

## **Guidelines: Request for Proposals for CARTA Research Hubs**

Version Date: 15 December 2022

### **Background**

Africa faces a triple burden of infectious diseases, non-communicable diseases (NCDs), and injuries (1,2). The continent has experienced a number of epidemics and is still grappling with shortage of adequate and healthy food, climate change and socio-economic challenges including poverty and widening inequalities (3). Consequently, achieving the Sustainable Development Goals (SDGs) will be difficult for many countries. Progress in the reduction of childhood mortality and in incidence of infectious diseases such as malaria is under threat from limited progress in reductions in neonatal mortality, emergence of Anti-Microbial Resistance (AMR) and epidemic pathogens and, an epidemic of NCDs including mental illness straining over-burdened and dysfunctional health systems (4).

Sub-Saharan Africa (SSA) faces intractable health challenges worsened by the Covid-19 pandemic. Central to Africa's intractable health challenges is a failure to deal with the complexity of disease and how health is produced and maintained, which demands a multidisciplinary and multi-sectoral approach. There is a dearth of experts with the right training and orientation towards this approach to evidence generation and/or use in policy making, programme design and implementation. New technologies and novel remedies for specific diseases are important in achieving improved health outcomes in Africa. However, failure to strengthen health systems, inadequate knowledge translation and inappropriate engagement with communities impede uptake of these technologies. Academic institutions have a critical role to play in addressing these failures – by generating needed evidence and training the right cadres of experts with a multidisciplinary and public engagement orientation. CARTA therefore seeks to address inter-related questions about how to promote health, improve health systems and scale-up successful interventions.

CARTA's aim to improve public and population health is broad and by definition multidisciplinary. An analysis of papers co-authored by CARTA fellows shows that more than 80% cover infectious diseases, health systems, maternal and child health, sexual and reproductive health (SRH) and, NCDs (Figure 1) (5). CARTA's approach has promoted cross-disciplinary research capability and critical thinking in our fellows and created a network of interconnected researchers (6). These outcomes - relevant research and a multidisciplinary network of researchers - have been explicit overall aims of CARTA.

Figure 1. Analysis of the 806 publications co-authored by CARTA fellows in peer-reviewed journals up to December 2018 per thematic area (1)

Thematic Area	% of publications
Infectious diseases	26.8%
Health Systems and policy	17.6%
Maternal and Child Health	14.7%
Sexual Reproductive Health and Rights	14.3%
Non-Communicable Diseases	10.7%
Environmental health	6.5%
Violence and injuries	4.4%
Food security and nutrition	2.4%
Other*	2.6%

\*Other includes education, demography, capacity building, pharmacology, microbiology and occupational health.

### From Individual Research to Research Hubs

CARTA seeks to create CARTA research hubs at our partner institutions as we progress through the third phase of the CARTA strategy (2021-2025) dubbed CARTA2025.

CARTA2025 will strengthen our proven CARTA approach to research capacity strengthening by establishing research hubs aimed at providing research knowledge, **training and expertise** in specific thematic areas. From the existing network of CARTA scientists, we seek to identify areas of expertise that will lay the foundation for research in areas of strategic interest for CARTA partners and the countries where they sit in line with regional and continental development agendas. The research hubs will build on and consolidate the research expertise existing in the CARTA network and will bring in new collaborators as needed to strengthen a research hub.

The research focus of the hubs will be broad and the approach multi-disciplinary. The hubs will build on the research expertise of CARTA graduates and on the CARTA interventions to strengthen research, research training and research management capacities. The research hubs will be places where multi-disciplinary policy-relevant research will be conducted. The hubs research strategy will be in line with the regional development agendas. Research within the hubs will address the complexity in the selected thematic areas guided by frameworks of social, environmental, economic, and political determinants of health and health systems strengthening with a uniquely African focus.

The hubs will also be platforms in which Early Career Researchers' (both doctoral and post-doctoral) research can be embedded, providing a place for CARTA fellows from within and outside the institutions to locate their own research, be mentored and exposed to a dynamic and supportive research environment. The hubs will be catalysts for strengthening the research

culture within CARTA partner institutions by providing hands-on training in research management and opportunities for career growth for researchers at all stages of their career but especially for early career researchers. Researchers within the hubs will be evidence partners that forge long-lasting relationships with policy and community audiences to design and implement research that progressively responds to the needs of these stakeholders.

