COMMENT

More than a Walk in the Park: The Indiana Global Health Research Meeting

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The Indiana Global Health Research Working Conference of October 2012 was convened by a planning committee representing Indiana's research-intensive universities (Indiana University, Purdue University, and the University of Notre Dame). The event was organized as an open-space meeting with six thematic emphases and pre-conference keynote papers. Within their domains of common interest, attendees developed *forme fruste* research project abstracts that represent a future-oriented agenda for global health research. The organizational principles and purposes of this meeting are explicated with a concluding commentary on the agenda for research.

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On November 19, 2010 the Regenstrief Institute, Inc. Executive Committee entertained and approved a proposal to organize a “global health research working conference” as the 11th Regenstrief Conference. The proposal had been advanced by Thomas S. Inui, ScM, MD, past President of Regenstrief Institute and now Director of Research for the Indiana University Center for Global Health. Communicating Regenstrief's approval and commitment to provide core financial support for the conference (proposed for autumn of 2012), Dr. William Tierney (Regenstrief President/CEO) also conveyed several recommendations from the Executive Committee. These included:

- Establish a structure for the conference that provides for some degree of focus.
- Actively engage investigators from Regenstrief as speakers and participants.
- Pattern the conference after the “Gordon Conferences,” committing significant time to informal discussions, and
- Commit early to publishing a peer-reviewed supplement as a “product” of the conference.

With this launch, Inui subsequently solicited sponsorship from other organizations in Indiana, including the Eck Institute for Global Health at the University of Notre Dame, the Indiana Clinical and Translational Sciences Institute (ICTSI, a CTSA-award institute that includes Purdue University, Notre Dame and Indiana University), and the Indiana University Center for Global Health. A planning committee for the conference was formed that represented these organizations, including Inui (Joe and Sarah Ellen Mamlin Professor of Global Health Research, IU School of Medicine), Tierney (Chancellor's Professor and Sam Regenstrief Professor of Health Services Research, Indiana University School of Medicine, President/CEO Regenstrief Institute, Inc.), Katherine Taylor, PhD (Director of Operations, Eck Institute for Global Health of the University of Notre Dame), Anantha Shekhar, MD, PhD (Professor of Psychiatry, Indiana University School of Medicine and Director, Indiana Clinical and Translational Sciences Institute), Robert Einterz, MD, (Donald E. Brown Professor of Global Health, IU School of Medicine, and Director, IU Center for Global Health), Michael Murray, PharmD, MPH (Distinguished Professor of Pharmacy and Endowed Chair of Patient Safety, Purdue University), and Ernest Blatchley, PhD (Professor of Civil Engineering, Purdue University). The archival record of more than 140 email messages over the next 12 months, as well as many dyadic conversations and several group conference calls in the same interval, documents the activities of the planning committee as it pulled together to establish a cost model for the meeting; conducted a two-round Delphi process to describe and codify “domains of interest/emphasis” for the meeting salient to all of our campuses; recruited local, national, and international speakers of stature to serve as keynoters in these domains; chose a site; and approved a schedule for the conference itself over three days from October 3 (afternoon) to October 5 (mid-day) in the lodge and meeting facilities of Turkey Run State Park in Indiana (Fig. 1).

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Figure 1. Checking into the rustic cabins at Turkey Run State.

The keynote speakers who committed to prepare a paper in advance of the conference for pre-circulation to conference participants included:

- William Tierney, MD
- Barbara Van Der Pol, PhD, MPH, Associate Professor, Indiana University School of Medicine, Center for Urban Health
- Cheick Oumar Bagayoko, MD, PhD, Senior Lecturer in Medical Informatics, Faculty of Medicine of Bamako, Mali
- Nitesh V. Chawla, PhD, Associate Professor, Computer Science and Engineering, University of Notre Dame
- Albert Mulley, Jr., MD, MPP, Director, Dartmouth Center for Health Care Delivery Science
- Eric Meslin, PhD, Director, Indiana University Center for Bioethics, Indiana University School of Medicine and Affiliate, Regenstrief Institute

