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THE GLOBAL HEALTH RECENT GRADUATE STUDY:

*OPPORTUNITIES AND OBSTACLES
TO EMPLOYMENT IN GLOBAL HEALTH*



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THE GLOBAL HEALTH RECENT GRADUATE STUDY: OPPORTUNITIES AND OBSTACLES TO EMPLOYMENT IN GLOBAL HEALTH

OVERVIEW

The recent increase in graduates with global health concentrations in Schools of Public Health and Master of Global Health programs has been well described. Currently, little research has examined whether the supply of trainees matches, exceeds, or is inadequate to meet the demand for global health jobs, or if those trainees are adequately trained for subsequent jobs. These jobs frequently include positions with organizations based in high-income settings that conduct business in a low- or middle-income setting. This study aimed to better understand the experience of global-health graduates when seeking jobs, as well as the fit between curricular content (e.g. non-clinical skills sets) and workplace demands.

To evaluate the experiences of recent graduates of global health programs entering the workforce, the Global Health Fellows Program (GHFP) II sponsored The Consortium of Universities for Global Health (CUGH) to implement "The Global Health Recent Graduates Study: Obstacles and Opportunities to Employment in Global Health" in the Fall of 2016. The study aimed to better describe and quantify student's global health workforce transition from graduate education to initial employment. This survey, conducted between September 21st to December 5th, 2016 focused on the experience of graduates from Global Health concentrations in a Master of Public Health degree (MPH) and Master of Global Science/Global Medicine graduates in the United States. The aim was to obtain perspectives and insights on what job opportunities in international Global Health are available, and clarify what gaps may exist between Global Health curricula, graduate expectations, and the reality of the job market. This is the respondents' advice collected in a focused period of time. The goals of this survey encompassed three domains:

1. *Duration of job search:* How readily do recent graduates from Master's level Global Health training programs find jobs?
2. *Match of pre-matriculation aspirations to jobs obtained:* Do recent graduates find jobs that meet their aspirations, for the work entailed and the location?
3. *Match of curricular preparation to requisite skills:* How well has graduate training in Global Health prepared graduates for their current jobs, and by inference, what gaps exist between what graduates learn and what employers need?
 - a. To what degree are the skills/competencies acquired during an MPH and Master of Science in Global Medicine degree congruent with the skills/competencies desired by employers.

The survey was distributed to 256 potential respondents across eight institutions in the continental United States of America (USA). Two hundred and nine individuals consented to completing the study. Fifty-seven respondents were removed from analysis for not answering if they graduated in 2016 or responding "no" to having graduated in 2016 or otherwise being ineligible to participate in the study.

Ultimately, 152 graduates were included in the analysis, giving a 59 percent response rate to our survey. One hundred percent of eligible respondents consented to participate in the survey.

KEY FINDINGS

1. Demographics: Three times as many female than male graduates responded to the survey, and graduates of MPH in Global Health programs were nearly double the respondents from Master of Science in Global Medicine programs. The most advanced degree of most of the respondents (77.8 percent) before studying in a Master's program was a Bachelor's Degree. Respondents included those representing major ethnic groups across the USA.

2. Job Search Methods: One hundred and two out of 152 (67.1 percent) respondents were employed at the time of this survey. Over two-thirds **of the respondents** were **employed or volunteering (69.1 percent; see Table 2)**. Of those currently employed, **74.7 percent reported currently working in a full time position**.

The majority of employed respondents **(85.7 percent) invested 0-5 months in their job search for their current position**. This included time spent on the job search during their most recent training program to initial hire date.

The **majority of employed respondents applied for more than 3 jobs**, with 21 percent applying for more than 15. For number of interviews and final job offers, there was a clear majority at 1-3 (59/91, 64.8 percent and 73/91, 80.2 percent respectively). Only 5 percent of respondents interviewed for more than 6 jobs. **Eighty-eight out of 91 (97 percent) of respondents received less than 4 job offers**.

