



Catalyzing Equitable Artificial Intelligence (AI) Use to Improve Global Health

Call Announcement Date: 09 October 2023

Call Closure Date: 07 November 2023 @ 23h00 SAST (UTC +2:00)

BACKGROUND

Artificial Intelligence (AI) has significant potential to transform healthcare around the world. But as AI technology continues to advance, there is an urgent need to position low- and middle-income countries (LMICs) to lead on the design and co-creation of AI-enabled technologies – thereby helping to improve the health and well-being of their women, children, and vulnerable communities. Through this call for proposal, we are emphasizing AI solutions that are locally driven and owned hence more relevant to address the needs of people they intend to serve and more likely to be accepted and used by local communities.

Responsible global use of AI entails a safe, equitable, transparent, reliable, and beneficial process that is adhered to with a high level of accountability. As the world rapidly moves to seize AI's opportunities, it is imperative to monitor and mitigate the safety, ethical, equity, and reliability dimensions of AI deployment. This will allow the enormous resilience, creativity, and commitment of researchers, scientists, and policymakers to capture the full capability of AI for lasting good.

Grand Challenges (GC) partners including GC Brazil, GC Ethiopia, GC India, GC Senegal, GC South Africa, and GC Africa (pan-African), along with the Bill & Melinda Gates Foundation, the Patrick J. McGovern Foundation, and the Pasteur Network, have jointly discussed the need for an equitable and responsible approach to the use of AI and specifically Large Language Models (LLMs) in LMICs. This call by the various GC partners is a follow-up to the initial call by the Bill & Melinda Gates Foundation representing collaborative steps towards identifying, nurturing, and catalyzing the creativity, energy, and skills that researchers, implementers, governments, and technical partners have demonstrated in solving specific challenges in their countries and regions through LLMs. We are optimistic that this family of related AI RFAs will provide a platform for potentially transformative solutions to improve the lives and conditions for numerous vulnerable communities.

Note that this request for proposals is being launched by six Grand Challenges partners: African researchers located in Ethiopia, Senegal, and South Africa, should apply through the corresponding country specific Grand Challenges portal; African researchers located in all other eligible African countries should apply through the Grand Challenges Africa portal; Brazilian researchers located in Brazilian organizations should apply through the Grand Challenges Brazil portal; and Indian researchers located in Indian organizations should apply through the Grand Challenges India portal. Eligible Pasteur Network



sites located in Africa should apply through Grand Challenges Africa and Pasteur Network sites located in Brazil should apply through Grand Challenges Brazil. All other eligible Pasteur Network sites (not located in Africa or Brazil) should apply through Grand Challenges Senegal. Please consult the information provided in the subsection referencing geography of interest on the linked partner site to ensure that your application fits the requirements of the RFA you are applying to.

The Challenge

This RFA seeks innovative approaches to the use of LLMs (such as ChatGPT-4, or other credible sources with equivalent capability) to advance global public health. Given the numerous open and non-open-source AI tools, we encourage the applicant to select the tool most appropriate to their use case and context.

We are looking for projects that seek to solve problems in the following areas:

1. Clinical Decision Support

- a. Tools for that can be used by frontline health workers or clinicians for improving the diagnosis and management of health conditions and/or healthcare delivery.
- b. Support for health guideline refinement and adherence.
- c. Diagnostics interpretation, reducing cost, and overcoming at-a-distance barriers.

2. Population Health & Policymaking

- a. Support for policymakers in leveraging new and timely insights through routinely available, underutilized, or unused data sources of text and voice.
- b. Reduce time delays to transition new evidence into policy and implementation, as well as optimizing resource allocation.
- c. Approaches that can distill information and make timely recommendations from complex and evolving datasets (e.g., forecasting disease epidemics and progression).

3. Support for Frontline Health Workers

- a. Personalized coaching for semi-skilled FLWs that is tailored, highly relevant, and leads to an improved quality of service and/or lower costs.
- b. LLM supported solutions for workflow management (e.g., writing discharge summaries, etc.)
- c. Use of LLMs to support skilled FLWs in delivering higher quality services and improved efficiency.

