

# Encouraging Contraceptive Uptake by Motivating Men to Communicate About Family Planning: The Malawi Male Motivator Project

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During the 1980s many health promoters implemented sexual and reproductive health programs designed to empower women and protect them from the impact of men's behavior.<sup>1</sup> The 1994 International Conference on Population and Development in Cairo, Egypt, reemphasized that family-planning interventions should engage men and acknowledge their role in reproductive health services as a means to improve the reproductive health of women and men.<sup>2</sup> Since this conference, many organizations have begun advocating for male involvement in reproductive health services, and researchers have identified a link between male involvement and increases in contraceptive use.<sup>1,3,4</sup>

Men in the developing world (and particularly in sub-Saharan Africa) are often the primary decision-makers about family size and use of family planning.<sup>5-7</sup> A considerable discordance between spouses on questions of family planning and desired family size has also been identified; in some developing countries, levels of communication on these topics are low.<sup>3</sup> Interspousal communication is related to contraceptive decision-making and positively affects contraceptive uptake and continued use,<sup>3</sup> whereas failure to communicate reproductive intentions limits couples' effective and sustained contraceptive use.<sup>6,7</sup>

Interventions targeting men have taken traditional public health forms: communication skills counseling,<sup>8</sup> promotion through local leaders and extension workers,<sup>9,10</sup> and mass-media campaigns.<sup>11,12</sup> In Ethiopia, involving men in family-planning discussions was found to increase uptake of modern contraceptives,<sup>13</sup> and in Bangladesh, counseling husbands about contraceptives was found to lower spouses' discontinuation rates for long-acting methods (e.g., Norplant).<sup>14</sup> After examining couples' decision-making processes in Malawi, Mbweza et al. suggested that couples follow 4 steps: (1) initiate communication, (2) explore options, (3) find

**Objectives.** We examined the effect of a peer-delivered educational intervention, the Malawi Male Motivator intervention, on couples' contraceptive uptake. We based the intervention design on the information-motivation-behavioral skills (IMB) model.

**Methods.** In 2008 we recruited 400 men from Malawi's Mangochi province who reported not using any method of contraception. We randomized them into an intervention arm and a control arm, and administered surveys on contraceptive use at baseline and after the intervention. We also conducted in-depth interviews with a subset of intervention participants.

**Results.** After the intervention, contraceptive use increased significantly within both arms ( $P < .01$ ), and this increase was significantly greater in the intervention arm than it was in the control arm ( $P < .01$ ). Quantitative and qualitative data indicated that increased ease and frequency of communication within couples were the only significant predictors of uptake ( $P < .01$ ).

**Conclusions.** Our findings indicate that men facilitated contraceptive use for their partners. Although the IMB model does not fully explain our findings, our results show that the intervention's content and its training in communication skills are essential mechanisms for successfully enabling men to help couples use a contraceptive. (*Am J Public Health.* 2011;101:1089-1095. doi:10.2105/AJPH.2010.300091)

solution(s), and (4) make final decisions.<sup>15</sup> Although these steps are useful, they are hard to follow unless both partners come to the discussion with a clear understanding of the benefits and challenges of each method and the communication skills to talk openly. Couple discordance about fertility intention and contraceptive use can pose a major barrier to consistent contraceptive use that is difficult to measure.<sup>16,17</sup>

Male involvement in family planning matters. The challenge of increasing men's involvement in family planning is to identify the messaging that will most effectively encourage their involvement. Peer networks and mass media have been identified as the primary sources of family-planning information for men.<sup>18,19</sup> Evidence has shown that programs targeting men should develop messages focused on the economic and health benefits of limiting births. The inclusion of financial benefits was found to be more convincing for men than were maternal-child health considerations alone,<sup>20</sup>

but this is not to suggest that men do not care about the welfare of their families. Research has found that men approve of using family planning, are concerned about the welfare of their families,<sup>21,22</sup> and will positively participate in family-planning discussions when provided the opportunity.<sup>13</sup> Despite the examples cited above, there are few examples of rigorously evaluated male-targeted family-planning interventions in the current literature, and even fewer that are based on theoretical models.<sup>1,23-26</sup>

