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Capacity Building

Building capacity for public and population health research in Africa: the consortium for advanced research training in Africa (CARTA) model

Alex C. Ezeh , Chimaraoke O. Izugbara, Caroline W. Kabiru, Sharon Fonn, Kathleen Kahn, Lenore Manderson, ... show all

Article: 5693 | Received 04 Oct 2010, Accepted 12 Oct 2010, Published online: 12 Nov 2010

Cite this article <https://doi.org/10.3402/gha.v3i0.5693>

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Abstract

Background

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Objective

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comprises two primary, interrelated, and mutually reinforcing objectives: to strengthen research infrastructure and capacity at African universities; and to support doctoral training through the creation of a collaborative doctoral training program in population and public health. The ultimate goal of CARTA is to build local research capacity to understand the determinants of population health and effectively intervene to improve health outcomes and health systems.

Conclusions: CARTA's focus on the local production of networked and high-skilled researchers committed to working in sub-Saharan Africa, and on the concomitant increase in local research and training capacity of African universities and research institutes addresses the inability of existing programs to create a critical mass of well-trained and networked researchers across the continent. The initiative's goal of strengthening human resources and university-wide systems critical to the success and sustainability of research productivity in public and population health will rejuvenate institutional teaching, research, and administrative systems.

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determinants of health in relation to gender, ethnicity, cohorts, and communities among different African populations holds the key to effective interventions to improve health outcomes and health systems in the region. It is now generally accepted that Africa's progress depends on her 'ability to understand, interpret, select, adapt, use, transmit, diffuse, produce, and commercialize scientific and technological knowledge in ways appropriate to [her] culture, aspirations, and level of development' (3, p. iv). Further, Fonn 4 has argued that the research conceptualized, conducted, analyzed, and published by Africans holds the key to meeting the development needs of the continent. Yet, the continent clearly lags behind the rest of the world in terms: of the numbers of centers of research excellence that can generate quality ideas to tackle its myriad socioeconomic and health problems, national investments in research and development, and scientific productivity 56.

In 2004, Africa produced less than 1% of scientific publications globally; only 0.2% of online content in 2002; and only 0.6% of global Gross Expenditure on Research and Development (GERD) in 2000, with South Africa accounting for 90% of the GERD south of the Sahara 57. A recent review of the Social Sciences by UNESCO indicates that Africa contributed only 0.4% of journal articles that were included in the Thomson Social Science Citation Index (SSCI) between 1980 and 2007 and 1.6% of the articles in the SSCI between 1998 and 2007 8. There appears to have been little change in the past three decades: if anything, Africa's share in global expenditure on research and development

The great opportunity for Africa is to master the middle income program research offer individuals greater Their impact failed to continent

