Increasing coverage and uptake of voluntary family planning in urban areas of central-eastern Uganda: an implementation research study protocol

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Study protocol

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Abstract

Introduction

While urban areas are often perceived and reported as better off due to the wide availability of and apparent proximity to services, family planning (FP) access among the marginalized communities such as slums might be worse. Although evidence on access to FP in urban space is illusive, just like rural poor, the urban poor residents are characterized by multidimensional challenges that not only limit the population from accessing voluntary FP (VFP) services but also expose them to unplanned sexual intercourse and ultimately unplanned pregnancies and other related consequences. In this study we seek to augment and strengthen existing efforts towards increasing coverage and uptake of VFP in Jinja city and Iganga Municipality, central eastern Uganda. Our primary question is "what interventions can effectively be packaged and delivered to increase uptake of VFP and promote urban thriving.

Methods

We propose to use the Human-Centered Design (HCD) approach to understand the needs, capabilities and challenges of users and ensure stakeholder engagement in the development or adaptation of solutions and design of programs through co-creation. As such, we shall implement in three faceted phases: formative assessment, design and implementation, implementation monitoring and evaluation. Monitoring, learning, and adaptation are embedded within the implementation process with the focus of using the information to guide implementation design and learning. Building on implementation research framework such as RE-AIM (reach, effectiveness, adoption, implementation, maintenance) and Fidelity frameworks, we shall apply process monitoring and evaluation approach to address questions related to what package of FP interventions work, for whom, under what circumstances and why.

Discussion

Guided by a strong learning and implementation flexibility, we hypothesize that our implementation will provide the segmentation specific high impact interventions in an urban context. We also hypothesize that the use human-centred approach will enable us to develop a tailored package of FP interventions that match different segments in an urban setting of developing countries.

Contributions To The Literature

- While the urban poor are faced with multidimensional challenges that expose them to risky sexual behaviors and unplanned pregnancies and also affect their access to family planning services, evidence on the state of family planning use, barriers to services' access and interventions that work in such context is illusive.
- We demonstrate a package of intervention and implementation process that we shall implement to improve family planning services in emerging municipalities and cities of Uganda.
- We describe how we shall be applying human centered approach in the design, testing and implementation of the project.

Introduction

Improving women's agency in deciding when and how to use family planning (FP) services is critical for their health and well-being [1–4], which is aligned to the sustainable development [5, 6]. Voluntary FP is an impactful strategy for improving women's lives as it is a key mediator for most economic development outcomes [4, 6]. For instance, FP promotes the empowerment of women and adolescent girls by enabling them to complete their education, seize better economic

opportunities, and fulfil their capabilities. Additionally, ensuring universal access to FP contributes to reduced maternal deaths by averting unwanted pregnancies [7]. Therefore, substantial investments of FP interventions within countries, regions and districts are still needed if the world and continents are to achieve the Sustainable Development Goals' commitment to improving reproductive health targets. Despite the need for reproduction control in developing countries, FP services among the sexually active population are not universally accessed. For instance, contraceptive use in Africa is estimated at 36% compared to at least 65% in the rest of the world [8], while unmet need for FP in Africa is estimated at 22% compared to 15% in Oceania and below 10% in rest of the world [8]. Furthermore, access to FP services among adolescents remains a challenge in developing countries despite the high rate of early sex debut (50%) and pregnancies (20%) in the region [9, 10]. For example, as of 2016, 50% of the 21 million pregnancies among adolescent girls (15–19 years) in developing countries were unintended (43% in Asia, 45% in Africa, and 74% in Latin America and the Caribbean) [9].

Like other African countries, FP use in Uganda remains low. For instance, contraceptive use among married women is about 39% while unmet need for FP among sexually active women is estimated at 32% [11]. Moreover, access and utilization of FP services are affected by various demand and supply-side factors. On the supply side, the stock-out of family planning commodities compounded with the inadequate health providers skills and other health system challenges continue to affect the provision, access and utilization of quality FP [12]. The demand-side factors span from the inadequate awareness and knowledge of different family planning options, the community perceptions on FP methods, trust in the health system, cost of the services and limited services within the community [13, 14].

While urban areas are often perceived and reported as better off due to the wide availability of and apparent proximity to services [15], increasing intra-urban inequalities may affect access and utilization of FP services [15, 16]. Some of the challenges that have been indicated to affect other health services include the lack of a primary health care structure, plurality of providers yet limited free quality primary healthcare and population dynamics [17] may affect access to and utilization of FP services. Moreover, evidence on FP intervention packages that could be used to target the urban context, particularly, emerging cities in developing countries is elusive. Uganda is undergoing increasing urbanization [18] but with limited additional infrastructure, resources and strategies to improve urban population wellbeing and health services including family planning. While previously operating within the rural district health system framework, the new city status may present management, infrastructural and organization challenges that may affect service delivery including meeting the need for FP. While Uganda's local government acts highlight how the cities are independent of the districts [19], to our knowledge the health planning budgeting within the cities is usually focused on the management of wastes with a little focus on other public health services such as reproductive health including family planning interventions. Although there is now a special consideration of urban health in health strategic and national development plans [20–22], the major challenge is on how the interventions should be tailored to reach such dynamic groups of the population [22].

While we are aware of several strategies such as the use of vouchers to increase postpartum FP and access in hard-to-reach areas [23], FP benefits cards among youths [24], social franchising [23], and the widely increasing self-injectable subcutaneous depot medroxyprogesterone acetate [25] that have been particularly targeting the rural communities in Uganda, we still lack evidence on how such interventions have been packaged or implemented to reach the urban dweller. Furthermore, evidence on the factors that affect FP accessibility and provision, and the ability of women and couples to make informed contraceptive decisions in an urban context remain elusive. Over the years, several high-impact practices (HIPs) for family planning such as community engagement and supply chain management have been developed to increase FP use (HIPS). However, there is a need for FP programs that are tailored to the needs, expectations, preferences or limitations of target populations. These are currently not well understood for individuals/communities in Uganda's urban spaces. In this protocol paper, we showcase our co-designed package of strategies that will be implemented to increase the uptake of voluntary family planning (VFP) services in two central-eastern Uganda towns: Iganga Municipality and Jinja City.

In line with the objectives of the Uganda Health Sector Development Plan and the second costed implementation plan for FP for Uganda [20, 22], we seek to augment and strengthen existing efforts towards increasing coverage and uptake of VFP in

urban areas. Our primary question is “what interventions can effectively be packaged and delivered to increase uptake of VFP and promote urban thriving?”

Methods

Study setting

Implementation will be done in Jinja city and Iganga town/municipality, which are located in Busoga region, Eastern Uganda. Busoga region has one of the highest fertility rates in Uganda, and according to Uganda’s 2016 demographic and health survey, 21% of adolescents aged 15–19 in the Busoga region have begun childbearing, 31.5% of married women are using any method of family planning, 29% are using modern contraception and 36.5% of married women have an unmet need for FP (one of the highest in the country). Jinja city is the second-largest city in Uganda, while Iganga is part of a health demographic surveillance site in the region. The two areas combined have a population of at least 150,000 people living in urban centres. Jinja and Iganga districts are located along the Uganda-Mombasa (Kenya) transit route and host several commercial activities. The average population served per health unit is 15,000; with 90% of the population living within 5km radius of a health facility. Health service delivery is steered by the city health officer of health. The estimated urban population is 36.1%. Like other upcountry cities and towns, there are ongoing family planning promotion programs though still inadequate, leaving different population segments still in need of FP services.

Study Population

Our primary target populations are women and men of the reproductive age (15–49 years for women and 15–65 for men) and health providers from the two study sites. During data collection and analysis women and men will be stratified by age to ensure the representation of adolescents and young people. We shall also engage city/town leaders and other key actors involved in reproductive health within the city/town such as community leaders and civil society organizations. Additionally, we are aware of the influence of the cultural and religious leaders, family members (elderly), and other population groups such as the *boda-boda*, whom we shall target during data collection, project design and implementation.