In Malawi, as in the rest of sub-Saharan Africa, there is a substantial need to improve family-planning uptake. The country has a high fertility rate: the average number of children borne by a woman during her reproductive years (aged 15-49 years) is 6.34. Despite modern contraceptive use tripling since 1992, the prevalence rate for contraceptive use is currently only 26%.<sup>2</sup> Young people in Malawi are particularly in need of family-planning information, as illustrated by high rates of early

marriage and pregnancy and low rates of modern contraceptive use. One third of all women aged 15 to 19 years have been pregnant, and only 7.6% are currently using a modern contraceptive method.<sup>2</sup> Among married women aged 15 to 19 years, 26.1% have an unmet need for family planning, and despite the fact that the health care decisions of nearly three fourths of married women are made by their husbands, more than one third have never spoken to their husbands about family planning.<sup>2</sup>

We evaluated the Malawi Male Motivator intervention, a theory-based intervention designed by Save the Children to increase use of family planning among young Malawian couples. Building upon research showing that men tend to get reproductive health information from peers, the intervention relied on a male outreach worker, referred to as a male motivator, to target husbands. Save the Children had previously implemented several projects to increase family-planning knowledge and contraceptive use among youth in Malawi. Project staffers often found that they were unable to reach young married women. As a result, the Malawi Male Motivators intervention was developed to reach the husbands of these women, who were often excluded from other intervention efforts. The structure of the intervention was based on the information–motivation–behavioral skills (IMB) model,<sup>27</sup> an empirically validated model of health behavior.<sup>28,29</sup> The IMB model has been applied to a range of sexual and reproductive health issues, including HIV prevention, condom use, and adolescent contraceptive use.<sup>28–30</sup> The Malawi Male Motivator project represents the first application of this model specifically for the promotion of male involvement in contraceptive use.

## METHODS

According to the IMB model, motivation to adopt a preventive practice and the provision of relevant information lead to the activation of behavior skills and the consequent adoption and maintenance of behavior change. In the application of this model to family planning in Malawi, the 3 fundamental determinants of couples' uptake of modern contraceptive use are: (1) information on modern family-planning methods and locally available resources, a prerequisite of behavior change; (2) motivation

to act on knowledge and implement family-planning practices, where motivation is a function of attitudes about contraception, perceived social norms, and personal expectations about family size; and (3) behavior skills related to family planning, such as communication skills and skills for correct condom use and self-efficacy for performing those behaviors.

The Male Motivator intervention incorporated activities related to each of these 3 components. Participants were provided with information on modern family-planning options and local facilities offering these methods, and they were instructed on correct condom use. Male motivators—married men chosen for their use of and enthusiasm for modern contraception—sought to positively influence participants' attitudes toward family planning and their motivation to adopt family planning. Motivators did this by sharing their own experiences, engaging participants in discussions exploring how rigid gender roles and norms can lead to negative outcomes, and challenging the notion that a large family is a sign of virility. All motivators were aged 30 years or older. Their age gave them additional social credibility and often allowed them to contextualize family-planning considerations for participants. Motivators also addressed communication between husbands and wives or girlfriends by encouraging participants to become involved in decisions related to family planning and family size and helping them practice discussing fertility and contraceptive desires with their wives or girlfriends, with an emphasis on joint decision-making power. Lastly, motivators were trained that their role was to provide information and help build skills, not to pressure individuals into contraceptive use. Table 1 shows the general sequence of the intervention.

## Recruitment and Randomization

We recruited 400 men in the Mangochi district of Malawi from 257 villages across 17 traditional authorities. No more than 1 man from each village was assigned to the intervention arm, which thus covered 200 distinct villages in the district. To be eligible for the study, men had to be at least 18 years old and married to or living with a female sexual partner younger than 25 years who was not currently pregnant or breastfeeding a child

younger than 6 months. Additionally, participants and their wives or girlfriends had not been sterilized and had not used modern contraceptive methods (oral contraceptives, injectables, consistent condom or diaphragm use, or intrauterine devices) during the previous 3 months.

We used a computer to generate a random number list. Opaque envelopes were sequentially numbered with numbers from the list, and each envelope had a slip of paper with the study assignment (“intervention” or “control”) sealed inside. After a participant agreed to take part in the study and had completed the baseline survey, a data collector selected the envelope next in sequence and opened it in front of the participant. The data collector then informed the participant of his assignment to either the intervention arm or the control arm. The research team administered a baseline survey and a postintervention (within 1 month of intervention completion) survey to participants in both arms of the study. Participants in the intervention arm received 5 visits from a motivator during a 6-month period; participants in the control arm were only visited after the intervention for final data collection.

