Biotechnology Industry Research Assistance Council(BIRAC)
A Government of India Enterprise

Request for Proposal (RFP)
Grand Challenges India Funding Opportunity
On

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

Jointly funded by

Department of Biotechnology (DBT)
Ministry of Science and Technology
Government of India

&

Bill & Melinda Gates Foundation (BMGF)

1. Introduction

About Grand Challenges India

In a Memorandum of Understanding (MoU) signed in 2012 by the Department of Biotechnology (DBT), the Government of India (GoI), and the Bill & Melinda Gates Foundation (BMGF), the parties committed to working together on scientific and technological research to address some of the most pressing global health and development issues for the benefit of the people of India and other developing nations.

This partnership seeks to identify opportunities to initiate and promote scientific and technological research in the country, to provide India-specific solutions for the country, which can then be adapted for use in other developing countries. Specifically, the partnership focuses on encouraging research and exploring avenues to reduce maternal and child mortality and morbidity; developing scientific and technical solutions for infectious diseases; strengthening India's scientific translation capacity; developing scientific and technical advances related to agriculture, food and nutrition, among others

Grand Challenges initiatives follow these core principles:
1. Strategic and well-articulated grand challenges serve both to focus research efforts and capture the imagination and engage the world's best researchers.
2. Projects are selected based on national and societal needs and transparent calls for proposals seeking the best ideas.
3. Funders, investigators, and other stakeholders actively collaborate to accelerate progress and integrate advances to ensure these advanced technologies reach to developing countries masses
4. Projects are selected not only for scientific excellence, but also for their likelihood to achieve the desired impact, and they are milestone-driven and actively managed to that end.
5. Projects and investigators will have to follow global access commitments to ensure the fruits of their research are available to those most in need.

2. Program Detail

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. Aligned with the Global and Government of India's need for an equitable and responsible approach to the use of AI, Grand Challenges India intends to launch a call for proposals 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.

Given that there is a need for an equitable and responsible approach to the use of AI and specifically Large Language Models (LLMs) in LMICs, the call is intended to identify nurture, and catalyze the creativity, energy, and skills that researchers, implementers, governments, and technical partners have demonstrated in solving specific challenges through LLMs. This RFP will serve as a platform for potentially transformative AI solutions to improve the lives and conditions of numerous vulnerable communities.

The Challenge
The purpose of this call is to seek innovative approaches to the use of LLMs to advance health in India and across the globe. Given the numerous open and non-open-source AI tools, we encourage/expect the applicant to select the tool most appropriate to their use case and context.

The call is soliciting proposals 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 regiment

5. Health Systems Strengthening

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

Ideally, the proposal will:

- Work on a specific problem that has been identified as a priority in India.
- Leverage AI to increase productivity and efficiency in healthcare.
- Contribute to the body of evidence related to AI use in our country and 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) ensure that projects are led from our country 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 India.
- 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

3. Program Objective
Considering that 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, this Grand Challenges call is seeking innovative approaches to the use of LLMs to help to improve the health and well-being of their women, children, and vulnerable communities.

a) What We Are Looking For:
- Proposals that demonstrate clear applications of LLMs to address a specific challenge related to global health in the Nation
- 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.

b) 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
  from our country.
- Do not include a validation plan.
- Do not provide any thought toward scale-up and sustainability.

4) Program Structure
Funding pattern
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 project needs to be led by investigators in India. Global partners may be included, but proposals must demonstrate at least 80% of the funding is going to an organization within the Country. Application budgets should be commensurate with the scope of work proposed.

Collaboration

GCI encourages collaborations based on the belief that synergies between experts across diverse disciplines are important for the challenges that we seek to address. Should you want to apply as a collaboration, please ensure the following questions are sufficiently answered in your proposal.

Are the applicants, including all sub-contractors, willing to collaborate and share experimental methods, data, and resources among the other independently funded membersof the program consortium?

