1. Problem Statement: What is the problem affecting the lives of people living in poverty that your innovation or solution addresses?[1]

Family Empowerment Media (FEM) aims to improve women and children's health by reducing unintended pregnancies and expanding interpregnancy intervals. We increase information accessibility and reduce stigma around effective contraception.

Pregnancy is a matter of chance, not choice, for millions of couples. 41% of married sexually active women in low- and middle-income countries (218 million women) who want to avoid pregnancy do not use contraception (1). This results in an annual 85 million unintended pregnancies (2). Poor health care systems and unsafe abortion methods turn these unintended pregnancies into 70,000 annual maternal deaths (3). Frequent pregnancy can lead to serious non-fatal conditions, including obstetric fistula, postpartum anemia, and postpartum depression (4). In addition, lack of contraception access increases gender disparities with low female participation in education and the workforce (5).

These severe problems are particularly acute in Nigeria. Nigeria is responsible for approximately 14% of all maternal deaths worldwide (4). 1 in 22 Nigerian women die from pregnancy and childbirth-related complications (6). The World Health Organization recommends women wait at least 24 months after delivery before attempting pregnancy again (7). However, in Nigeria, one-quarter of subsequent births occur within 23 months of the previous birth (8). These short intervals increase pregnancy-related risks and can lead to health problems for the resulting children. Intervals of 18 months or less are associated with increased rates of low birth weight and under-5 mortality (9).

Often, Nigerian women seek to avoid or delay pregnancies, but are unaware of or misinformed about available options (10). Despite free contraceptives at local health clinics in most of the country (11), about half of Nigerian women have an unmet contraceptive need (1). When asked why they do not use contraception, 20% cite health concerns (though these are often resolvable through medical consultation), 10% lack access to contraception information, and 7% reference fatalistic attitudes (e.g., the belief that God should determine pregnancies and child-count; though many religious authorities support childbirth spacing) (1). Norms and stigmas also form a barrier to contraceptive use. For example, in Sokoto State, 34% of pregnant women and new mothers agreed that "people would call you bad names or avoid your company if they knew you were using contraception to space births" (12).

[1] Must include: compelling problem statement in the development context addressing issues related to poverty; Credible explanation of how the problem impacts people's lives; how solving this problem would lead to improvements; What is the problem and how does it impact the lives of people living in poverty? How would solving this problem improve people's lives? How many people does this issue impact in the country/countries you are working in, and globally? Note: Please do not describe your innovation here; it should be addressed in Question #2.

2. Description of the Innovation: What is your innovation? How does your innovation compare to existing alternatives and what are the advantages of your innovation compared to these alternatives, including standard practice?[2]

Family Empowerment Media (FEM) employs high-intensity radio-based social and behavioral change (SBC) campaigns to empower couples seeking pregnancy prevention or delay to use effective contraception. FEM builds on Development Media International (DMI) and similar work, while pioneering distinct innovations to increase impact at scale.

First, FEM utilizes radio for SBC campaigns. Radio campaigns are uniquely cost-effective among interventions to reduce maternal deaths, as Charity Entrepreneurship found in its review of 180 family planning interventions (13). Radio is a popular, affordable, and trusted information source in the contexts we work in. DMI is among the few organizations to utilize this medium for extensive high-intensity family planning campaigns. However, DMI has no plans to expand to Nigeria or many other countries where this intervention could have an impact. While other actors improve clinical access and conduct door-to-door community engagement activities, no organization currently in Nigeria utilizes a medium as far reaching as radio with comparable intensity.

Second, we partner with local organizations using a hub and spoke model to enable us to effectively execute our campaigns at scale. FEM - the hub - coordinates projects, sets standards, and builds capacity. Local implementing organizations - the spokes - conduct audience research and build buy-in with local stakeholders. Together, we identify key campaign messages and review content. FEM selects value-aligned partners through a competitive application process and proof of concept “test”. While a few social enterprises successfully use the hub and spoke partnership model (e.g., Kiva, Water.org), SBC organizations generally form more limited partnerships. We believe the model suits an SBC campaign’s highly context-specific nature.

Third, we developed a novel evaluation technology to enable randomized controlled trials (RCTs) on radio-based interventions in previously inoperable contexts. Most radio campaign evaluations use pre-post or geographic exposure-based designs as radio’s large reach challenges control group creation. With support from Grand Challenges Canada (GCC), FEM developed and piloted small-scale radio transmitters to assist control group creation. The transmitters temporarily override a station’s main signal in a selected four kilometer-radius area while campaigns air. This technology makes RCT with greater statistical power possible, laying the groundwork for radio-based public health program evaluation worldwide.

