

Hasselmeyer Award for Research Initiatives
Nomination for:

XXXX, CNM, MPH, FACNM

Nominator's name: XXXX, RN, MBA, PhD
President, CDC/ATSDR Nurses Work Group (20XX)

Supervisor's name: XXXX, PhD

ACCOMPLISHMENT:

The Centers for Disease Control and Prevention (CDC)/Agency for Toxic Substances and Disease Registry (ATSDR) Nurses Work Group nominates XXXX for the ***Hasselmeyer Award for Research Initiatives*** for innovative and groundbreaking work in developing global human resources information systems (HRIS) in Sub-Saharan Africa. XXXX efforts have resulted in the Kenya HRIS project becoming a model health workforce information system for countries receiving assistance from the President's Emergency Plan for AIDS Relief (PEPFAR). Her accomplishment represents a nine-year collaboration between CDC's Division of Global HIV/AIDS, the Lillian Carter Center for International Nursing at Emory University, Kenya's Ministry of Health, and the Kenyan regulatory boards governing the professional practice of nursing, medicine, dentistry, laboratory technology, and clinical officers (physician's assistants). The Kenya HRIS represents the longest running and most comprehensive health workforce information system in Africa capable of generating applied research in the area Human Resources for Health (HRH).

Data generated by Kenya's HRIS has introduced a new system for measuring and analyzing national health workforce capacity. XXXX work in this areas has resulted in half a dozen scientific publications, including a recently authored chapter: XXXX, which will appear in a forthcoming nursing textbook entitled XXXX (Jones & Bartlett Learning publishing company). She has also worked to disseminate findings from the system in a variety of venues. More important, XXXX efforts have introduced nurses within the US and Africa to novel methods of analyzing nursing workforce dynamics. As a result of advances in HRH information piloted by this system, the PEPFAR program has recognized the Kenyan HRIS as a HRH best practice. In 20XX, as a result of XXXX initiative, a second national HRIS project was launched in Zimbabwe. Most recently, countries, such as, Nigeria, South Africa, Tanzania, and Mozambique have requested technical assistance enabling the development of a similar national HRIS.

BACKGROUND:

Despite carrying 25% of the global burden of disease, Sub-Saharan Africa has only 3% of the world's health workers.^{1,2} Reasons for these shortages range from premature mandatory retirement from service, outmigration of professionals to high-income countries, to the devastating effects of HIV/AIDS among the health workforce. The global health workforce shortages are most severe among the nursing profession.

Researchers have documented the relationship between workforce density and the mortality of vulnerable populations, (e.g., mothers, infants and children), as well as the adequacy health service delivery (e.g., immunization coverage, delivery with a skilled birth attendant).³ In recognition of the inadequate ratios of health care providers to populations in low-resource countries, the 2006 World Health Organization's World Health Report highlighted workforce inequity as a global concern and identified 57 workforce crisis countries (the majority of which are PEPFAR countries) as having an insufficient workforce capacity necessary for meeting the health-related UN Millennium Development Goals.²

For these reasons, it is essential that PEPFAR countries develop HRH information systems capable of documenting workforce supply and demand data and facilitating the identification of appropriate solutions. However, most PEPFAR countries, are unable to provide accurate and current health workforce information. As a result, ministries of health are limited in their ability to implement evidence-based decisions regarding workforce recruitment, retention strategies, deployment, and public health program implementation. In this environment, forecasting workforce requirements and planning effective and appropriate interventions—essential functions for countries trying to remediate workforce shortages—are significantly impeded. Since functional HRIS are capable of collecting and disseminating information on HRH composition, and deployment, they are seen as integral to workforce strengthening, planning and performance assessment. Accordingly, WHO and PEPFAR have identified the development and strengthening of HRIS as a program priority.⁴

¹ Anyangwe SC, Mtonga C. Inequities in the Global Health Workforce: The Greatest Impediment to Health in Sub-Saharan Africa. *Int. J. Environ. Res. Public Health* 2007; 4(2):93-100.

² World Health Organization. The Global Shortage of Health Workers and Its Impact. Fact sheet N° 302; April 2006. Available at: <http://www.who.int/mediacentre/factsheets/fs302/en/print.html>

³ Chen L, Evans T, Anand S, et al. Human Resources for Health: Overcoming the Crises. *Lancet* 2004;364,1984-1990.

