

Panel Title: Collaboration between Developed and Developing Countries Offers Opportunities to Amplify Global Health Research

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Introduction

The complexity, scope and intensity of global health challenges demand international collaboration. Collaboration between developing and developed countries can be an effective strategy for tackling shared health issues. In recent years, government agencies and foundations have increased financial and human resources for international collaborative projects for health research and education. However, these international partnerships often encounter barriers such as resource, capacity, political and cultural differences which affect the motivations, balance of benefits, regulation of research, and ultimately outcomes of these programs. The current literature is resplendent with anecdotal reports, editorials and thematic introductions about attitudes and structural factors impacting partnerships between developing and developed countries. There is little research or documentation regarding systematic analysis of the social and technical factors that foster efficient, effective and sustainable international collaboration.

The panelists will present three unique models of collaboration between developing and developed countries. They will examine the social, scientific, technological and organizational dynamics of these collaborations that must be aligned to effectively address challenges resulting from resource, capacity and power differences in the interaction of multiple organizational and national cultures. The lessons learned from these collaborations are intended to inform institutions and researchers who are engaged in multicultural and multinational health networks. The findings may also be a useful reference for policy makers and funding agencies for predicting and evaluating success of collaborative projects.

The first panelist will present on the National Heart Lung and Blood – United Health Global Health Centers of Excellence (COE) Program (<http://www.nhlbi.nih.gov/about/globalhealth/centers/index.htm>). Each COE collaborates with a research organization in a developed country to develop research and training infrastructure and to build capacity to conduct population based or clinical research to monitor, control or prevent cardiovascular and pulmonary diseases (CVPD). The program includes an Administrative Coordinating Center that coordinates and manages network communication, tracks COE research, training and capacity building activities, and offers consultations related to methodology, outcome measures and data management for collaborative studies. The panelist will discuss mid-point *process* evaluation and how findings from the evaluation are guiding the direction of the program through the end of the funding period.

The second panelist will present on University of Michigan Health Systems-Peking University Health Science Center Joint Institute for Translational and Clinical Research (JI) (<http://www.puuma.org/>). The JI is a virtual cross-institutional research platform destined to facilitate high-impact, collaborative research to advance global health. The panelist will focus on how to develop shared and individual institutional management structures, processes and technical infrastructure that supports and sustains successful cross-institutional collaboration.

The third panelist will discuss the African Health OER Network (“the Network”) (<http://www.oerafrica.org/healthoer>), a collaborative project between University of Michigan, an NGO in Africa, two universities in Ghana, and two universities in South Africa. The objective of this project is to advance health education in Africa by creating and promoting free, openly licensed teaching materials by African academics to share knowledge, address curriculum gaps, and support health education communities. The panelist will present a collaboration model that involves an iterative process of action, assessment, and reflection. She will summarize the communication and management practices developed through the interactive process that enabled the Network

to implement the shared values of transparency, collaboration, and active participation, to foster South-South as well as North-South exchanges, and to ultimately achieve project goals and sustainability.

Paper #1 National Heart Lung and Blood Institute – United Health Global Health Center of Excellence Program

The National Heart Lung and Blood Institute (NHLBI) collaborated with the UnitedHealth (UH) Chronic Disease Initiative to support a global network of Centers of Excellence (COEs) to help combat non-communicable chronic cardiovascular and pulmonary diseases (CVPD) in developing countries. The program aims to stimulate clinical, epidemiologic, health services and outcomes, health policy, translational and behavioral research in addition to train future CVPD investigators at the doctoral and postdoctoral levels. The NHLBI–UH network comprises 11 COEs with activities in more than 22 countries. Funded under a broad agency announcement, each COE collaborates with research organizations in developed countries (developed country partners or DCP) to build research and training infrastructures and to enhance their capacity to conduct population-based or clinical research to monitor, prevent, or control CVPD. In addition, NHLBI funds an Administrative Coordinating Center (ACC) to provide administrative support services for the program, such as communications, information collection and tracking, cataloging of program tools, tracking and approval of Site Establishment and Protocol Registration documents, consultation on methodological questions from the COEs, identification and assessment of outcome measures and program statistics, preparation of reports, and convening meetings.