[2] Must include: Clear explanation of the innovation; Please describe your innovation and how it addresses the problem detailed in Question #1, above. Please summarize what makes your approach innovative: why does your innovation have potential to address the problem at lower cost, faster, or otherwise more feasibly at scale, than the status quo or alternatives? Please indicate the alternative solutions that already exist to address the problem targeted by your innovation (specifically in the same geographic area where your innovation is implemented), and articulate the comparative advantages of your innovation.

3. Target Population: Who does your innovation impact?*[3]

Our SBC radio campaigns target women and men of reproductive age in regions with high-maternal death rates, low contraceptive use, and few contraceptive stockouts. We use cost-effectiveness analysis, weighted factor modeling, and expert opinions to select the most impactful locations for implementation. We currently operate in Nigeria, where we anticipate reaching 35 million listeners in 11 states.

Although FEM's messages reach all radio listeners in our target locations, our programs are tailored to sexually active women and men who do not use contraceptives and may want to avoid pregnancy at some point. Target listener characteristics vary by region. For example, in Kano State, our average target listener is married, identifies as Muslim, understands Hausa, and lives on a household income of less than 5 USD per day. In Anambra State, our average target listener is also married and lives on a household income of less than 5 USD per day but identifies as Christian and speaks Igbo.

4. Theory of Change and Existing Evidence: How will your innovation lead to improved development outcomes? Please clearly describe the theory of change behind the innovation and cite the evidence linking your innovation to its intended impact.[4]

We expect our campaigns to inform and improve attitudes towards effective childbirth spacing, and reduce unintended pregnancies, and ultimately improve maternal health.

Theory of Change
Activity 1 (A1) - Identify regions with readily available contraceptives, but low awareness/uptake and high maternal mortality
Activity 2 (A2) - Identify barriers to contraceptive use among target listeners
Activity 3 (A3) - Produce and air high-quality radio SBC campaigns and continuously refine content through prototyping and on-air research
Result 1 (R1) - Listeners hear and understand FEM's programs
Result 2 (R2) - Increased effective contraceptive use
Result 3 (R3) - Fewer unintended pregnancies and increased birth spacing
Impact 1 (I1) - Reduced maternal deaths and improved health
Impact 2 (I2) - Increased years of schooling and labor force participation

[3] Must include: Clear identification of target beneficiaries/customers and general information by demographic disaggregating (e.g., gender, income, etc); Explain who, specifically, is impacted by the problem and who is expected to benefit from your innovation (e.g., different genders, age groups, income levels, minorities)
[4] Must include: A credible theory of change that draws upon existing evidence when applicable or available, either from valid sources or previous implementation experience; A clear explanation of the key questions that the proposed activities are designed to answer and how the applicant intends to find the answers to those questions.;Please describe the theory of change supporting your innovation: through what steps will the proposed innovation lead to the intended outcome(s)? Please explain for which parts of the theory of change there already is evidence, and which are yet to be established. For applicants on a public pathway to scale, please explain how the activities under a potential DIV award would generate evidence of impact or build upon an existing evidence base. For applicants on a commercial or hybrid pathway to scale, please include evidence of demonstrated demand or evidence that the innovation fills an identifiable need in the market, or indicate how a potential award would help you to gather this data. If relevant, please also explain how the activities under a potential DIV award would generate evidence of impact or build upon an existing evidence base.

Existing evidence

- A1 -> A3: Our previous implementation demonstrates we can identify cost-effective regions (see 14), determine contraceptive uptake barriers (see 15/16) and produce high-quality radio campaigns (see 17/18).
- A3 -> R1: We regularly measure how many people heard, understood, and could reiterate our messages. We surveyed 300 listeners and found that 79% could spontaneously retell ad content after hearing the intro music. We also received feedback on active engagement of citizens with our programs from the Council of Ulamas (Kano's highest religious body), the Ministry of Health, and community leaders.
- A3 -> R2: J-PAL and DMI found that a 2.5 year radio campaign in Burkina Faso increased contraceptive use by 20% (19). Family Planning High Impact Practice (HIP) named 18 additional studies linking mass media to increased contraceptive uptake (20). However, only the Burkina Faso study - which does not rely on a hub and spoke model and has only a few clusters - evaluates its impact with an RCT.
- R2 -> I1: The Guttmacher Institute estimated fulfilling all unmet contraceptive needs could prevent 76 million unintended pregnancies and 70,000 maternal deaths yearly (21). A systematic review found childbirth spacing can improve child health and nutrition (22).
- R2 -> I2: The Copenhagen Consensus estimated each USD spent on impactful interventions to improve universal contraception access could generate a social, economic, and environmental benefit of 120 USD (23). The Center for Global Health Development found that access to effective family planning increases girls' and women's educational attainment (5).

