Family Empowerment Media RCT Study Plan

Family Empowerment Media (FEM) will conduct a randomised controlled trial testing their high-intensity radio-based social and behavioural change (SBC) campaign's impact on contraceptive health in Nigeria. FEM's radio campaign is broadcast over ten times a day, reaching millions with ads, serial dramas, and Q&A shows with information about family planning. We use rigorous formative research, behaviour change science, human-centred prototyping, and input from Ministries of Health and local religious leaders to craft meaningful, actionable, and empowering content. Radio programs include the number of a WhatsApp service, to which listeners can confidentially text questions arising from the campaign to a qualified health provider. The WhatsApp service is partly automated by an AI, making it scalable.

Research Design

Methodological Innovation. The key methodological innovation of the proposed study is a novel technology to randomly vary exposure to radio content in well-defined community clusters. Most radio campaign evaluations use pre-post or geographic exposure-based observational research designs because radio's broad reach inherently makes it difficult to create control groups. Such designs generally fail to isolate the effect of particular programs from other concurrent programs. In fact, the only randomised controlled trial conducted to measure the impact of specific radio programs pertaining to contraception was done in Burkina Faso with Development Media International. To solve these challenges, FEM has developed and piloted small-scale radio transmitters that detect and replace targeted radio signals in a 4-8 km radius. This technology enables RCT evaluation of the effect of particular radio programming with significantly more statistical power than previous studies of radio interventions.

Study Design. Our design is an RCT with treatment conditions assigned at the health clinic catchment area level. After a baseline survey, we will randomly assign health clinic catchment areas to either receive FEM's programming, or a transmitter that replaces FEM's programs with placebo content unrelated to family planning or health, for 23 months. We will monitor implementation and conduct an endline survey 1 month and 1 year after implementation.

Sampling Frame. We will sample 165 non-urban clinic catchment areas in three Nigerian states. We will select clinics where (a) rural-to-urban migration is low (to mitigate risk of spillovers), (b) the distance from the radio station's transmitter enables FEM's transmitter to replace content for relatively large areas (to further mitigate risk of spillovers), (c) radio listenership is high, and (d) health clinics have a consistent supply of modern contraceptives and sufficient staffing to provide counselling. Within each experimental clinic catchment area, 40 households with women of child-bearing-age will be randomly sampled to generate a panel of survey respondents.

Randomisation. To randomise the treatment condition (receiving regular FEM-supported radio programming) and control condition (replacement of FEM content with unrelated placebo content) across clinic catchment areas, we will randomise assignment within blocks of similar catchment areas. Within each block containing 5 clinic catchment areas, 3 will be assigned to treatment and 2 to control.

Data Collection. We will collect both self-reported and clinic-level outcomes. For self-reported data, enumerators will conduct in-person surveys assessing outcomes (see below). Self-reported survey data will complement clinic-level administrative data on contraceptive use, birth rates, and maternal health.

Outcomes. First, it is important that listeners hear and understand our programs, which we will measure by self-reported listening behaviour and WhatsApp texts received. Beyond this monitoring, we will measure the following[1]:

I. **A change in knowledge, attitudes, and societal stigma**
   - Self-reported attitudes towards and approval of family planning, at the individual and (perceived) community levels
   - Knowledge about modern contraception, based on an index of factual questions reflecting the content provided by FEM's programs*

II. **An increased use of modern contraception**
   - Number of women who report currently using a modern method of contraception, as well as the type and frequency of the method used (including long-acting reversible contraception)
   - Number of women who report intending to use contraceptives
   - Clinic data on modern contraceptives received

III. **A reduction in pregnancies and an increased spacing of pregnancies**
   - Number of women reporting a new pregnancy after the intervention begins
   - Clinic data on new pregnancies after the intervention begins
   - Number of women reporting births spaced <21 months*

IV. **Improved health and well-being**
   - Clinic data on number of women receiving family planning counselling, antenatal care, or postnatal care
   - Clinic data on rates of anaemia (funding dependent)
   - Reported mental health*
   - Longitudinal: timely child vaccination*
   - Longitudinal: female labour force participation and household incomes*
   - Longitudinal: child education (e.g., graduation rates, passing grades)*

Power Calculations: Our power calculations draw on the DMI's Burkina Faso study (Glennerster, 2022). Assuming a 6% baseline rate of contraceptive uptake, based on current levels in target locations, we estimate that 165 health clinic clusters (99 treatment, 66 control) and 40 respondents per cluster would detect a 3.1 pp increase in modern contraception usage with conventional standards for power (0.8) and statistical significance (0.05). This calculation assumes a 0.1 intracluster correlation and that covariates (randomization blocks, pre-treatment outcomes, and LASSO-selected covariates) can explain 30% of variation in cluster and individual level outcomes. Such an increase in contraceptive use is plausible, based on pre-post comparisons previously conducted by FEM and in light of the 5.9 pp increase in modern contraceptive uptake found in DMI's Burkina Faso study.

[1] Aspirational metrics are denoted by asterisks (*)