Implementation Design

Implementation Research Objectives And Questions

Applying health systems approaches in addition to the known high impact practices for FP [26–32], with a strong process documentation that is embedded within the project implementation will help us understand how a tailored package of interventions that consider both demand and health services’ systems improves the utilization of family planning services in an urban context. Our implementation research objectives are;

i. To explore the current coverage of VFP and barriers and facilitators of contraception use in emergent urban settings in eastern Uganda
ii. To develop and implement a tailored package of high-impact interventions fit for emerging urban settings in Uganda using participatory approaches
iii. To improve understanding of FP and decision-making capacity for healthy reproductive or contraceptive behaviours; strengthen effective delivery and management of FP services through a tailored package of high-impact interventions.
iv. To assess the effectiveness, facilitators, and barriers of the proposed intervention package in improving VFP service provision, accessibility and utilization

Our research questions are based on the phases of the project implementation: Formative, implementation and learning, and evaluation phases (Table 1).

Table 1

Conceptual framework

We modified the family planning transaction by Day and Brown, 1986 [33] (Fig. 1). The model highlights the interactions between four important elements: the potential user, the potential provider, the gap or distance between them, and the setting or context in which the family planning transaction takes place. The framework brings together the different elements that affect appropriate access to family planning services into one process by stressing their interactions with each other, which gives us insight into how we can empirically demonstrate the pathway to family planning access.

In this transaction, there are two important factors that we should consider first in the family planning utilization process: the potential family planning user and the family planning provider (the demand and supply sides). On the user's side, the framework shows how the user's socioeconomic position, their perception of the quality of services, their trust in the provider, and perceived side effects affect their reach to the provider. On the provider's side, the framework shows the provider's setup can address the user's side factors by delivery strategies, capacity building and organization of the health facility.

The framework highlights how some of the gaps between the potential user and provider may prevent or hinder the transaction from taking place: there may be opportunities to obtain family planning from an "intervening provider" or there may be barriers, such as social or physical distance, which are too great to overcome. Lastly, the prevailing context or setting of a transaction can be crucial to whether it occurs or not. An example of a favorable context for the family planning transaction might be one where the elite of a community encourage smaller family norms of where economic opportunities exist for the smaller, more mobile families [33]. Although this model emphasizes the importance of all four components of the family planning transaction, the interaction and ongoing process are stressed even more, which reminds us of the importance and interconnectedness between the supply and demand sides of family planning. The use of a particular family planning provider is not predicated only on providers characteristics or, on the other hand, the potential user's characteristics. Both sets of characteristics, their interaction, as well as the context within which the transaction takes place, together make family planning more or less accessible and affect the family planning transaction [33].

Theory of change

A literature review informed the construction of the implementation theory of change (Fig. 2) which clarifies the pathway to the implementation of the project. In the context of the study area, access to family planning is shaped by a set of dynamic and complex factors that are ecologically interrelated [34, 35]. For instance, as indicated in Fig. 2 (theoretical framework), some factors affect the initiation or non-use, continuation or discontinuation and misuse of contraceptives. To achieve the implementation *priori* outcomes, our implementation approach applies various strategies in four domains: Social and behavioural change, service delivery, enabling environment and HIP enhancements (Fig. 2).

Theory of change narrative

Social and Behavioral changes

At the community level, women partners, family members (brothers, sisters, parents, inlaws), social groups, and community leaders (cultural, religious) influence the use of family planning [36–38]. The community-level authorities have control over resources, emotional, social and cultural structures. In this project, we aim to increase the knowledge and understanding of VFP among women, men and young people, which we assume will modify user perceptions and social norms about FP use, family size or birth spacing, and will increase consistent and correct use. We hypothesize that if the community is engaged in discussions about the risks of not using FP, different FP options (expected side effects, costs, duration and utilization mechanisms), fertility awareness, and other desirable contraceptive behaviours; then their knowledge and understanding of risks, benefits and perceived barriers will be improved and this would increase individual and community acceptance of FP use, as well as increased autonomy of women and girls, to access FP services. The community groups engagement, coupled with strengthened media communications and provider counselling have been indicated to bring on a "peer effect"

and stimulate women and families to proactively make appropriate contraceptive decisions that support or increase access to and use of VFP. Other various communication channels such as community groups, mass media, social media/networks and providers have been indicated as effective strategies in reaching the communities in resource-poor settings [35, 39]. Additionally, our knowledge-enhancing activities may also contribute to improved communication with providers and promote client-centred care.

Service delivery

We also presume that concurrently improving the delivery of VFP services will contribute to improved coverage, equitable access and improved quality of FP services for all user sub-groups. This would contribute to increased utilization of FP. We hypothesize that building the capacity for the provision of quality VFP services at selected service delivery points and strengthening the availability of commodities through supporting commodity redistribution while leveraging community-based systems will support increased access to various VFP services to support voluntary choice and correct use. Established and sustained well-functioning family planning supply chains that meet the needs of public and private sectors, as well as health professionals at all levels have been indicated to play a critical role in reducing the unmet need for modern contraception in developing countries [40, 41]. In this study, we shall design with the communities and health facility professionals to generate a package of strategies that will improve access to family planning services. Nevertheless, we are aware of some of the interventions that have worked in other settings in both the rural context of Uganda and other countries in the region. These strategies include working with community health workers to provide emergency contraceptives, working with private providers such as drug shops [34, 40, 41] and strengthening the health facilities to manage the proper supply of drugs.

We also hypothesize that supporting providers to include telehealth services in their packages will increase coverage of services given the diversity in urban populations and their health-seeking behaviours. Additionally, if referral care and clear channels for side effects management are put in place, users will feel better supported and motivated to continue VFP use.

Governance and management

It is also hypothesized that good governance and management is crucial to ensure effective service delivery and create an enabling environment to support voluntary use of FP services. If the alignment of the urban health system for FP is improved, services will be more responsive and acceptable, contributing to increased utilization. Also, if planning and integration of FP into urban plans and budgets are promoted, then commodity security will be enhanced, resulting in reliable availability and continuous use among clients. Ultimately, with improved knowledge and understanding of VFP and improved service delivery and organization, coordinated by appropriate governance mechanisms, then the unmet need for FP will be reduced and voluntary use of FP will be increased.

As the current theory of change is based on our broader knowledge of FP access pathways, after the design and during the implementation phase, the theory of change will be reviewed and adapted where necessary based on emerging information. We are aware of some risks that may affect our implementation. These and how we propose to mitigate them is indicated in Table 2.

Table 2

Implementation design and processes

To refine and adapt the selected high-impact practices to the perspective of the populations living in emerging urban spaces in Uganda, we propose to use the Human-Centered Design (HCD) approach [42, 43]. The HCD process focuses on understanding the needs, capabilities and challenges of users; and then ensures stakeholder engagement in the development of solutions and design of programs through co-creation, inclusion and transparency [42, 43]. Thus, HCD ensures that innovations match the users' culture, context, capabilities, opportunities, and constraints. We will leverage the HCD principles to (1) identify any new ideas/solutions for addressing FP challenges in urban spaces; (2) to co-package

high-impact interventions that are desirable, feasible and adaptable for these urban areas; and (3) to co-design implementation strategies to effectively deliver the selected interventions. Using the HCD approach will also enable us to better understand the contraception needs of users and the underlying enablers or barriers for VFP uptake. We will adopt a three-phased HCD process described by IDEO, which includes discovery, ideation and prototype (Table 3) [42, 43].

Table 3

We will adopt the Replicating Effective Programs (REP) framework [44] as the implementation conceptual framework (Fig. 2). The REP framework was developed to guide the implementation of healthcare interventions, with a focus on maximizing fidelity while allowing for flexibility to fit local contexts [44]. The key components of the framework represent crucial elements for effective implementation. These phases will be implemented iteratively.