The proposed RCT will monitor A1 through R3, and evaluate whether A3 -> R1, R2, and R3. The study will test if FEM's campaigns developed through the hub and spoke model increase effective contraceptive use and lengthen interpregnancy intervals across diverse cultural contexts. Changes in I1 and I2 may be too small to detect with sufficient power and better assessed through other studies. The proposed RCT will inform FEM's scaling decisions and add to the global evidence base of public health SBC campaigns.

5. Current Impact and Reach: What has been achieved to date and how many people does the innovation currently serve? If other organizations have also implemented this innovation, please specifically indicate your organization's experience and reach.[5]

FEM produced and aired two campaigns in Kano State, Nigeria, reaching 5 million listeners up to 3,150 times with one-minute ads and 135 times with 20-minute shows. Additionally, we formed implementing partnerships and conducted proof-of-concepts in three additional regions in which we can reach further 30 million listeners.

[5] Please address whether your innovation has been prototyped, piloted or otherwise implemented and what you have learned from this experience, to date.Please indicate the results you have demonstrated thus far, including the number of people your innovation currently serves and how they benefit, and any evidence of demand for the innovation or that the innovation fills an identifiable need. For market-based solutions, please include relevant business metrics to date, including, but not limited to the: price, quantity sold, revenue, etc.

In August 2021 we launched a three-month pilot campaign in Kano with our local partner the African Institute for International Development Professionals (iDevPro-Africa) and the Kano Ministry of Health. The campaign was based on rigorous formative research and prototyping. We interviewed 27 women and men and surveyed 1,000 listeners to understand barriers and drivers to contraceptive use, role-model characteristics, and what listeners find entertaining. Performance Monitoring Action (PMA) found a 75% increase in contraceptive use in Kano during our pilot period. This increase corresponds with over 250,000 new contraceptive users - double the new users Kano saw in the previous 5 years combined. A similar trend was not observed in Lagos or other Nigerian states (24). Our campaigns were Kano's only new family-planning demand generating intervention in this period.

FEM's nine-month rollout campaign in Kano began in May 2022. We aired two ads, each five times a day, and one show three times weekly. Our show formats include talks shows, standalone dramas and a serial drama. The material builds on learnings from our pilot; we brought more religious leaders on our shows and provided side-effect management strategies. We also tested and integrated the new evaluation transmitters. For example, the transmitters now contain GSM modules to send real time transmitter data to a server.

In August 2022, we launched proof-of-concepts in Anambra, Kogi, and Ondo States with our local partners. We conducted stakeholder workshops, facilitated trial research projects and aired one-week campaigns. We are currently testing content re-airing in neighboring states.

6. Anticipated Impact and Reach: What specific social outcomes do you expect your innovation to achieve over the next 3 years? How many people do you expect your innovation to reach over this time period? Please specify how you estimate the number of people served and the magnitude of impacts.[6]

In the next three years, we expect to reach 35 million listeners in Nigeria leading to 420,000 new contraceptive users. We estimate our campaign will avert approx. 950 maternal deaths at a cost to FEM of 4,768 USD per life saved. From Jan. 2023 to Dec. 2025, we will conduct a 23-month- campaign in three RCT states and re-air content in up to eight additional states, depending on funds and contraceptive supply.

In the RCT, we expect to reach 3.5 million listeners in Anambra, 3.5 million in Kaduna, and 4.2 million in Ondo State. To estimate listener count, we obtain reported radio station reach data. If no externally validated data exists, we discount estimates by 30%. To estimate the impact magnitude of the RCT campaign, we assume a 12% increase in contraceptive use and 6% decrease in births. These estimates assume our campaign achieves 60% of DMI's impact in its 30-month Burkina Faso campaign. Impact on women's health (estimations below) follows these assumptions (see citation 25). Impacts on child deaths, nutrition, income, and

[6] Must include: Realistic explanation and clear articulation of the number of people (i.e., beneficiaries/customers) impacted by the proposed activity locally and globally, as well as the potential for impact over time. Please describe the projected future impact of your innovation in terms of the number of customers or beneficiaries reached, and ultimate impacts/outcomes (e.g., improved learning, health outcomes, increase in household income, etc.) over the proposed award period. Please specify the magnitude of impacts (e.g., a X% reduction in chronic malnutrition; a $Y increase in household income, etc.). For market-based solutions, please include projections for how your key business metrics, including price, quantity sold figures, and revenue are forecasted to change in the next 3 years.

education could be substantial. We do not include them as these calculations require more assumptions and are not our immediate focus.