Over one-third **of employed respondents (33.5 percent)** stated that they obtained their job through **recommendations by friends and colleagues**. Next, **31.8 percent** stated they found their job through **internet job postings**. None of the currently employed respondents reported use of journal advertisements, and only 8.1 percent of currently employed respondents acknowledged using university career services offices.

3. Fit of Job Environment, Skills, and Salary Expectations: From the nearly one-third **of respondents (47/152, 30.9 percent)** who were not employed at the time of this survey, **18/47 (38.3 percent)** were in an **academic program**.

Of the respondents currently employed, the most reported locations of employment included **schools of public health, not-for-profit/non-governmental organizations (NGOs) and other health-related educational institutions**. The least reported institutional categories of employment were nursing schools and faith based organizations.

Using a 5-point Likert scale, **more than two-thirds of employed respondents (68.2 percent)** felt it was somewhat to very accurate that they had limitations or gaps in their academic training. Of those limitations, **new business development (such as fundraising and otherwise) as well as software and/or IT capabilities and project design implementation were selected the most frequently (25 percent, 17.5 percent and 16 percent respectively)**. When comparing what respondents felt were limitations in their training alongside what they perceived to be most important for their employers, new business development was perceived to be less important to employers, while **project design/implementation and communication skills** were deemed most important.

Respondents were asked where their jobs are located, as well as where they would like to work. The majority of respondents reported that they currently work in North America (83.5 percent) whereas only 29.7 percent would like to work in North America. The distribution of preferred locations for work is more evenly divided within the World Bank analytic regions, the most common after North America (31 percent) being Latin America and the Caribbean (21.8 percent) and Sub-Saharan Africa (19.8 percent).

When expected salary was evaluated for those not currently employed, **72 percent** of respondents who were **currently in an academic program** anticipated earnings between **\$100,001 to \$160,000/year or more**. Conversely, the majority of those **not in an academic program** estimated a range between **\$40,001 to \$80,000/year (80 percent)**.

4. Match of aspirational goals to available positions: From a broad range, the top reasons for pursuing a career in global health were to work in the field of **health advocacy or in a clinically related program**. Programmatic capacity building, emphasizing project-based work within research and community directed organizations; however, was the most frequent overlap of pre-matriculation aspirations and current job placement.

5. Pursuit of further training/addressing knowledge gaps: Respondents felt that employers had more expectations for skills than training prepared them, specifically **non-clinical “soft” skill sets (e.g. communication, team building/collaboration, and cultural sensitivity)**. Respondents also reported equivalent gaps in training with employer expectations for **project design/implementation and statistical analysis skills**. Lastly, respondents currently employed reported a training gap for **software/IT capabilities, and new business development**, although they did not identify these skills as sought after by their current employers.

DETAILED RESULTS

Through our study, we sought to provide a picture of not only available jobs, but the experience of recent graduates in finding those jobs. As well, we sought their views as to what they may have thought they would be doing after graduation, or what they believe they should have learned before graduation. We also obtained the viewpoints and perspectives of recent graduates who were not able to find jobs, and obtained a more defined picture of the challenges involved in navigating the international global health workforce landscape.

EMPLOYMENT FIGURES

Through our survey of eight programs from eight institutions spread across the continental US we learned that the **majority of recent graduates were employed or in school** and not looking for work (**120/152, 79 percent**). Of the respondents who indicated they were employed, nearly three quarters stated they were employed full-time. This is a significant finding considering the large number of new global health programs and the resulting concern expressed about job opportunities.

According to a 2016 report by the Bureau of Labor and Statistics, the general unemployment rate for United States Citizens with a Master level degree is only 2.4 percent. Comparing the 21 percent not employed in our survey to the 2015 national average of 2.4 percent unemployed (an absolute difference of 18.6 percent) echoes the concern around the sustainability of the global health job market.

Ultimately, the vast majority of respondents were employed at either schools of public health, NGOs, or other health related institutions. The enthusiasm for working in these arenas parallels an era of expanded awareness among a generation of health professionals for the role of governments, foundations, and academic institutions in responding to epidemic and pandemic disease has been well described. However, rapid growth in global health programs have urged a focus on health system strengthening, innovation, and leadership development in low- and middle-income countries (LMICs) in light of changing funding patterns and the need to better bridge medicine and public health across all health systems.