5) **Rules and Guidelines**

    a) Application Process

Please be advised that the entire application process is online through the BIRACportal.

    i.   Proposals in the correct format will be submitted on the online portal by interested applicants

    ii.   The application will be seeking the following information in the project proposal:

- Introductory information: A short description of the specific problem your proposal addresses. One or two sentences in bold the essence of your idea for a solution (1-2 sentences).
- Proposal information: A clear hypothesis with a brief description of the work (to achieve proof of concept for your idea, including limited field testing/validation).
- Path to impact: Next steps if you are successful in this work. How would you scale it up and/or apply it to other problems?
- Ethical use of technology and data: Describe risks or challenges involved and potential bias that may arise from the use of an unrepresentative dataset and how will you obtain a representative dataset to train the LLM and mitigate bias. Describe the potential bias that may arise from historic disadvantage or devaluation of certain social groups or individuals in the target population, human context, and societal values affecting your use case (including assumptions about gender, race, and geography) and how you think you may be able to mitigate this bias.

    iii.   After an initial triage, review panels established under the Grand Challenges Indiapartnership will evaluate the proposals submitted.

    iv.   Post proposal review and legal eligibility check, the applicants will be invited topresent their proposals in detail to TAG.

    v.   Pending financial and technical due diligence, the final awardees will be selectedby the TAG.

vi. Once Due Diligence is successfully completed, award certificates will be awarded to the selected GCI applicants.

vii. PMU- BIRAC will then enter into separate funding agreements with successfulGCI cost recipient(s) to govern the project terms and conditions and fund disbursement modalities.

Application instructions*

1. Please visit the BIRAC website at www.birac.nic.in and follow the link to the registration and submission portal.
2. If you are applying to a BIRAC/GCI scheme for the first time, please note that you will have to register on the portal. The verification and activation ofyour new account may take up to 24 hours before you can apply for the scheme. Please take this into account while applying.
3. The online form needs to be filled completely with all appropriate documentsuploaded.
4. Please also ensure that the Proposal Summary document is uploaded based on the format provided. Incomplete proposals will be rejected in the triage round.

* We will not be able to provide individual feedback to applicants who are not selected for further rounds.

b) Schedule
Call opens- -0 9th November 2023 (Online portal will open on 1:00 PM on 9th November 2023 for period of 45 Days)
Call closes – 23rd December 2023 **(**Online portal will close at 1:00 pm on 23rd December 2023).
Shortlisting/finalizing the proposals – 10 th January to 31st January 2024 (20 days)
Award announcement-15th February 2024
Initiation of Grant Making -15th March 2024
Final report submission -30th November 2026

c) Eligibility criteria
This RFP is India-led; the programme is open to Indian academics, research institutions, companies, society, trusts and foundations.

Project cost will be sanctioned to researchers and innovators who are Indian individuals orIndian entities*, we also encourage partnerships with researchers of national/internationalexpertise, subject to the call guidelines.

Note: Please read the following carefully to understand the category you will be applying under and the documentation that may be requested should your proposal be selected for further financial due diligence. This call is open to:

i) In case of the applicant being an Indian academic scientist, researchers and Ph.D students (citizen of India) who must be willing to incubate at a recognized incubator submit a letter of intent for same.

  ii) Companies
    • Companies incorporated under the Indian Companies Act, 2013 having a minimumof 51% Indian ownership.
  iii) Limited Liability Partnership
    • Limited Liability Partnership (LLP) incorporated under the Limited Liability Partnership Act, 2008 having a minimum half of the persons who subscribed their names to the LLP document as its Partners should be Indian citizens.
  iv) Indian institution/ universities/ public research organization
    • Academic institutions established in India and having NAAC/ UGC/ AICTE or any equivalent recognition certificate or any other Public/Government supported organization

  v) Society/ Trust/ NGO/ Foundation/ Association
    • Society/ Trust/ NGO/ Foundation/ Association established in India under therelevant Indian Law having at least half of the stakeholders (partners/ trustees/ members/ associates etc.) as Indians.

Experts of the relevant discipline as mentors should be a part of the proposal such as healthcare professionals, data analytics experts, m-health specialists, management experts, logistics experts, M&E experts among others.

* *Note: The evaluation of eligibility shall be based on the status of documents as on the closing date of thecall.*

Through national and international collaboration, we expect that sharing experimental methods, data, and resources will ultimately improve the ability to compare and validate local research findings and to develop interventions and products that can have impact at a greater scale.

d) **Evaluation Criteria**

  1. **Novelty and Innovation:** Does the proposal capture enough novelty to address the discussed challenges.

  2. **Approach and methodology:** Is the research plan, objective and proposed

schedule clearly presented and realistic. Is there clarity in the objectives and work plan? Are the proposed timelines and milestones appropriate, feasible, and technically sound? Is there a high likelihood of the objectives being completed in the given timeframe? Will the demonstration take place in difficult/ challenging India-centric setting?