New contraceptive users: Anambra: 47,500, Kaduna: 39,100, Ondo: 60,300
Unintended pregnancies averted: Anambra: 28,400, Kaduna: 35,600, Ondo: 27,300
Unsafe abortions averted: Anambra: 1,600, Kaduna: 1,800, Ondo: 1,500
Maternal deaths averted: Anambra: 107, Kaduna: 126, Ondo: 111
DALYs (disability-adjusted life years) averted from postpartum anemia, postpartum depression and fistula: Anambra: 1,900, Kaduna: 2,900, Ondo: 2,200

We plan to re-air RCT campaign content in Kano, Oyo, Ogun, Osoun, Delta, Abia, Niger and Nasarawa State, pending funding. We estimate this will reach 24 million additional reproductive aged women, motivate 273,000 additional contraceptive users, avert 149,000 unintended pregnancies, prevent 7,900 unsafe abortions, avert 604 maternal deaths, and avert 14,900 DALY from postpartum anemia, postpartum depression and fistula.

7. Evaluation Methodology: What evaluation methodology will you use to measure the success of your innovation?[7]

Research Question: The study will use a cluster randomized controlled trial to assess whether co-produced SBC campaigns (Activity 3 above) cause listeners to hear and understand FEM's programs (Result 1, secondary outcome), increase their effective contraceptive use (Result 2, primary outcome), and increase interpregnancy spacing (Result 3, secondary outcome). We will also assess how contraceptive use and pregnancy spacing change a year after the campaign has ended.

Study Design: After a baseline survey, we will randomly assign health clinic catchment areas to receive FEM's radio program for 23 months or a transmitter to replace FEM's programs with music. The intervention period will complete with an end-line survey. Subsequently, we will not air campaign content in treatment and control regions for one year. We will complete the study with a follow-up survey that allows us to understand behavior change maintenance.

Sampling Frame and Randomization: We will sample 164 non-urban clinic catchment areas in three Nigerian states and randomly select 40 households with child-bearing-age women within each clinics' catchment area. To build this sample frame, we will work with local government leaders and clinic officials to develop a list of eligible households.

[7] Must include: A clear explanation of the key questions that the proposed activities are designed to answer and how the applicant intends to find the answers to those questions; Stage and scaling pathway-appropriate choice of evaluation methodology to measure commercial viability, cost-effectiveness, and development impacts of the innovation. Description of statistical power and corresponding assumptions for those evaluations generating rigorous evidence of causal impact. Please describe the evaluation methodology you will use to test key assumptions in the theory of change and measure the success of your innovation. For all evaluation methods, please describe how you will collect data on your innovation's intended impact on development outcomes. For impact evaluations, please include your a) research questions, b) sampling frame, c) power calculations, and, if a randomized control trial (RCT), d) unit of randomization and randomization strategy. Stage 3 applicants should describe their plans to continue to assess their innovation's social impact at scale. Please describe any steps you will take during the course of a potential award to ensure findings influence future policy, programming, or widespread adoption (in your context or elsewhere).

Data Collection: We will collect both self-reported and clinic-level outcomes (see Section 8). For self-reported data, enumerators will conduct surveys assessing primary and secondary outcomes. These approximately one hour surveys will be conducted on encrypted tablets using SurveyCTO software. Self-reported survey data will complement routinely collected clinic-level data on contraceptive use, birth rates, and maternal health. Combining surveys with clinic reports will ensure data triangulation.

Analysis: We will estimate the effect of treatment on core outcomes using standard RCT evaluation methods; specifically, OLS regressions with standard errors clustered at the level of random assignment (i.e. clinic level). Following best practice, we will further increase statistical power by adjusting for baseline outcomes, randomization block fixed effects, and predetermined covariates (selected using machine learning with baseline outcomes), and calculate *p*-values using randomization inference.

Power Calculations: Our power calculations draw on the DMI's Burkina Faso study. Assuming a 6% baseline rate and a 0.1 intra-cluster correlation, we estimate that 164 health clinic clusters (100 treatment, 64 control) and 40 respondents per cluster would detect a 3.1 pp increase in effective contraception usage with conventional standards for power (0.8) and statistical significance (0.05).

8. Key Performance Indicators: What relevant metrics/key performance indicators (KPIs) will you use to track your innovation's performance and how will you collect the data?[8]

We will implement and monitor Activity 1, 2, and 3 of our Theory of Change. This includes selecting cost-effective regions to work in, identifying barriers and drivers to contraceptive usage, and producing high-quality campaign material. We will also ensure that radio stations air ads and shows as scheduled through the automated content recognition platform ACRCloud.