⁴ Dal Poz MR, Gupta N, Quain E, Soucat A (eds). World Health Organization, The World Bank, USAID. Handbook on monitoring and evaluation of human resources for health, with special applications for low- and middle-income countries. World Health Organization, World Bank and United States Agency for International Development, Geneva: 2009.

INTERVENTION:

Launched in 20XX, XXXX efforts to create a Kenyan HRIS represent nearly a decade long collaboration with CDC, Emory University, and the Kenya Ministry of Health (MOH). Born out of a request by the MOH officials to CDC for assistance in improving Kenya's nursing workforce capacity, this system--now referred to as the *Kenya Health Workforce Informatics System (KHWIS)*--is supported by CDC with PEPFAR funding and implemented by Emory University's Lillian Carter Center for International Nursing. Although *KHWIS* was initially designed for Kenya's nursing cadre, the system has since expanded to include other health professionals. It provides accurate national HRH data essential for health planning and policy-making by the MOH and other stakeholders involved in HIV prevention, care and treatment in Kenya.

Components of the system include a national database of qualified health workers including: nurses, physicians, laboratory professionals and clinical officers (physician assistants)--referred to as workforce "supply"--as well as information on health workers current deployment status--referred to as workforce "demand". Supply data (e.g., registration, major qualifications, and continuing education) are routinely collected and maintained by the individual professional regulatory boards (e.g., Nursing Council, Medical and Dental Regulatory Board, etc.); while deployment data (e.g., location of current employment, employment number and in-service training) are collected and maintained by the MOH. This deployment data is updated through staffing reports sent to the MOH on a quarterly basis from approximately 6,000 health facilities nationwide. District health officers collect data from each health facility within their jurisdiction and forward the information in hard copy format to their respective MOH provincial office. Provincial officers in turn enter the data electronically through a computer network provided by the project which enables the data to be simultaneously updated by satellite to a national server in the Nairobi MOH headquarters.

As designed by XXXX, the system's novel feature links the deployment data for each health care worker to the registration and supply information provided by each professional regulatory board, thereby ensuring a current workforce composite profile of key health professionals in the country. This linkage also ensures that every health professional currently employed has the requisite qualifications and continuing education. Workforce deployment data is also shared with the Government of Kenya's (GOK) human resource department, which uses the information to "clean" the MOH payroll system, by detecting "ghost workers" (i.e. workers who are on the payroll but no longer working). The system's payroll linkage also can detect health care worker movement from donor contract positions to official MOH positions.

OUTCOME/IMPACT:

The impact of XXXX efforts is documented below:

- This project has introduced a more systematic and accurate way for collecting and analyzing national health workforce capacity among PEPFAR countries

- As a result of data analysis generated by this system, the GOK was able to appropriately assign approximately 2,000 “emergency hire” nurses funded by the Clinton Foundation, The Global Fund to Fight AIDS, Tuberculosis and Malaria, and other PEPFAR-funded organizations within governmental health facilities most in need.⁵
- **KHWIS**’s ability to produce “time in grade” data reports has already resulted in their health workforce receiving appropriate promotions and compensation that, in many cases, were years overdue.
- As a result of the system’s information linkage between the regulatory councils and GOK personnel records, over 5,000 staffing discrepancies have been resolved, i.e., nurses with expired or non-existent Kenya licenses, “ghost workers” eliminated from the GOK payroll, or mismatched employee names to registration and/or employment number.
- Accurate information on Kenya’s aging nursing workforce and projected increased nursing shortages resulted in a Parliamentary enactment by the GOK to increase the mandatory retirement age of GOK civil servants (the majority of employed Kenyan nurses) from 55 years to 60.
- The successful utilization of the system has resulted in its expansion to other health cadres (physicians, dentists, laboratorians, clinical officers) within Kenya, as well as its introduction to other counties in Sub-Saharan Africa (e.g., Zimbabwe, South Africa, Nigeria).
- The project has introduced a new facet of global nursing research to US and Kenya nurses and has enabled Kenya officials to formally present workforce information in official scientific fora.
- As the system continues to pilot new HRIS features, including linkages with the Health Management Information Systems (HMIS), new metrics for measuring and assessing health systems, health workforce are being introduced to countries most in need.

⁵ Gross JM, Riley PL, Kiriinya R, Rakuom C, Willy R, Kamenju A, Oywer E, Wambua D, Waudo A, Rogers MF. Using Information Systems to Analyze the Impact of the Emergency Hire Plan on the Nursing Shortage and Nurse Distribution in Kenya. *Bulletin of the World Health Organization*, Volume 88, Number 11, November 2010, pp 824-830.