capacity of clinical and non-clinical staff in its Centers of Excellence (COEs) in Romania, Botswana, Lesotho, Swaziland, Malawi, Uganda, and Tanzania. Each COE has pharmacy professionals who play a critical role in patient care. The BIPAI-PN is a community of pharmacy professionals from the COEs that enables opportunities to build capacity, improve operational and clinical pharmacy practice, and share best pharmacy practices. COE pharmacy professionals have identified continuing professional development (CPD) as a top priority and unmet need. The BIPAI-PN thereby developed a CPD program, in which pharmacy professionals can learn and collaborate by creating connections across organizational and geographical boundaries.

Structure/Method/Design: The BIPAI-PN conducted a needsassessment to characterize the pharmacy practice within each COE, identify educational and training needs, and assess the type of engagement desired within the BIPAI-PN. Based on the assessment, a pilot curriculum was developed focusing on three core components: supply chain management, clinical pharmacy practice, and pharmacy management and policy. The curriculum consists of 17 pre-recorded learning modules and 10 corresponding live, webbased learning components designed to promote exchange of information and develop practice skills (e.g. facilitated discussion, case studies, journal club). In addition, there are five elective modules that participants may choose based on their needs and interests. The curriculum was developed by U.S.-based pharmacists specialized in HIV, global health, and pediatrics with input and review of COE pharmacy professionals. The curriculum will begin November 2016 and run through September 2017.

**Outcome & Evaluation:** Quantitative outcomes will include curriculum activity tracking (e.g. number of participants, modules, and live learning components), participant pre- and post-test scores, and curriculum completion rates. Qualitative outcomes will be measured by surveying participants about individual learning modules and interactive components and also about their overall professional development.

**Going Forward:** This CPD program will serve as the basis for growth of the BIPAI-PN, and it will enhance the knowledge and skills of pharmacy professionals at the COEs as they continue to serve children.

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## Health System Predictors of Access to Maternal Health Medicines in Low and Middle Income Countries

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**Background:** An approximate 800 women die every day from pregnancy related complications like postpartum hemorrhage (PPH) and pre-eclampsia and eclampsia. These complications can be prevented by appropriate use of essential maternal health medicines — which are not readily available in low and middle income countries. Researchers attribute these to gaps in structure and functions of multiple health system building blocks. But little is known about the relative impact of each building block on access to

essential maternal health medicines. The main objective of this study was to determine the relative impact of select health systems building blocks (herein referred to as health system factors) on access to these medicines in low and middle income countries.

**Methods:** We carried out a quantitative cross-sectional analysis of data from 37 USAID Maternal and Child Health Integration Program (MCHIP) survey reports published in 2011 -2012. These reports summarized country-wide assessments of access to essential medicines for maternal health in 37 countries. We used the fishbone (Ishikawa) diagram as analytic framework to determine the relationship between access (measured by availability, affordability and accessibility) and health system factors in six levels: government/regulatory, pharmaceutical supply, health facility, health resources, health financing, data reporting.

**Findings:** High access to essential medicines for maternal health were significantly associated with health system factors at the government/regulatory and health professional level. A majority of countries had these medicines listed in their essential medicines lists. However, for many countries, standard treatment guidelines were not available, updated, or standardized. Lack of demand by health professionals at the health facility level and a lack of in-service training in the use of these medicines also predicted poor access even though awareness of the medicines was generally high among health professionals.

Interpretation: Findings from this study highlights the complexities that underlie making essential medicines for maternal health available and accessible. The fishbone diagram is a useful theoretical framework for illustrating the complexity of translating research findings into practice and describing predictors of access to essential medicines for maternal health across countries. Strong predictors identified should enable policy makers and stakeholders prioritize, develop and implement tailored interventions to improve availability, affordability and accessibility of these life—saving maternal health medicines in LMICs.

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## Status of Primary Health Workforce in a Nigerian State: Findings from Enrollment into a Digital Health Workforce Registry

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Program/Project Purpose: Classified alongside 57 countries by the WHO as experiencing a health workforce(HW) crisis, Nigeria's health system dysfunction is aggravated by mal-distributed and lopsided skill mix of available personnel. For effective health system planning, comprehensive and accurate data on the distribution, mix and migration dynamics of HW is required. An integrated human resources information system (iHRIS) is a valuable digital repository that eases the collection, maintenance and analysis of HW data. To improve HW management, the Institute of Human Virology Nigeria, an NGO that supports states to provide quality HIV services, assisted Nasarawa state to enroll primary health care (PHC) employees into the iHRIS-based state HW registry.