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Strengthening capacity, collaboration and quality of clinical research in Africa: EDCTP Networks of Excellence

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Abstract: Developing countries bear 90% of the global disease burden, but only access about 10% of globally available health research funding. Weak south-south networking hampers effective use of limited resources, production of critical mass of quality scientists, career opportunities and incentives to retain the few available scientists. The south must urgently act strategically to accelerate generation of talented scientists, create enabling environment and incentives to retain scientists and attract back those in diaspora. The creation of strong networks of excellence for clinical research among southern academic and research institutions is a novel strategic approach championed by European and Developing Countries Clinical Trials Partnership to achieve the aforementioned goals and mitigate the high disease burden. It will promote strong collaboration, resource sharing and cross-mentorship allowing each partner to grow with complementary capacities that support each other rather than compete negatively. It will enable the south and Africa in particular to participate actively and own the means for solving its own health problems and raise the professional quality and capacity of southern institutions to forge better and equal partnership with northern institutions.

Key words: EDCTP, capacity building, South-South, South-North, networks, clinical trials

Background

The developing world bears 90% of the global burden of disease (WHO, 1996; GFHR, 2002), much of it in the tropical countries. Africa alone contributes 90% of the 300-500 million annual malaria cases mainly in children under the age of five years and pregnant women (Nchinda, 2002). Similarly, the burden of HIV/AIDS and Tuberculosis is highest in Africa, where it is crippling the economies by debilitating and killing the productive population of adults, leaving orphans in the care of the weak and poor elderly populations (WHO, 2005). Maternal mortality remains above 500/100,000 live births and the incidence of non-communicable diseases including cardiovascular disease and tobacco-related conditions are on the increase (WHO, 2002). Strengthening research for health is therefore necessary to mitigate the above challenges and this requires creating enabling environment for research development and training. The European and Developing Countries Clinical Trials Partnership (EDCTP) is championing innovative approaches for the creation and retention of a critical mass of researchers capable of generating new knowledge and catalyze its effective use to enhance quality clinical and disease prevention practices in Africa.

The innovative approach

European and Developing Countries Clinical Trials Partnership (EDCTP) is championing the creation of effective networks of excellence (created around Centres of Excellence) among southern academic and research institutions for the purpose of building sufficient capacities within the south, to formulate and conduct quality clinical research. Sub-Regional Networks will be created based and linked to National Health Research Institutions to foster focused collaboration and efficient use and share of existing resources for greater impact on health. EDCTP's focus is on poverty-related diseases of African relevance through acceleration of new vaccines, drugs, microbicides or combinations of drugs and tools for treatment and improvement of the quality of clinical, laboratory and manufacturing practices.

The objectives

The EDCTP aims to strengthen identified institutions (Networks) to become specialized research and training centres of excellence in clinical research through: Strengthen the capacities of such centres in basic skills for clinical research such

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as Good Clinical Practice (GCP), Good Clinical Laboratory Practices (GCLP), data management and research ethics; Identify and strengthen centres of higher learning to host quality training courses in basic and applied sciences, related to control of major poverty related diseases; enhance research collaboration, coordination and networking through fellowships and exchange programmes among African institutions.

Strategies

The EDCTP strategies include the following:

- 1 Identify and strengthen capacities of selected African institutions to conduct and host training in priority areas of clinical research.
- 2 Facilitate accreditation of Sub-Regional Centres of Excellence for training.
- 3 Identify and select young talented Africans for training and mentorship through hands on research methodology workshops.
- 4 Support postgraduate and postdoctoral training and attachments to key positions within the network for mentorship and career development.
- 5 Require Centres of Excellence to establish fellowships and exchange programs.
- 6 Facilitate links between the Centres and other capacity building programs and funding sources.

Methodology

EDCTP has initiated assessment of institutional capacities for clinical research in existing academic and research institutions in sub-Saharan Africa, to make an inventory and classify institutions according to their capacities for clinical research. A call inviting institutions to form consortia and apply for EDCTP supported Networks of Excellence has been launched.