EXPERIENCE IN THE JOB HUNT

We learned that the experience of searching for a job was different between respondents who were employed and not employed at the time of this survey. Those who were currently employed applied for only 1-6 jobs, with the vast majority receiving 1-6 interviews and 1-3 job offers. Conversely, those who were not employed on average applied to more than 15 jobs, received 1-3 interviews, and ultimately had no job offers.

To better understand these different experiences, we surveyed resources utilized for the job search. Recommendations by friends and colleagues as well as internet job listings formed the backbone of most respondents' application processes. There was also a similar trend in utilization of alumni networks. Unfortunately, we did not include this question in our survey of those not employed so comparisons between groups cannot accurately be assessed at this time.

REASONS FOR BEING NOT-EMPLOYED

To better understand the reasons for respondents not being employed, we looked closely at those who were not in a post-graduate academic training program. Interestingly, when asked why they were not currently employed the great majority identified with the statement that "few or no jobs are available for a person with my qualifications." Later in the survey, we asked those same respondents to rate their agreement with statements around their experience in searching for a job. Similar to previous, the most strongly agreed upon statement was "...limited number of job openings available."

In addition to a perceived lack of jobs, more than 50 percent of all respondents agreed to at least some degree with the statement that there were gaps in their academic training. Both employed respondents and those not employed identified project design/implementation skills, statistics, new business development and software/IT services at the top of their list of academic weaknesses. Interestingly, each cohort identified these same weakness as areas employers are looking for, whilst adding communication skills to the list. This suggests that respondents perceive communication skills as important, but do not feel that this is an area of particular weakness in current academic training.

SALARY QUESTIONS

Trends emerged among those who were employed, not employed but in an academic training program, and in training. In particular, the average salary of respondents who were currently employed moved in roughly \$20,000 increments:

1. Pre-Master degree: Most commonly identified salary range was \$20,001 to \$40,000
2. Post-Master degree: Most commonly identified salary range was \$40,001 to \$60,000
3. Perceptions Post-Master: Most commonly identified salary range of what they perceived they should be earning for their level of training was \$60,001 to \$80,000

Interestingly, no respondents currently reported earning more than \$100,000, although some thought they should be earning more than \$160,000.

This demonstrates that there is indeed a notable increase in the annual gross salary of respondents after having completed their Master's level training in global health (a roughly 150 percent increase). However, when compared to national level data for average income for those with a Master's degree of any kind, the annual gross income is approximately \$69,000. These findings beg the question of whether there is a disconnect between what students expect going into a Master's degree in global health and if perspectives should be re-framed following standard annual income.

When looking at the salaries of respondents who were not employed the expectations of those who were not in an academic training program nicely matched with those who were currently employed at a range between \$40,001 to \$80,000. However, approximately 45 percent of respondents currently in an academic training program estimated that they would earn more than \$160,000. Further exploration of the data demonstrated that those respondents tended to be in MD, DDs or Veterinary medical degree programs.

RECOMMENDATIONS

The experience of recent graduates can be useful for students, academia, and those who employ graduates of schools focusing on global health. The following are specific recommendations that can be taken to increase the likelihood that students in global health programs will successfully transition into the global health workforce.

I. FOR STUDENTS:

- Start creating your global health professional network. Get to know your professors. Create a tracking system to easily recall interesting people and maintain contact, starting with your fellow students, but including faculty, colleagues, mentors, and alumni.
- Get to know your professors and engage in work, whether paid or not, early. Seek out and take on project work.
- Pay attention to Global Health trends in skill areas GHFP-II's recent GH graduate's study reported as important. Consider courses in program design and management, and statistics/data analysis, as well as software and IT related content. As interpersonal effectiveness is so important, if skill training in teamwork and collaboration isn't offered in the core curricula, seek training elsewhere (even weekend workshops) to strengthen these skills and document your competence.
- Apply to as many positions as possible that fit your interests and what you think you do well. Identify a strong technical fit, but leave some space for learning too. Note to women: don't assume you need 100 percent of the qualifications to apply.
- The market for international work is global. Online application processes are becoming the norm. Become comfortable with subscribing to and following online job posting sites. Leverage your professional network to track opportunities across the United States and beyond.
- Be prepared for a somewhat lower starting salary compared to peers with a Master's level degree in other disciplines, particularly if you begin your career at a non-governmental organization (NGO).
- Be prepared and open to working in North America upon graduation, especially in global health organizations. It is a legitimate strategy to break into the GH industry.
- However, if you don't have overseas global health living and working experience, make that an early career priority.

