Key findings from Columbia University's evaluation of Saving Mothers, Giving Life In Zambia

Policy problem, program and evaluation aims

Maternal mortality is a complex challenge in Zambia where the maternal mortality ratio is 440 per 100,000 live births. Most maternal deaths are caused by postpartum hemorrhage and hypertensive disorders of pregnancy—both treatable. Saving Mothers, Giving Life (SMGL) is a public-private partnership aimed at reducing maternal mortality by 50% and showing that investments in demand creation and health facility improvements can improve maternal survival. The program was implemented in four districts in Zambia and Uganda in 2012. This external evaluation of SMGL was conducted between November 2012 and August 2013 to assess the reach, extent, fidelity, and dynamic effects of SMGL in order to identify best practices and remaining barriers to reducing maternal mortality in Uganda and Zambia, and to inform future efforts of SMGL. We also examined the functioning of the SMGL partnership and engagement of various stakeholders.

> "As health workers, when you are in an environment where you can't practice your skills, it is very demotivating. So with SMGL the environment was attended to...in terms of medical equipment, in terms of trainings, so this motivated our staff."
>
> — DISTRICT-LEVEL MOH OFFICIAL

Study design

The research team collected qualitative data in the four SMGL districts (Kalomo, Lundazi, Mansa, and Nyimba) and quantitative data in SMGL districts and in two comparison districts (Kabwe and Kapiri Mposhi) in order to assess:

- **"Dose delivered":** the extent of SMGL implementation
- **Fidelity:** whether the intervention work improved quality
- **Reach:** how intervention was received
- **Dynamic effects:** what were the broader effects of SMGL, on the health system and communities

Our data was collected using:

- 68 in-depth interviews with central and district MoH officials, CDC and USAID officials, and SMGL implementing partners
- 17 in-depth interviews with SMGL global partners
- 40 in-depth interviews with health facility managers
- 1,247 exit surveys with women following discharge after facility delivery
- 557 satisfaction surveys with health providers and 327 obstetric knowledge assessments with MCH providers
- 40 focus group discussions with women with recent home and facility deliveries, community health workers, and local leaders in SMGL districts

Research team

The US-based research team was led by Drs. Margaret E. Kruk and Sandro Galea at Columbia University's Mailman School of Public Health. The team also included co-investigators Drs. Miriam Rabkin (Columbia University) and Karen Grépin (New York University) and eight additional researchers. The Zambia-based research team was led by Professor Mubiana Macwan'gi with co-investigators Mr. Joseph Simbaya, Ms. Mutinta Moonga, and Mr. Richard Zulu from the Institute of Economic and Social Research (INESOR) at the University of Zambia. All human subjects research activities received clearance from Columbia University and the ERES Converge Research Ethics Committee as well as the Ministry of Health in Zambia.

Findings

Dose delivered: SMGL implemented many activities in year 1, including the following:

- 1,548 individuals trained as safe mother action group (SMAG) members
- 236,483 birth plans distributed
- 93 Change Champions trained
- 2,027 Mama Packs (containing cloth diapers, diaper fasteners, traditional chitenge cloth, laundry bars, bath soap, and baby hat) distributed to women at facility delivery
- 94 facilities upgraded to BEmONC capacity (some still unable to perform vacuum assisted deliveries)
- 199 health workers trained in EmONC
- 256 health workers trained in SmartCare

Reach: In intervention districts, nearly 90% of women who delivered at facilities had heard of SMGL, mostly from radio broadcasts and health providers. Almost 70% of women in SMGL districts used at least one intervention, with 25% reporting the use of transport vouchers (Figure 1). Providers in SMGL districts were twice as likely to have received obstetric training during the past year compared to those in non-SMGL districts, as illustrated in Figure 2.

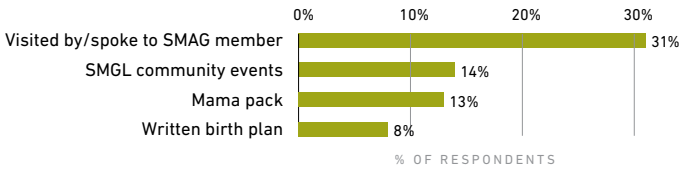

FIGURE 1:
Women's use of SMGL interventions

Data collectors practice an exit interview prior to data collection, Lundazi

Columbia University MAILMAN SCHOOL OF PUBLIC HEALTH

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Fidelity

QUALITY METRIC	ADJUSTED DIFFERENCES BETWEEN SMGL AND COMPARISON DISTRICTS
Provider knowledge	Providers in SMGL districts scored 8.6% higher than providers in comparison districts on a test of obstetric knowledge; SMGL-trained providers scored 13.5% higher.
Provider confidence	No difference
Receipt of services	No difference
Providers' rating of quality	No difference
Women's rating of quality	Women in SMGL districts were almost twice as likely to report being "very satisfied" with facility delivery care as those in comparison districts. They were 1.9 and 2.6 times more likely to report that the availability of drugs and medical equipment, respectively, was "very good" or "excellent."
Women's satisfaction with care	Women in SMGL districts were 1.9 times more likely to be "very satisfied" with their care versus women in comparison districts.

