For example, the Yale/Stanford Johnson & Johnson Physician Scholars in International Health Program became a model for many other programs focusing on building human capacity in low-resource settings. This program offers opportunities for selected physicians and physicians in training to become familiar with the social, political, and medical challenges to improving the health of individuals and populations in resource-poor environments. This program embraces "twinning," a means of building institutional capacity by building human capacity through long-term, two-way partnerships with institutions in low-resource settings. This type of partnership is identified as a proven strategy for improving health worker education and training, according to the Task Force for Scaling Up Education and Training for Health Workers; this program aspires to what others describe as interdependent, transformative learning.

There is also a growing consensus among NGOs, funders, and governments that leadership and management (L&M) development for health professionals is critical to improving the efficiency and effectiveness of health systems. Current models of L&M involve business school faculty designing and delivering classroom as well as distance learning around standard leadership and management topics often including work with case studies. Leadership and management development is increasingly seen as a quantifiable means to improving health care access and delivery as well as improving patient care. A recent study by McKinsey and the London School of Economics demonstrated statistically significant changes in health care delivery, patient care and patient outcomes in hospitals in the United States and the United Kingdom attributable to L&M training and development.

The session will also address issues around measuring the effectiveness of these partnerships. In the case of the Johnson & Johnson leadership and development program portfolio, we arrived at a set of agreed-on indicators for the majority of global programs. Recent research in Kenya, for example, points to promising evidence of the positive effects of leadership and management training in strengthening health systems. These models and others will be discussed by representatives from Yale University, UCLA, and the Global Business School Network.

**Structure/Method/Design:** Panel

**Results (Scientific Abstract)/Collaborative Partners (Programmatic Abstract):** Global Business School Network

Yale University

UCLA

**Summary/Conclusion:** Measurement challenges will be discussed

## A tripartite interprofessional collaboration in Limpopo province: Community health worker training in diabetes and hypertension

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**Background:** Limpopo province, with a population of approximately 5.2 million residents, is the northernmost province in South Africa. The residents of this rural province are challenged by poverty, limited availability of clean water, and poor access to health care related to chronic diseases such as diabetes and hypertension. The incidence of diabetes and hypertension are increasing in South Africa. A unique tripartite collaboration between the University of Virginia (UVA), the Department of Health in the Limpopo province (Vhembe Health District), and the University of Venda (UNIVEN) was developed in 2012. The Health District developed a list of five priority areas in which they sought collaboration with the UVA and UNIVEN, including health promotion for chronic illnesses. The health district relies heavily on the CHWS for education and hands-on care and therefore, the Vhembe health district wanted to address the health promotion needs by training community health workers (CHWS) on diabetes and hypertension.

**Structure/Method/Design:** An interprofessional team of medical, nursing, and public health students designed and implemented a 2-day training for the community health workers (CHWs) in two rural clinics. Using teaching strategies such as story boarding, live demonstration, role play, small-group work, and clinical narratives knowledge and skills related to diabetes management and hypertension were taught. Sixty CHWs completed the trainings.

**Results (Scientific Abstract)/Collaborative Partners (Programmatic Abstract):** University of Virginia, Charlottesville, Virginia, the Department of Health in the Limpopo province (Vhembe Health District), and the University of Venda, Thohoyoundo, Limpopo Province.

**Summary/Conclusion:** Across all training, 94% of participants felt better able to help their patients as a result of the training, 93% noted that they could use the information they learned in their daily work, and 76% reported that what they learned would change their practice. As an outcome of the workshop, a training manual for hypertension and diabetes management is now available for use across the health district. Future research studies will evaluate the effects of the training on health outcomes at the individual and community levels.

## Turnover rate of academic faculty at the College of Health Sciences, Addis Ababa University: A 20-year analysis (1991-2011)

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**Background:** Faculty turnover affects both workers and the organizations. Turnover of faculty and researchers is alarmingly increasing and costing the universities and the country at large. Fast turnover of health professionals from the health system and academic institutions has received substantial attention from both academia and health-sector managers recently. This paper calculates the faculty turn-over rate at the College of Health Sciences of Addis Ababa University during the period from September 1991 to August 2011.

**Structure/Method/Design:** The study was conducted at the College of Health Sciences, Addis Ababa University. Retrospective analysis of employee records was done. All records of the faculty that were working in the College during the 20-year period, from September 1991 to August 2011 were retrospectively reviewed. Data were collected from the employee records accessed from the College's human resources database and supplemented by payroll sheets and different reports. A structured checklist was used to extract the required data from the database. The crude turnover rate for academic faculty was calculated.

**Results (Scientific Abstract)/Collaborative Partners (Programmatic Abstract):** Within the 20-year period from September 1991 to August 2011, a total of 120 faculty members have left out the College. The overall turnover rate was 92.8%. The rate in the [last] 5 years (172%) was 8.5 times higher than the rate for first 5 years (20%). The

average retention period before the termination of employment contract was 4.9 years. The top 5 departments where employment contracts were relatively higher include nursing 15 (15.6%), internal medicine 12 (12.5%), public health 10 (10.4%), pediatrics 9 (9.4%), and surgery 9 (9.4%). About two-thirds (66.6%) of the faculty members who left were at the ranks of assistant professorship and above.

