

# **Strengthening the Contraceptive Research and Development Ecosystem in Africa: Accelerating Innovations in Non-Hormonal Contraception for Women**

## **Grand Challenges Africa**

### **Request for Proposals**

**Applications due no later than December 16, 2022, 1700hrs East Africa Time**

#### **Background**

Family planning is one of the most cost-effective ways to reduce maternal, infant and child mortality and contributes to the empowerment of women and families, as well as to the expansion of opportunities for economic development. In recent decades, there have been tremendous improvements in the reproductive health of women in low- and middle-income countries (LMICs) and dramatic increases in use of modern contraception. As of 2019, more than half of the 1.6 billion women of reproductive age (15–49 years) living in LMICs want to avoid a pregnancy so the need for contraception is great. Globally, approximately 257 million women had an unmet need for modern contraception—that is, they want to avoid a pregnancy but were not using a modern method. Almost half of pregnancies in LMICs—111 million annually—are unintended, with over 75% occurring among women who want to avoid a pregnancy but are not using modern contraceptives.

While current contraceptives include exceptionally safe and effective options, not all methods are suitable for or acceptable to all women at all stages of their reproductive lives, and concerns about undesirable side effects remain a significant barrier to greater uptake and continued use of existing methods. As a result, women who desire to avoid pregnancy often find themselves without viable options that meet their needs. Overall, among women with unmet need, 26% cite side effects/health risks as the primary reason for their non-use, with 24% reporting infrequent or no sexual activity. Among undesired side effects, women report that bleeding changes (longer/heavier periods, spotting between periods, and amenorrhea) are least likely to be tolerated in a contraceptive and are a leading concern raised by women who discontinue and/or avoid use of hormonal contraceptives. Fear of hormonal use and its impact on health and fertility results in modern method non-use in some women.

Despite this, innovation leading to new contraceptive products suitable for use in LMICs has been limited. Much of the product development that has occurred has been innovations in delivery of the same classes of hormones, which cause similar side effects and do not fully address women's underlying issues and concerns. Additionally, while the proportion of women who have an unmet need for modern contraception is highest in Sub-Saharan Africa, contraceptive R&D is very limited in Africa.

## The Challenge

This RFP seeks innovations that contribute to development of safe and effective non-hormonal contraceptives that meet the needs and interests of women and that address key barriers in accessing and using currently available methods. We are seeking non-hormonal contraceptives that are easy-to-access, discreet, convenient, and non-invasive. Additionally, it is important that these methods have tolerable side effects and do not impact the menstrual cycle. This work will be led by Grand Challenges Africa, a program of the Science for Africa Foundation with funding support from the Bill & Melinda Gates Foundation.

The ultimate goal is development of novel non-hormonal female contraceptives that 1) provide safe and effective contraception, 2) do not contain sex steroid hormones or rely on hormonal mechanisms of action (e.g., do not impact the hypothalamic-pituitary-gonadal axis), 3) do not disrupt endogenous menstrual bleeding patterns, and 4) are suitable and appropriate for use in LMICs. The overall goal is to reduce the unmet need for contraception by enhancing contraceptive uptake, continuation, and satisfaction among reproductive aged adolescent girls and women who want to avoid pregnancy. Contraceptive product innovation is required to achieve this goal.

Equally as important, is the goal to invest in local scientific capacity in LMICs in particular to build and strengthen capacity of African scientists and institutions to conduct R&D around development of novel contraceptive products. This Grand Challenges Africa opportunity aims to expand locally led, gender-equal R&D capacity in Africa and begin to foster a thriving contraceptive R&D ecosystem on the African continent with a collaborative network of scientists working together to innovate around contraceptive R&D.