The project activities are divided into three main phases, shown in Fig. 3: Formative assessment (secondary data analysis, document review, baseline data collection), design, testing and implementation, and evaluation. Monitoring and learning will be embedded within each phase. Figure 3 shows our implementation phase: Details are in the supplement.

Description of project interventions

Social and Behavior change

Despite a widely documented high prevalence of knowledge of FP methods, actual contraception use remains low in many settings [11, 45, 46]. This apparent contraception knowledge-behaviour gap highlights potential inadequacies in the relevance of the information provided to users or failures in information interpretation/translation. A tailored health education program, based on community-identified needs, may help close knowledge gaps that still affect the uptake of FP. Our project seeks to enhance the quality of the information provided to users, to facilitate understanding and correct application of the knowledge acquired for VFP uptake. Table 4 summarises social and behavioural change activities and their respecting targets.

Table 4

Group formation, training, and support

Our approach of training and supervision of gender and the age-sensitive participatory group is based on learnings from Tripathy et al., 2011 and Nahar et al., 2012) where community groups have been used successfully to change community norms and improve maternal and child survival [47, 48], which now a World Health Organisation (WHO) evidence-based approach [49]. The proposed approach to community mobilization using facilitated participatory learning and action cycles with women's groups is a four-phase process, in which the groups collectively decide priority actions, guided by a trained facilitator. During the design and throughout the implementation we shall work with group members to identify and prioritize reproductive health or FP issues including perceived local barriers affecting their SRH and subsequently work with them to identify feasible strategies to address those issues.

In particular, we shall work with the groups through for instance family-based FP discussion among couples (women to men communication) and counselling for adolescents and young people (parent to adolescent/youth communication) to address misconceptions, stigma, how to reach vulnerable groups, manage side effects and how to link people to care. A series of group meetings on VFP will be conducted across the four phases. Facilitators will be expected to conduct meetings once every month, but in the first three months of implementation, the groups will meet twice a month. In addition, we will also target work niches (e.g., markets, bodaboda stages, taxi parks), saving groups and other dominant social groups or community platforms. Care will be taken to ensure the representation of key socio-economic characteristics within each group, including occupation, education level, and marital status, among others. Group formation and identification of potential facilitators will be done in collaboration with relevant community representatives such as community health workers (CHW) or local chairpersons.

Before the commencement of the group formation and meetings, some preparatory activities will be done for instance during the formative phase, community mapping will also be used to identify existing groups and influential individuals in the community. After the facilitators are recruited and trained, they will conduct some household visits to identify eligible individuals, explain the objectives of the groups and encourage them to participate in the group activities. This will be done in collaboration with the CHWs. Most of the meetings will be held with the community leaders to build rapport and gain their support for the group activities. Through the groups, women, men and youths will be exposed to vast knowledge about FP, and if this is further discussed in the household, it may promote social understanding and cohesion on acceptable behaviours and probably increase social support for an individual's contraceptive or fertility choices. The groups will influence their local communities through community meetings that will be organized by the groups. The participating community groups will be expected to hold community meetings to raise awareness of key reproductive health or FP problems, discuss their proposed strategies and provide feedback to the communities on the actions and progress. The groups will hold about 2 community meetings over the whole participatory learning and action cycle (one after phase 2 and one in phase 4). As such, the reach of the groups will be extended as the group members share knowledge with and provide support to other people in the community. The meeting sessions will be open to non-registered members which will improve community acceptance, dissemination and participation.

Implementation of media-based social and behavioural change and the use of digital technologies

Building on existing SBCC strategies, we shall develop tailored communication strategies that will be targeting priority sub-populations (e.g., men, university and other eligible students, out of school young people, workers in bars and salons, etc.) or areas within the city. We will facilitate the airing of tailored radio messages through popular or preferred radio stations in the region, and also engage community radios to disseminate FP messages.

We also aim to strengthen or promote the use of mobile phone platforms to increase access to FP information and linkage to other resources, to the extent applicable based on population characteristics and contextual factors. This will include the generation and use of social media (WhatsApp groups and Facebook) communities/groups, leveraging on social networks to increase the spread of appropriate contraceptive knowledge and behaviours (social learning). Social media groups will particularly target youths and men, who have been shown to have higher ownership of smartphones. We will identify influential individuals, who will act as the group administrators to oversee overall group operations. These will also be expected to identify and invite potential eligible members to join the group. Each group will have at least one trained FP provider who will disseminate tailored FP messages and also respond to any issues raised by the group members. We will use WhatsApp or Facebook based on utilization rates or acceptability/preferences of the target population.

The project will also utilize short message services to disseminate general FP information to mobile phone subscribers. Selected messages will be disseminated to different sub-populations/individuals that will be identified during the formative study and also mobilized through the community groups and by the CHWs. One message will be sent per week over a period of 4–6 months. We will ensure fair representation of women, men, adolescents, young adults and postpartum women. The content of the mobile phone-based messages will vary depending on gaps identified from the formative findings; but will include basic information on FP/RH, information on commonly used methods, guidance on initiation or safe switching of methods and reporting of side effects and sources for different options among other information. The duration and frequency of messages will be tailored to the targeted population groups, including the use of translated voice messages. We will also consider motivational messaging techniques or the use of interactive communication, where acceptable. We acknowledge that there will be variation in ownership and capacity to use mobile phones and related applications. Thus, strategies will be tailored to the population characteristics.

We acknowledge that the use of digital technologies for social or behaviour change for FP raises some ethical concerns like confidentiality or data security. These will be addressed at different project phases using various strategies such as anonymization, understanding pathways through which risks may arise and effective monitoring for real-time adaptation.

We also plan to engage local drama groups to present skits on FP concepts in the communities. This will be supplemented with short videos for instance global health media videos [50]. Our multi-channel approach addresses some of the challenges posed by urban inequalities and the diversity of urban populations, needs and expectations; to increase exposure to FP information.

Strengthen provider-initiated VFP counselling

Family planning providers play a key role in educating and sensitizing users about VFP. However, the inadequate access to appropriate FP services is also attributable to missed opportunities at the health facility or other points of contact with the health system. We will support/promote the integration of VFP counselling in key service points or special clinics at health facilities. This will be done through training and regularly reminding providers during support supervision. Emphasis will be put on women and men accessing general out-patient services, outreaches and women seeking maternal care, especially postpartum women.

Service delivery

Effective and efficient service delivery is vital to the attainment of universal access to sexual and reproductive healthcare services. The organization and delivery of FP services affect accessibility and continuity of care especially among vulnerable populations, which in turn affects contraceptive choice and behaviours. WHO calls for a dual focus on coverage and quality (effective, safe, people-centred) of health services as a means to strengthening health systems and improving health outcomes (WHO, 2018). Studies show a positive association between the quality of FP services and the use of modern contraceptives [51]. The project will support the provision of quality VFP services and equitable coverage through the understated activities. Table 5 summarises service delivery activities and their respective targets.

Table 5

Development of knowledge and skills of healthcare providers

Inadequate numbers or lack of trained providers remains a challenge in the provision of FP services [20, 52]. This affects the scope of methods provided and ultimately voluntary choice. As such, the project will work with the city reproductive health section and other implementing partners to establish training gaps for FP providers. This will be done through consultation for example during co-design workshops and meetings for urban health authorities, as well as a review of existing implementation reports. This will help to prioritize which category of providers or places have the greatest capacity gaps for the provision of contraceptive methods, on which the project will focus and scale up provider training. The district health officer and city/municipality authority heads will lead the identification and selection of these providers/facilities and the list will be verified by the project's implementation advisory team. In addition, we will assess the readiness and commitment of the identified facilities to provide VFP.