We will use the research design described in Section 7 to measure Results 1, 2, and 3 with the following Indicators (in):

Result 1) Listeners hear and understand our programs

R1.in1: Number of people and the extent to which people report listening to partner radio stations and to FEM-sponsored radio ads and shows
R1.in2: Knowledge about effective contraception, based on an index of factual questions reflecting the content provided by FEM's programs
R1.in3: Number of phone numbers from which the What's App account promoted in FEM's campaigns received messages on contraceptives

[8] Must include: Well-defined metrics or key performance indicators to judge success of the project such as operational viability, commercial viability, full costs, causal impact, cost-effectiveness, reach, and other social impact; Clear explanation of how the metrics would be collected including relevant assumptions for early stage applicants; Please list relevant metrics/KPIs you will use to track your innovation's performance, how you will collect this data, and your corresponding targets over the proposed award period. Example KPIs include: number of direct customers/beneficiaries; key outcomes, including magnitudes of social outcomes (e.g., X% reduction in chronic malnutrition, $X increase in household income); adoption rate by customers or beneficiaries; costs per customer or beneficiary; capital raised; and ratios of revenue to cost. DIV understands that these indicators and targets may change over time.

Result 2) Increased use of effective contraception

R2.in1: Number of women reporting that they have obtained effective contraceptives, and the regularity of obtaining contraceptives
R2.in2: Number of women reporting effective contraceptive use, as well as the regularity of contraceptive use
R2.in3: Number a of women reporting intention to use contraceptives
R2.in4: Number of contraception requested at clinics associated with a given catchment area

Result 3) Reduction in pregnancies and increased spacing of pregnancies

R3.in1: Number of women that become pregnant after the intervention begins
R3.in2: Number of women that have recently delivered; here, recent delivery is defined as a delivery where conception happened after the campaign's start
R3.in3: Number of women that give birth in clinics associated with a given catchment area

To increase the statistical power of our evaluation and reduce the multiple comparisons problem, we will measure impact on (inverse covariance weighted) indexes for each category of results.

9. Cost and Potential Cost-Effectiveness: What is the current cost of your innovation, and what might make your innovation more cost-effective than alternatives? How do costs change as your innovation scales?[9]

Family planning radio campaigns are potentially highly cost-effective in regions with frequent unintended pregnancies and high maternal mortality despite contraceptive availability. We estimate that our intervention averts a maternal death for 4,808 USD.

From January 2023 to December 2025, we plan a total implementation budget of 4,723,000 USD: 2,671,000 USD to implement in RCT states and 2,052,000 USD to re-air in eight additional states. Variable costs amount to 4,128,814 USD (87%) and include formative research, stakeholder engagement, and content creation. FEM's fixed costs amount to 593,865 USD (13%) and include FEM staff salaries and headquarter costs. To date, we have raised 1.2 million USD through partnerships with Affinity Impact, Agency Fund, Founders Pledge, and individuals. We are in the final stage of a process with CRI for 350,000 USD.

Our cost-effectiveness is relatively constant as the intervention scales. Though we reach more listeners without proportional team growth, the impact per listener in new target locations declines. The impact we can achieve per listener is particularly high in initial states due to high maternal mortality rates and low radio air time costs. Founders Pledge and GiveWell's cost-effectiveness analyses of family planning radio campaigns in northern Nigeria are highly promising. When entering our cost and reach data in their models, the cost effectiveness

[9] Must include: Credible justification that the innovation can achieve better results at lower cost or be more effective at solving the problem than the status quo or alternatives. DIV is interested in understanding why your innovation has the potential to have a greater impact per dollar than alternative means of addressing the same problem, including the status quo. Please provide your best estimate of the current total cost of your innovation, including any co-funding. Please include both fixed and variable costs. How do you expect this cost to change as your innovation scales? How does the total cost of your innovation compare to existing solutions now, and projected at scale (estimated to the extent possible)? If any cost-effectiveness analyses have been conducted on the innovation, please cite relevant data.

comes out as 22 and 27 times more impactful than a cash benchmark respectively (26, 27). These estimates suggest that FEM's intervention may be among the most cost-effective to improve global health outcomes.

Radio campaigns can be more cost-effective than alternative family planning SBC interventions, due to low cost per listener reached, relatively large effect size, and scalability. FEM's model is particularly impactful as we work in the most cost-effective locations and use a hub and spoke model to rapidly scale campaigns while ensuring material is endorsed by local stakeholders.

Charity Entrepreneurship compared 188 family planning interventions and found mass-media campaigns the most cost-effective to improve maternal health (13). Alternative interventions such as household counseling, clinic-based education, and conditional cash transfers require higher costs per person reached and have additional downsides. Household counselors may struggle to overcome complex barriers to contraceptive use, stigmas, and social norms in one session (28). Family planning videos in clinics require screens, consistent power supply, and exclude households less likely to visit health facilities (29). Conditional cash transfers commonly used to increase vaccination rates are less suited to family planning as they may encourage contraceptive use despite desire to conceive (30).