A mixed-methods evaluation design was used to examine archival program records and the current systems of data collection of COE activities and achievements, and results from key informant interviews and questionnaires (directed to informants affiliated with the program in leadership, implementation and beneficiary roles). Based on a close examination and understanding of program data, supplemented with primary data collection (from in-depth interviews of stakeholders), a cross-site analysis was conducted to identify commonalities and differences across sites. The examination of program data and processes included review and collection of data representing “center level” (e.g. COEs) interface with “program level” (e.g. NHLBI, UnitedHealth, ACC and DCPs) partners, as well as information on synergies between program level partners.

Westat, a private research corporation, conducted the process evaluation and prepared a mid-year report to document this unique model of collaboration between the COEs, the developed country partners, the NHLBI Global Health Initiative staff, UH staff, and the support efforts of the ACC. The evaluation summarized the progress and practices within the COEs, identified value added elements of the program, demonstrated the program’s contributions to local and national research communities, identified unforeseen elements during program planning, documented the implications of the contract mechanism, and gathered recommendations on additional activities for the remainder of the contract period of performance. Results of this evaluation informed NHLBI whether to consider use of this model for future research capacity building and researcher training, to enhance current COE programs, or to make changes in the remainder of the contract period of performance.

Paper #2 Developing and Sustaining a Joint Infrastructure for Translational and Clinical Research

Chinese institutions are exemplary partners for global translational and clinical research collaboration due to China’s large urbanizing and aging population, health policy reforms, and its growing investment in biomedical research. Historically, sustainable and in-depth collaboration with China has been limited due to a lack of shared institutional infrastructure that would enable researchers to transcend cultural, regulatory, and technological boundaries.

In 2010 the University of Michigan Health Systems (UMHS) and Peking University Health Science Center (PUHSC) launched the Joint Institute (JI), a jointly owned and operated virtual platform for collaborative translational and clinical research. The JI is designed to facilitate high-impact, collaborative research in cardiovascular, pulmonary, and liver diseases. Emphasizing equal ownership, each institution committed US\$7M and there is one co-director from each institution, and co-lead from each institution for each of three research programs and three supporting cores.

The panelist will discuss the findings from a 2010-2011 qualitative analysis (interviews, field observation, and document analysis) of the JI, with a focus on the challenges experienced and addressed in developing a joint infrastructure. Infrastructure is defined as a “stable, accessible, and reliable environment” that enables work. Infrastructure includes both technological and human infrastructure. Adopting the conceptual dimensions of

infrastructure from Ribes and Finholt (2009) as a framework for the analysis, the panelist examined the dimensions of institutionalization, organization work, and enactment of technology in the JI, and identified the policies, management structure, and practices contributing to creation and sustaining a joint platform.

The first dimension, institutionalization, concerns generation of “sustainable goods and services,” such as governance and funding, that support distributed scientific collaboration. The analysis revealed that the equality in leadership and financial commitment led to motivation for equal investment of time and effort to work through differences that might have crippled other similar collaborations. Considering different motivations and goals to participate in collaborative research and the impact of different national, social and organizational cultures, the JI set up policies for data and sample sharing, for ensuring investigators to have secured research time and receive adequate support. The JI established three supportive cores, that is IRB Core, Bioinformatics and Biorepository Core (BRBI) and Collaboration Core to address researchers’ needs for administration, management, and technical infrastructure. International collaboration is more time consuming because of the need for training to overcome the gaps in research capacity, the need to develop infrastructure, and the demand for more communication and management time. When establishing policies for funding and evaluation, these factors should also be considered.

The second dimension, organizing work, addresses managing work arrangements to motivate participants, coordinate work, and produce favorable outcomes. The JI is an encompassing platform, which aims to support various research projects with multi-faceted administrative and management tasks. The distance and different organizational protocols of PUHSC and UMHS add to the complexity of administration and project management. The JI needs to develop an administrative structure not of a typical organization but one adapted to the complex needs of a highly integrated collaboration. For effective management, administration and project management tasks, both visible and invisible, should be adequately identified and designated. Even though the Joint Institute is a virtual organization, it is embedded in the existing institutions. One means to engage needed resources is to leverage existing staff and support services within the respective institutions. An organic management structure for the JI is to rely on the existing organizational sections and expertise at UMHS and PUHSC and identify ways to routinize collaborations between the relevant units.