Each speaker knew that after the meeting their paper would need to pass muster as a peer-reviewed article for this issue of the *Journal of General Internal Medicine*. They also knew that their “keynote presentation” at the conference itself would occupy only 10–15 min of a 30-minute time block at the beginning of each day’s plenary session (two speakers for each day’s plenary session), preserving the majority of meeting time for the formation and collaborative discussions of interest-centered small groups, as these groups envisioned a potential research activity that might go forward after the conference itself. It was hoped that these “affinity groups” would each include individuals from more than one of our several campuses. The intent of the meeting sponsors was to “mix it up” across our institutions in order to bring the complementary expertise of our faculties and the invited speakers into play as we envisioned the sort of work we wanted to do in the broad landscape of global health research. This meeting became an instance of the Regenstrief classic “un-meeting”—a semi-structured but largely unscripted opportunity to pro-

vide focus for the main and breakout discussions in order to form new associations, discover new ways to integrate expertise, and kindle mutual interests in collaborations with potential. Regenstrief Institute leadership believes in the “wisdom of the crowd” and has used this kind of meeting format on large and smaller occasions to maximize active participation of all who can be present. Meeting attendees (see schedule in Fig. 2) spent relatively limited time passively listening to a “sage on the stage.” Keynote papers were to trigger interest, not to “cover the field” (an impossible mission) within each of the domains. Time in the meeting schedule was also preserved for walking in the park, an active process that was intended to allow newly formed associations to deepen in joint activities (and to permit ‘leaf peeping,’ a favorite pastime in this season of the year in Indiana).

In the first “domain-centered” segment of the meeting (October 3 afternoon), participants assembled themselves into four larger domain interest groups. As they emerged from the Planning Committee Delphi process (see Fig. 3), these domains were described as follows:

- *Moral Foundations and Ethics*

All health development and health care activities proceed on a foundation of, and are motivated by, individual and social values. At some level, all innovation and translation have potential benefits, but also some degree of risk. When working across nations and cultures, perhaps especially in partnerships marked by asymmetry in resources, becoming explicit about our values and ethical assumptions may be useful—in research, care, and social action.

- *Informatics and ‘Data Mining’*

Electronic data systems have become intrinsic to the delivery of health care. Essential to working in many institutional environments in North America, they are also emerging as basic infrastructure in resource-scarce environments, potentially exerting a transformative effect on care, monitoring and evaluation of health care services, and research. The data archives of such systems may be a resource for so-called ‘data mining,’ systematic analysis of patterns and dynamics under changing conditions of health.

- *Basic and laboratory research*

Biomedical research includes the application of biology, physiology, microbiology, pathology, anatomy and pathology to the diagnosis, treatment and prognosis of medical conditions. In North America, the newer fields of genomics, proteomics, and cellular biology are being applied to good avail in understanding the origin, natural history, and potential for intervention in diseases. The laboratory facilities and trained personnel required for ‘classic’ and newer basic sciences are not uniformly present in resource-scarce institutions, but will need to

Indiana Global Health Research Working Conference

Regenstrief Institute
Indiana Clinical and Translational Sciences Institute
University of Notre Dame's Eck Institute for Global Health
Indiana University Center for Global Health

AGENDA

Innovation, Discovery, and Translation in Service to Health Development
Turkey Run State Park – Indiana

Begin	End	Wednesday, October 3, 2012
1:00p	3:00p	Check-In and Registration
3:00p	3:30p	Greeting and Orientation
3:30p	4:30p	Opening Keynote Speakers (<i>Tierney/Inui, Vanderpol/Taylor</i>)
4:30p	6:30p	Cluster Meeting A-D: Aim/Identify small groups for work during meeting
6:30p	7:30p	Dinner
7:30p	9:00p	Music in Lounge
Thursday, October 4, 2012		
7:00a	8:00a	Breakfast
8:00a	9:30a	Plenary Session <ul style="list-style-type: none"> • Keynote Speakers (<i>Bagayoko, Chawla</i>) • Orientation to small group work, room assignments
9:30a	10:00a	Break. Transition to small groups.
10:00a	12:30p	Small group work. What is the agenda for shared, collaborative research that might bring our interdisciplinary, multi-university group into research activities together?
12:30p	2:00p	Lunch
2:00p	4:00p	Small group work: Choose 1-3 topics for collaborative research and rough out a design for this research as it might proceed in Kenya or elsewhere in the developing world.
4:00p	6:30p	Relaxation
6:30p	7:30p	Dinner
7:30p	8:30p	Small group work session. Prepare a poster presenting (1) your research agenda and (2) the design for your collaborative project.
8:30p	9:30p	Social Hour
Friday, October 5, 2012		
7:00a	8:00a	Breakfast
8:00a	9:30a	Plenary Session <ul style="list-style-type: none"> • Keynote Speakers (<i>Mulley, Meslin</i>) • Orientation to poster session
9:30a	10:00a	Break
10:00a	11:30a	Poster session. Guided tour of all posters with small group presenters.
11:30a	12:30p	Plenary wrap-up, evaluations, reflections on next steps and thanks.
12:30p	1:30p	Box lunches and departure.