2. FOR UNIVERSITIES:

- Recognize that global health is a fast moving technical area and encourage academic systems that take a more flexible, facile approach to trending technical needs.
- Identify and ensure recruitment materials accurately reflect key program strengths in global health direct service, research, or program implementation.
- Include and incentivize internships and volunteer work within the curriculum to create as many practical job-like experiences as possible.

- Make overseas, applied learning opportunities a key priority of the program, especially for diverse and minority students.
- Develop mentorship programs and incentivize faculty and senior students to participate.
- Reward faculty who are able to reach across technical sectors and other parts of the university and encourage students to take a systems approach as relevant to their GH professional aspirations.
- Encourage and incentivize faculty to experiment with less didactic, more experiential learning approaches to address competency gaps in effective team membership and teambuilding, program management, and collaboration.
- Prioritize the importance of creating and maintaining a robust alumni network. Regularly co-learn and dialogue with your alumni. Seek feedback from recent graduates on their job-hunting experience and what topics and content might be missing from the curricula.
- Actively engage potential employers to identify and describe the value of specific skill sets and competencies within global health curricula.
- Provide access to peer and professional networks, especially alumni and alumni stories.
- Ensure that students are competent in global health employment processes. For example, provide online job posting access.

3. FOR EMPLOYERS:

- Begin to view universities as preparation sites for your future employees and seek ways to invest in ensuring they are doing the best job possible in preparing the next generation of global health professionals.
- Create or support networking opportunities and interface with them to meet students and help to build alumni connections for students from related programs.
- Create feedback opportunities with academia to ensure alumni are prepared for work realities.
- Create internship and mentorship programs that support both established and emerging global health program students, especially for those seeking opportunities within your organization for overseas experience. Consider internships that focus on new business development and program implementation in addition to technical advising.
- Pay attention to what skills matter for successful global health work and assist in curricula development with universities based upon your understanding of the job market and future trends.
- Match the need for non-clinical skills (e.g. project management, proposal design, communication, team building, collaboration, and statistical/software skills) with early opportunities for learning through internships.
- Recognize the breadth of skills required to work in global health and offer opportunities for continuing education and skill development.
- Recognize that graduates are simultaneously applying to many jobs.

BACKGROUND

An ongoing dialogue within academic and employer environments has raised concerns for an oversupply of graduates in the field of global health.¹ Over the past fifty years, working in low-resource international settings have provided graduates from a wide range of disciplines the opportunity to apply their knowledge and skill sets within health systems in direct provision of services. As more health systems have begun to rely upon local and nationally trained staff and management in place of expatriate organizations and foreign trained staff, the impetus has increased for diversification of skills and innovative positions centered on development activities alongside clinical care. This convergence of the global health job market has run alongside extraordinary growth in global health training programs that have come to life in the last fifteen years.^{2,3}

Students pursue global health educational and service opportunities for a variety of reasons. The work they obtain following their educational path is a vital means for transforming curriculum content and trainee motivation into practice. Global health work is also the opportunity for aligning programmatic responses to global burden of disease and engaging in health system strengthening. Despite the recognition of degrees provided from accredited institutions, international standardization has shown to be problematic.⁴ From a cursory review of 178 job postings, 50 percent requested applicants have the knowledge and skills normally acquired in schools of public health, with 51 percent requiring at least a Master's level qualification or doctoral degree.⁵