Modes and level of engagement may vary based on the type of sector but overall, the project through community-based organization whom we will collaborate with will develop a memorandum of understanding with the selected facilities and city leaders, who are responsible for planning and managing service delivery in the city and thus provide oversight. This will enable task-shifting for the provision of various methods especially at places of initial care-seeking. A mixed approach will be adopted including "classroom" training, on-job mentorship and simulation-based learning techniques. We will train the selected healthcare providers to enhance their knowledge, skills and competencies in the provision of quality and respectful VFP services. We will use expert trainers and peer mentors, with regular supportive supervision. Mentoring will focus on strengthening correct assessment of client FP needs and eligibility, client-centred method prescription, integrated service provision, respectful care and youth-friendly care provision among others. The training of providers will adopt existing national FP training guidelines and manuals by the ministry of health and key implementing partners [53, 54]. Before the training, we will engage stakeholders such as partners that have previously trained providers in FP, and existing educators

including national/local certified trainers, through consultative meetings or workshops to determine key areas/modules to focus on to improve the usefulness of the training.

Strengthening availability of FP commodities and services

Inadequate supplies of VFP commodities and resources continue to affect progress in reducing the unmet need for FP and women's ability to exercise voluntary choice of modern contraception. We will contribute to improved availability of contraceptives or other VFP services by; 1) supporting capacity/readiness strengthening initiatives in selected service delivery points (SDPs) and 2) improving supply chain management for FP commodities through increasing data visibility and use at all levels to inform inter-facility transfers or commodity redistribution.

In collaboration with the city leaders and partners, we will support readiness-strengthening initiatives at selected SDPs to ensure that they can provide quality services. We anticipate that there may be ongoing initiatives to increase the capacity of the facilities to provide quality FP services. This will be ascertained during our mapping exercises in the formative study. Findings will be discussed with the city leaders and other key actors to determine facilities or areas that are priorities for action. Depending on the SDP, activities will include training, services re-organization and building capacity for improved care coordination.

Furthermore, we propose to strengthen supply chain management (SCM) for FP commodities with a focus on increasing data visibility and use, as well as building the capacity of the supply chain workforce, especially at district and facility levels. We will first assess existing SCM capacity for FP across four main dimensions of supply chain organization, supply chain processes, technical infrastructure, and data capture and management as well as rational use. We will also identify factors contributing to SCM failures and any strategies towards logistics management improvement in the study sites during the formative study and use this information to identify key gaps and appropriate solutions to build on existing efforts. Our focus will be on data related to product movement within the city and town, using real-time approaches. This will involve analyzing routine data from SDPs on stock and consumption rates to gain insight on how much product is in inventory versus being regularly consumed. We will also participate in existing data quality improvement efforts.

Strengthening the community-based provision of VFP services

The project will support the community-based provision of VFP services by 1) strengthening the capacity of selected community health workers (CHWs) to correctly assess clients for FP, make appropriate method recommendations, disseminate gender-sensitive or age-appropriate information on FP or reproductive health, refer and follow-up of clients, as well as identifying and managing side effects among other basic FP services. The potential for CHWs to increase access and uptake of FP is widely documented [55, 56]. However, the implementation and effectiveness of the CHW model within urban areas may be undermined by various contextual factors including the mobility of the population [57]. These will be considered in the design of strategies that will be adopted to strengthen the CHW model in these urban areas. Our focus will be on training, promoting the integration of CHWs into the PHC system and strengthening support mechanisms.

Emphasis will be put on the provision of adolescent/youth friendly FP services and effective male engagement. We will support the integration of CHWs by improving linkages between service delivery points and CHWs as well as households/families. This will involve ensuring that CHWs receive regular support supervision from the facilities they are attached to and also encourage utilization of information generated by the CHWs through their reports. We will leverage the existing CHW networks operating in the two sites, to strengthen their capacity to provide quality basic FP services and linkage of clients to more skilled services when needed. The CHWs will be expected to record their activities in a register or pre-designed activity logbook, which will be shared with the health facility to which they are attached and also with the project team. We will assess the reach and impact of these CHWs using the following measures: number of women, men and youths reached by the CHWs, number of women, men and youths sensitized about RH and FP, number of women, men and youths referred to health facilities for FP services by CHWs, and number of clients who obtain FP methods from the CHWs.

Furthermore, we also aim to strengthen the community health system that best supports access and utilization of VFP in these urban settings. The community health system comprises community health workers, community groups, an operational management committee and the formal health system [58–60]. Adopting this conceptualization, this activity will be linked to the community groups activity under Social and Behavior change component, and we will also leverage structures that are already in place to increase information dissemination and linking to other VFP services. This includes education institutions (teachers), places of worship (religious leaders), and recreational centres (local chairpersons, 'local celebrities') among others. We propose to use these as platforms to educate communities about reproductive health issues within other prevailing/emerging social issues. Some might be used as service linkage points. Information provided will be tailored to each platform.

The engagement of religious leaders will be informed and build on previous efforts within the region. Some religious leaders and all the major religious-based health institutions have previously been trained and engaged to promote fertility awareness among the people and the importance of having manageable families. The leaders would mostly promote methods that are acceptable within the religion but would also create awareness about the availability of other options. We, therefore, plan to learn from this approach of engaging religious leaders and we will also identify leaders that have previously been trained and engaged in FP activities. We will build on the change norms among religious institutions to promote fertility awareness and healthy reproductive behaviours. We will also borrow on these strategies and experiences to expand influence on social norms to providers and the community.

Strengthening application and use of digital technologies to support service delivery

The ongoing COVID-19 has had far-reaching effects on the provision, access or utilization of reproductive and other essential services [61]. For continuity of services both now and in future preparedness, promoting the institutionalization of digital technologies is necessary [62]. The project will identify existing providers of or systems for virtual FP services and strengthen implementation of virtual services like eligibility screening, counselling, shared decision-making, reporting commodity status, support supervision and coordinating providers. During the formative study, we will explore existing capacity and preference for digital interventions and infrastructure. This will guide the necessary interventions. Activities that will be undertaken include training of providers and sensitizing the public.

Improving referral care and management of FP side effects

Fear or experience of side effects is one of the major reasons for the non-use or discontinuation of contraception. We will sensitize and educate users and providers on correct identification and reporting of side effects associated with FP use. We will train providers in the proper management of common side effects and other response mechanisms to ensure that users are supported to sustain the correct use of different contraceptive methods. We will work with the city leaders to ensure that providers have the necessary guidelines and standard operating procedures to support them in handling side effects and other complaints related to FP use. We will also identify a sustainable hierarchy or network of skilled providers, including gynaecologists, doctors or selected midwives, that can be easily accessed by clients.

Governance and management

Developing and/or supporting capacity to lead and manage FP programs is a high-impact practice that helps to create an enabling environment by improving the work climate, improving organizational and management systems and creating capacity to respond to change (High-Impact Practices in Family Planning, 2015). Table 6 summarises governance and management activities and their respective targets.

Table 6

Improving alignment of VFP services to reduce unmet need

We will examine data on the availability of VFP services and client care-seeking patterns and identify gaps in the alignment of services that can be targeted to improve the efficiency of VFP service delivery. This evidence will be shared with the city/town leaders, to inform decisions on improving the organization and management of VFP services. The project will collaborate with/support the leaders to develop evidence-based plans and designs for VFP services to ensure that services are where the clients are and minimize missed opportunities.

Institutionalization and sustainability: Support better planning and integration of VFP into urban plans

We will strengthen capacity and support urban health leaders and health managers to develop evidence-based plans to guide VFP service delivery and harness opportunities for integrating VFP in existing health and other social services. This will be done by supporting strategic planning for health, annual planning and quarterly review meetings for the two urban health authorities. Also, through our interactions with the facilities, we hope to support data quality improvement initiatives to ensure that quality urban health data is available to inform decision making.

