

Background: An estimated 19.2% of the world's disability adjusted life years are attributed to conditions that require surgical intervention. Despite this great burden of surgical conditions, nine out of ten people cannot access basic surgical care in low-middle-income countries (LMIC). While there has been a recent surge in support for increasing capacity and access to surgery, there is a still gap in knowledge on the capacity for surgical sub-specialties. This study examined the neurosurgical capacity of public hospitals in Uganda.

Methods: To gauge Neurosurgical capacity, Mulago, Mbarara, and Gulu Referral Hospitals were quantitatively assessed using an adapted version of the Surgeons Overseas Personnel, Infrastructure, Procedures, Equipment, and Supplies (PIPES) tool. In addition, a qualitative assessment was conducted among medical staff at the study sites using a novel questionnaire about neurosurgical needs and assets. This assessment captured key staff perspectives from the administration, neurosurgery, general surgery, intensive care, trauma, anesthesia, oncology, etc. The results from these two methods were subsequently compared for agreements and disagreements in needs.

Findings: Each hospital demonstrated a unique set of needs and assets related to neurosurgery. However, at the individual hospital sites, the quantitative results did not uniformly agree with the qualitative interview results. Needs were reported in several areas such as critical care during the qualitative interviews, while these same elements were noted as available or sufficient during the quantitative survey. Within the same site, differences were also observed in respondent answers to the quantitative survey; such as whether or not surgical drills were available.

Interpretation: The varying results between the methodologies demonstrated the strengths and weaknesses of each method. The quantitative methods are quick and powerful for assessing the surgical capacity of a region or large number of hospitals, and making generalizable conclusions of regional surgical capacity. However there may be subjectivity on the behalf of survey respondents, leading to less accurate conclusions about surgical needs at specific sites. The qualitative interviews gathered site-specific detailed information about needs and assets, but were time consuming. The results are less generalizable than the quantitative tool since the interview guide was tailored to the local context.

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Sustaining Global Health Research Collaboration in Ukraine through Support of an In-county Data Management Center

O. Zvinchuk¹, A. Matsola², O. Lapikura², D. Hryhorczuk³; ¹University of Illinois at Chicago, Chicago, IL, USA, ²Institute of Pediatrics, Obstetrics, and Gynecology of the National Academy of Medical Sciences of Ukraine, Kiev, Ukraine, ³University of Illinois at Chicago, Chicago, USA

Background: The University of Illinois at Chicago (UIC) has been continuously engaged in NIH-funded research on health issues in Ukraine since 1992. Our in-country research and training programs were carried out in large part by the UIC Louise Hamilton Data Management Center (LHDMC). The creation and operation of this Center faced many challenges but resulted in the capacity to obtain and conduct over 13 externally funded research and 3 training capacity building programs.

Methods: A mixed methods assessment that includes quantitative analysis of funding, publications, and academic exchanges and qualitative interviews with key informants.

Findings: The LHDMC was established with the technical support and guidance of Louise Hamilton from the University of Bristol, the first director, who trained the first cadre of Ukrainian researchers in state-of-the-art data management processes and epidemiologic field research methods. The LHDMC was also instrumental in creating the first IRBs in Ukraine. With the assistance of the LHDMC, UIC and its international partners were able to obtain over 7 million in external funding from diverse funding sources, over 90% of funding is provided by the US NIH. The major source of continuous funding was the Fogarty International Center, 1995 to 2015. It supported the work of 31 Ukrainian scientists, 32 US researchers and post-graduate students, and co-hosted 12 in-country international conferences. The work of the LHDMC resulted in 31 refereed papers in western journals and 38 in Ukrainian and eastern European journals. The major challenges in the operation of the center included 1) uneven stream of soft-money funding; 2) changing in-country regulations regarding reimbursement of in-country personnel; 3) changing regulations on international transfer of funds; 4) retaining trained employees.

Interpretation: The establishment of an in-country data management center is cost-effective investment and greatly facilitates long-term global health research collaborations.

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