

## ORIGINAL RESEARCH

# Global Health Career Interest among Medical and Nursing Students: Survey and Analysis

Jacob T. Cox, MPhil, A. Gatebe Kironji, MS, Jill Edwardson, MD, MPH, Dane Moran, MPH, James Aluri, MA, Bryn Carroll, MD, Nicole Warren, PhD, MPH, CNM, Chi Chiung Grace Chen, MD  
*Baltimore, MD; and Philadelphia, PA*

### Abstract

**BACKGROUND** Global health experiences undertaken in international settings (GHEs) are becoming an increasingly prevalent aspect of health professions education and, as such, merit comprehensive analysis of the impact they have on students and host communities.

**OBJECTIVE** To assess the associations between demographic/experiential factors and the interest of health professions students in careers involving global health.

**METHODS** A cross-sectional survey was administered online to a convenience sample of medical and nursing students at Johns Hopkins University. Questions addressed level of interest in a global health career, prior GHEs, and demographic information. Items were either Likert scale or multiple choice. Various regression analyses were performed.

**FINDINGS** Of 510 respondents, 312 (61.2%) expressed interest in a global health career and 285 (55.9%) had prior GHEs. Multivariate logistic regression found female sex, age  $\geq 27$  years, household income  $< \$100,000/y$ , and a prior research-related GHE independently associated with higher interest in global health careers. On subset analysis of participants with one or more prior GHEs: age  $\geq 27$  years, household income  $< \$100,000/y$ , a prior research-related GHE, and having multiple GHEs were each independently associated with increased interest in a global health career.

**CONCLUSIONS** Simply participating in a global health experience abroad is not significantly associated with interest in a global health career. However, sex, age, household income, and research-related GHEs are significantly associated with global health career interest. These findings may inform the development of global health programs at medical and nursing schools and can guide efforts to increase the number of health care professionals entering global health careers.

**KEY WORDS** career selection, global health, global health training, health care training, international experiences, medical education, medical student, nursing student.

## INTRODUCTION

Interest in global health (GH) and participation in international health experiences have increased dramatically in recent decades.<sup>1-3</sup> According to a 2015 report, more than 30% of US medical students par-

ticipated in a global health experience in an international setting (GHE) before graduation, and similar increases are believed to have taken place in the nursing student community.<sup>3</sup> The benefits and costs of such experiences have been debated. Such benefits include improved physical examination skills

Conflicts of Interest: None of the authors has any conflicts of interest as relates to this manuscript. All authors had access to the data and a significant role in the development and/or writing of this manuscript.

From the Johns Hopkins University School of Medicine, Baltimore, MD (JTC, AGK, DM, JA); Department of Gynecology and Obstetrics, Johns Hopkins Hospital, Baltimore, MD (JE, CCGC); Department of Pediatrics, Children's Hospital of Philadelphia, Philadelphia, PA (BC); and Johns Hopkins University School of Nursing, Baltimore, MD (NW). Address correspondence to C.C.G.C. ([cchen127@jhmi.edu](mailto:cchen127@jhmi.edu)).

for participants, development of transnational relationships and intercultural understanding, building foundations for potential future careers in GH and primary care, molding of more socially conscious health care providers, and the provision of labor by students.<sup>4-8</sup> The concerns are often focused on the expenses of and resources dedicated to GHEs, which could be put to alternative uses in low- and middle-income countries, and inadequate student preparation that could pose potential risks to host communities and the students themselves.<sup>9,10</sup>

Research is ongoing regarding the efficacy of harm reduction measures, such as predeparture training before GHEs (A.G. Kironji et al, unpublished data, 2017). In terms of maximizing the long-term positive impacts of GHEs, this may be accomplished if participants are more likely to incorporate global health into their future careers. However, there is little extant literature on the impact that GHEs, specifically those in international settings, have on student interest in GH careers. As such, the primary aim of this study was to assess for associations between GHE participation and student interest in careers involving GH.

## METHODS

We performed a cross-sectional, online survey to determine medical and nursing students' interest in a GH career. All full-time medical and nursing students at Johns Hopkins University during academic years 2013-2014 and 2014-2015 received a survey link via a standardized e-mail. We incentivized participation with a raffle for nominal-value gift cards. No unique participant identifiers were obtained, and the study was approved by the Johns Hopkins Hospital Institutional Review Board.

No validated survey tools were available to assess GH career interest at the time of study. As such, our team developed a questionnaire addressing current interest in a GH career, prior GHEs, and demographic information. Interest in a GH career was defined broadly in the questionnaire as "interest in a career in global health or in incorporating global health into your future practice." GHEs were defined as "any experience that addressed global health and was conducted in an international setting." This questionnaire was face validated by a team of medical students, residents in several specialties, attending physicians, and a bioethicist at the Johns Hopkins University School of Medicine, all of whom have experience in GH. The survey ultimately consisted of 41 multiple choice and 5-point Likert scale items.

The complete questionnaire is provided as a supplement.

We administered the survey using Qualtrics (Qualtrics LLC, Provo UT). Duplicate submissions and those in which students failed to answer the primary question (ie, "What is your current level of interest in a career in global health or in incorporating global health into your future practice?") were removed. The primary outcome was interest in a career involving GH, as defined by a Likert score of 4, "interested," or 5, "very interested." Respondents with a Likert score of 1, "very uninterested," 2, "uninterested," or 3, "neutral," were characterized as "not interested." Continuous data were presented as means  $\pm$  standard deviation (SD) and compared in the GH "interested" and "not interested" groups using the Wilcoxon rank-sum test. Categorical data were presented as n values with percentages and compared using the  $\chi^2$  test. Age 27 years was selected as the cutoff for age dichotomization because (i) it was the median age of respondents and (ii) assuming high school graduation at age 18, "traditional" students who progress directly from college to medical or nursing school within the US system would complete health care training by age 26 at the latest. Thus, the majority of respondents 27 years old or older likely qualify as "nontraditional students," in the sense that they did not proceed directly to graduate school in nursing or medicine. (All Johns Hopkins nursing students must complete a bachelor's degree before admission, thus their health care studies are strictly postgraduate.) Household income of \$100,000/year was selected as the cutoff for household income dichotomization, because it (i) allowed for a relatively even distribution between groups and (ii) has been found by the Urban Institute to be the lower bound for upper-middle class within the United States.<sup>11</sup> Eight weeks was selected as the cutoff for dichotomization of the duration of participants' longest GHE because this was the median GHE duration among participants and it is a cutoff used by some in the literature to define "short-term medical service trips."<sup>12</sup>

Unadjusted odds ratios (OR) with 95% confidence intervals (95% CI) were calculated on bivariate analysis comparing covariates and interest in a GH career. Adjusted ORs with 95% CIs were calculated using multivariate logistic regression. These analyses were run on medical and nursing students in aggregate to maximize sample size. A combination of forward and backward stepwise regression was used in the selection of the final model with  $P$  value  $< .05$  as the criterion for inclusion and  $P$  value  $\geq .05$  as the criterion for exclusion. Regression models were further modified as needed

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