## Measurement of Outcomes

To measure contraceptive uptake after the intervention, participants were asked, “Are you and your wife/girlfriend currently using birth control (Yes/No)?” Participants then answered questions identifying which type(s) of birth control they had selected and an optional open-ended question about why they chose that method. We used the  $\chi^2$  test to compare the uptake variable across arms.

In addition, we used scales constructed according to the IMB framework to assess changes in family-planning knowledge, family-planning attitudes, gender norms, family-planning self-efficacy, and communication about family planning.<sup>27</sup> The knowledge scale consisted of 13 questions based on the Male Motivator curriculum; responses were scored, and a percent-correct value was generated for each participant. Participants were also assessed on their ability to correctly identify at least 1 location where modern contraceptive products could be obtained. We used a 6-item scale (based on the work of Ajzen and Fishbein<sup>31,32</sup>) to measure attitudes toward family planning, and we assessed

**TABLE 1—Intervention Schedule and Topics: Malawi Male Motivator Project, Malawi, 2008**

Visits	Topics
Visit 1: family-planning information	Discuss benefits of birth spacing and socioeconomic factors of having large families with children born close together; teach about different family-planning methods.
Visit 2: motivational factors	Address gender norms related to family planning and community perceptions of men who use family planning; educator to disclose own experiences of using family planning.
Visit 3: role play and communication skills development	Encourage men to discuss family planning with significant others; discuss the benefits of contraceptive decision-making; implement “future island” exercise (adapted for family planning).
Visits 4 and 5: continued information and motivation	Provide time for participants to discuss benefits and challenges related to their integration of information and skills developed through this intervention.
Each visit	<p>Explain where family-planning services are available and that condoms and pills are available through youth community-based distribution agents (YCBDAs) who work in the region.</p> <p>If a participant wants condoms or pills, the male motivator can contact the YCBDA and have them visit the person’s home the next day. Other family-planning methods have to be obtained at the hospital.</p> <p>Participants who express interest in methods other than condoms or pills are given information about where to go, and the male motivator can facilitate an appointment.</p>

Note. A detailed description of the Malawi Male Motivators curriculum and activities can be found at <http://www.iywg.org/sites/default/files/MaleMotivatorCurric.pdf>.

participants’ views on equitable gender norms by means of a modified 7-item subscale from Pulerwitz and Barker’s gender equity men scale.<sup>33</sup> We used a 7-item family-planning self-efficacy scale to assess participants’ perceived ability to implement family-planning methods with their partners. With the exception of the knowledge scale, we used preintervention data<sup>34</sup> to test reliability and internal consistency across the entire sample; the minimum threshold for this statistic was 0.70.<sup>35</sup> The communication frequency subscale did not meet this threshold, and we conducted a subsequent item analysis.

We developed 2 scales to evaluate changes in general communication and communication frequency. The general communication scale (4 items) asked participants to rank their level of agreement with 4 statements about discussing family planning in general (e.g., “My wife and I often discuss the financial consideration associated with having children”) according to a 5-point Likert scale (strongly disagree to strongly agree). The communication frequency scale (3 items) assessed the frequency (never, rarely [once a month], sometimes [once a week], often [several times a week]) with which participants discussed family planning with

their wives or girlfriends, their extended family, and other men in their community. The 2 communication scales were treated separately in analyses.

We compared the knowledge, attitudes, equitable gender norms, self-efficacy, and communication constructs within and between arms. We used the paired *t* test to examine within-group differences over time; we examined between-group change over time by means of generalized estimating equations, with identity link function and robust covariance matrix.<sup>36–38</sup> Additionally, we tested correlations between the items within the scales and reported contraceptive uptake. Those items that significantly correlated to contraceptive uptake were included as covariates, along with demographic variables, in a multiple logistic regression model. All analyses were performed with SPSS version 15.0 (SPSS, Chicago, IL).

After the intervention, we used a randomly generated list to select 10% of the study participants in the intervention arm who completed the postintervention survey to be invited to participate in in-depth interviews. Semi-structured open-ended questions assessed participants’ perception of the study, whether they

and their wives or girlfriends were using contraception and the rationale for their use or nonuse, thoughts on the information shared during intervention visits, and their comfort discussing family planning with their wives or girlfriends and friends. Interviews were tape-recorded, translated into English, and transcribed by field staff who used a transcription protocol.<sup>39</sup> A thematic codebook was developed according to a standardized process,<sup>40</sup> and code frequencies were generated in NVivo version 7 (QSR International, Doncaster, Australia).