### **Ensuring linkage with local priorities**

Each research hub will establish strategic relationships with policy audiences within the countries where CARTA operates and with regional bodies. Through these relationships, the hubs will co-design their research agenda and regularly review its research priorities. *Research co-design is the meaningful involvement of research users during the planning phase of a research project. It refers to participation in an explicitly described, defined and auditable role or task necessary to the planning and/or conduct of health research (7).* Co-designing research has been identified as a pathway to evidence uptake and policy impact especially in clinical and healthcare settings as well as in policy and programme design (8). We see research co-design as a mechanism for ensuring relevance, building mutually respectful relationships with policy audiences and indirectly building two-way capacity for evidence generation and use. Since each research hub will be addressing a specific thematic area the co-design and identification of priorities will be done initially with policy actors in that area within the country where the hub is located, and later with policy actors in other CARTA countries. The co-designed research agenda will guide the selection of PhD and post-doctoral topics and grant applications. The identified policy audiences will be actively involved in conceptualizing and implementing research studies on an ongoing basis.

### **Leveraging proven CARTA interventions**

Since its inception, CARTA has developed several interventions to strengthen the training of early career researchers and create a research-conducive environment. The CARTA research hubs will leverage these interventions, either running them adapted to their context or ensuring that staff and ECRs at the hub can attend centrally run training. The CARTA interventions that CARTA hubs need to consider are:

1. Research capacity strengthening:
  - a. Structured taught PhD training based on the Joint Advanced Seminars (JASes).
  - b. PhD fellowships including: moderate stipend, research funds, support to attend JASes, support to attend additional capacity building and for staff replacement time to facilitate protected time, postgraduate supervision training and on-time completion honoraria for their supervisors, close monitoring of progress with semi-annual reporting, pre-JAS mandatory requirements and milestone-bound stipends.
  - c. Graduate grant writing workshops (GGWW).
  - d. Postdoctoral awards: CARTA offers postdoctoral awards in different forms to make them more accessible and relevant to the context of our graduates. These are:

- i. Postdoctoral fellowships: a traditional fellowship in which the graduate spends 12 months at an institution different to their own;
  - ii. Split postdoctoral fellowship: a fellowship in which the graduate spends some time at their host institution and some time at their own home institution, always with a focus on research and exposure to new opportunities; and
  - iii. Re-entry grants: a grant in which the graduate leads a research project from their home institution with a short visit to their external mentor.
2. Strengthening research-conducive environments:
    - a. Supervisors workshop: a workshop on postgraduate supervision for academics of all seniority levels to share experiences and discuss best practices;
    - b. Academic Professional and Administrative Staff workshop: a workshop in which stakeholders involved in managing research and research training share good practices, discuss their role in supporting research and training and design institutional action plans to improve the practices at their home institutions.
    - c. Training of Trainers: CARTA has developed ToT for the four training interventions mentioned above to build institutional capacity to run the CARTA interventions.

The hubs will plan to adapt/adopt the interventions relevant to their goals in a sustainable manner. Not all the interventions are needed and there is no “one size fits all” but the CARTA research hubs must take a role to promote high quality research and research capacity strengthening and advance CARTA’s Theory of Change (Figure 2).