4. Health Communications & Patient Journeys

- a. Develop impactful and targeted communications tools that bridge language and literacy gaps when communicating health-related knowledge, messaging, and advice (i.e., translating from local dialects, text-to-voice, etc.).
- b. Provide timely, trusted, and tailored advice to end users who are marginalized and in so doing overcome significant cultural, access and stigma concerns.
- c. Support patients in understanding and managing their own health status and care regimen.

5. Health Systems Strengthening

- a. Use of LLMs to improve interoperability of health data, systems, and programs.

Ideally, the proposal will:

- Work on a specific problem that has been identified as a priority in South Africa
- Leverage AI to increase productivity and efficiency in healthcare.
- Contribute to the body of evidence related to AI use in LMICs across global health.
- Foster innovation with AI in the interest of supporting public health decision makers and affected communities.
- Place a strong emphasis on systematically observing, validating, and quantifying the improved outcomes balanced with cost effectiveness from AI use.
- Conform with global principles of AI use i) to do no harm ii) to leverage technology against the toughest/most relevant global health problem iii) ensures that projects are led from LMICs even though there may be a high-income country (HIC) partner iv) local voices and ideas are captured throughout the process, and v) there is a dissemination plan of the outcomes of the projects.
- Give local communities an opportunity to provide their own perspective and cultural context so that they can decide on both i) their own thresholds for safe usage and ii) the overall utility of AI within their own lives.



Priority will be given to proposals that have:

- an explicit request for an AI-supported project in South Africa.
- those projects that have already completed a pilot before this Grand Challenges call, and/or,
- projects that have lessons/tools that can be transferred to other use cases/situations/contexts with minimal change.
- Emphasize importance of community-specific, culturally appropriate, and representative AI.

Funding Levels, Period of Performance for Grant, & Geography of Interest:

The funding level is a **grant of up to USD \$100,000.00, for each project, provided to the organization, with a term of up to 12 months.** The **geography of interest** for this Request for Proposals is South Africa, and the project needs to be led by investigators who are citizens or permanent residents of South Africa. Global partners may be included, but proposals must demonstrate at least 80% of the funding is going to an organization located in South Africa. Application budgets should be commensurate with the scope of work proposed.

What We Are Looking For:

- Proposals that demonstrate clear applications of LLMs (such as GPT-4, Laude, LLaMA, or other credible sources with equivalent capabilities), to address a specific challenge related to global health in South Africa.
- Proposals that demonstrate the grantee has a firm grasp of the application, has done some of the stakeholder mapping, and has an engagement plan with local decision-makers to ensure the proposal is successful.
- Proposals that present a high leverage and scalability opportunity.
- Proposals that outline a clear, feasible and reproducible methodology.
- Proposals that have timely access to data, decision-makers' time and interest in using AI
- Proposals that articulate how the project will lead to impact in the near-term and how those benefits will be sustained past the lifetime of the project.
- Proposals that are driven by a shared commitment to open science, data sharing, and building collaboration and analysis infrastructure to enable discoveries that will benefit people everywhere.



- We particularly encourage applications from women-led organizations and applications involving projects led by women.

We will not consider funding for proposals that:

- Do not explicitly use/reference the use of LLMs in their project execution.
- Do not have timely access to necessary data, decision-maker time, commitment, and interest (a commendation/request letter will be advantageous).
- Do not **demonstrate** that most of the work proposed will be led by investigators and teams based in South Africa.
- Do not include a validation plan.
- Do not provide any thought towards scale-up and sustainability.

APPLICATION PROCESS AND TIMELINE

It is critical that applicants follow the instructions in this RFA. **Applications will not be processed further or considered for funding if they:**

- Are deemed non-responsive to the specific topics included in this RFA.
- Are received after the deadline for submission.
- Are incomplete, i.e., do not have **all** sections of the proposal and budget templates completed and all requested supporting documents attached.
- Are from non-eligible organizations and/or individuals.