Specifically, the **objectives** of the challenge are to:

- **Advance novel and bold ideas** that accelerate development of new non-hormonal female contraceptive candidates aligned with women's preferences that are currently unmet. This includes, but is not limited to:
  - Formulation development or advances in materials science with application to non-hormonal female contraception
  - Pre-clinical development of non-hormonal female contraceptive candidates/leads
  - Development and/or testing of novel or optimized drug delivery systems with application to non-hormonal female contraceptives
- **Enhance the research ecosystem on the African continent** for contraceptive R&D by expanding capacity for contraceptive R&D with qualified scientists and institutions. Applicants should describe how their proposals add value to existing infrastructure and expertise.
- **Strengthen the contraceptive R&D network on the African continent** by building intra-institutional and intra-Africa linkages. Scientists with long-term partnerships within their institution or other institutions are encouraged to apply. For new partnerships, plans to maintain a productive collaborative relationship should be outlined.

The contraceptive needs of women and adolescent girls cover all stages of reproductive life and a variety of pregnancy preferences (delaying first pregnancy, spacing between pregnancies, and preventing pregnancy altogether), as well as an array of preferences for duration, route of administration, ability to self-administer, time to return to fertility, and experienced bleeding pattern. Given this, we will consider projects aimed at developing:

- Systemic or intravaginal approaches
- Continuous use methods or those for use at or around the time of sex (sometimes referred to as on-demand or peri-coital methods). We will not consider funding barrier methods such as condoms, diaphragms, cervical caps or intrauterine approaches.
- Methods with mechanisms of action that target 1) Follicle maturation and ovulation; 2) Sperm function within the female reproductive tract; 3) Gamete interaction through fertilization and up to the point of implantation; or 4) Effects on the endometrium. We will not consider any mechanism acting post-implantation.
- Methods of different duration of effectiveness from shorter-acting to longer-acting, with the exception of permanent methods
- Self-care methods, that are self-administered by women (preferred over provider administered methods)

It is important that new contraceptive options are informed by a deep understanding of women's and girls' needs, preferences, and aspirations—and what prevents them from using currently available contraceptives - in order to increase the likelihood that new methods will be adopted and used. Given this, **behavioral research or user insights activities aimed at improving understanding of acceptance, use, continuation, and discontinuation of the delivery system/product** would be acceptable as a component, but not the main focus, of a supported project.

It is anticipated, but not guaranteed, that success in these efforts would justify additional investments in contraceptive R&D by the foundation, with the end goal of advancing non-hormonal contraceptive product candidates that will better serve the needs of women. At the same time, this is an initial phase to begin supporting and developing capacity and partnerships to build relevant capacity for contraceptive technology R&D on the African continent. Through these grants we will identify capabilities and will determine how we can best continue to strengthen the R&D capacity of supported scientists and ideally develop longer-term relationships via various mechanisms.

**We are looking for proposals that:**

- Are led by a PI based at an African institution, including Africa-led for-profit companies based in Africa.
- Demonstrate that at least 90% of the funding is going to support one or more African institution(s).
- Engage scientists across a variety of disciplines, including those new to the field of contraceptive R&D.
- Enhance the research ecosystem for contraceptive R&D and strengthen the contraceptive R&D network on the African continent.
- Demonstrate innovative thinking by applying or incorporating concepts, methods or technologies not necessarily currently being used for contraceptive R&D.

- Present concepts and strategies that are “off the beaten track”, significantly radical in conception, and daring in premise.
- **We particularly encourage applications involving projects led by women or from women-led organizations and applications.**

It is our intention to strengthen R&D capabilities for development of innovative non-hormonal contraceptives by funding a set of grants with each grant to 2-3 scientists collaborating on a project, preferably at the same institution. Applications should be submitted with a lead PI and 1-2 co-PIs, clearly articulating how the group intends to work together and support each other during the grant period and beyond, highlighting how their key strengths, expertise, and access to resources/technologies can be leveraged to maximize impact of the proposed work. Support for one or more graduate students is encouraged as part of the application to help develop the next generation of researchers.