The third dimension, enacting technology, refers to designing and developing technologies to support data and sample management and sharing across organizations and generations of participants, and support for participants’ communication. When the needs for system development are dynamic and evolving, it requires consistent IT support and innovative, collaborative support from software and hardware experts. The Biorepository/Biomedical Informatics Core (BRBI) maintains a standardized process for securing and storing biological specimens and clinical data. The BRBI Core also considers how the joint IT technical infrastructure can be integrated into institutional IT infrastructure at UMHS and PUHSC so that the individual university communities can benefit from the JI efforts.

Our findings enable us to identify the components and relationship between different components that are important for developing a joint infrastructure to facilitate international collaboration for translational and clinical research. The JI infrastructure can serve as a working model for those eager to launch a similar type of international collaboration project.

Paper #3 Regional Networks to Foster Multi-directional Knowledge Sharing

In 2008, five African institutions and University of Michigan entered into a partnership to establish the African Health Open Educational Resources Network (“the Network”), with the shared objective of advancing health education in Africa by creating and promoting free, adaptable, and openly licensed teaching materials by African academics to share knowledge, address curriculum gaps, and support health education communities. Founding members of the Network include the South African Institute for Distance Education (Saide), Kwame Nkrumah University of Science and Technology, University of Ghana, University of Cape Town, University of the Western Cape, and University of Michigan (U-M). A founding principle of the Network was that collaborative regional networks are an essential component to foster multi-directional knowledge transfer: Global North to/from Global South, Global South to/from others in the Global South, as well as Global North to/from others in the Global North.

Qualitative approach, including semi-structured interviews, document analysis and participant observation, is adopted to examine the management and communication processes that lead to the success of the Network.

With participating institutions dispersed across Ghana, South Africa, Kenya, and Michigan in the United States for this new consortium, the processes of engaging stakeholders to effectively meet project targets and to build capacity within each institution required careful coordination. The Network developed a Central Coordination Team led by Saide and U-M, each with complementary expertise and experience, to jointly facilitate project activities within and between the African universities. During the project visioning discussions, the Network partners identified shared values of transparency, collaboration, and active participation, and agreed to integrate those into the operations as well as the outputs of the project. Embracing those shared values within communication and management practices, the Central Coordination Team adopted an interactive approach of action, assessment, and reflection in order to ensure that project would remain mutually beneficial and the network model would be sustainable after the end of grant period.

The Central Coordination Team embedded opportunities for dialogue, feedback, and relationship-building throughout the project lifecycle via ongoing activities for professional development and project assessment.

Extending beyond the standard training model of occasional didactic presentations, the Network's multi-faceted approach to professional development included loosely-structured hands-on workshops, interest groups convened periodically by audio conference and email lists, knowledge transfer through on-site collaborative projects designed and implemented by staff from the Central Coordination Team and the local partner institutions working side-by-side, and liaising with coinciding relevant externally-funded fellowship and training opportunities.

The Network also included multi-pronged systemic evaluations, including an annual impact assessment by an external evaluator, a socio-technical study of collaboration, institutional case studies, and periodic monitoring of web analytics to track where and how the resulting learning materials were being used. These evaluations and assessments enabled the Network Central Coordination Team and participating institutions to understand the Network's short-term and long-term educational and learning impact at different phases, identify the progress and challenges faced by the Network so that the challenges can be addressed in a timely manner.

We also envisioned sustainability of the Network. The Central Coordination Team worked with individual institutions to integrate OER production and sharing into an institution's existing education routines and processes, enacting numerous changes in institutional policy and technological infrastructures so that the public sharing and licensing of educational materials continues after external funding ends.

As a result of this flexible approach to project management, the African participants reported that they felt they were considered equal partners and there were rarely concerns about cultural imperialism. Though the grant ended in 2012, the Network progresses. The founding members now have in place processes, personnel, and, in some cases, official institutional policies to continue to support the creation, usage, distribution, and research related to health open educational resources.