people who want further information in that group, and can continue discussions immediately thereafter. We also collect referrals in these groups; for example, group members can identify their sister or mother who may be suffering from depressive symptoms and our MHFs can then directly contact those individuals along with the referring member. We also implement similar approaches at local churches, where we ask ministers to discuss depression in their sermons and our staff is then available to speak with the congregation at the after-service tea/coffee meeting. Our approach to access existing groups of people provides us with a higher degree of efficiency. Similarly, we also contact potentially depressed individuals by positioning our MHF's at the local public health clinic waiting area, where there are always many people waiting for long periods.

When our staff administers the PHQ-9 to an individual, the process takes about 30 minutes. In addition to the PHQ questions, we empathetically explain at further length what depression is and how our group solution operates. At conclusion of this first meeting, we then schedule a follow-up second individual meeting, lasting another 30 minutes, where we re-administer the PHQ-9 to re-verify the depression diagnosis. Assuming the depressed diagnosis is confirmed, we then schedule a third individual meeting, lasting 60 minutes, at which our MHF will explore with the individual the triggers for her/his depression and attempt to persuade the individual to join an interpersonal psychotherapy group, explaining in detail how the group operates and the anticipated outcomes. Assuming the individual agrees to join the group, StrongMinds will have met with this person three times individually prior to their attending a talk therapy group session.

Appendix D: Group Interpersonal Psychotherapy: How does it work?

The 12 weeks of G-IPT are broken into three phases, each with distinct time-periods and objectives:

- Initial Phase: Group Sessions 1-3
    - This phase focuses on creating initial bonds between group members and getting them comfortable sharing personal information; discussing their reasons for their depression
- Middle Phase: Group Sessions 4-10
    - This phase focuses on ensuring all members are actively engaged and helping one another and making suggestions regarding one another's problems. This is also the phase where important progress is made for members to fully understand all the symptoms and triggers of depression.
- Termination Phase: Group Sessions 11-12
    - This phase focuses on preparing members to end their group meetings. Members are reminded as to how they can identify their own triggers of depression in the future and what they should do to respond, individual action plans are created and reviewed.

Our group model focuses on treating the individual's current state of depression through teaching that person the life-long skills necessary to manage his/her future depressive episodes. Depression is episodic and will continue to recur for most individuals, so these skills that we teach in the 12-weeks of Group Interpersonal Psychotherapy are critically important. We help the individual to identify and understand the root causes/triggers of his/her depression, and then to formulate strategies to overcome those triggers. Throughout the 12-weeks, group members meet once a week for 90 minutes and commit to weekly short term goals or actions which support a single long term goal for their group experience—thus a strong goal planning orientation is instilled. These skills are learned through group facilitation, which means our mental health facilitators really only help group members to solve their problems themselves. If a group member is depressed because of a major disagreement with her spouse, for example, then our facilitator asks the entire group to make suggestions to that group member for resolution. In a group of 8-12 people, members learn a great deal of life strategies from one another over 12 weeks that can be used for the rest of their lives. Group members also learn how to self-diagnose themselves—when they feel that they are getting depressed again, they can recognize the symptoms and respond accordingly before the depressive state becomes too overwhelming by planning their short and long term goals. Lastly, while groups last just 12 weeks, and as previously mentioned, evidence suggest that most groups which have existed continue to meet informally for months and years later without a facilitator thanks to the power of group or social bonding---members continue to meet and rely upon one another for support in coaching themselves through the challenges of depression.

Appendix E: Group Interpersonal Psychotherapy: Training of the Mental Health Facilitators (MHFs)

StrongMinds completed training its initial cadre of four MHFs in March, 2014. The training lasted 10 days and was conducted by two Ugandans certified in IPT-G by Columbia University. In addition, the training was monitored long-distance via Skype by our senior technical advisor who is an international expert on IPT-G from Columbia University.

The IPT-G training curriculum included modules on mental illness in general and depression in particular, the theory of interpersonal psychotherapy and the four triggers of depression (life change, disagreement, death of a loved one, social isolation), co-morbidity of depression and other mental and physical illnesses, management of suicidality, and modules on all pre-group and 12 group sessions. The training curriculum extensively used role-playing to recreate pre-group and group meeting settings. All suggested dialogue protocols were translated into the local language of Kampala (Luganda) by the MHFs, and verified by Makerere University, to ensure cultural adaptation.