**Summary/Conclusion:** This study revealed that outflow of faculty has been continuously increasing in the period reviewed. This implies that the College had been losing highly skilled professionals with considerably higher costs in monetary terms. In this regard, an urgent response is required to retain or significantly decrease the outflow of faculty. Different motivation and retention mechanisms should be identified and implemented. Various modalities of faculty development programs should also be initiated.

## Developing national public health system capacity in low-resource countries through national public health institutes

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**Background:** More than 77 countries have established NPHIs to lead and coordinate public health including the U.S. CDC, Brazilian FIOCRUZ, and China CDC. NPHIs focus on a country's major public health problems; they use scientific evidence as the basis for policy implementation and resource allocation, and are accountable to national governments and the public. Their key functions include disease surveillance, detection, and monitoring; outbreak investigation and control; analysis for policy development; research; training; health promotion/education; and laboratory science. NPHIs provide a nationally recognized career home for public health practitioners.

**Structure/Method/Design:** Since 2006, the International Association of National Public Health Institutes (IANPHI) has strengthened the public health capacity of its member countries with over 50 country-led projects in more than 30 nations to develop or improve National Public Health Institutes (NPHIs). IANPHI is the only organization that strengthens NPHIs using an evidence-based international framework for NPHI development. Its unique peer-to-peer model features long-term strategic planning for national capacity; national NPHI plans serve as a road map for donor and country investment.

IANPHI's current portfolio includes projects in Guinea Bissau, Morocco, Mozambique, Nigeria, Tanzania, Liberia, Uganda, Togo, Rwanda, South Africa, Cote D'Ivoire, Malawi, India, and elsewhere. IANPHI's efforts involve four steps: undertaking strategic planning linked to national goals, implementing the policy changes necessary to create or expand the NPHI, developing a funding plan, and executing a project plan that brings together funds and technical assistance from national governments, IANPHI, and other partners.

**Results (Scientific Abstract)/Collaborative Partners (Programmatic Abstract):** Development and execution of a long-term strategic plans for an evidence-based, sustainable NPHI that addresses major public health challenges developed or underway in 25 countries. Leveraging of $50+ million in funds from other donors. Legislative/statutory approval of new or strengthened NPHIs in Ethiopia, Togo, Guinea Bissau, Saudi Arabia, Rwanda, Sweden, Malawi, Slovenia, Mozambique, El Salvador, Palestine, and elsewhere, with changes under consideration in South Africa, Kenya, France, and elsewhere. Increased technical capacity in 50+ projects—including emergency operations in Ethiopia, surveillance in Mozambique, laboratory science in Nigeria and Guinea Bissau, and NCD surveillance in Tanzania—to better respond to major causes of disease and death and to integrate and benefit from vertical programs for HIV/AIDS, TB, Malaria, vaccine-preventable diseases, and others. Increased membership/funding from 39 country members to over 77.

**Summary/Conclusion:** Country-led public health agencies are the best way to ensure the self-sufficient and sustainable systems needed to address national priorities over the long term.

## Factors affecting community health volunteer utilization around Ranomafana National Park, Madagascar

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**Background:** Since scaling up efforts in 2008, the established network of community health volunteers (CHVs) in Madagascar has changed the potential for health care delivery in a country that remains in the lowest percentiles across multiple health indicators. As initial evaluations of the CHV program are released, there are still, to date, no known studies identifying which factors predict CHV utilization as a first choice when seeking health care in rural Madagascar. This study assesses the role of socio-demographic, geographic, economic, and symptom-related factors in the decision to first utilize CHVs in rural communities around Ranomafana National Park (RNP) in southeastern Madagascar.

**Structure/Method/Design:** This study was part of a larger project supported by the Emory Global Health Institute, which supports multidisciplinary teams working internationally, and Centre Val-Bio, an organization supporting biodiversity and conservation research in RNP since 2003. 10 households were randomly selected from 6 villages around RNP. A total of 303 individuals completed a survey, administered in Malagasy, inquiring about income, education, occupation, animal/environmental exposure, symptom history, and perceived illness experience. Major landmarks, including households, roads and the regional clinic, were recorded with GPS technology. All consenting participants received a physical examination from a registered nurse, corroborating active symptom reports with objective assessment. Participants who reported significant symptom history in the previous 4 weeks were asked about their health-seeking behavior, including their primary source of care for symptoms.

**Results (Scientific Abstract)/Collaborative Partners (Programmatic Abstract):** Trends in the data support the hypothesis that community health volunteers will be the first source of care regardless of multiple potential mediators, such as income or education level, proximity to infrastructure, or symptom severity. Further analysis will describe these relationships in more detail, stratifying for other variables such as age, gender, and individual community indicators.

**Summary/Conclusion:** As innovative solutions to Madagascar's complex health issues are sought after, the demand for health services must be measured in order to develop more effective, locally informed interventions. This study demonstrates the popular support of the CHV model in this region of Madagascar and asserts that continued investment in this resource is necessary and desired to improve the management of a wide range of health issues unique to this setting.