10. Pathway to Scale: How will your innovation scale and be funded sustainably? Please explain the revenue model (public, private, or hybrid) and how your innovation will reach millions of people. Please indicate how many people you expect to serve over the next 10 years and specify how you estimate this number. Describe how the proposed activities will generate critical proof points for your intended path to scale. How will DIV funding play a catalytic role in your innovation's path to scale?[10]

FEM aims to produce cost-effective and evidence-driven SBC campaigns at scale. The RCT forms a crucial validation point for expanding our intervention and accessing scale funding. If results confirm intervention impact, we will be positioned to rapidly scale with our hub and spoke model.

[10] Must include: Stage-appropriate plans to build operational capacity, systems, and partnerships to drive the project or organization towards scale. The possibility of reaching millions of individuals within ten years. Stage-appropriate partnerships or resource commitments from government, private sector, or other donors or funders to attain social impact goals. An analysis of the financial resources expected to be required to scale the innovation over time. Clear and realistic plans to sustain long-term financial viability of the innovation at scale by way of growth in revenue, increased beneficiaries or customers, greater adoption, acquisition, etc.; Please describe your model for scaling up and whether you will rely on public, commercial or hybrid funding. If you anticipate a mixed source of funds in the future, please indicate what percentage of each source you expect to rely on after DIV funding. Based on your pathway to scale, how will DIV funding play an enabling or catalyzing role in the expansion of your innovation? For innovations intended to scale commercially, please explain your revenue model, break-even projections, customer segmentation, cost assumptions, and the role of any stakeholders expected to provide financial or other material support. For innovations intended to scale publicly, please explain how you will generate the sustained public funds and partnerships required for scale. For all innovations, to what extent will the end buyer or user, whether government, organization, or individual customer, be able to afford your innovation and to what extent have they indicated this ability? Characters Remaining: 3000

Stage 1) Intervention Development (2020-2022)
FEM developed and tested a scalable family planning campaign model. Our content reached 5.6 million listeners in Kano State for one year. Our campaigns contributed to 250,000 new contraceptive users in Kano. We built a skilled and diverse team, strong operational systems, and reliable partnerships that enable us to reach 35 million listeners across Nigeria. We developed and tested control group transmitters to conduct an RCT. Our total spend for these activities were 583,000 USD and funders include GCC and d-prize.

Stage 2) RCT and Re-airing (2023-2025)
We will conduct an RCT in three Nigerian states and re-air content in up to eight states reaching 35 million listeners for 23 months. We expect stage 2 campaigns to result in 420,000 new contraceptive users and avert 950 maternal deaths (see section 6). The RCT provides evidence to refine our cost-effectiveness models and rapidly scale the intervention. We expect to utilize 4,144,696 USD for the RCT and 2,051,500 USD for re-airing. We have raised 1,196,000 USD, and are applying for additional funding from the Bill and Melinda Gates Foundation, the Fund for Innovative Development, GiveWell, the Global Innovation Fund, and GCC.

Stage 3) Scaling of Family Planning Campaigns (2026-2029)
We will air family planning campaigns across all Nigerian locations and four additional countries that meet our cost-effectiveness threshold of 5000 USD per life saved. This stage allows us to reach an estimated 50 million listeners. At Stage 3, we will test the feasibility of additional maternal health SBC campaigns. In 2026, we plan to acquire funding from a combination of medium-sized foundations such as Unorthodox Philanthropy and individuals. Upon obtaining RCT results, we intend 80% of funding to come from larger groups like NORAD. Our intervention benefits listeners with a radio and access to transportation to a nearby health facility. They must also live in areas where public stakeholders provide consistent no-cost contraceptives for end-users.

Stage 4) Scaling of Other Maternal Health Campaigns (2030-2033)
From 2030 to 2033, we will continue cost-effective family planning campaigns and use existing partnerships to air SBC campaigns on high-impact maternal health topics such as kangaroo mother care and exclusive breastfeeding. We expect roughly 90% of funding to come from bilateral funders and large foundations and 10% from individuals and small foundations.

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12. Anticipated Risks: What are the biggest challenges or risks you expect to encounter and what measures will you take to mitigate them?[12]

Economic Risks (Low):
- The United Nations Population Fund cuts funding for contraceptives, causing increased stockouts in study areas. Mitigation: We carefully selected states with a strong contraceptive supply track record and closely monitor developments.

Environmental Risks (Low):
- Seasonal floods in Anambra and Kogi damage transmitters and interrupt data collection. Mitigation: where possible without affecting data generalizability, we select intervention and control clusters less prone to floods.