In Phase One of the 2014-2015 pilot in Uganda, our 4 MHFs were supervised by the two Ugandan IPT-G experts noted above. In Phase Two, StrongMinds hired a full-time Mental Health Supervisor (MHS) who both conducted IPT groups and supervised the 4 MHFs. This MHS was actually a member of the 2002 RCT in Uganda and has over ten years of IPT-G experience

Appendix F: Functionality Assessment Tool

FUNCTIONALITY ASSESSMENT TOOL *(Revised Oct 2014)*			
Name:		Sex:	Age:
Project Site (Parish):		Zone (Village):	Date:
SECTION A: PHYSICAL STATUS & HEALTH (PH)			
SNO		Response	Guidelines for skip questions
PH1	Over the past month, did you receive any medical care for yourself?	Yes----------1 No----------0	→Go to Section "B"
PH2	Was any of the medical care you received for a chronic illness?	Yes----------1 No ----------0	→ 'NO' Go to PH5
PH3	Which type of chronic illness/conditions did you seek medical treatment for?	Respiratory (TB, asthma)---------- 1 Blood disorders (sickle cell, malaria)-2 Musculoskeletal (arthritis) ---------- 3 Oncology (cancer)----- ---------- 4 Dermatology (skin)----------5 Gynecology (women reproductive health specialist)----------6 Cardiology (heart)----------7 Neurology (brain, nervous system)--8 Other (Specify)----------9	
PH4	Where did you go for treatment?	Private Clinic ---------- 1 Charity clinic----------2 Govt owned health unit------3 Local herbalist ----------4 Drug seller----------5 Other----------6 Nowhere----------7	
PH5	Did you receive any medical care for a non-chronic condition? **exclude preventative care such as wellness exams and vaccination*	Yes----------1 No----------0	→'NO' Go to PH7

PH6	Where did go to for medical treatment?	Private Clinic ----------1 Charity clinic----------2 Gov't owned health unit------ 3 Local herbalist ----------4 Drug seller----------5 Other (specify)---------- 6 Nowhere----------7	
PH7	Please estimate the total cost you have spent on your health care over the **past one month**. Include the costs for both chronic and non-chronic health care visits, medicines, and any transportation fees.	Enter amount in shillings:	
PH8	Over the past month, please estimate the total number of hours you spent obtaining health care services (include the time spent waiting for and receiving the service and transportation time to and from health care clinic).	Number of hours:	

SECTION B: NUTRITION STATUS (NS)			
NS1	During the last 24 hours how many meals did you have? Help person know that, normally in Uganda we have 12 hours day and 12 hours night	None ---------- 1 One----------2 Two----------3 Three ----------4 Four ---------- ----------5 Five----------6	'1' → Go to NS 2 '2' → Go to NS 3 '3' → Go to NS 4
NS2	If you did not eat, why not?	No appetite----------1 No food ----------2 Do not like food available ----3 Was not able to cook- -------- 4 Advised by physician ----------5 Other----------6	
NS3	If you only at one meal, why?	No appetite ---------- 1 No food ----------2 Did not like food available ---3 Was not able to cook --------4 Advised by physician ----------5 Other----------6	*There could be multiple codes here. Code all that apply*

NS4	If you only ate two meals, why?	No appetite ---------- 1 No food ----------2 Did not like food available ---3 Was not able to cook --------4 Advised by physician ----------5 Other----------6	*There could be multiple codes here. Code all that apply*
NS5	In the past seven days, have you or anyone in your household gone a whole day and night without eating?	Yes----------1 No----------0	
SECTION C: ECONOMIC STATUS & OCCUPATION (ESO)			
ESO1	What best describes your primary occupation employment status **Primary occupation can include housework of one's own home*	Employed by family member----------1 Employed by non family member----2 Self-employed----------3 Unemployed ----------4 Other (specify)----------5	'4' → Go to ES0 17
ESO2	Continuity of employment	All year----------1 Seasonal----------2 Occasional----------3	
ESO3	Which best describes your typical weekly schedule?	Full time (40 hours/week)----------1 Part time (less than 40 hours/week) 2 Variable----------3 Other (specify) ----------4	
ESO4	Have you worked in your primary occupation within the past 7 days?	Yes----------1 No----------2	'No' →Go to ESO7
ESO5	In a typical week, how many **days a week** do you work in your primary occupation?	Number of days:	
ESO6	In the immediate preceding 7 days, how many days of work did you miss for any reason?	Number of days:	
ESO7	Excluding days missed in the past 7 days, how many days of work did you miss in the past 30 days for any reason?	Number of days:	
ESO8	What is the typical number of hours you work in a week in your primary occupation?	Number of hours:	