For agreeing to participate in this research, participants were given a small supply of soap, rice, and cooking oil (worth approximately US\$2).

## RESULTS

A total of 397 participants completed the baseline survey; 197 were randomized into the intervention arm, and 200 were placed into the control arm. Men provided demographic data for themselves and their wives or girlfriends; these data are presented in Table 2. We observed no notable differences between the arms at baseline. The mean difference in ages between the men and their wives or girlfriends was 4.83 years (range=0–40; SD=3.76). For more than 90% of the couples, their ages were within 10 years of each other. A total of 289 participants completed the postintervention survey. Of these, 149 were in the intervention arm (75.6% retention), and 140 were in the control arm (70.0% retention). No significant demographic differences were found between men who were retained and those who were not.

### Family-Planning Uptake

All of the participants reported that they were not using contraception before the intervention. After the intervention, 78% percent of the intervention arm and 59% of the comparison arm reported that they were using family-planning methods with their wife. This finding represents a significant increase in contraceptive use within both arms ( $P<.01$ ) and in the intervention arm compared with the control arm ( $P<.01$ ). Of those men in the intervention arm who reported family-planning uptake, 56% reported using condoms, and 41% and 14% reported using injectables and the birth-control pill, respectively. In the

**TABLE 2—Descriptive Statistics of Sample Population: Malawi Male Motivator Project, Malawi, 2008**

	Intervention Arm (n=197)	Control Arm (n=200)
Mean age, y	25.15	25.35
Mean no. of children	1.66	1.60
Mean length of time in relationship, y	3.75	3.88
Education, %		
None	4.63	5.02
Primary	75.30	74.86
Secondary	20.41	21.12
Religion, %		
Christian	53.81	50.00
Muslim	46.20	48.5
None	0	1
Other	0	0.5
Mean age of wife or girlfriend, y	20.37	20.48
Mean no. of pregnancies	1.85	1.68
Mean no. of live births	1.83	1.64
Wife or girlfriend's education, %		
None	8.16	10.02
Primary	85.28	78.48
Secondary	6.56	11.50

control arm, condoms were the most frequently reported method (63%), followed by injectables (39%) and the birth-control pill (11%). After the intervention, natural family planning (i.e., the rhythm method), intrauterine devices, implants, diaphragms, and male sterilization were each reported 4 times or fewer.

An open-ended item within the postintervention questionnaire asked men why they had chosen a particular method. Ease of use was the main reason for selecting a given method. Availability and privacy were frequently mentioned as reasons for selecting condoms, and condom users also liked how condoms lacked side effects, were affordable, and prevented sexually transmitted infections as well as pregnancy. Men who reported that their wives or girlfriends were using injectables stated that this method had fewer side effects and was less expensive than were other options. Men who reported that their wives or girlfriends were using birth control pills mentioned easy access to refilling prescriptions as a major reason for using this method.

After the intervention, participants who reported using contraceptives were asked how long they intended to continue using their method. A total of 78% of the intervention arm

and 77% of the control arm intended to continue using their family-planning method for 2 years following the intervention. An additional 22% of the intervention arm and 23% of the control arm intended to use family planning for at least the next 6 months.

The Male Motivator curriculum incorporated lessons and activities emphasizing the financial benefits of family planning. We gathered qualitative data indicating that, as others have found, men found financial arguments for family planning more persuasive than other arguments: 13 out of the 14 men interviewed discussed the relationship between use of family planning and economic benefits. As one participant said:

Family planning is good and important because one is able to take good care of the family with the limited resources available, while a family that does not practice family planning has difficulties in taking care of the children, since resources are very limited. . . . A family that practices family planning is usually happy and is better able to develop the home.

Beyond financial considerations, men were also inspired to use family planning to benefit the health of their wives, girlfriends, or

children's health. Several participants explicitly linked the financial benefits associated with practicing family planning to their children's and wives' or girlfriends' improved health outcomes. Participants used information provided by the motivators to explain that child spacing through family planning leads to healthier children and mothers. One man said,

I was convinced with what he [the motivator] was saying that the [increased] number of children in the home contributes to ill health of both parents and children. . . . The children become malnourished, as well, since there are not enough resources in the home.