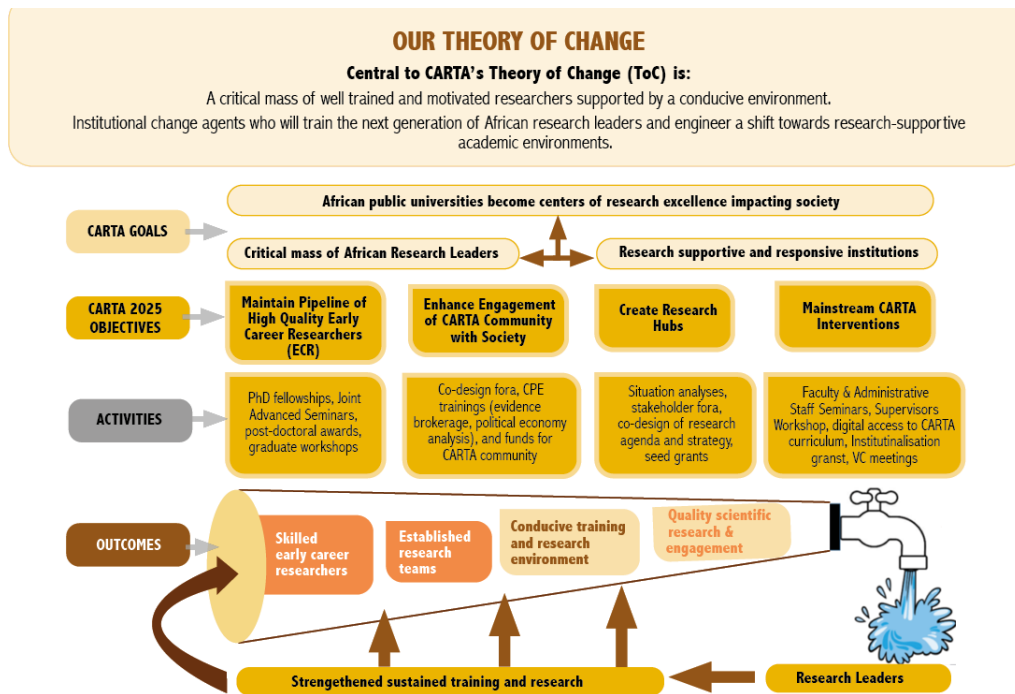


Figure 2. CARTA2025 Theory of Change

## **CARTA research hubs into the future**

CARTA is putting an emphasis on the research hubs as a new strategic objective for the next five years (CARTA2025) but they will, from now on, be a constitutive part of the work the consortium does. The hubs will be the integral to future cohorts of PhD fellows and postdoctoral awards, and they will remain closely linked to the CARTA program and the network of partners. The consortium will develop evaluation guidelines and the hubs will be externally evaluated every two years on their contribution to CARTA's Theory of Change (Figure 2). The CARTA2025 M&E framework should guide the efforts of the research hubs to design their own contextualized framework of indicators.

1. Mboussou F, Ndumbi P, Ngom R, Kassamali Z, Ogundiran O, Beek J Van, et al. Infectious disease outbreaks in the African region: overview of events reported to the World Health Organization in 2018. *Epidemiol Infect.* 2019;147:e307.
2. Gouda HN, Charlson F, Sorsdahl K, Ahmadzade S, Ferrari AJ, Erskine H, et al. Burden of non-communicable diseases in sub-Saharan Africa, 1990–2017: results from the Global Burden of Disease Study 2017. *Lancet Glob Heal* [Internet]. 2019;7(10):e1375–87. Available from: [http://dx.doi.org/10.1016/S2214-109X\(19\)30374-2](http://dx.doi.org/10.1016/S2214-109X(19)30374-2)
3. Fenollar F, Mediannikov O. Emerging infectious diseases in Africa in the 21st century. *New Microbes New Infect* [Internet]. 2018;26:S10–8. Available from: <https://doi.org/10.1016/j.nmni.2018.09.004>
4. Agyepong IA, Sewankambo N, Binagwaho A, Coll-Seck AM, Corrah T, Ezeh A, et al. The path to longer and healthier lives for all Africans by 2030: the Lancet Commission on the future of health in sub-Saharan Africa. *Lancet.* 2017;390(10114):2803–59.
5. Igumbor J, Bosire EN, Basera TJ, Uwizeye D, Fayahun O, Wao H, et al. CARTA Fellows' Scientific Contribution to the African Public and Population Health Research Agenda (2011 to 2018). *BMC Public Health.* 2020;20:1030.
6. Uwizeye D, Karimi F, Otukpa E, Ngware MW, Wao H, Igumbor JO, et al. Increasing collaborative research output between early-career health researchers in Africa: lessons from the CARTA fellowship program. *Glob Health Action.* 2020;13(1):1768795.
7. Slattery P, Saeri AK, Bragge P. Research co-design in health: A rapid overview of reviews. *Heal Res Policy Syst.* 2020;18(1):1–13.
8. Donetto S, Pierri P, Tsianakas V, Robert G. Experience based co-design and healthcare improvement: Realizing participatory design in the public sector. *Des J.* 2015;18(2):227–48.

## **The RFP**

The CARTA research hubs will be led by CARTA African partner universities and will be a network of partners, mostly within CARTA but also beyond, who work together in the chosen research area. The differentiating factor between a CARTA research hub and any research network is that there is a strong commitment to research capacity strengthening and good use is made of the tested and effective CARTA interventions that already exist. The format of the hubs is flexible, but they must plan to use some aspects of the CARTA model for research capacity development and research management training, whether running them independently within the hub or using the centrally run CARTA events, and they must include and build on the expertise of CARTA graduates.

CARTA will provide small-scale support for the initial conceptualization and to facilitate the establishment of the research hubs. A core objective of the hubs is to attain its own long-term sustainability.

## **Eligibility**

- The lead applicant must be academic research staff of a CARTA African partner university.
- The team must include at least one other CARTA African partner and one CARTA non-African partner.
- The teams can include external collaborators to bring in expertise and skills not available within the Consortium.
- The team must include and build on the expertise of CARTA graduates.
- The work must include elements of the CARTA interventions to strengthen research, research training and research management capacities.

## **Selection of CARTA research hubs**

The selection will take place in two steps: 1) Expression of Interest, and 2) submission of Extended Concept for the establishment of a research hub. Submission of the Expression of Interest is open to all CARTA African partner institutions while submission of the Extended Concept is by invitation only after positive evaluation of the EoI. For more details on the evaluation process see the document “How the CARTA Research Hubs will be evaluated”.

