Concept Note 2

Evaluating an "*enhanced*" mHealth component for maternal, infant, young child nutrition (MIYCN) programs

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Background

In addition to the scale up of high impact nutrition practices and the improvement of maternal and child nutrition outcomes, SPRING is dedicated to the expansion of learning and innovation for effective nutrition programs. Novel or innovative social and behavior change communication (SBCC) interventions using mobile health (mHealth) technologies and telecommunication are often adapted for resource-constrained settings but methodologically rigorous evidence is still needed to support the utilization and expansion of these "enhanced" or improved approaches so that future programs may incorporate these promising tools (Gurman 2012, 101).

Education and counseling interventions related to maternal, infant, and young child nutrition (MIYCN) offers the greatest potential to reduce child morbidity and mortality and to improve maternal health outcomes in developing countries (Bhutta et al. 2008, 417). Efficient scale-up may be facilitated by incorporating a mHealth component designed to bolster or augment existing program delivery. This enhanced strategy may be particularly relevant for remote settings where health worker shortages persist and access to traditional healthcare or facility-based services is limited or delivery quality is poor.

This study aims to address a crucial knowledge gap by conducting formative, process, and summative evaluation of an "enhanced" mHealth approach for promotion of MIYCN using an SBCC framework. Examples of mHealth interventions include the formation of a short message service (SMS) network for delivering brief MIYCN messages or use of a mobile phone-based algorithm for nutrition counseling to strengthen MIYCN education and counseling for community participants.

Research Objectives

After identifying a SPRING country or region where adequate operational capacity (e.g. sufficient power supply and geographic network coverage) exists to support the selected mHealth intervention:

1. Examine if inclusion of the mHealth intervention reduced the communication gap between MIYCN health workers and community participants and therefore increased access to technical MIYCN information at the household level.
2. Evaluate if enhanced delivery with the mHealth intervention to promote MIYCN led to improved knowledge and practices related to MIYCN among community participants.

Methods

Steps in the development and evaluation of an expanded mHealth intervention to promote MIYCN* will include the following (*MIYCN topics may include the promotion of breastfeeding and fortification, vitamin A and zinc supplementation, appropriate complementary feeding, and maternal nutrition):

Formative Research

To understand the prevalence and current usage of mobile phones and how MIYCN-related information could be integrated into the existing context, focus groups with participants from

the target population will be conducted to gather feedback that will be used to guide program development. Issues such as the acceptability of SMS to deliver health-related content will also be examined in addition to preferences for frequency and timing of delivery.

Pretesting

After MIYCN content has been selected and a strategy for intervention delivery has been drafted, the next phase involves early pretesting to document responses to the proposed format and content of the intervention(s). A group of representatives drawn from the target audience will receive different styles of the mHealth intervention (e.g. daily SMS reminders to suggest options for proper complementary feeding, weekly SMS tips to promote breastfeeding) and surveys will be used collect input about participant responses.

Pilot Study

A small scale pilot study will be conducted to test technical aspects as well as processes for recruitment, implementation, and data collection for the delivery of the mHealth intervention in the final revised form. Detailed information about program performance including the provision, utilization, and coverage of the intervention will be collected in addition to impact indicators. Field data collection encompassing both qualitative and quantitative measures will evaluate the adequacy of the mHealth intervention as well as provide a more in-depth understanding of how the intervention was used, understood, or applied. Semi-structured interviews and surveys of both participants and program staff will provide valuable insight about perceived obstacles and challenges for implementation. The selection and inclusion of a carefully designated control group(s) in the initial design would allow comparison between intervention and control groups to assess the plausibility of program impact.

If adequate resources are available and the implementation strategy permits, a randomized controlled trial will offer the best evidence of program effectiveness to ensure that observed differences between the control and intervention groups can be attributed to novel delivery of the mHealth intervention. This insight may support the greater use or wider expansion of these mHealth interventions for other SBCC-based approaches under similar conditions.

References

Gurman Tilly A., Sara E. Rubin, and Amira A. Roess 2012. "Effectiveness of mHealth Behavior Change Communication Interventions in Developing Countries: A Systematic Review of the Literature." *Journal of Health Communication* 17:82-104.

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