Another man said, "It helps in such a way that when there are a lot of children in a home, the health of the mother is not good."

### Knowledge, Attitudes, Gender Norms, Self-Efficacy, and Communication

Two of our main objectives were to assess change across the various components of the IMB model and to assess the components' relationships with contraceptive uptake. We identified significant within-group changes for the scales for family-planning knowledge, family-planning attitudes, family-planning self-efficacy, and gender norms for both study arms ( $P < .05$ ). Between-group comparisons for each of these variables were not found to be significant. However, a differential change across the arms ( $P < .05$ ) was found for the general communication and communication frequency measures. Table 3 presents the Cronbach  $\alpha$  scores for each measure.

To allow us to better understand the role of communication in uptake of modern contraceptive methods, the 2 communication subscales were further explored. First, we tested correlations between these 7 items and family-planning uptake. We found small positive correlations between family-planning uptake and 2 communication items ("It is easy to discuss family planning with my wife" and "How often do you discuss family planning with your wife?";  $P < .05$ ). A multiple logistic regression model was fit with family-planning uptake as the dependent variable and the following covariates: intervention arm, participant's education level, wife's age, wife's education level, difference between husband's and wife's ages, number of live births, and



**TABLE 3—Comparative Group Statistics for Intervention and Control Arms: Malawi Male Motivator Project, Malawi, 2008**

	$\alpha$ Score	Intervention Arm		Control Arm		OR (95% CI) <sup>a</sup>
		Baseline (n = 200), Mean (SD)	Postintervention (n = 140), Mean (SD)	Baseline (n = 197), Mean (SD)	Postintervention (n = 149), Mean (SD)	
Contraceptive uptake, % <sup>b,c</sup>	...	...	78	...	59	2.4 (1.45, 4.03)
Knowledge, % correct <sup>d</sup>	...	51 (13.02)	54 (12.76)	52 (12.76)	57 (13.08)	...
Attitudes <sup>b</sup>	0.75	4.06 (0.44)	4.33 (0.43)	4.06 (0.52)	4.33 (0.46)	...
Self-efficacy <sup>b</sup>	0.83	4.05 (0.47)	4.20 (0.44)	3.99 (0.57)	4.26 (0.41)	...
Gender norms <sup>b</sup>	0.70	4.10 (0.39)	4.20 (0.39)	4.05 (0.43)	4.22 (0.42)	...
Communication						
General <sup>b</sup>	0.80	4.10 (0.45)	4.28 (0.45)	4.08 (0.42)	4.28 (0.41)	...
Frequency <sup>b,c</sup>	0.67	2.40 (0.89)	2.85 (0.77)	2.36 (0.90)	3.05 (0.67)	0.61 (0.36, 1.02)

Note. CI = confidence interval; OR = odds ratio. The general communication scale (4 items) asked participants to rank their level of agreement with 4 statements about discussing family planning in general according to a 5-point Likert scale (strongly disagree to strongly agree). The communication frequency scale (3 items) assessed the frequency (never, rarely [once a month], sometimes [once a week], often [several times a week]) with which participants discussed family planning with their wives or girlfriends, their extended family, and other men in their community.

<sup>a</sup>ORs presented for variables that were significantly different between study arms.

<sup>b</sup>Within-group comparisons of preintervention and postintervention data significant for both arms ( $P < .05$ ).

<sup>c</sup>Between-group comparisons over time ( $P < .05$ ).

<sup>d</sup>Knowledge reflects the percentage of correct answers out of 13 possible questions.

the 2 communication items listed above. None of the demographic variables were significantly associated with the outcome. Ease of discussing family planning with one's wife was a moderately significant covariate ( $b = 0.45$ ; odds ratio [OR] = 1.57;  $P = .08$ ), and frequency of discussing family planning with one's wife was found to be a significant predictor ( $b = 0.48$ ; OR = 1.62;  $P = .02$ ) of family-planning uptake.