## **Available funding**

Up to five teams submitting an Expression of Interest will be selected and invited to submit an Extended Concept. They will receive an ideation grant of USD14,000 to facilitate engagements required in preparation of the extended concept. It is important to note that not all the concepts need to include the CARTA focal persons rather experts in the research area who will be involved in the implementation of the research should be the priority, but integrating the focal persons will be important to work towards the sustainable incorporation of the CARTA interventions within the hub. Hubs must however include CARTA graduates.

Up to two hubs submitting an Extended Concept considered fundable by all members of the panel will be awarded a Research Hub Grant. The grant for the establishment of the research hub will provide approximately USD180,000 to support the setup of the hub, USD20,000 for community and policy engagement, and up to two (2) 12-month CARTA postdoctoral fellowships.

The grant will be used for activities such as:

- Staffing (administrative, finance, advisory, researchers...)
- Participatory needs assessments/scoping review;
- Further development of the ideas to add vital data to the concepts;
- Engagement and co-creation with key stakeholders including two-way travel, where necessary;
- Workshops to further develop the idea and tools where applicable;
- Piloting of the idea;

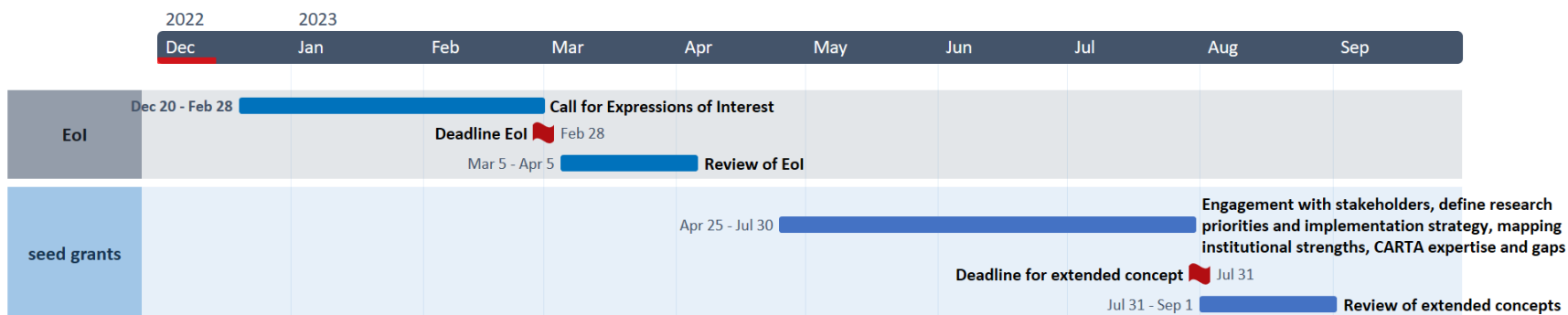
- Consultations with other experts and institutions to strengthen the partnership and the governance structures of the future hub; and
- Other activities necessary to make the full proposal competitive and the partnership strong.

### **Expected outcome**

A key deliverable of the grant for the establishment of CARTA research hubs will be a competitive multi-year multi-country multi-million dollar proposal. The hubs do not have a specific prescribed structure but they will:

1. Implement high-quality research and research capacity strengthening programs, and provide an environment conducive to research;
2. Have a research strategy in line with national, regional and continental research and development agendas;
3. Establish a platform for regular engagement with decision makers across all phases of the research process, from inception to use of research findings to inform decision-making;
4. Have structures, systems and processes to support research to be implemented in agreement with the host institutions;
5. Be multidisciplinary, e.g. involve people from a range of academic disciplines;
6. Be led by one African partner university; be cross institutional and involve at least one other African CARTA institution (including research centers) and ideally involve at least one of our non-African partner institutions;
7. Involve CARTA graduates and strengthen the talent that has already been nurtured by the program, giving them a clear career path towards research leadership;
8. Include elements of the CARTA model to provide high quality research training and promote a research-conducive environment.

## Timeline of implementation of CARTA Research Hubs strategy



The dates and events are listed below

Swimlane	Title	Start date	End date
Eol	Call for Expressions of Interest	20/12/2022	28/02/2023
Eol	Deadline Eol		28/02/2023
Eol	Review of Eol	05/03/2023	05/04/2023
seed grants	Engagement with stakeholders, define research priorities and implementation strategy, mapping institutional strengths, CARTA expertise and gaps	01/04/2023	30/07/2023
seed grants	Review of extended concepts	31/07/2023	01/09/2023
seed grants	Deadline for extended concept		31/07/2023