Digital Health Services for Pregnant Women to Support Antenatal Risk Stratification in Sub-Saharan Africa

Request for Proposals

Applications due no later than January 13, 2022, 11:30 a.m. U.S. Pacific Time

Background

Digital health is revolutionizing the landscape of global healthcare. Solutions such as telemedicine, electronic medical records, and digitally enabled devices help to provide accessible, high-quality care around the world. These services have the potential to be especially impactful in low-income areas where care provided by highly trained individuals is not as common. Digital health can empower individual patients by enabling them to manage their own healthcare journeys. It can also drive systemic change through affordable, wide-reaching services that reduce the strain on healthcare professionals and facilities in low-resource settings.

The Maternal, Newborn & Child Health Discovery & Tools team believes that the ability to leverage digital health systems can enhance care and reduce adverse birth outcomes in low-and-middle income countries. One area of focus is the stratification of pregnancy risk to ensure that patients are put on the appropriate care pathway. This can enable tertiary facilities to focus their constrained resources on high-risk pregnancies, while low-risk pregnancies are managed at lower levels of care. Antenatal Risk Stratification (ARS) is a portfolio of devices and data that predicts a pregnant woman's risk of experiencing adverse birth outcomes in early pregnancy. Building and implementing an ARS solution requires three key steps. 1) Collect data on pregnant women (e.g., patient history, clinical data, and diagnostic results with an emphasis on ultrasound and hemoglobin assessment). 2) Use data as inputs in a robust, AI decision model that accurately predicts a pregnant woman's risk of adverse birth outcomes. 3) Support clinical decision making by using the predicted risk to pre-emptively triage patients across different levels of the healthcare system. Through this process, ARS would enable more efficient resource allocation by sending the riskiest patients to high-level facilities, while referring low-risk patients to community or public health centers. ARS would aim to improve the quality of care for pregnant women by ensuring that they can receive the right level of care.

Developing and delivering an ARS solution will require a robust digital backbone including tools for data collection, automated analytics, and platforms that connect to patients and healthcare providers. Before ARS can be successfully implemented, a landscape of digital health devices, partners, and services must be put into place.

The Challenge

We seek patient-facing digital health services for pregnant women that have been developed and are actively being provided in sub-Saharan Africa (SSA). We will consider proposals for services that can support or contribute to our ARS vision via digital applications. Types of services that we would consider include:

- Engagement: Services that increase the participation of pregnant women in digital healthcare. (E.g., a platform to provide group antenatal care or a telemedicine platform that allows pregnant women to send medical questions to doctors by text)

- Adoption of existing platforms: Services that leverage existing digital systems/platforms to support pregnant women (e.g., contacting patients about care or scheduling using an existing messaging app like WhatsApp)
- Data collection: Services that collect data from pregnant women that could support clinical care. (E.g., a mobile app that allows pregnant women to track their pregnancy through metrics such as weight and fetal movement)
- Algorithm development: Services that use data from pregnant women to assess or make predictions about their health (e.g., a web-based tool where pregnant women can input information to receive an automatic assessment on whether or not they should see a doctor)

We seek projects that will help us develop and deliver an ARS solution in sub-Saharan Africa. Proposals should endeavor to build upon existing solutions to help support ARS. Potential options include (but are not limited to):

- Researching implementation methods for a solution (e.g., conducting market research for an existing app that supports one or more of the objectives outlined above)
- Expanding the scope of a solution (e.g., translating a web-based app to mobile platforms to increase engagement)
- Adding features/functionality to a solution (e.g., adding cloud-based data collection to a mobile app)
- Improving the delivery of a solution (e.g., integrating a mobile app into an existing clinical health system)

Funding level: up to USD $500,000 for each project, with a grant term of 6 to 24 months depending on the scope of the project.

We will consider solutions that are:

- Developed and/or actively supported in sub-Saharan Africa (note: development/active support does not include cases when groups outside of SSA are testing their solutions on users in SSA)
- Delivered in sub-Saharan Africa
- Providing pregnancy-related services
- Offered directly to pregnant women (i.e., patient-facing)
- Currently available for use and interested in expansion
- Serving a substantial and active user base in sub-Saharan Africa (e.g., more than ~100 users)
- Digitally integrated (i.e., have a strong, technical component)
- Clearly linked to the development and implementation of ARS
- Reaching women in both rural and urban areas in sub-Saharan Africa (note: this is a preference, not a requirement)

We will not consider solutions that are:

- Exclusively developed and maintained outside of sub-Saharan Africa
- Currently unavailable to pregnant women in sub-Saharan Africa
- Unrelated to pregnancy
- Targeted primarily towards health-care providers (e.g., doctors or health centers)
- Still in a proof-of-concept state (e.g., an idea for an app that has not yet been developed)
- Still being beta tested (e.g., an app that is not being offered to the general public)
- Primarily analog (i.e., are not digital services)
- Unrelated to the development and implementation of ARS