Our qualitative data support and expand upon these findings. Many interview participants said that overall communication with their wives or girlfriends was enhanced by their increased comfort with discussing family planning, which some attributed directly to their interactions with the male motivator. More than half of the participants said the program had provided an opportunity to talk with their wives or girlfriends about family planning. One participant expressed looking forward to the motivator's visits because they helped him "find an entry point to do some of the things together with my wife." Some men described an increased openness to discussing family planning and attributed improvements in their spousal relationships to their improved ability to discuss family planning. One said, "Before the educator came to shed more light on this issue, I was doing what I could, based on guesswork without even discussing with my wife. After the educator came I was

able to discuss and communicate with my wife very well." Another said,

She now has an open mind to family-planning issues because she is able to understand how difficult it could be if we were to have unplanned pregnancies. So she also has a positive attitude towards family-planning issues.

## DISCUSSION

This study is one of the few evaluations of a theoretically based male-targeted family-planning intervention. It is also the first to evaluate the effectiveness of the Malawi Male Motivator project, an intervention that used peer educators to help intervention participants meet their family-planning goals by targeting men with messages focused on the financial and health-related benefits of family planning, information about contraceptive methods, and activities to challenge gender norms and improve spousal communication. The shift in contraceptive uptake seen among intervention participants indicates that the content and processes of this intervention were effective, providing additional evidence that family-planning interventions directed at men can be relevant and successful.

Our data indicate that although some components of the comprehensive IMB model may be applicable to the Malawi Male Motivators project, the model per se does not explain the

success of the intervention. However, as others have identified previously, communication appears to be an important factor in increases in use of family planning, and our quantitative and qualitative findings indicate that the intervention was an important catalyst of spousal communication.<sup>41,42</sup>

Previous studies in the region have reported that family-planning services do not adequately meet men's needs and that spousal communication about family-planning issues is generally poor.<sup>43</sup> Men who communicated with their spouses were more likely to use family planning than were those who did not,<sup>41,44-48</sup> and the quality of family-planning communication influenced spousal consensus about family size and was correlated with use of modern contraception.<sup>49</sup> Gaps in couples' family-planning expectations can be addressed through the enhancement of men's ability to have effective conversations on the topic.<sup>45</sup> Additional research is needed to explore the possibility of expanding this intervention to reach larger groups of men and to explore ways in which the intervention could be used to assist young couples in making a family plan for child spacing and contraceptive use.

Despite the randomized design of this study, it does have some limitations. Participants were selected on the basis that they were not using contraceptives at the time of baseline data collection. Considering the mean age of the

participants<sup>41</sup> and their wives or girlfriends<sup>39</sup> and their mean number of children (1.6), the large uptake of family-planning methods could partially reflect a maturation effect on the part of the couples. Also, nonuse of contraceptives was determined by the men's self-report. Previous literature has identified discordance in couples' reported contraceptive use<sup>41</sup>; it is possible that the participants' significant others were already using some form of contraception before the intervention and that the men were unaware of this. Covert use of contraceptives has been identified in the literature at varying rates.<sup>50-53</sup> Considering the reality of some couple's contraceptive discordance, the intervention may have provided some women with the opportunity to indirectly inform their husbands or boyfriends of preexisting contraceptive use.

In addition, without information from the partners of the participants, we are unable to identify whether reported contraceptive uptake was the result of coercion. Still, no adverse events were reported during this study. Finally, the control arm also increased reported use of family planning during the time of the intervention. To better understand the reasons for this increase, additional research should study natural contraceptive adoption rates among young couples in similar communities, build upon existing literature on family-planning diffusion across communities<sup>54-56</sup> and the impact of study participation,<sup>57,58</sup> and examine the influence of questioning participants about a particular topic.<sup>59,60</sup>

Despite these limitations, our results indicate that male-focused peer-led interventions can effectively increase contraceptive use. Such interventions should incorporate the transfer of communication skills to facilitate men's role as partners in reproductive health. Although the IMB model did not fully explain the success of the intervention in this case, research should continue to test theoretical models to advance understanding of complex health behaviors and relationship dynamics. ■

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### Contributors

D. Shattuck analyzed the quantitative data and led the writing of the article. B. Kerner participated in project implementation, qualitative data analysis, and the writing of the article. K. Gilles participated in qualitative and quantitative data analysis and assisted with writing the article. M. Hartmann participated in qualitative and quantitative data analysis and assisted with writing the article. T. Ng'ombe was the project director in Malawi; she trained the intervention personnel and data collectors, and she provided insight into development of the article. G. Guest provided oversight for the analyses and participated in writing the article.

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### Human Participant Protection

This study was approved by Family Health International's Protection of Human Subjects Committee and the National Health Sciences Research Committee in Malawi.

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