3. **Future Deliverable/Translational Feasibility:** Relevance and clarity of anticipated outcomes and deliverables to future implementation of the projects and commercialization.

4. **Sustainability and adaptability of the System**: Does the proposed solution take into account the complexity of the proposed geographical setting and context.

5. **Organizational and investigator capability:** Is the team composition covering key scientific and engineering challenges that this challenge is seeking to address? Is the research and development team appropriately trained, experienced, and positioned to carry out this work? Is the work proposed appropriate to the experience level of the principal investigator and other proposed members? Is there strong evidence of substantive organizational capability and commitment? Is there experience in development of partnerships, and in multi-investigator projects? Are collaborative arrangements in place? Is there evidence of an infrastructure for data collection, transfer, and sharing?

6. **Best value:** Is the cost of the proposed effort reasonable relative to the complexity of the proposed work and the degree of risk and advancement proposed?

e) Evaluation methodology
Grand Challenges India (GCI) along with stakeholders team will screen the proposals for eligibility. If the application is found to be incomplete or not complying with the provisions described in the RFP, the application will be considered ineligible. The GCI and stakeholders' team will make assessments and recommend shortlisted applications for further evaluation to the Technical Advisory Group (TAG), comprising of national and international subject matter experts. Proposals that meet the eligibility criteria will be submitted to TAG for further review and evaluation.

The TAG will invite the grantees for interaction and/or written clarifications when it is beneficial to ensure that any outstanding questions are resolved before concluding the full review.

As applicable, the technical and financial due diligence processes (site visits) of the shortlisted applications will be carried out by GCI. A final decision on applications to be funded will be made by the Competent authority based on the recommendations of the Technical Advisory Committee (TAG).

f) Allowable Costs
Usually, the allowable cost will include:

- Indirect Cost/Non-Recurring Budget: **Equipment and Accessories** (Upto 20% of proposed cost) list of equipment's, if required and justification in relevance to the project activities (Quotations supporting proposed equipment and accessories)

- Direct Costs/Recurring Budget (Realistic figures): **Manpower** (Up to 30% of proposed cost), **Consumables** (Up to 20% of proposed cost), **Travel** (Inclusive of International travel, in case of International Collaborations) and **Outsourcing** (In case any activity to be outsourced)

- **Research Contingency and Overhead** of each Primary & Collaborating Partners (not exceeding 10% of the total Recurring Cost)

*Note: Justifications to be provided for roles of each aspect of manpower involved, consumables proposed, travel (Local and International in case if any), research contingency and trainings.

Budget heads without cap will be considered on case-to-case basis and based on call specifics by Technical Advisory Group (TAG).

g)   Warranty
The GCI Applicants shall warranty that the statements and particulars contained in thefull proposal and supporting documents are correct. They have to further warrant that they are under no contractual restrictions or legal disqualifications or any other obligations which would prohibit them from undertaking the present Project, entering into any Agreement in this regard etc.

h)   Project Intellectual Property
The initiative is guided by the Memorandum of Understanding on the collaboration between the Department of Biotechnology, Govt. of India and the Bill & Melinda Gates Foundation signed on July 18, 2012. As a part of this MOU fair and transparent processes will be established to ensure that projects and investigators funded under initiatives make global access commitmentsto ensure the fruits of their

research are available to those most in need. This will include, but not be limited to, the ability to license any technology developed under this agreementto manufacturers in India subject to these global access commitments and to the relevant provisions of the Indian laws including specific requirements on licensing under the Patents Act 1970.

To this end, project IP means intellectual property generated during the conduct of theProject by the GCI applicants, but excluding the intellectual property generated beforeinitiation of this Project and any IP generated outside the scope of this Project even during the term of this Project. The ownership and control of the intellectual property shall remain with the GCI cost recipient(s), or other collaborating organizations or institutions as agreed with the cost recipient, subject to any applicable local policies andthe collaborative process described above, including arrangements between the cost recipient and other individuals or institutions.

GCI cost recipient(s) agree to conduct and manage the Project and the resulting products, services, processes, technologies, materials, software, data or other innovations (collectively, "Funded Developments") and any IP that arises in the manner that ensures"Global Access." Global Access requires that

1) The knowledge and information gained from the Project be promptly and broadlydisseminated
2) The Funded Development is made available and accessible at an affordable price topeople most in need within developing country.