Monitoring and evaluation design

We shall apply the process monitoring and evaluation approach to address questions related to what a package of FP interventions work, for whom, under what circumstances and why [63]. Guided by the RE-AIM (reach, effectiveness, adoption, implementation, maintenance) and fidelity frameworks on process evaluation [64, 65], we will apply mixed-method and multimethod approaches to data collection. Qualitative approaches will be linked for the exploration of the mechanisms or causation in family planning access. Different approaches to quantitative methods will also be applied to understand voluntary family planning access. Participant observations will be documented while in the community and during stakeholder meetings and interviews. We shall then document and reflect on certain participants' attitudes toward the topics or questions under discussion, such as silence, gesture, feelings, and stereotype sentiments. The main aim of this approach will be to quantify the fidelity and how the package of our FP interventions was delivered; quantify FP uptake, discontinuation and switching clients' demographics; and qualitatively explore how our interventions improved the quality and reach of FP services.

Process monitoring

We shall generate a structured template that will be used for the guide the reflection discussions on the significant contribution of the project, implementation facilitators, implementation barriers and possible solutions of accelerating progress. The template will be aligned to the implementation components and will focus on each component's activities. The template will include 1) the objective and activity being implemented; 2) implementation process; 3) what is working well and why; 4) what is not working well and why; 5) what has changed or what have we stopped doing; and 6) what should we do next. The purpose of these reflections will be to document key activities, challenges, and adaptations occurring over the course of implementation.

Qualitative data

The qualitative data collection methods will include key informant interviews (KIIs), in-depth interviews (IDIs) and focus group discussions (FGDs). Using a key informant interview guide, we shall conduct KIIs with urban health officials, service providers and implementing partners. We target 20 KIIs, 10 in each site. Using an in-depth interview guide, we shall hold interviews with women and young people to gain deeper insight into the dynamics of FP decision making experiences and major barriers to contraception use. About 60 IDIs will be conducted, 30 from each site. The FDG interview guide will be used while holding interviews with separate groups of women, men and young people. A total 12 FGDs of 9 members will be conducted, giving a total of about 108 participants. The final sample size will depend on when data saturation is achieved. Among other issues, interviews will help us identify the main social norms that drive observed contraceptive behaviours. These will inform community group engagements and the strengthening of the community health system. We will include

endline interviews or one-on-one dialogue meetings with potential clients after the implementation of the community engagement activities and media information dissemination.

Quantitative data

Household, place of work listing and individual surveys

The sampling frame will consist of all villages with their respective population. We shall use a lot quality assurance sampling techniques for data collection and interpretation of results. All the participating municipality divisions in the two districts where the intervention is to be implemented will be selected (2 in Iganga and 3 in Jinja). We shall randomly select 5 parishes within each division as supervision areas, where we shall randomly select 50% of the villages using a table of random numbers. We are aware that a segment of the population may not be residing in the urban centres but working there during the daytime. For such to be considered, we shall list all the households and places of work within the selected urban centres. The places of work will include saloons, bars/restaurants and markets. In the listing questionnaire, we shall include questions related to the number of people living or working in the dwelling and residence status. For those interviewed at their homes, we shall ask questions on other health and socio-economic variables including the number of people staying in the household, household structure, household assets, and health facility that is usually utilized. For those interviewed at their places of work, questions will include the number of hours spent moving to their workplace, type of business, type of transport, availability of hygiene and sanitation measures, health facility that is usually used, and workplace sexual harassment perception. We shall also take the household and place of business or workstation geocoordinates. The place of work interviews will only include female respondents that will be working in the selecting working stations.

Lot Quality Assurance Sampling approach will be applied for the segmentation of the standard areas that we shall be used for programming. The sampling frame consists of all villages (Lots) within the Iganga municipality and Jinja City. Within each selected Lot, at least 20 households will be randomly selected for participation. The inclusion criteria are women and men of reproductive age group aged 15–49 years, residency in the study area and household heads capable of providing informed consent. Those aged less than 18 years but are married (also pregnant or having children) will be considered as emancipated minors and will provide individual consent. We shall exclude women and men who have a severe illness at the time of the survey and refuse to consent. The study subpopulation groups are Female youth, 15–24 years, Male youth, 15–24 years, Female adult, 25–49 years, and Male adult, 25–54 years (Table 7). In Each village, we shall interview a fixed number of 20 respondents of each category. The number of interviews in each parish will be divided across the selected villages (Table 7).

Table 7

The final household data collection tool will be uploaded onto the table for data collection. The tool will include questions related to fertility (birth and pregnancy history), family planning use experience, sexuality (age at first sex, recent time of having sex, protected sex), knowledge of family planning methods, fertility, and family planning intention.

Furthermore, to assess the preference of the package of the services and family planning options, we shall embed discrete choice questions within the survey questionnaire. The discrete choice approach is based on the assumption that health care interventions and services can be described by their attributes and that an individual's valuation depends upon the levels of these attributes. In the discrete choice, the respondents are asked to choose between two or more alternatives based on a set of attributes and levels. The discrete choice approach also facilitates greater knowledge of the relative importance of the various attributes and the trade-offs that individuals are willing to make between these attributes. Thus, the discrete choice approach provides an opportunity to determine societal preferences. In this study, the choice attributes for the preferred package of health services will include cost, family planning types (long-lasting and emergencies), distance to the facility, time taken to receive the service, facility ownership (government, private, and private not for profit). The levels of service

provision (health facilities, community health workers, community drug shops, and outreaches) will be considered as an alternative.

Health facility mapping and assessment

We are aware that the list of the facilities that may be provided by the district health offices or ministry of health may exclude some of the health services centres, in particular, the drug shops and pharmacies. To generate a sampling frame of health facilities, we shall map all the health facilities in the municipalities and group them by levels and administrative authority. During the mapping, we shall take the geocoordinate of the facilities, which we shall use with the health household geocoordinates for distance measurements. The health facility sample was determined based on the following formula

$$n = \left({(z^2 * p * q)}/{[ME^2]} \right) * d \text{ and } S = \left[{n}/{(1 + \{n - 1\}/N)} \right]$$

Where;

- S is the final sample size when n is close to the population
- n is the sample to be calculated,
- z^2 is the square of the normal deviate at the required confidence level,
- ME is the margin of error,
- p is the anticipated proportion of facilities with the attribute of interest,
- q is, and $1 - p$
- d is the design effect
- N is the total number of the health facilities

Assuming that 50% of the health facilities provide family planning services (unknown proportion), 5% marginal error (ME), and 95% confidence interval (z = 1.96), the health facility sample size in each district is 385. However, this is higher than the number of health facilities in each district (Table 8). Adjusting the population (number of health facilities) the sample size for Iganga and Jinja municipalities is 80 and 77 health facilities, respectively.

Note that all government health facilities, private not for profit, and higher-level private health facilities (clinics and hospitals) will be included.

Table 8

The data health facility assessment data shall be collected using questionnaires form that will be uploaded on the tablet. We shall collect information on the availability of family services including family planning supplies, staffing, funding, and protocols. Additionally, we shall collect information on the number of clients that the facilities have served in the last three years before the implementation of the project.

Stakeholder's mapping

We shall aim at generating information on stakeholders at family, community and decision/policy levels that affect the availability and accessibility of health services. This information will be collected in different phases. First, through desk review, we shall document all those stakeholders identified in scientific and grey literature. Second, through workshop and project dissemination meetings, we shall ask to involve the participants in outlining and updating the list of the available stakeholders and how influential they are. Lastly, we shall ask questions on the different people that have influence and authority over the availability and accessibility of family planning services, which will be quantitively collected in the

household survey and qualitatively collected in in-depth interviews, focus group discussion, and key informant interviews. Nevertheless, we shall have a specific tool and documentation form that we shall use to collect information on stakeholders.

During the meetings, we shall apply interview-based mapping tools such as Net-Map to help us understand, visualize, discuss, and improve situations in which many different actors influence outcomes. More specifically, the stakeholders mapping will help us determine.

- what actors are involved in a given network,
- how they are linked,
- how influential they are, and
- what their goals are.