Legal and Political Risks (Low):
- We cannot access all clinic records needed for analysis. Mitigation: we only include clinics with baseline administrative data available in the RCT. In addition, a team member with experience in facilitating access to Nigerian clinic records will lead this process.

Security Risks (Medium):
- Security challenges, like kidnapping, increase in RCT clusters and prevent contraceptive use and data collection. Mitigation: we select intervention and control clusters based on thorough security analysis. We closely monitor the security situation and implement security risk mitigating strategies for data collection.

Social Risks (Low):
- Communities do not want to be in the control regions and opt out of the study. Mitigation: we clearly communicate study objectives and maintain close relationships with stakeholders. We devise compensation strategies implemented upon study completion (i.e., re-airing content and hosting educational family planning events).

[12] Must include: A strong understanding of local contexts, current implementation challenges and barriers to success. Realistic assessment of future challenges and risks anticipated and practical mitigation plans to address them.All innovations and research face challenges in implementation and in achieving scale. Please provide a realistic assessment of present and anticipated challenges (e.g., issues generating revenue, supply chain issues, political economy issues, policy requirements, legal regulations, delays in roll-out, threats to validity of evidence, low statistical power) you may encounter and how you plan to address them. This assessment should demonstrate a strong understanding of local implementation context(s).

- Religious and community leaders disagree with campaign content and prevent programs from airing. Mitigation: we consistently involve these leaders in content creation and review. We also bring selected leaders on air.
- Women in control clusters hear campaign messages through communication or travel in intervention regions. Mitigation: we impose a minimum distance of 15 km between control and intervention clinics. In addition, we only sample non-urban clinics, since communication between potential urban area clusters is high.

Technological Risks (Medium):
- The engineering team cannot develop transmitters that achieve a 95% replacement rate in time and RCT timelines thus shift. Mitigation: we closely cooperate with the engineering team to test and iterate the technology. Current tests look promising, and we have scheduled additional time for potential further updates.
- Transmitters break while the campaign airs and control groups hear campaign content. Mitigation: transmitters are built to withstand severe circumstances. If they underperform, a server that captures all transmitter performance notifies us immediately. Local engineers will promptly fix or replace transmitters. We will track all content aired to control clusters and adjust data analysis accordingly.

13. Lead Organization: Please provide an overview of the lead implementing organization and include relevant past experience implementing similar activities. Describe why this organization is uniquely positioned and has the capacity to solve the problem.[13]

Family Empowerment Media is an evidence-driven non-profit organization committed to eliminating maternal deaths and other health burdens that follow unintended pregnancies. We produce and air SBC radio campaigns on family planning.

FEM's campaigns are the result of rigorous intervention development and iteration processes. FEM has completed four proof-of-concepts in regions where radio campaigns are a particularly cost-effective method to reduce unintended pregnancies and maternal deaths. We also conducted a three-month pilot campaign and will soon complete a nine-month rollout campaign in Kano State, Nigeria. All our campaign content builds on rigorous prototyping and on-air research to ensure that programs are context-sensitive and impactful. During our pilot period in Kano, PMA found a 75% increase in contraceptive use, corresponding to over 250,000 new contraceptive users. This rate is double Kano's combined increase for the previous five years (24) .

These early successes are extremely promising, and an RCT could provide the evidence to ensure that a significant investment in radio family interventions is warranted. Depending on the RCT's results, we will revise our Theory of Change and scale rapidly through the hub

[13] Must include: Stage-appropriate record of achievement thus far; Ability of the applicant to successfully implement and execute the project as designed; Reasonable tests of technical, organization, distribution, and financial viability in a real world setting that can inform future implementation; Commitment to testing the underlying theory of change and pivoting when necessary to achieve greater impact and scale.Please provide an overview of the lead implementing organization. What is the organization's area of expertise and mission? Please provide detailed information on relevant past experience and highlight the lead organization's core competencies as they relate to addressing the problem statement.

and spoke model. We expect to reach an additional 50 million listeners in 2029 and operate at a cost-effectiveness threshold of less than 5000 USD per life saved.

The RCT will take advantage of FEM's new evaluation technology, competent team, and strong partnerships. Together with UNITRONIC, FEM has developed small-scale radio transmitters that enable RCTs on radio interventions in contexts where this was not previously possible. In addition, FEM has built the implementation partnerships necessary to work in 25 out of Nigeria's 36 states. We have also formed academic partnerships with experienced and ambitious researchers. Our team of FEM staff, implementing partners, and researchers have expertise in SBC, family planning, research, and the regional context.