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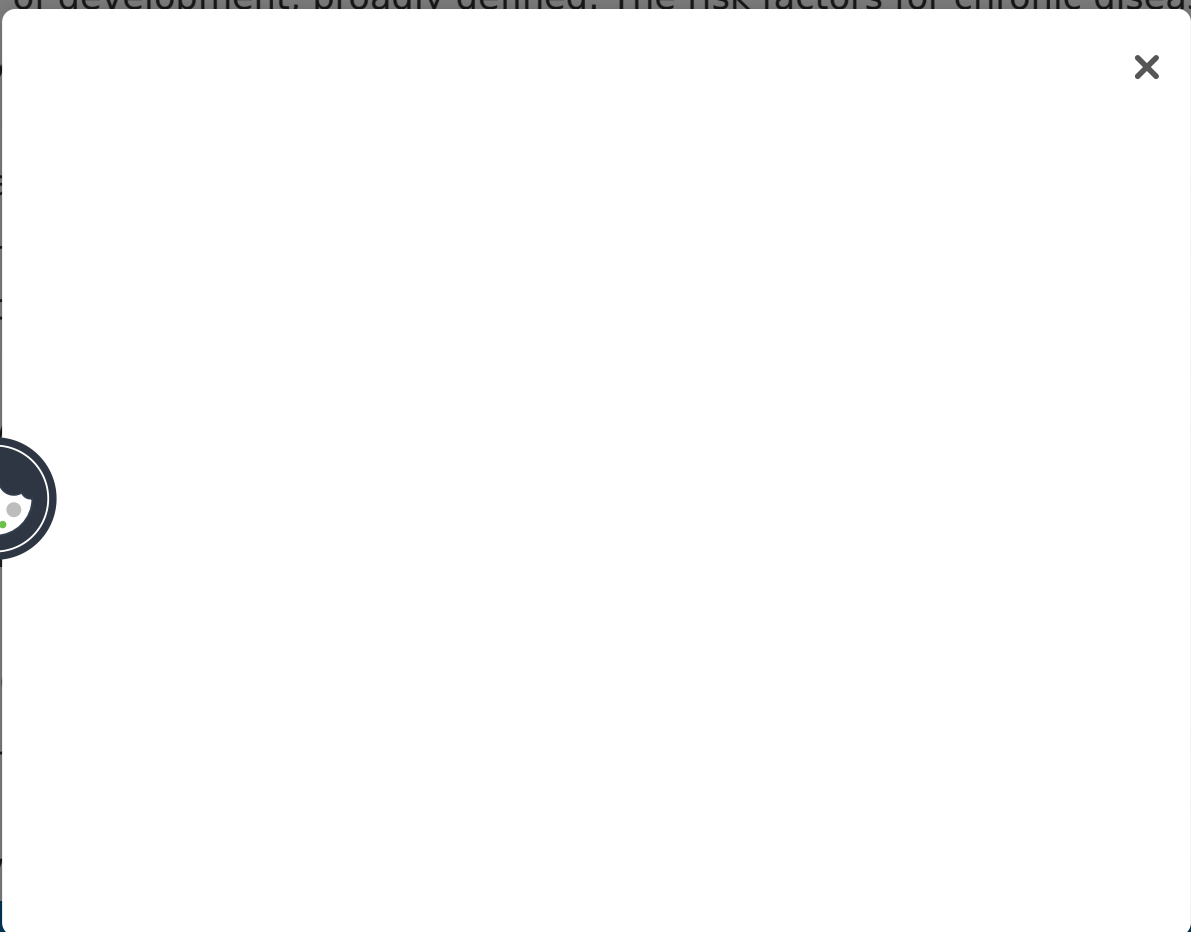


inadequate local training and poor retention of human resources for research, research leadership, and information access; and strengthen the interfaces between research producers and users [10](#). Combined, they have also failed to create centers of research excellence on the continent and to institutionalize and systematize research in the day-to-day work of planners, managers, and policy makers [11](#).

The Consortium for Advanced Research Training in Africa (CARTA)

Against this background, the recently-launched Consortium for Advanced Research Training in Africa (CARTA) offers an opportune framework for building sustainable health research capacity in Africa. The Consortium brings together nine academic and four research institutions from West, East, Central, Southern Africa, and select northern universities and training institutes. CARTA's program of activities comprises two primary, interrelated, and mutually-reinforcing objectives: to strengthen research infrastructure and capacity at African universities, and to support doctoral training through the creation of a collaborative doctoral training program in population and public health.