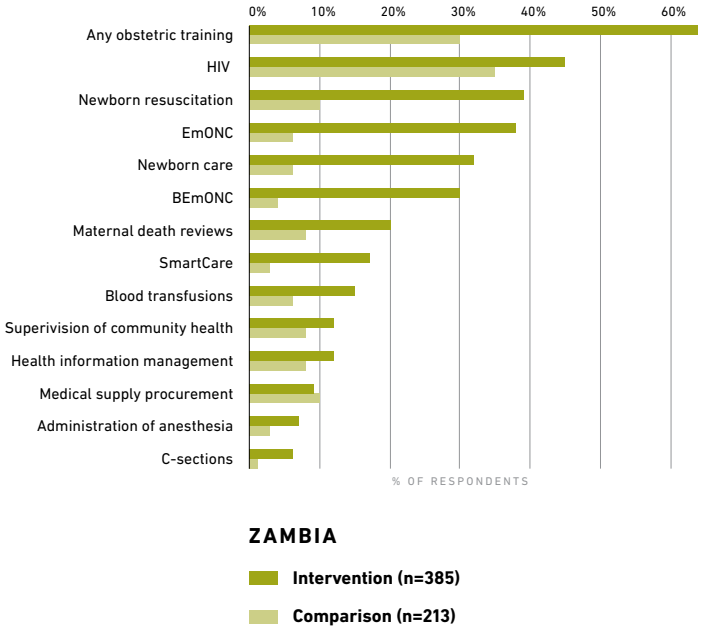

FIGURE 2:
Provider training received in SMGL and comparison districts

Dynamic effects:

- SMGL raised awareness of maternal mortality within and beyond focus districts.
- SMGL had mostly positive "spillover" effects on the broader health system (e.g., service delivery, medicine procurement, information systems).
- Women in the community were enthusiastic about SMGL—specifically the work of the SMAGs.
- Most women who delivered at home said they did so due to the sudden onset of labor, lack of transportation, and concerns about disrespectful treatment.
- Women reported social pressure to deliver in facilities; some who delivered at home felt stigmatized.
- Women and local leaders confirmed that those who delivered at home were made to pay penalties in many villages.

Recommendations

1. Commit to five years – with a clear transition plan: SMGL partners should make minimum commitments of five years to enable appropriate planning, engagement of local ministries, sequencing of interventions, and planning for sustainability. In addition, the role of national governments and district authorities should be clearly outlined. From the outset, this should include government investments in core areas such as infrastructure and human resources, as well as a transition plan detailing how countries will assume responsibility for the program moving forward.

2. Think in terms of health system packages and not isolated interventions: Investments in surgically-equipped facilities, medicine supply chains, health workers, and clinical skill acquisition are mutually-reinforcing and essential for creating a culture of competence necessary for high quality care. Packages of health system investments—with funding shared between development partners and host governments—are also more likely to have beneficial "spillover" effects into non-maternal health services.

3. Training is not enough – consider other cost-effective models for improving care quality: Trainings were the most rapidly and extensively implemented activities of SMGL. Yet, our analysis showed a relatively modest 10% difference in knowledge between providers in SMGL and non-SMGL districts, most of whom did not receive in-service training. In addition to short trainings, partners should explore and test innovative approaches to improving quality of care that have shown promise in similar settings such as performance-based financing, quality competitions, and public sharing of quality metrics.

4. Focus on "last mile" women: Even with expansion of obstetric facilities and transport solutions, many women in rural areas will live too far to reach facilities for delivery. SMGL should continue testing innovations to provide good care for these women, including maternity waiting homes and telemedicine for providers in first-level facilities. Some women are dissuaded from coming to facilities for fear of disrespectful treatment. Efforts to promote dignified maternal care must go hand in hand with technical quality improvements. Careful attention must be paid to the unintended consequences of efforts to promote facility delivery, such as penalties for home delivery.

5. Clarify the SMGL governance structure – globally and in host countries: At the global level, the SMGL Leadership Council should define a governance structure with clear roles and responsibilities for funding and implementation. This will enhance the effectiveness of the partnership and clarify its value added to individual members. Within countries, national governments should take on a central role in oversight of SMGL and, over time, increase investments in core SMGL functions, particularly those related to strengthening health systems.

6. Test future intervention packages using rigorous evaluation methods: SMGL has produced important insights, including that existing development assistance platforms, such as PEPFAR and MCH assistance, can be used to rapidly scale new programs. However, there remain mission critical knowledge gaps. One of these is the content of the minimum essential SMGL package required to improve maternal survival. Defining such a package is required to scale up the program in the context of limited resources. Going forward, combinations of promising interventions (active ingredients) customized to country needs should be tested in head-to-head comparisons. Prospective, randomized or quasi-random evaluations, which can be done alongside program implementation, will provide the most credible answers on what constitutes the essential package.