[redacted]

[redacted]

[redacted]

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[14] [redacted]

15. Partner Organizations: Describe key partner organizations and explain how they have demonstrated their commitment to supporting or participating in the project activities. What skills, experience or resources will they contribute to implementing or scaling the innovation? What are their roles and responsibilities?[15]

Implementing partners: FEM collaborates through all campaign stages with four experienced Nigerian organizations. FEM and local partners signed partnership agreements and built strong working relationships. We aired campaigns for one year in Kano with iDevPro-Africa. We completed proof-of-concept projects with Albarka Health Spring Foundation (Kogi), Parkers Mobile Clinic (Anambra), and Rhealyz Global Empowerment Initiative (Ondo).

Ministries of Health (MoHs): We closely cooperate with Nigerian Federal and state MoHs. The ministries appraise campaign content and host stakeholder workshops. We obtained a Memorandum of Understanding (MoU) with the Kano and Anambra MoHs and are signing MoUs with the Federal Government, Kogi, and Ondo.

UNITRONIC: The Czech-based company has been working with FEM to develop the new transmitter evaluation technology. Headed by Dr Pavel Strnad (who has 20 years experience in the field) they focus on telecommunication innovation. UNITRONIC leads the production of control group transmitters, trains Nigeria-based engineers on transmitter maintenance, and provides technical advice.

eHealth: As FEM's research execution partner, eHealth will test questionnaires, train enumerators, and execute the survey. FEM and eHealth will sign a formal commitment when project funding is secured.

Funders: FEM raised 1,196,000 USD of the RCT budget through partnerships with Affinity Impact, Agency Fund, Founders Pledge, and individuals. We are in the final stage of the CRI Foundation's process for 350,000 USD. We are applying to the Bill and Melinda Gates Foundation, the Fund for Innovative Development, GiveWell, the Global Innovation Fund, and Grand Challenges Canada for RCT co-funding. At scale, FEM aims to enter partnerships with large governmental funders that focus on women's rights and family planning, like Global Affairs Canada and the Norwegian Ministry of International Development.

[15] Must include: Stage-appropriate plans to build operational capacity, systems, and partnerships to drive the project or organization towards scale.For each key partner (e.g., co-funders, research partners, major clients, implementing partners, etc.), please specify the specific contribution or role they will play and whether and how they have demonstrated their commitment (e.g., entered into a formal agreement, indicated verbal interest). Please specify which organizations are providing financial or in-kind support for this project and the amount committed. If an innovation or impact evaluation depends on the support of another organization or institution to be implemented or scaled, please describe the extent to which the lead organization is working with them now, and the expected role of the partner(s) in future implementation or scale.Finally, please indicate any amount of co-funding received for the activities proposed.

[redacted]

17. Citations: Please use the space below to list any citations referenced in your responses above. Only content written in the application will be reviewed; these citations will be used to verify factual accuracy if necessary.

1 http://bit.ly/3jtQUhY, Reproductive Health
2 http://bit.ly/3JHKtCo, Guttmacher
3 https://bit.ly/3Yrdkix, USAID
4 https://bit.ly/3DJCaCt, Pan African Medical Journal
5 http://bit.ly/3JEOJCD, CGD
6 http://bit.ly/3Y7UUDR, WHO
7 http://bit.ly/3HW4zYr, WHO
8 https://bit.ly/3JEOhEr, Nationalpopulation.gov
9 https://bit.ly/40utU2K, USAID

[16] Please include each reference's name, organization, email, and phone number. References should be able to attest to and validate the applicant's ability to work effectively, achieve results, and successfully implement similar activities within the past three (3) years. Personal references are acceptable in cases in which a professional reference is not available. 2000 char

10 http://bit.ly/3jwaKsH, BioMed Research International
11 http://bit.ly/3HYVf5T, UNFPA
12- https://bit.ly/3x0SQ4B p. 58, USAID
13 https://bit.ly/3x0hXVg, Charity Entrepreneurship
14 http://bit.ly/3HynVBn, FEM
15 http://bit.ly/3DJTpU5, FEM
16 http://bit.ly/3JJcIRo, FEM
17 http://bit.ly/3HZ5N5b, FEM
18 http://bit.ly/3X1hj49, FEM
19 https://bit.ly/3YoJj2P, DMI
20 http://bit.ly/3HZA2sQ, HIP
21 https://bit.ly/3YuwwvX, Guttmacher Institute
22 https://bit.ly/3YsMZR0, Studies in Family Planning
23 https://bit.ly/3Rw7YjX, Copenhagen Consensus
24 https://bit.ly/40uupKa, PMA
25 http://bit.ly/3Rwj74c, FEM
26 http://bit.ly/3l9xYp1, Founders Pledge
27 http://bit.ly/3Y7ChQc, GiveWell
28 http://bit.ly/3RxO9bK, Charity Entrepreneurship
29 http://bit.ly/40wCKwV, Charity Entrepreneurship
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