Budget allowable and non-allowable costs

Allowable costs

Allowable costs for this funding mechanism are as follows (all direct line items must be auditable):

- Personnel: Soft-funded posts for individuals working on the project (e.g., post-docs, students, technicians, project managers) will be funded, provided an accurate estimation of time allocation is provided and they are not already funded from other means.
- Consultants: These may include local and/or foreign consultants who provide a service or capability not available among the project partners but essential for the completion of project deliverables.
- Equipment: Partial or full support for equipment may be requested, provided that it is directly required for the project. A budget limitation may apply.
- Supplies, consumables and other direct laboratory or research costs.
- Sub-contracts: These may be to any local or international organization that provides a service or capability that is not available among the project partners but is essential for the completion of project deliverables. A minimum of 80% of the budget should go to a South African organization.
- Travel and accommodation directly related to the project's execution.
- Institutional overhead: A maximum indirect cost rate of 5% is allowed. Alternatively, applicants may apply for all indirect costs as direct line items.

Non-Allowable Costs

Non-allowable costs include the following:

- Salaries of permanent or fixed-term staff, e.g., tenured staff, professors etc., that are fully covered by the host institutions.
- Purchase or construction of a building.
- Rental costs for space that is owned by the institutions participating in the project.
- Recruitment or retrenchment costs for staff.
- Purchase of office furniture.



RREVIEW AND EVALUATION OF PROPOSALS

There will be a two-step review and evaluation process:

1. Internal screening for responsiveness to all the specified administrative and procedural provisions required in the RFA.
2. Peer review to assess the merit (and other review criteria as specified below) of applications found to be responsive to the RFA.

Internal screening

All applications will be screened by the SAMRC and Grand Challenges funding partners for completeness and responsiveness to the call and its administrative requirements/provisions. If the application is found to be incomplete or unresponsive to the provisions and priority areas described in the call, or was submitted after the deadline, the application will not be processed further.

Evaluation

Each responsive and complete application received by the due date will be reviewed by a panel of local and international reviewers, considering at least the following criteria:

- **Significance/ Relevance/ Impact** - potential impact of the expected results on current and/or future public health communication approaches.
- **Approach** – level of innovation of the approach; rationality of the proposed work plan, cost-effectiveness of the project
- **Investigator(s)** – size and reach of the team (single institution/principal investigator versus multi-institutional and multi-disciplinary); experience and record of the investigators, collaborators, and other researchers, complementarity of the project partners.
- **Environment** – availability of appropriate and necessary infrastructure, support, equipment, and other physical resources; unique features of the project environment, subject populations, or collaborative arrangements



SELECTION OF AWARDEES

The Call Steering Committee, which will have representatives of the relevant funding partners, will prioritize proposals based on the recommendations of the Evaluation Panel. The funding decision will be made by the Executive Decision Committee.

Important additional information

- The funders may seek to verify any information provided by applicants through independent research or by third parties approved.
- The funders assume no responsibility for costs incurred in responding to this RFA or any further invitations or communications.
- The funders reserve the right to amend or withdraw from the RFA at any time.
- Successful awards may be subject to addressing reviewer comments and/or negotiation of project plans, number of investigators and budgets.
- Grants will be paid to the institution where the principal investigator is employed, as set out in a funding agreement to be concluded between the parties.
- No grant funds will be provided for the research until proof of the necessary ethics and regulatory approvals for the project have been provided to the SAMRC. Should the investigators fail to obtain the necessary approvals within a reasonable time, the SAMRC reserves the right to withdraw the award.
- The funders may use text, video or other visual representation submitted by successful applicants on the respective website or on materials for publicity and/or public awareness.



Application Process:

All applications must be submitted through the SAMRC Application Portal, which can be accessed via the highlighted link below. Additionally, it is essential to provide the necessary supporting documents along with the application submission:

- SAMRC Application Portal: <https://redcap.link/gcai>

Supporting Documentation required: To complete your application, *supporting documentation listed below is required. To access the templates, simply click on the highlighted documents provided below. Once you have completed the templates, kindly submit the supporting documentation by uploading it through the SAMRC application portal.*

- [Full Budget](#)
- [Institutional Approval](#)
- Curriculum Vitae for the Investigators

Please direct any queries or requests for information on this RFA to: **Karabo Kgomo**
(Karabo.Kgomo@mrc.ac.za)

Application Timelines:

RFA Release Date	09 October 2023
Application Due Date	07 November 2023 @ 23h00 SAST
Peer Review of Applications	07 November 2023 to January 2024
Internal Approvals	February 2024
Grant making + Notification of Awards	February – March 2024
Project start date	April 2024