INDIANA CTSI
Clinical and Translational Sciences Institute

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CENTER FOR GLOBAL HEALTH

Figure 2. Indiana global health research working conference agenda.

be available in some way for the full participation of institutions in low and middle income countries (LMIC) in global health research.

- *Clinical Effectiveness and Health Systems Research*

“Health development” activities in all settings proceed on a logic model that combines population-focused and person-focused strategies. This fusion of medicine and public health should be supported by research if we are to understand where the optimal investment of scarce resources should be made to maximize benefit. These general considerations may be most critical when deciding how to manage insufficient health care resources in LMIC

in light of the rapid shift of the burden of illness from infectious diseases to chronic non-infectious conditions in the developing world, how to improve timely access to essential drugs, and how to improve the health of vulnerable populations.

The 88 attendees divided themselves into these domains of interest, producing four groups ranging in size from ten to 40 persons. Within each of these four groups, selected meeting participants had been prepared in advance to serve as facilitators in an “open space” format. After a round of individual introductions, the facilitators elicited preliminary expressions of interest in particular research initiatives,

Figure 3. Day 1 domain interest groups.

grouped these ideas, labeled the idea clusters, and organized the participants into ten small research affinity groups, ranging in size from four to 15 attendees:

- Implementation science
- Maternal-child health, including children's mental health
- Non-communicable/chronic disease
- Incorporating bioethics research into AMPATH (Academic Model Providing Access to Healthcare, the IU-Kenya care delivery program in western Kenya)
- Translation of research into practice
- Delay and disruption of care
- Clinical and translational research for health in a defined population
- Mobile technology: patient engagement and health care worker uses
- Data mining with de-identified data for personalized care
- Crowd-sourcing and collective intelligence

These small affinity groups were provided space in which to pursue their discussions on October 4. During their day of work, affinity groups morphed in accordance with 'open space rules.'¹ Participants were encouraged to follow the 'law of two feet.' If they felt their gifts were not being well-used in a particular affinity group, they could move to another. Some groups recruited members of others to add specific expertise. One affinity group ("Incorporating bioethics research into AMPATH") was asked to merge altogether into another group (mobile technology: patient engagement and health care worker uses). By the end of the October 4, the affinity groups had produced a summary of their thinking about their research initiative that was summarized as nine posters for the concluding session on the morning of October 5.

The topics of the posters presented in this last session were quite diverse.

- *Influence of Workforce Voluntary Withdrawal ('strikes') on Healthcare and Education Programs in Global Partnerships*

This poster outline a project that could examine the complex impact of labor strikes and other events that

disrupt the ability of key program personnel to carry out essential functions that support the delivery of healthcare, training, and global partnerships.

- *Crowdsourcing for Innovation in Health Care and Health Care Policy*

This poster focused on the use of crowdsourcing to develop a global framework for decision making and policy formation models that can be customized for specific local environments and help improve healthcare and reduce costs in resource-restricted communities.

- *Characterizing the Biology and Genomics of Breast Cancer and Lymphoma in Western Kenya*

This poster outlined a study that would attempt to describe and characterize triple receptor-negative breast cancer and Burkitt's lymphoma tumors by their response to treatment, their biomarkers, genomics, proteomics, clinical history of presentation, and risk factors.

- *Identifying Best Strategies for Implementation of Cervical Cancer Screening in Western Kenya*

In order to increase cervical cancer screening in Western Kenya, this poster described a project that would evaluate the most effective ways to disseminate information about cervical cancer, identify the most effective referral mechanisms, develop the human and technical infrastructure needed to support screening programs, and implement and evaluate screening delivery strategies in partnership with AMPATH service providers at Moi University and MTRH.

- *Community-Owned Approach to Decrease Neonatal & Maternal Mortality*

This poster described a study to strengthen evidence for the effectiveness and sustainability of a community-owned approach to improving neonatal and maternal health (See Fig. 4).