We shall aim at determining the stakeholders' linkages and levels of influence understand if we need to strengthen the links to an influential potential supporter (high influence, same goals) and those that help empower or curtail access to the family services.

Field work preparation and Data management

We shall employ and train 5 teams of data collectors: qualitative and quantitative. Both teams will include those who have had experience in respective data collection methods and understand the local context including the language. The first phase of data collection that will involve field work is the health facility and household mapping. During this phase, we shall collect the telephones contacts of all people who are potential respondents. Thereafter we shall collect data using tablets through household visiting. During the interview, the data will be entered in a predesigned Open Data Toolkit (ODK) form. We shall employ 4 data editors (2 in each district) who will be responsible for reviewing the individual form before it is submitted to the central server. We are aware of the disruption that might be caused by Covid-19 and thus in case we find it impossible to conduct face-to-face interviews, using the telephone contacts documented during the household listing, we shall conduct telephone interviews.

Data Analysis

Qualitative data

The qualitative data collected before and after the implementation of the intervention will be transcribed and reconciled with notes recorded during the interviews and then analyzed using thematic analysis following the 6 steps recommended by (Braun and Clarke, 2006). Reading and rereading the data to familiarize with the data will precede the coding of the data. The coding process will be mainly deductive and guided by the research questions. A list of codes that are linked to the theoretical framework will initially be developed but more codes that are derived from the data will also be included. The coding will also be inclusive and reflective of inconsistencies that may be present in the data. Auto coding will be done using Nvivo software.

After the coding process is completed, the codes will be grouped into themes and subthemes, by sorting the different codes and collating them under potential themes. A theoretical thematic analysis approach will be used. So, the themes will be mainly deductive and based on the theoretical framework for the analysis that is guided by the research questions for the study. Thereafter the themes will be reviewed to ensure that there is internal homogeneity within the themes and external heterogeneity between the themes, and then redefined and named. Queries and matrices will be used to analyze specific research questions. Analytic memos and texts will be used to document the researcher's thoughts during the analysis.

Quantitative data

The quantitative data collected from the health facilities within the study area will be analyzed for the family planning utilization, the number of deliveries, and postnatal care visits per month. This data will be analyzed for change in utilization

of family planning services before, during and after the implementation of the intervention. The data from the health facility assessment will also be analyzed for the availability of the adequate number of trained staff, equipment, FP commodities, drugs and supplies prior as well as the quality of care before the start of the intervention and at the end. The data from the household surveys will be analyzed for percentage specific family planning indicators such as the unmet need for family planning, contraceptive use and related factors. We shall use propensity score matching from the surveys to measure and ascertain the influence of the intervention on the utilization of health facility services. The data will also be analyzed for behavioural and social indicators within the urban context. The interpretation and the presentation of information of each of the lots will be guided by the LQAS tables. Survey weight will be generated for the analysis of coverage indicators.

Stakeholder's analysis

First, to identify the actors and how they might impact a project's success, basic Stakeholder Analysis we will identify the influence of individual actors in relation to achieving the project outcome through a desk review and participatory internal meeting or workshop. The identification of actors will not only target those that have power over macro-decision making, but also those that affect the consumers' decision-making to access services. Subsequently, to determine the level of influence and the connection as well as how their influence and connections might impact a project's success, we shall employ social network analysis to map the influence of individual actors and their relationships in relation to achieving the project outcome through the same process of data collection. We shall generate participatory SNA graphs that will visually present the stakeholders' influence and connectedness on family planning services availability and accessibility. Using visual network software such as UCINET, Kumu and Gephi, we shall analyse the network structural patterns using measures that show the relationships between nodes (tie strength), the key nodes within the network (network centrality), the distance between nodes (degree centrality), the approximate importance of each node (Eigenvector centrality), and the centrality of a node within the network (betweenness centrality).

Sustainability

There will be continuous engagements of all stakeholders to build capacity to be innovative and use available resources in their communities for improving access to health services. The use of the human-centred design approach to adapt high-impact solutions and other participatory approaches including co-creation will foster sustainability. The study will therefore be designed and implemented to have the implementation learning embedded within the council, district, health facility and Ministry of Health planning. All through the study, strategic engagements will be done to support the institutionalization of the initiatives being implemented. Best practices shall be documented and shared with all stakeholders at all levels within the country and internationally. The key output will be best practice guidelines that increase access to voluntary family planning services, communities with the capacity to use available family planning services and strategic partnerships with local governments, civil society organizations as well as non-governmental organizations. There will also be discussions with partners at district and national levels to take up the intervention in other areas of the country.

Discussion

Using the human-centred design approach, we shall be able to develop a tailored package of family planning that matches the community context. Our interventions will be tailored to the main domain of known high impact interventions. Aligned to the global agenda of improving women's health and wellbeing [5] and Uganda Family Planning costed implementation plan that calls for continuous research on FP dynamics [22], including what works to improve FP services in different contexts, our process documentation and evaluation approach will address questions related to what a package of FP interventions work, for whom, under what circumstances and why in an urban setting. Guided by the strong learning and implementation flexibility, our implementation will provide specific interventions that work for various segmentation of populations in an urban context. We believe that both the demand for and supply of contraceptives are affected by several barriers that require a holistic and community acceptable approach that address them. Moreover, these factors affect the groups within the community differently with some segments exposed to multiple barriers. Our approach of working with the municipal and

city councils will contribute to the institutionalization of the family planning interventions within the local government planning and budgeting. Furthermore, our implementation learning will contribute to the identification of interventions that could be replicated in other urban settings within Uganda and other countries within the region that share the similar urban features.

Abbreviations

CHW
community health workers
FGD
Focus Group Discussion
FP
Family Planning
HCD
Human-Centred Design
HIP
high-impact practices
IDI
In-depth interviews
KI
Key informant interviews
REP
Replicating Effective Programs
SCM
supply chain management
SDPs
service delivery points
VFP
Voluntary Family Planning

Declarations

Ethics approval and consent to participate

Ethical clearance: Ethical approval was sought from the institutional review board of Makerere University School of Public Health (Ref: SPH-2021-146). Ethical approval by the Uganda National Council of Science and Technology was also obtained (Ref: HS1826ES). Administrative clearance was sought from the leaders of Jinja city and Iganga municipality, where the project will be implemented.

Informed consent process: Written informed consent to participate in the research will also be obtained from all respondents.

Data protection: We will ensure that all project data is adequately protected to safeguard the respondents' privacy, confidentiality, and anonymity.

Consent for publication

Not applicable

Availability of data and materials

We shall welcome other researchers who would wish to use our data for further analysis and collaboration. We have attached the tools which the research will need to follow for data requests. We advise the interested researchers to share with us their research proposal and their authorship plan. The research proposal can be sent to PW (pwaiswa@musph.ac.ug) and KMR (mk.rornald@musph.ac.ug). Relevant national/institutional data protection regulations will be observed during data sharing.

Competing interests

The authors declare that they have no competing interests

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Authors' contributions

RMK, CB, OK and PW led the conceptualization of the study. RMK, CB, JNS, FK, AK, SN, MK, OK, PW contributed to the design and implementation of the study and are research team members. RMK led the writing of the manuscript which was reviewed by all authors. All authors read and approved the final manuscript.