These factors have raised concerns about the global health job market, and reflect broader awareness of much needed policy dialogue, coordination, and social accountability.⁶ The WHO has called for improved global monitoring and accountability on international human resources for health goals in response to this need, and recently convened the Global Health Workforce Network with its inaugural event at the 4th Health System Research Symposium in Vancouver, Canada, in November 2016.⁷

Looking back, a landmark and original work by Baker in 1984 described the perspectives and extent of career opportunities within international health and global health work for graduates from public health training programs.⁸ As described above, over the past three decades since this article was published, there has been an exponential growth of programs and competencies. As well, the field has clearly shifted from an “international health” workforce, predominantly referring to a high income country (HIC) to low-middle income country (LMIC) exchange of human resources for health, to “global health” workforce, indicating an approach to the questions and challenges surrounding health for all.⁹ Consistent with the evolution from international health to global health has been the shift from specific, clinical health services to comprehensive non-clinical community-based programs involving inter-agency collaborations transcending barriers and silos within the clinical disciplines. Two distinct workforces emerge: one involved in clinical care (e.g. “health workers”) and the second specifically trained to plan, develop, manage, monitor, research, or evaluate programs intended to address health challenges.

Koplan defines global health as the “area of study, research and practice that places a priority on improving the health and achieving equity in health for all people worldwide.” The context for the global health practitioner is frequently the international context, whether via long term or temporary/intermittent obligations. However, it is clear that significant health gradients continue between and within countries.^{10,11} These health gaps compel many in the global health workforce to commit their career, or a portion thereof, to the service of local refugee, immigrant, homeless, and uninsured communities as a matter of addressing the cultural/linguistic differences, power imbalances, and unique challenges that travel and international health settings frequently provide. It is clear that these service environments raise ethical dilemmas in the health professional's home community, especially when the international context can also draw their time, attention, and skill set elsewhere (e.g. “the brain drain”). Resource limitations and standard of care disparities emerge as relevant dilemmas for

the global health professional.¹² Advocacy and policy in support of strengthening local health systems that best serve these communities can be viable avenues for choosing local service needs over international work.¹³

While international global health jobs have appeared to diminish over the past fifteen years, the number of domestic positions, particularly in academia, has increased exponentially.¹⁴ An increase in the past two decades of both federal and foundation funding has paralleled the growth of university-based programs. A general critique exists that such development has occurred without respect for global burden of disease data, nor a generalizable and uniform structure across institutions.¹⁵ This heterogeneity has prompted curricular innovation in the health professional and post-doctoral realms. The need is precipitated not only by an exponential increase in programs, but also by the steep rate of rise in student interest in health equity, health advocacy, and structural competencies.^{16,17} Specifically, interest in global health careers among medical students, residents, and fellows has never been higher.^{18,19}

Despite uncertain job prospects, students are frequently drawn by the idealized image of the global health worker in their element.²⁰ Much continues to be popularized to promote this ideal with resultant enthusiasm, momentum, and entrepreneurial spirit motivating cohort after cohort into the training arena.

The interdependence of both the global health training environments and the global health workforce has been formally described as the intersection of the education and health systems.²¹ A correct estimation of job potential is necessary on several levels: 1) can graduates adequately apply their knowledge and skills in the intended environment of their training? 2) can graduates repay the educational expenses acquired while engaged in their course of study? 3) can graduates bring a strengthening capacity to health systems increasingly challenged by growing epidemics of non-communicable disease and income inequalities?

CURRENT PATHS TO WORK

A 2016 survey of global health employers demonstrated the need for non-clinical skills (e.g. program management, monitoring and evaluation (M&E), communications, strategy, project design, collaboration, and teamwork) that are frequently being met outside of academic preparation settings.²² Overseas work, field experience, strengthened program management, M&E, and proposal writing skills are increasingly recommended to graduates by employers. In addition, employers have recommended curricular goals in academia to include skills and characteristics involving an understanding of the context and realities of global health, cultural sensitivity, cross-cultural communication, knowledge of key players, systems, and processes, and flexibility, adaptability, and creativity.^{22,23}

