



## “PRIORITIES OF HEALTH ECONOMICS IN AFRICA”

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### Parallel session 3: Human resources for health

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#### Health Delivery Complements and Health Worker Emigration from Africa

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**Aim/Rationale:** Economic frameworks identify multiple determinants which influence the decision of physicians and nurses to emigrate from Africa. In order to make rational and cost effective decisions, policy makers ideally wish to identify the crucial factors affecting emigration. Recent findings suggest that non-wage determinants may play an important role in the supply decision (Vujicic et al., 2003). Given the stark wage differentials between developed and developing countries, alternative mechanisms to retain health workers are being explored by multilateral and national policy making bodies. The preliminary research presented here explores the role of health production complements on the extent of emigration at the country level. The primary hypothesis posits that countries with lower per capita levels of complements to physician (or nurse) care have a greater emigration shares, *ceteris paribus*.

**Objective:** Estimate the effect of health production complements, such as complementary healthcare workers (nurses), public health infrastructure or pharmaceutical access, on the aggregate share of emigration by health workers.

**Data:** Measures of the outcome variable, the percentage of physicians (nurses) emigrating at the country level relative to the total number of physicians (nurses), are derived from the Center for Global Development (CGD) database on health profession emigration from Africa (Clemens and Patterson, 2006). Country level independent variables are sourced from the World Bank World Development Indicator database (country financial data), WHO dataset on pharmaceutical tariffs and imports (pharmaceutical data), CIA World Factbook (country characteristic data) and the CGD data. The reference year is 2000.

**Methods:** At the country level ( $n=48$ ), I run a weighted linear regression of emigration share of MDs on complements (nurses/1000 population, pharmaceutical import value \$US PPP), per capital health expenditure, indicator variables for historical colonial presence (UK, France), GDP per capita (\$US PPP, 2000) and DTP immunization coverage (a proxy for public health complements). Weights equal the number of MDs in each country. I also run a similar specification for nurses.

**Key Findings:** Physician emigration shares ranged from 5 percent to 75 percent (mean: 36 percent). In the base case, an increase of 1 additional nurse per 1000 population (mean: 0.99 per 1000) reduced the physician emigration by 16 percent ( $p < .01$ ). A similar analysis seeking to explain nurse emigration found no spillovers. Caution is warranted given the cross-sectional nature of the data, but this result suggests that improved nurse retention will have spillover effects in reducing physician emigration. Future research with panel data will improve causal interpretation.