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Tables

Table 1. Evaluation research questions

Formative phase	*Implementation and Evaluation phase*
i. What are the met and unmet needs for FP in this urban population and what are the main underlying reasons? a. Which population sub-groups in this urban setting are underserved with FP services? b. What are the factors associated with the discontinuation or non-use of contraceptive use? Which methods are acceptable and why? c. What social norms, resources and networks influence voluntary contraceptive use in this setting? ii. What are the gaps and opportunities in the existing organization and delivery of FP services in these urban settings? a. What is the coverage of FP services and methods in Iganga municipality and Jinja city? b. What is the availability and quality of FP services and methods by sector and type of facility? c. What high-impact practices for FP are being implemented in the two sites? What has been their effect on voluntary uptake? d. What is the scale and scope of integration for FP services in the two sites? What are the effects so far of integrating FP services? To what extent is the community-based provision of FP services implemented? e. What factors influence the organization and delivery of FP services?	1. What is the effect of community group engagement on contraceptive knowledge and behaviour among target groups? 2. What is the feasibility, relevance and effectiveness of digital technologies for social and behaviour change or improved service delivery? 3. What is the effect of the tailored package of HIPs on coverage or uptake of FP? 4. What are the barriers and facilitators to accessing project interventions? 5. What key aspects of the proposed package increase its adoption, penetration, and sustainability? 6. What lessons can be identified that apply to other emerging cities and towns?

Table 2. implementation risks and mitigation

Risk	Mitigation
a) Incomplete and inconsistent data/information on FP measures that are of interest to the project.	• Gaps in data availability/quality will be addressed through targeted primary data collection.
b) Lack of consensus among the diverse stakeholders	• Continuous engagement of stake holders throughout the project implementation. Meetings and workshops will be conducted to enlist Stakeholder support.
c) The mismatch between stakeholder priorities and the project's scope.	• Evidence-based criteria and clear guidelines will be used during the co-design workshops to provide systematic guidance and consistency to the process and convergence of ideas. In addition, the project's scope and objectives as well as the rationale will be communicated to stakeholders.
d) Potential resistance of providers or other stakeholders.	• Sensitization and awareness creation activities for providers (and the community) will be undertaken in collaboration with the city leadership at different levels, to obtain their buy-in and cooperation in the implementation of proposed activities.
e) Inherent characteristics of the urban population such as high mobility, complexity and dynamism. These may affect the monitoring and reporting of project activities.	• As a mitigation strategy, we will assess the most feasible and realistic ways to monitor implementation and report outputs, taking into consideration the service delivery context.

Table 3. Human-centred design process

HCD process	Description
Discover	This involves getting to know the users and the context surrounding a given problem. This will correspond to the formative study of our proposed project.
Ideation	This involves the generation of potential solutions to address identified problems. This will be done through co-creation workshops.
Prototype	The p*rototype* phase encompasses prototype development, testing and refining. Prototypes for intervention packages and implementation strategies will be developed during the co-creation workshops. These will then be tested in the field with potential beneficiaries and refined to ensure that they meet the needs of the people and fit the context.

Table 4 Social and behavioural change activities

Activity	Description	Target
Training and supervision of gender and age-sensitive participatory community groups	The project will work with locally generated social groups to deliver targeted information on VFP to address key knowledge gaps, norms and other concerns that deter contraception use and promote healthy reproductive behaviours through group discussions and information sharing.	A total of 10 facilitators will be recruited and these will work in pairs. We target to form 10 groups in each site, each consisting of 40 members, giving a total of about 800 clients to be reached. The participatory learning and action cycles will be applied to three major groups (women, men, adolescents/youths).
Support and enhance implementation of media-based social and behavioural change and the use of digital technologies.	We leverage the existing technology such as WhatsĀpp and text messaging to reach different groups of people with information on family planning products and how they work including side effects.	We expect to mobilize about 1000 individuals per year, such that about 3000 will be reached over the project's life. We will create about 10 groups each of about 50 participants per year, making a total of 1,500 individuals. The number may increase due to innovation diffusion and increased willingness to join these social media communities.
Strengthen provider-initiated VFP counselling.	We shall build the capacity of the health workers to be able to integrate family planning communication or counselling in their routine work and across all service points.	Health providers will be supported to provide the information that matches the needs of the client, to facilitate uptake of VFP by ensuring relevant guidelines or standard operating procedures are available.

Table 5 is not available with this version.

Table 6. Governance and management activities

Activity	Target
Improve alignment of VFP services to reduce unmet need	City and municipality council members
Institutionalization and sustainability: Support better planning and integration of VFP into urban plans	City and municipality council members

Table 7. Population sub-sample and sample size distribution

Population sub-samples	Sample size
1. Female youth, 15-24 years, 2. Male youth, 15-24 years, 3. Female adult, 25-49 years, 4. Male adult, 25-65 years	5 administrative divisions (2 Iganga and 3 Jinja) X 5 supervisory areas x 20 sets of interviews x 5 population subgroups N = 2000

Table 8. Number of health facilities by level

	Iganga municipality	Jinja municipality
Levels	**Number**	**Number**
Hospital	2	2
H/C IV	0	4
H/C III	2	3
HC II	5	8
Total	8	17
Other health facilities		
Private pharmacies	14	14
Drug shops	52	20
Clinics/Doctors/Dental	8	39
Allied clinics	13	15
Unlicensed clinics and drug shop	14	8