- *Preventing Cardiovascular Disease*

The informatics work group poster described a study that would determine the feasibility of distributing a cardiovascular prevention polypill (statin, angiotensin

Figure 4. Community-owned approach to decrease neonatal & maternal mortality affinity group.

blocker, aspirin) along with patient counseling and education among vulnerable populations in AMPATH's catchment area and the inner city of Indianapolis. In a cluster-randomized controlled trial, this intervention would be assessed for its impact on the reduction of cardiovascular disease and its subsequent morbidity and mortality in defined populations (Fig. 5).

- *A Study to Improve Public Health Capacity for Surveillance of Non-Communicable Diseases*

This poster described a study that would attempt to determine the prevalence of non-communicable diseases in Kenya by identifying and evaluating existing data sources, establishing baseline prevalence of non-communicable diseases, and enhancing infrastructure for capturing data on patients with non-communicable diseases to sustain biosurveillance activities.

- *Ethically Appropriate Research Approaches for Data Mining Using Large EMR Databases*

The focus of this poster was a project that would develop a list of ethical and practical barriers to inter-institutional collaborations for developing and using large EHR data sets, identifying potential approaches that lower barriers to health research within such large data sets, and developing technology and methods to mine these large EHR databases to identify cogent questions that could be tackled by local and global research partnerships.

- *Vector-Transmitted Diseases: Disease Dynamics and Clinical Outcomes*

The project described in this poster would develop new predictive models for vector-transmitted diseases employing new technologies in genetics and “omics” as well as describing environmental, social, and clinical factors that shape and influence the relationships between humans, disease vectors, and pathogens.

Taken as a group, these poster topics can be seen as an “emerging agenda” for global health research of interest to investigators from the three research-intensive universities

that hosted this conference. Some noteworthy attributes of this agenda are:

- While it affirms the continuing importance of research focused on classical burdensome conditions in low-income countries in the southern hemisphere (e.g., vector-transmitted diseases such as malaria, leishmaniasis and filariasis), it also reveals an emerging strong emphases on non-infectious chronic conditions such as cancer, hypertension, and other cardiovascular conditions.
- While infectious diseases as well as post-epidemiologic transition chronic conditions occupy the agenda, new technologies applied to these conditions were “front and center” in the deliberations of the working groups, including “omics” (genomics, proteomics, cellomics) applied not only to humans, but to vectors, and pathogens.
- New-era informatics and analytic methods make their appearance in the agenda for research, not only as a platform for capturing clinical data but as a mechanism for “crowd sourcing” information in global networks and searching for structure in very large databases (data mining) for the purposes of understanding the dynamics of disease, profiling the care for populations, individualizing care, and taking new approaches to establishing prognosis for particular persons.
- “Ethics” suffuses various components of the agenda for research, including the use of personal health information for informatics applications, the appropriateness of advanced technologies for diagnosis/prognosis/individualized care in resource-scarce environments, the desirable qualities of North/South collaborations, and the influence of labor actions when taken within healthcare delivery systems on population and personal health.
- Finally, the entire agenda for future research is marked by the need for *partnerships*. These partnerships are visible as North/South and South/South collaborations in the organizational foundations required for research in the conference posters. Reference to basic science-

Figure 5. Poster presentation: preventing cardiovascular disease.

Fig. 6 Autumn in Indiana.

clinical care delivery system partnerships is apparent in the posters as well, emphasizing the critical need for these sorts of collaborations in translational research that advances discovery from core laboratory facilities to communities. Across the whole agenda for research, collaborations and partnerships linking scientists and health care policy makers, as well as scientists and geographic communities, are underlined as essential for research that maximizes its contribution to health through discovery and dissemination in resource-scarce environments. These latter considerations are an ethical dimension to research not always apparent in resource-rich environments where the interests of a superb principal investigator on the “bleeding edge” of a discovery domain may drive a program of research, whether or not short-term or long-term relevance to the burdens of disease for populations is apparent.

All in all, the Indiana Global Health Research working conference served its objectives well. As hoped, key faculty from our three universities did mingle with each other and the invited experts to envision new inter-institutional collaborations with potential for longer-term research initiatives. The ideas that emerged in these working groups were not pre-determined by meeting planners, but instead were the products of our “open space” un-meeting approach and earnest conversations, were interdisciplinary and—at their best—transdisciplinary

in nature. Whether or not the “Indiana agenda for global health research” is a roadmap for how our institutions proceed to develop their larger science enterprises in this domain, this vision of a research future is at least emblematic of how some of us are likely to move our activities forward. It was, in the end, a very productive use of three days and not just a “walk in the park” (Fig. 6).

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