Typically, a minimum of five to seven years of experience is required to obtain a first job in global health.²⁴ This places a unique pressure on the global health workforce applicant pool, motivating further study, as well as paid fellowship and volunteer internship experiences to gain the further requisite experience for career advancement.²⁵

From the wide range of relevant disciplines, a common starting point for global health work is often via internship or work-study experiences. Collaborations during an internship or fellowship frequently influence job placement and research directions. Longitudinal, one-to-two year commitments modeled after the Peace Corps approach, such as the Fogarty International Clinical Research Scholars Program, the Global Health Service Partnership, Global Health Corps, HEAL Initiatives and a diverse array of World Health Organizations (WHO) Internships, provide intensive entry into academic and research positions.^{26,27} Additionally, many non-governmental organizations (NGOs) rely on a volunteer workforce, especially those that originate in HIC settings and address service provision, education, technical assistance, and community development in LMIC settings. Reliance on volunteer labor is difficult to

sustain, however. A long-term career in global health calls for a balance of motivations, lifestyle demands, and changing skill sets.^{28,29}

Following internships, many entry points exist to global health work. Disciplines of study are broad and can include engineering, law, anthropology, sociology, public health, nursing, nutrition, dentistry, pharmacy, and clinical medicine. Entry positions in the greater global development sector are often auxiliary, supportive, and incorporate program management.³⁰ Many students access global health following a stint of volunteerism or work in evaluation, outreach, or education. Thus far, limited evaluations of alumni career trajectories have provided a narrow insight into the post-graduation trends of graduates' careers in global health. Over time, a shift towards domestic public health following stints in overseas work was noted by one institution's survey of alumni over a 25-year period, with most recent alumni further pursuing additional education and/or training.³¹ Further professional development is often via unpaid and formative training experiences.³²

Additional entry points into global health work include humanitarian emergencies. Emergency relief efforts frequently demand specific and limited skills in the time of acute crisis. The period immediately following emergency relief typically requires clinical disciplines to rely on public health expertise and address infrastructure needs (e.g. water and sanitation, nutrition, and human displacement over a prolonged timeframe).³³ Moving past the acute phase, engineering specialties, in particular mechanical, civil, and water and sanitation, are activated. Similarly, environmental health and agricultural skills restore infrastructure. Lastly, sustainable development and societal function relies upon jobs in the social sciences, law (e.g., human rights, social justice, human trafficking), business and administrative disciplines.³⁴

CAREER SERVICES

Many university-based departments of global health have career development support via online listservs, job counseling and career fairs. Notable centers such as the London School of Hygiene and Tropical Medicine, University of Washington Department of Global Health and Johns Hopkins Bloomberg School of Public Health now host annual events to allow trainees and recent graduates opportunities to learn the skills and experiences valued by regional global health organizations. Emphasizing resume building, alumni perspectives, and interview skills, these career fairs encourage attendees to build networks from within the campus environment. Discipline-specific associations also play a role in promoting an array of activities. Each organization provides specific postings and application instructions on their websites. In some circumstances, third party assistance is available via promotional means (e.g., theguardianjobs, Jobs4Development, DevNetJobs, SciDevNet, etc.). Some organizations (e.g. US Centers for Disease Control and Prevention [CDC]) allow thematic jobs to be explored, including HIV/AIDS, measles, sanitation and hygiene, security, vaccination, and water. CDC Global Health vacancies typically fit one of the following four descriptions and are customarily senior level positions: epidemiologist, public health advisor, health scientist, and medical officer.

PROFESSIONAL AND ALUMNI NETWORKS

The literature on the role of networks and professional mentorships for finding, applying, acquiring, and hiring newly graduated candidates is sparse. It is commonly known, however, that networks established during the training period play an unequivocal role in supporting transition to the workforce for many graduates. The addition of digital means for maintenance of these networks, along with the expedience of social media to post, share, query, and connect is notable in this era, though poorly described when addressing the inequalities found upon evaluating job search experiences of graduates in the global health arena.

This survey sought to provide a snapshot of the experience and outcomes of the job hunt of recent graduates of Master's level programs in global health. Specifically, with the hypothesis that these recent evolutions in training programs and global health as a whole have created a mismatch between global health training and workforce needs.