EDCTP plans to continue supporting other activities for capacity strengthening in relevant cross-cutting areas including good clinical and laboratory practices, statistics, data management, quality control, research management, ethics in health research and national regulatory activities. Special attention will be given to formal long term Master and PhD degrees, skill development and strengthening workshops, practical attachments and student exchange programmes. Student selection and support will be done in two steps. First centres of excellence will launch calls for hands-on research methodology training inviting applicants to attach draft proposals with innovative ideas. Selection will be accord-

ing to best scientific innovation. Candidates will be assisted to develop fundable proposals and will be facilitated by reputable scientists and research experts. Second step will involve sponsoring students to conduct their proposed research as part of their postgraduate training within a mentorship programme.

Scientists from upcoming institutions will be targeted for scholarships, to strengthen institutional gaps. Sharing of capacities and facilities as means to enhance training and mentorship will be encouraged.

Expected outputs

Major outputs will include, creation of sub-regional Centres of Excellence in clinical research; Production of quality scientists and technologists (MSc and PhD holders) linked with their institutions and trained within their working environment; Strong regional networks in clinical research linked to EDCTP and operating under EDCTP principles and; Enhanced African capacity to access global funds and forge partnership with northern institutions.

The conceptual framework

The conceptual framework, roles of the Centres of Excellence, collaboration linkages at national and regional level and the EDCTP central position is illustrated in Figure 1. The sub-regional accredited nodes (RC1, RC2, RC3, RC4), will link with each other in research and training, based on their areas of excellence and will work to complement each other rather than compete. Training centres will offer Pan-African access with focus on trainees from the upcoming institutions.

The Centres of Excellence will be linked to their sub-regional institutions forming functional research and training consortia (Co1, Co2, Co3, Co4). Depending on comparative advantages, some training will be hosted by the upcoming institutions as a way of building their capacity to host and conduct such training courses.

Sandwich courses will be encouraged in partnership with other African or European institutions with complementary capacities targeting courses whose quality and efficiency will be enhanced by such arrangements.

The EDCTP will therefore be the background environment for this development but will neither own nor dictate terms over institutions so strengthened, which will remain nationally and regionally owned and integrated with their national structures.