Establishing suitable Global Access agreements among the GCI cost recipients will be acondition of receiving funding.
GCI cost recipients commit to meeting the following criteria at a minimum:
1)   For successful tools/technologies that have been supported through field testing, the projects under this agreement must apply for regulatory approval in India as well as for certification/WHO prequalification to ensure that successful innovations/tools/technologies supported through the GCI are available at affordable costs to those most in need. BIRAC and the Foundation will support successful projects through introductions to third party manufacturers, introductions to WHOs DTAG as well as introductions to relevant technical experts for the next phases. This could include contracts for local manufacturing etc.
2)   For projects where novel tools/technologies methods have shown promising results BIRAC, and the Foundation will work with the projects and investigators on a clear development pathway to ensure that the investments made through the GCI are supported for public health benefits.
During the term of this Agreement and for 5 years after, GCI recipient will submit upon request annual intellectual property reports related to the Funded

Developments, Background Technology, and any related agreements using the PMU-BIRAC's templates or forms, which we may modify from time to time.

i)   Confidentiality

During the tenure of the Project, BIRAC will undertake to maintain strict confidentiality and refrain from disclosure thereof, of all or any part of the information and data exchanged/generated from the Project for any purpose other than purposes in accordance this RFP. Please note that all proposals, documents, communications and associated materials submitted (collectively, "Submission Materials") will become the property of BIRAC and will be shared with other funding partners or potential funding partners.

Number of applications received and the countries from which they originated will be published. The proposals will be subject to confidential external review by independent subject matter experts and potential co-funders, in addition to in- house analysis.

j) Research Ethics and Regulatory Approvals

GCI Cost recipient(s) shall be responsible to obtain all the necessary requisite approvals, clearance certificates, permissions and licenses from the Government/local authorities forconducting its activities/ operations in connection with the Project.

k) The fund disbursement and project implementation shall be governed by the specific funding agreement that will be duly executed.

l) Dispute resolution and Arbitration:

In the event of any dispute or difference between the Parties hereto upon or in relation to orin connection with this RFP, such dispute or difference, shall be resolved amicably and ingood faith by mutual consultation.

If such resolution is not possible, then the unresolved dispute or difference whatsoever arising between the Parties out of or relation to the construction, meaning, scope, operation or effect of this RFP or the validity the breach thereof or in respect of any defined legal relationship associated therewith or derived therefrom dispute shall be submitted for arbitration to International Center for Alternate Dispute Resolution (ICADR), an autonomous organization working under the aegis of the Ministry of Law & Justice, Department of Legal Affairs, Government of India. The Authority to appoint the arbitrator(s) shall be the ICADR. The Arbitration under this Clause and provision of administrative services by ICADR shall be in accordance with the ICADR Arbitration Rules,1996. The award made in pursuance thereof shall be

binding on the Parties. The venue of arbitration shall be New Delhi and the arbitration proceedings shall be conducted in English Language. The provision of this Clause shall not become inoperative notwithstanding the Contract expiring or ceasing to exist or being terminated or foreclosed.

m) Program Monitoring Mechanism:
Project Review and Monitoring Committee (PRMC)

The projects shall also be monitored and mentored regularly by a Project Monitoring Committee (PMC) constituted by GCI for each project.

Reporting of Progress:

On Successful completion of each Milestone, the applicant will be required to submit a detailed Milestone Completion Report (MCR) as per the prescribed format

The MCR will be assessed by the PMC/ TAG for its completion. On recommendation of the PMC/TAG, the next Milestone budget will be released.

Contact us:
Program Management Unit at BIRAC (PMU-BIRAC)
Biotechnology Industry Research Assistance Council
(A Government of India Enterprise)
5th Floor, NSIC Business Park
NSIC Bhawan
Okhla Industrial Estate
New Delhi-110020
Website: www.birac.nic.in
PMU-BIRAC website:
www.birac.nic.in/grandchallengesindia

For enquiries:
Please email: Mission Director, PMU- BIRAC at mdpmubmgf.birac@nic.in, Manager (Programmes) at pmubmgf.birac@nic.in or Senior Program Officer at user-24@birac.nic.in at +91-1124389600 with the subject line: Grand Challenges India NTD