Figures

Family planning transaction model

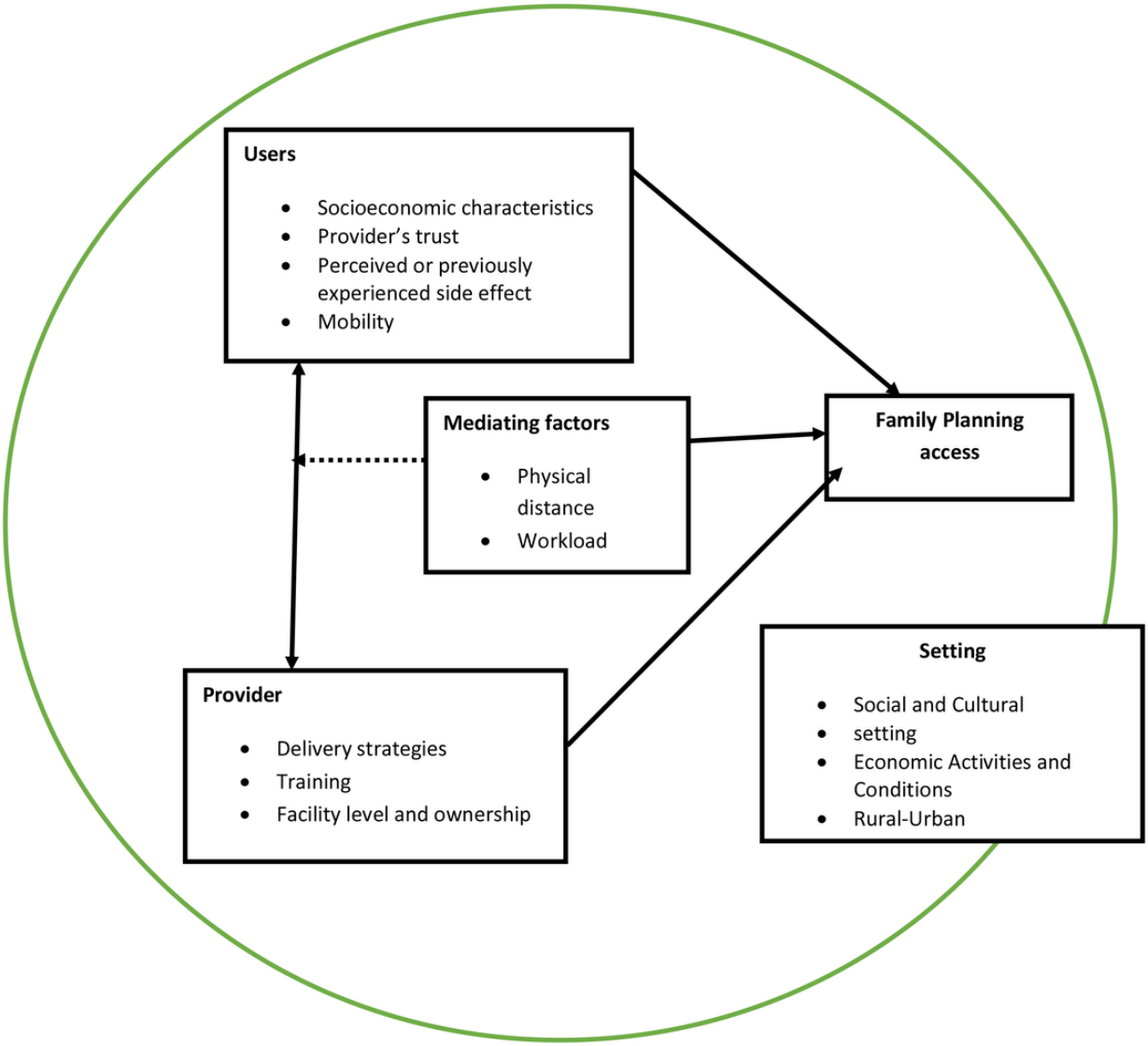

Figure 1

See image above for figure legend

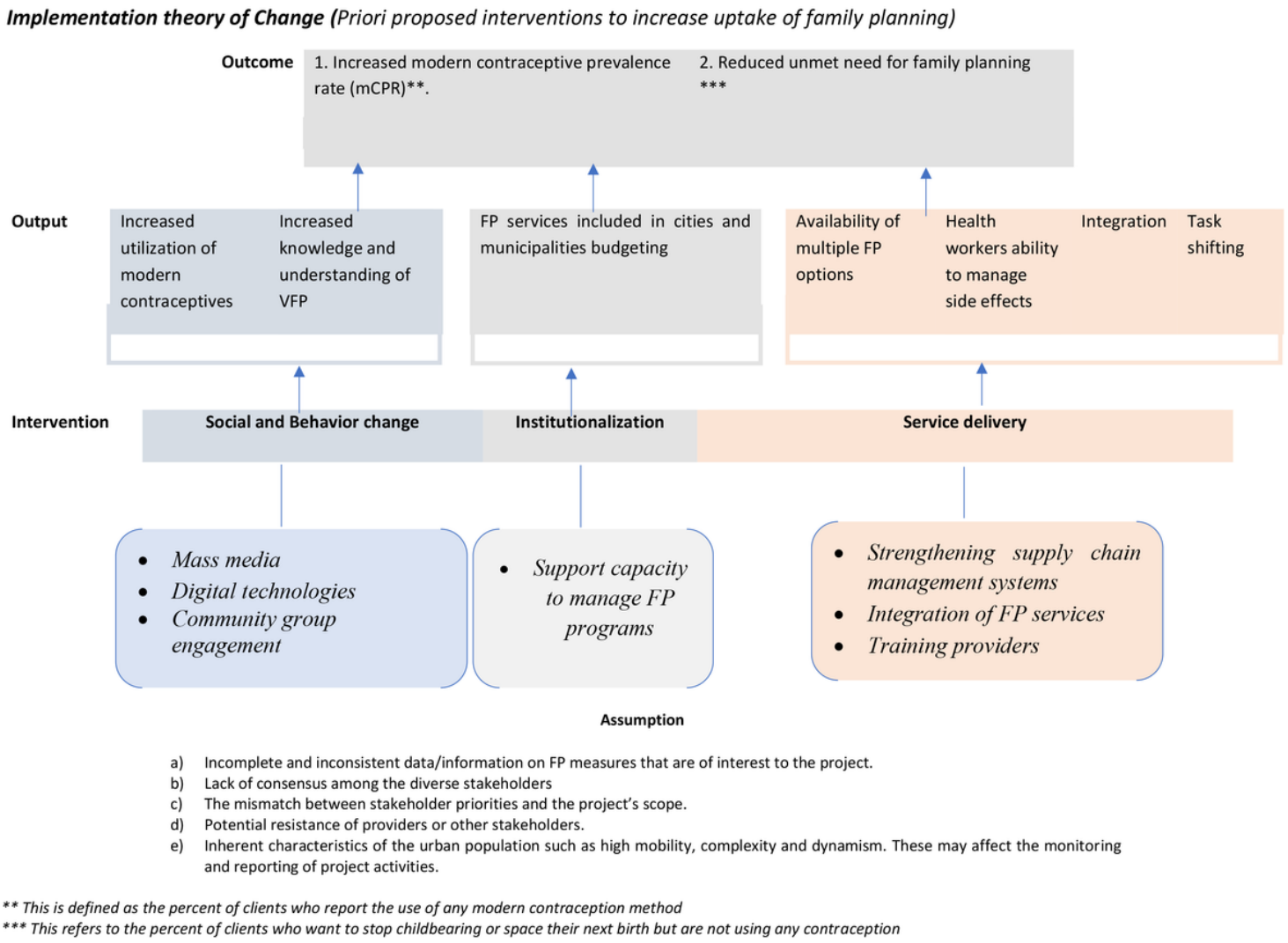

Figure 2

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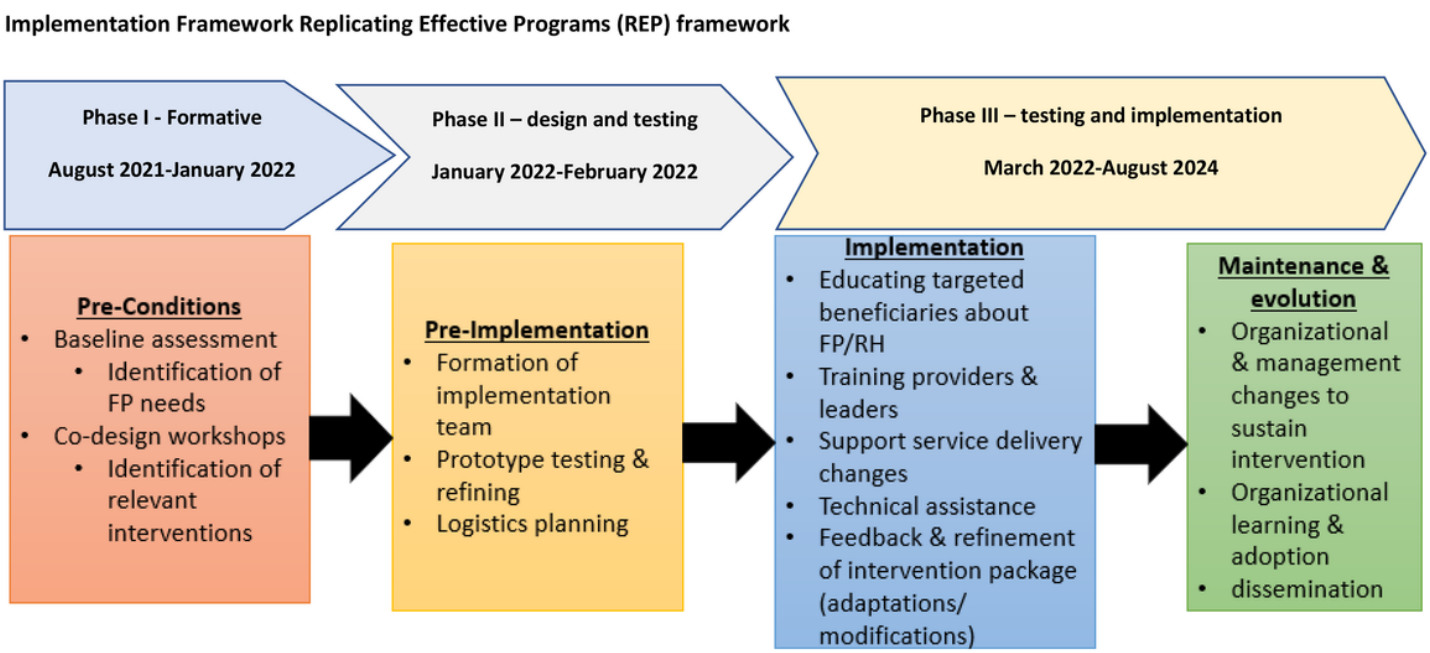

Figure 3

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