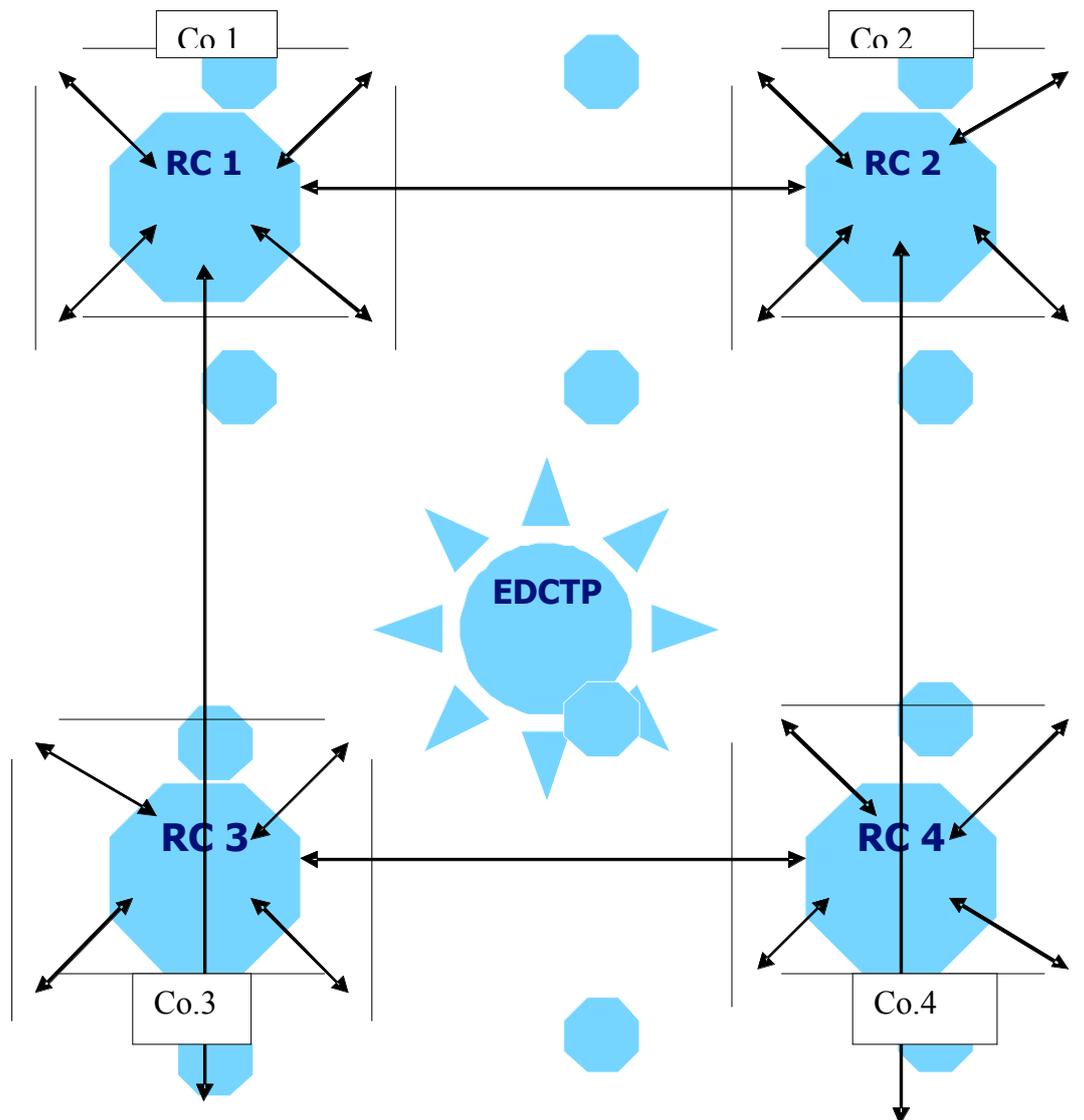


Figure 1: The Conceptual Framework

Targeting Institutions

Targeting capacity building of institutions rather than individuals is to ensure integration and long-term sustainability. The activities will be integrated in institutional framework to be shielded from the shock of departure or demise of individual scientists, while creating strong platform for developing generations of scientists. The institutional base offers greater opportunities for recognition and support by governments.

Strengths

African research and training institutions already exist, with different levels of capacity and competence. Previous efforts by the World Bank/WHO Special Programme for Research and Training in Tropical Diseases, The European

Community Research Programme, the Wellcome Trust, Medical Research Council of UK and other funding agencies have created a large pool of individual scientists, many of whom are still working in Africa. This approach will motivate this pool of scientists to network and coordinate better their efforts, build new capacities, hence allow a more systematic development of future generation of scientists in Africa.

There is good political will and African governments have committed themselves to achieving the millennium development goals through the Abuja Declaration of accelerating access to available interventions to the needy to reach 60% coverage by 2010 (Kitua, 2005; WHO, 2000). The approach will accelerate achieving the millennium development goals and establish sustainable mechanisms to maintain momentum for future developments.

Opportunities

This offers excellent opportunity to fill previous inherited gaps and weaknesses of institutional affiliations, which favoured north-south rather than south-south or south-north collaboration and partnerships in health research. It will break language boundaries, which impeded wider linkages and networking and created negative competition and dependence on donor funding for research. It will also provide better incentives to researchers, improve prioritization for research and development in respect of clinical research at country level and enhance linkage of research to service provision. It also offers opportunity for Southern Institutions to forge more balanced partnerships with Northern institutions

It is in line with the New Partnership for Africa's Development (NEPAD)'s strategy of creating Centres of Excellence within sub-regional framework and strengthening south-south cooperation. It thus supports development efforts of the African Union (WHO, 2000). It also offers the opportunity to contribute towards reversing the 10/90 imbalance by improving African access to global research funding.

Conclusions

South-south networking and linkage in research and training is critical to mitigate the numerous disease challenges. EDCTP's strategic approach of creating Networks of Excellence among Southern academic and research institutions is needed to accelerate the generation and retention of quality scientists, provide better research enabling environment, career opportunities and incentives for developing effective tools to improve clinical practices. It will enhance balance of capacity development for clinical research within African regions ensuring that weaker regions get special attention and assistance. It will raise the professional quality and capacity of southern institutions to forge better and equal partnerships with northern institutions and hence participate better and own the means of solving own health problems. Positive lessons are offered by pioneering partnership like that between India, Brazil and South Africa (Morel *et al.*, 2005).

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Conflict of interest

All authors declare that they have no conflict of interest in relation to their personal or institutional activities.

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