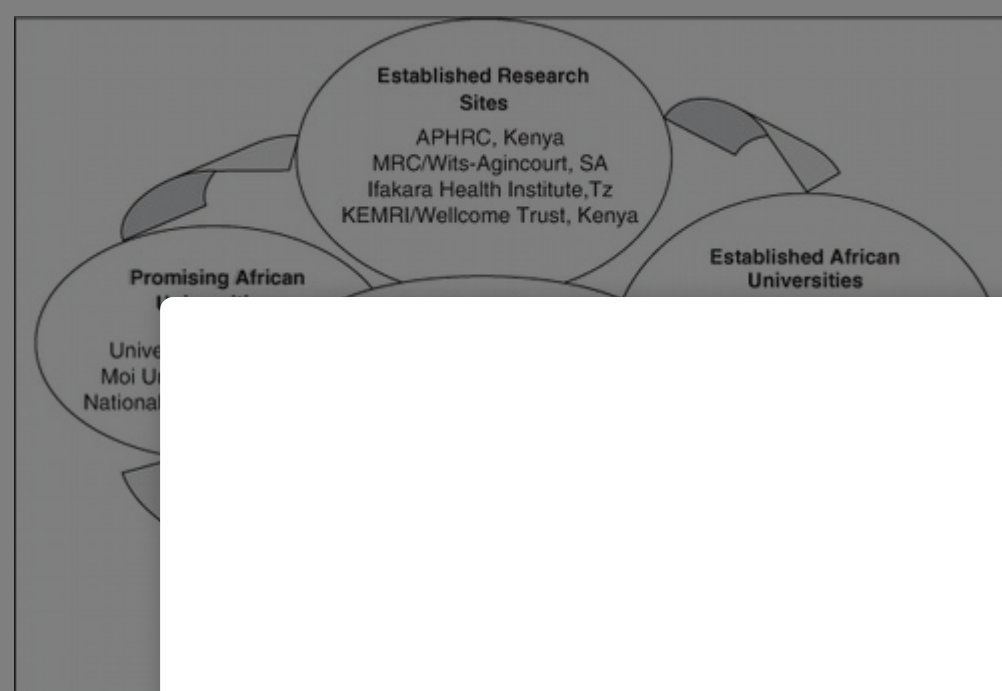
CARTA recognizes that health and research capacity-building are prominent, interlinked features of development, broadly defined. The risk factors for chronic diseases, such as diet, physical inactivity, and tobacco use, are linked to the process of industrialization and globalization. Context-specific training and institutional responsiveness are essential to social and economic development. A key goal is to build a vibrant research that makes a difference in the lives of people. To achieve this, we will create research hubs at African universities to address key public health issues, and to enhance the capacity of researchers and students.



sound solutions to the problem of sustainable capacity for research for health and development in Africa.

CARTA comprises a balanced mix of institutions: established African universities with a history of producing PhD graduates in public and/or population health; promising African universities that aspire to develop multidisciplinary PhD programs and research agendas and that are committed to building their institutional capacity; established, well-managed African research institutions with longstanding research programs; and northern partners that have longstanding research and/or training collaborations with African counterparts, a demonstrable record in equitable relationships, and a commitment to Africa. They bring experience in establishing and running successful PhD programs, ability to mentor both students and PhD supervisors, and skills in building institutional research and training capacity. Fig. 1 illustrates CARTA's institutional membership.

Fig. 1. CARTA's member institutions.



Note: Tz=Tanzania



CARTA

Strengthening
agendas

research

University faculty and administrative staff play a key role in graduate training and research management. Yet, many of them lack opportunities to learn from best practices around the world and often work in isolation from each other. CARTA aims to strengthen human resources and university-wide systems critical to the success and sustainability of its program. CARTA will hold workshops targeted toward: (a) librarians, (b) graduate program coordinators including deans, (c) bursars, and (d) registrars. Each group will attend one workshop; thus, we envisage four workshops over the first 4 years. Broad topical areas for these workshops include:

- Information retrieval including relevant multidisciplinary literature searching, management of electronic resources, and e-publishing.
- Higher education management training including efficient enrollment, monitoring and reporting procedures, identification of grant and fellowship opportunities for students and staff, generic professional skills training, and counseling and support services.
- Effective student supervision, grant-writing, research management and administration, development and management of research partnerships, effective leadership, support for publication and current debates in social and health sciences.

• Development of the essential skills and professional development of external stakeholders

• Strategic review and recommendations for the flow of cash

To promote and manage the supervision of the research, and to achieve the goals of the best practices



facilitated by local and international experts in doctoral supervision and mentoring. The joint development of Joint Advanced Seminars (JAS) modules will improve institutional capacity through local staff working with experts to develop the curriculum and deliver the courses.

To keep pace, African research and training institutions urgently require information, communication, and computing infrastructure; supplementary sources of electric power supply; and physical facilities, especially for hosting graduate seminars. CARTA is already making seed investments to address these needs.