**We will not consider funding proposals focused on:**

- Basic studies of human reproductive biology.
- Early-stage drug discovery such as drug target identification and validation; chemical genomics, probe generation, or pilot screening.
- Development of research tools or biological assays.
- Approaches/methods containing sex steroid hormones or that rely on hormonal mechanisms of action (i.e., impact the hypothalamic-pituitary-gonadal axis).
- Male contraceptives, although sperm-based approaches that could feasibly be used as female controlled methods will be considered.
- Barrier methods such as condoms, diaphragms, and cervical caps as well as intrauterine approaches.
- Multi-purpose prevention technologies (MPT), for example those for prevention of pregnancy and HIV or other sexually transmitted infections. Funds from this opportunity can be used for R&D around contraceptive aspects of an MPT, but not for non-contraceptive aspects.
- Adjunct or complementary molecules intended for co-delivery with hormonal contraceptives.
- Methods that have a post-implantation mechanism of action.
- Permanent methods of contraception, even if reversible.
- Social science, implementation research, marketing, or acceptability studies related to contraceptive uptake and use, unless, as noted above this work is a component of a project primarily focused on development of a contraceptive delivery system or product.
- Methods that are unlikely to be appropriate for use in LMICs, for example due to cost, storage requirements (e.g., needing refrigeration), or need for extensive specialized training or expensive equipment for administration.

**Award**

This Grand Challenges request for proposals intends to fund awards of up to USD \$350,000 and for up to 2 years, based on the scope of the proposed project. The proposed budget must realistically reflect the technical work and project deliverables within a 2-year time frame; in some cases, a smaller budget and/or shorter grant period may be justified. Budgets and scope may be negotiated with applicants as part of the review process to ensure the foundation’s ability to fund a robust and balanced portfolio with good geographic scope with the existing available budget.

### **Application Steps:**

This RFP will make use of a two-step application process:

**Step 1:** Submission of a Letter of Inquiry (LOI) to Science for Africa Foundation – Grand Challenges Africa Program through their grants management system. Applicant organizations submitting the LOI MUST fully meet the eligibility criteria. Please read the full guidelines to make certain that your LOI responds to the call.

The program partners will evaluate the LOIs.

**Step 2:** Eligible applicants will be required to submit a full proposal through the Grand Challenges Africa – grants management system. Additional guidance to successful applicants will be provided after the LOI selection process.

### **Application Schedule**

<b>Key dates and deadlines</b>	<b>Event</b>
24 <sup>th</sup> October, 2022	Initial Letter of Inquiry open
16 <sup>th</sup> December, 2022	Call closed
<b>16<sup>th</sup> December – January 13</b>	<b>Christmas Break</b>
January 16 to 30 2023	Triage of received applications
Early February 2023	Triage moderation and validation on GMS
Mid-February 2023	Portfolios preparation and notification of successful applicants
Early March 2023	Workshop to help shape proposals
March 30	Application deadline for full proposal
April 16 to May 5	Independent Expert Review
<b>April 7-10, 2023</b>	<b>Easter holidays</b>
May 8-15	Portfolio Moderation
June 1-8	Decision committee – Proposal review completed, and notifications sent to awardees
June 2023	Due diligence
June-July 2023	Awarded projects' start date - onboarding of success projects

### **Partner Information**

The Science for Africa (SFA) Foundation is a pan-Africa organization that aims to support, strengthen, and promote science and innovation in Africa. The goal of SFA Foundation is to support African scientists in addressing the continent's most pressing challenges/developmental

needs by generating knowledge that solves problems; making use of the knowledge/evidence to inform decision-making and enabling scientists to collaborate effectively and nurture interdisciplinary expertise.

The SFA Foundation is committed to improving the quality of lives for African people and to promote the uptake of research in communities, industry, private and the public sector. It is further committed to strengthening the entire research ecosystem by creating major Science Technology Innovation programs implemented through a well-established grant-making scheme, advocacy, and promotion of scientific excellence, with emphasis on intra-Africa collaboration and evidence-based policymaking mechanisms.

[Grand Challenges Africa](#) (GC Africa) is a program of the SFA Foundation that supports the creation of extraordinary innovations that address health and developmental challenges in Africa. The program awards seed and scale up grants to the continent's most impressive solutions.