ESO9	On average, how much money in Uganda shillings do you make each week from your primary occupation (if not in formal employment assist person make a good average)	Btn 5,000 – 10,000 ----------1 Btn 11,000 – 20,000 ----------2 Btn 21,000 – 30,000 ---------- 3 Btn 31,000 – 40,000 ---------- 4 Btn 41,000 – 50,000 ---------- 5 Over 51,000 ----------6	
ESO10	Thinking about your average job concentration over the past 30 days, please rate your concentration on your job tasks in your primary occupation?	Excellent ----------1 Good----------2 Average----------3 Poor----------4 I have no concentration----------0	
ESO11	How would you rate your productivity at your job over the past 30 days?	Very productive----------1 Above average----------2 Average----------3 Below average----------4 Low productivity----------5 Not productive----------0	
ESO12	How would you describe your satisfaction with your job over the past 30 days?	Extremely satisfied---------- 1 Satisfied----------2 Neither satisfied nor dissatisfied ----3 Dissatisfied----------4 Extremely dissatisfied- ----------5	
ESO13	Do you earn enough money to cover your basic needs (basic needs include food, shelter, and simple medicines)	Yes ----------1 No----------0	
ESO14	Over the past month, did you need to borrow money or use your savings to cover any household costs? (i.e. food, shelter, clothes, educational and/or medical services (including medicines), repairs?	Yes ----------1 No----------0	
ESO15	What sources did you use to supplement your income?	Borrow from friends ---------- 1 Borrow from banks ----------2 Borrow from relatives ------- 3 Cash from Govt ----------4 Own savings ----------5 Perform extra work----------6 Other----------7	
ESO16	Are you able to save money from your typical weekly/monthly income?	Yes ----------1 No ---------- 0	

SECTION D: Household and Child Well-Being (HCW)			
HCW1	In the past week, how many children in your household were eligible to attend school **If school is not in session, then rephrase: If school was in session last week, how many children in your household were eligible to attend school?*	Number: _____	If '0' → Go to HCW4
HCW2	In the past week, did any of these children miss school for any reason? **exclude holidays*	Yes ----------1 No ---------- 0	
HCW3	If yes, how many days were missed (total all days missed between children) *Example: If one child misses one day, and another misses two days then the total is THREE days missed.*	Total number of days_____	
HCW4	In the past week, has your partner/spouse: *Remind the respondent that all answers are CONFIDENTIAL! as many as needed	Push you, shake you, slap you or thrown something at you?----------1 Threaten to or attack you with a knife, gun, or other weapon?----------2 Forced you to have sexual intercourse with him when you did not want to?-3 Forced you to perform any other sexual acts you did not want to?-----4 One or more of the above but I would rather not say----------5 Other----------6 If possible specify_____ None----------0	
HCW5	Do you have someone in your life to turn to for suggestions about how to deal with a personal problem?	Yes ----------1 No ----------0	
HCW6	Do you have someone in your life to help with daily chores if you were sick?	Yes ----------1 No ----------0	
HCW7	Do you have someone in your life that shows you love and affection?	Yes ----------1 No ---------- 0	
HCW8	Do you have someone in your life to do something enjoyable with?	Yes ----------1 No ---------- 0	

HCW9	In your current household, how many children are <5 years old?	Number:	If '0' →Go to HCW15
HCW10	In your current household, how many children are children 5 years and older?	Number:	
HCW11	Number of children <5 years with recent diarrhea?	Number:	
HCW12	Did any of these children have diarrhea preceding the 2-weeks before this survey?	Yes ----------1 No ---------- 0	
HCW13	Number of children <5 years with recent fever?	Number:	
HCW14	Did any of these children have a fever preceding the 2-weeks before this survey?	Yes ----------1 No ---------- 0	
HCW15	Regarding the place you and your children slept last night, was it protected from the weather?	Yes ----------1 No ----------0	
HCW16	What grade(s) are your children in right now? **If school is out of session, ask what grade will they be in the next session*	Child one: Child two: Child three:	
HCW18	What grade were they in last school year?	Child one: Child two: Child three:	

Assessor's general comments: *Write your name and signature after the comment.*