Model regional collaborative doctoral training program

Strong doctoral programs are generally characterized by experienced faculty actively engaged in funded research, adequately motivated students and a stimulating institutional environment. A key element of the CARTA model is the selection of cohorts of candidates from various disciplines relevant to population and public health. Each cohort will be fully funded through CARTA. To build capacity concurrently within affiliated African universities, CARTA will initially recruit, on a competitive basis, fellows who are junior faculty at these institutions. CARTA is committed to ensuring gender and regional equity in the selection of its fellows. Fellows are expected to be substantially relieved of regular teaching and administrative responsibilities for the duration of their candidature. This will ensure that fellows progress through the program and thus

complete a PhD or equivalent

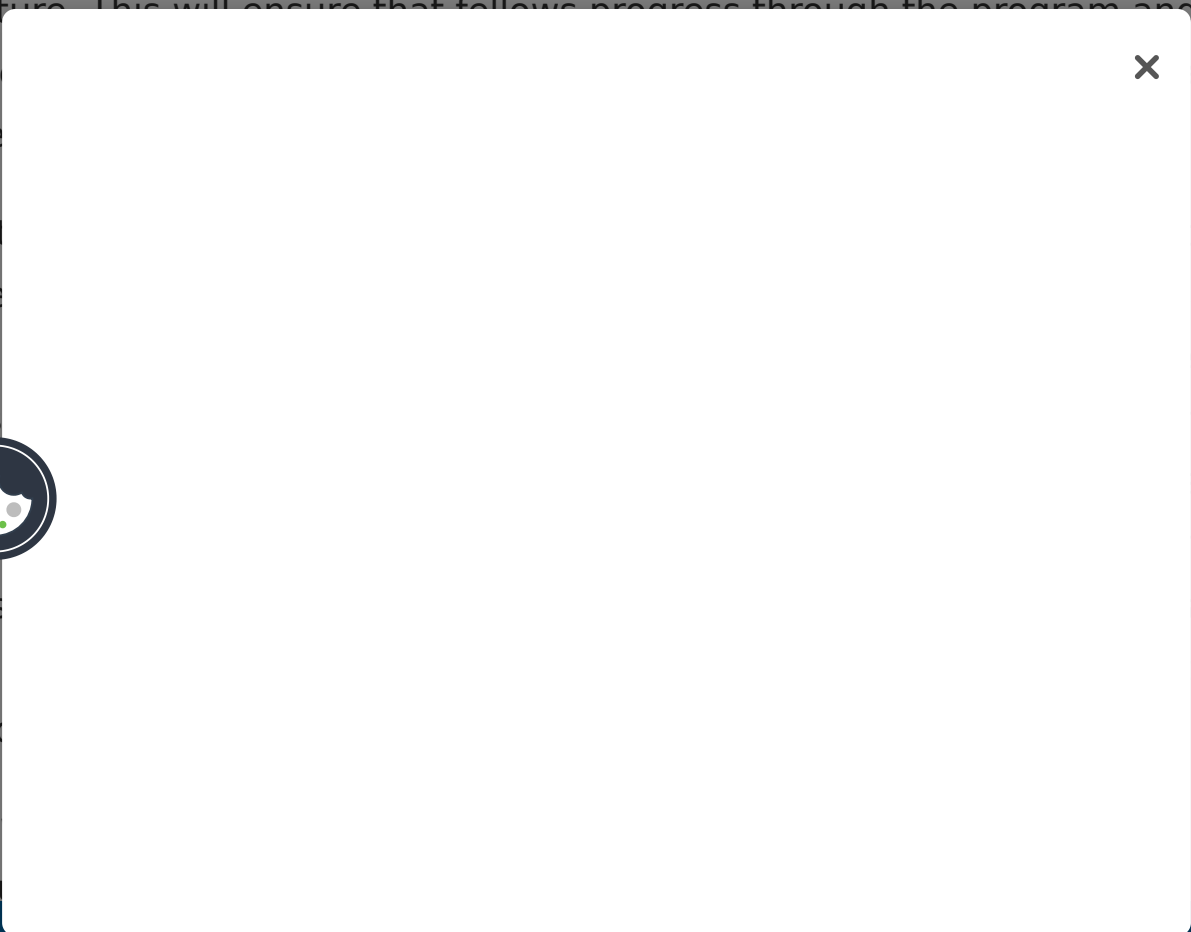
Central to the program is a research center designed to enhance the research process; provide mentors and resources and web-based

