

# SCIENTIFIC RESEARCH IN GLOBAL HEALTH

## PARTNERSHIPS

### Authorship equity in global surgery research from low- and middle-income countries (LMICs)

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**Background:** The field of global surgery has resulted in fostered many collaborations between high- and low-/middle- income researchers. Publication co-authorship is one proxy to determine if these relationships are equitable. In this study, we examined the literature to identify potential research authorship inequality.

**Structure/Method/Design:** Web of Science search was used searched to search identify studies conducted in low- and middle-income countries (LMICs) from 2008 to 2013. OnlySearch terms included names of LMICs, was limited to primary research articles and that focused on general surgery (and its subspecialties), obstetrics and gynecology, orthopedics, urology, otorhinolaryngology, ophthalmology, and neurosurgery were included. Search terms included the names of all LMICs. An author was considered local if their affiliations were in the country where the research was conducted.

**Results (Scientific Abstract)/Collaborative Partners (Programmatic Abstract):** 5366 articles were analyzed with a mean percentage of local authors per article of 75%. This proportion varied by region; Central Asia had the highest percentage local authorship (93%) and Sub-Saharan Africa had the lowest (60%) ( $P < 0.001$ ). Articles from low-income countries had lower proportion of local authorship (43%) compared with upper-middle-income countries (83%,  $P < 0.001$ ) based on World Bank income zones. However, individual countries' gross domestic product per capita was not significantly correlated with authorship percentages. Of the articles analyzed, 4120 (77%) had a local first author. Articles with local first authors had a much higher percentage of overall local authorship (94%) compared with articles where the first author was not local (13%). Journal impact factor did not correlate with the proportion of local authors per article in this study.

**Summary/Conclusion:** As global surgery research expands, it is important to promote equal partnerships between local investigators and high-income country collaborators. These findings suggest that surgical researchers in LMICs have been recognized in publication authorship in collaborative studies. Further research is needed to evaluate if this translates into increased or equal research capacity.

### Conducting a nationwide nutrition assessment of micronutrient status and intake in Mongolian adult population

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#### Background:

Background: Due to cultural preferences and limited agricultural development, Mongolians have a unique diet that tends to include much meat, and little fruit and fewer vegetables than recommended by the World Health Organization (WHO). In combination with the country's high latitude and resultant restricted UVB exposure, Mongolians may be at risk for deficiencies of multiple micronutrients including vitamin D.

Because the impact of micronutrient deficiency is both far-reaching and complicated, micronutrient status in the Mongolian population is of particular concern for public health. Several micronutrient deficiencies have been confirmed in multiple studies in Mongolian children and pregnant women. Yet there is limited data of micronutrient status or intake among Mongolian men and non-pregnant women. An ongoing collaborative project that includes the Mongolian Public Health Institute and the Harvard School of Public Health aims to assess the nutrient status of Mongolian adults to inform national nutrition policy.

**Objectives:** The primary objectives of this study were to provide data on vitamin D and other micronutrients' status in the Mongolian adult population, as well as quantitatively assess the population's food and nutrient intake, for the primary purpose of identifying nutritional deficiencies. The objectives of my field experience included updating dietary assessment protocols, supervising and training field workers on the collection of dietary intake data, and conducting assessments in the field.

**Structure/Method/Design:** This study employed methods to measure micronutrient status and intake: a 3-day food record and a blood sample. Qualified students were trained to observe subjects for 3 consecutive days (2 weekdays, 1 weekend day) weighing and describing everything that these subjects ate and drank. Food intake data is currently being analyzed to determine subjects' intake of eight micronutrients of interest, after which it will be possible to estimate the severity of micronutrient intake deficiencies in the population. These data will allow the identification of food-fortification levels and potential fortification vehicles. This process will be informed by our simultaneous assessment of micronutrient status, which allows us to prioritize micronutrients with respect to developing food fortification models.

**Results (Scientific Abstract)/Collaborative Partners (Programmatic Abstract):** Health Ministry of Mongolia, School of Medicine and School of Public Health, Health Science University of Mongolia. World Health Organization (WHO) in Mongolia, Department of Human Nutrition, University of Otago, New Zealand

**Summary/Conclusion:** Data collection is currently ongoing. Analysis will proceed further after additional data collection during winter 2013-14, summer 2014, and winter 2014-15.

### The prevalence and risk factors of cervical dysplasia and cervical cancer in the Kedougou Region, Senegal

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**Background:** The Kedougou Senegal Regional Health System has implemented cervical cancer prevention services in partnership with the U.S. Peace Corps, the University of Illinois at Chicago, and Peace Care, a U.S. nongovernmental organization since 2010. This research addresses the gap in evidence related to the prevalence of cervical dysplasia and cancer in Southeastern Senegal and evaluates the impact of this newly implemented primary health care service employing the technique of visual inspection of the cervix with acetic acid (VIA). This technique has a sensitivity (67%-79%) equivalent or better than cytology (sensitivity of 47%-62%) in these settings.

**Structure/Method/Design:** A cross-sectional population-based survey with quantitative (screening and demographic survey) data