platforms that

enable students to interact with professional

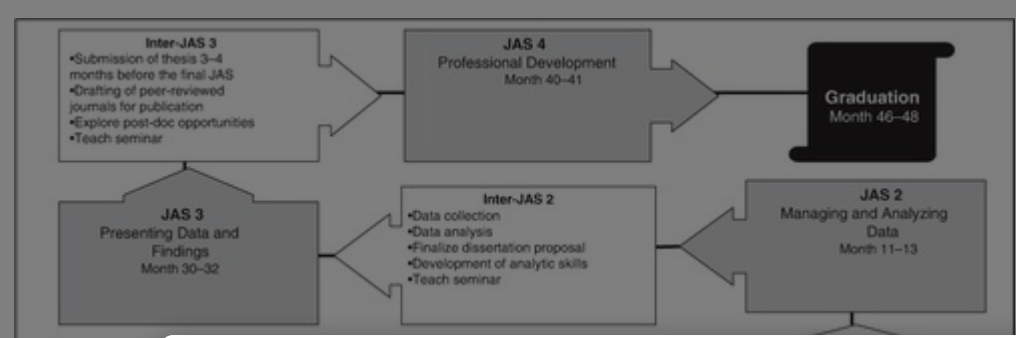
The JAS concept

will build skills and address topics to



established a CARTA website that will house reading materials, links to relevant online resources and tools, and other documents and information that fellows need to stay engaged with facilitators and meet clearly defined objectives and outputs. Also during the inter-JAS period, fellows will attend regional or international scientific conferences; use CARTA materials and approaches to run training sessions for other students at their local institutions; and may spend up to a semester as an intern at one of our Northern partner institutions. Deploying their skills in their research projects during the inter-JAS period will equip fellows with experience needed to advance appropriately to the next JAS and also transfer some of the key skills they have acquired to peers at their home institutions. Further, as part of CARTA's effort to strengthen the teaching and other skills of African university faculty, local supervisors will also attend the JAS. The first cohort of CARTA fellows has been selected while the first JAS will take place in March 2011. Fig. 2 illustrates the fellows' progression milestones.

Fig. 2. Fellows' progression milestones.



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researchers and scholars. The initiative's focus on the local production of networked and high-skilled researchers committed to working in sub-Saharan Africa, and on the concomitant increase in local research and training capacity of African universities and research institutes addresses the inability of existing programs to create a critical mass of well-trained and networked researchers across the continent. Our focus on university-wide systems offers a potential solution for ensuring the sustainability of the CARTA intervention within each participating institution and to provide a basis for individuals to pursue a research and academic career in Africa. CARTA provides a novel approach to confront issues of inadequate local training – the JAS curriculum and the CARTA approach to PhD training will be available to each participating university to incorporate as they see fit for PhD students who are not part of the CARTA program. The CARTA approach also systematizes engagement with policymakers that augurs well for the relevance and use-value of the research undertaken.

CARTA also addresses the increasing neglect of African university administrators and faculty in extant initiatives on the continent. The initiative's goal of strengthening human resources and university-wide systems critical to the success and sustainability of research productivity in public and population health will rejuvenate institutional teaching, research and administrative systems, and improve the skills of faculty and administrative managers in graduate-level teaching and successful higher degree supervision, mentoring, grant application skills, research management, and the use of ICT resources for research retrieval.

In all, CARTA will produce well-prepared scientist-entrepreneurs when doctoral training is combined with African research, success at this phase in various disciplines.



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Ford Foundation (Grant: 1100-0399), and the Bill and Melinda Gates Foundation (Grant: 51228). Writing time for authors from the African Population and Health Research Center is supported by the William and Flora Hewlett Foundation (Grant: 2009-4051) and the Rockefeller Foundation (Grant: 2009 SCG 302).

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