METHODOLOGY

ETHICS APPROVAL AND STUDY ADVISEMENT

The Institutional Review Board at the Public Health Institute (Oakland, CA) approved the research protocol, including survey and participant selection methods, and informed consent was obtained for all study participants within the survey tool. A survey advisory committee (SAC) consisting of members from the CUGH Global Health Education Workforce Subcommittee was formed to provide technical assistance and support throughout the duration of the study.

PRIMARY OBJECTIVES

A web-based survey of 2016 alumni from eight global health-training programs across the continental US was performed between September 21st, 2016 and December 5th, 2016. The survey was originated and designed from the on-going work of the CUGH Education Workforce Subcommittee. The primary objectives of the survey included:

1. To identify how recent graduates of Master's level GH training programs find jobs. Specifically, the length of time to get a job in international global health, and their overall experience searching for that job.
2. To discover whether those jobs meet their wishes and expectations for a career in global health.

SELECTION OF UNIVERSITIES

Eight institutions across a diverse geographic and ethnic background from both the public and private sector were sought for inclusion in this study population. The sampling frame utilized participatory institutions within CUGH. Selected programs were additionally required to have either a Master of Public Health, with a defined global health track/program or a Master of Science/Global Medicine.

The following institutions and programs were identified for inclusion in the study:

- University of Illinois at Chicago, MPH-GH Concentration
- University of Texas, San Antonio, MPH-GH Concentration
- Johns Hopkins University, MsPH-Global Health
- Northwestern University, MSc-Global Health
- University of California, San Francisco, MSc-Global Health
- University of Southern California, MS-Global Medicine
- University of Washington, Global Health MPH

SELECTION OF SURVEY RESPONDENTS

Respondents were specifically sought using the below inclusion criteria:

1. Must have graduated in 2016 from one of the eight institutions selected for the study.

2. Within a selected institution, the respondent must have obtained either a Master in Public Health, with a global health concentration, or a Master in Global Science/Medicine.

Exclusion criteria included if a respondent had incorrectly submitted the survey and/or did not answer the mandatory survey questions indicating program, year and institution of graduation.

DEVELOPMENT OF SURVEY TOOL

A 57-question survey tool was developed through a collaborative and iterative process between the CUGH Education Workforce Subcommittee and the SAC. The survey was formatted and placed onto Survey Monkey and beta tested by members of the SAC and recent graduates of Master's level programs. Feedback was integrated into the survey and the tool refined. (See Appendix A)

DISSEMINATION AND OUTREACH

Dissemination of the survey relied upon coordinators of the eight participating programs. Graduates were reached via digital communications in mailings, newsletters, and social media outreach from these program coordinators. Participating program leads directly corresponded with program graduates sharing the survey link. Graduates were provided introductory material and a survey explanation from the program leads, chose to complete the study, indicated their consent, and proceeded with providing their answers to the survey questions. At the completion of their survey engagement, after selecting "submit," they had the option for entering their email address into a drawing for Delta Airlines tickets, via a link separate and distinct from the survey tool.

Outreach was conducted on a weekly basis to each of the university contacts via e-mail and phone. A standardized e-mail template (See Appendix B) was sent out to administrators in order to facilitate correspondence with their 2016 alumni.

The second round of outreach occurred between October 5th, 2016 through October 20th, 2016. A reminder e-mail template (see Appendix C) was sent to all eight participating universities. During this stage, it was noted that some respondents did not graduate in 2016. To ensure adherence to survey goals, Questions 1 and 3 were adjusted to become mandatory.

Throughout the months of October and November, outreach efforts were tracked through weekly analysis reports, signaling institutional trends and up-to-date summary data on employment rates. University program leads received a weekly list of students who had already filled out the survey, as cross-referenced with the names found in the external Delta Drawing page. This increased efficiency in communication efforts and eased university concerns of survey fatigue. To encourage more responses, SAC members sent tailored e-mails and outreach via social media to university leads and alumni. Outreach and research were also conducted directly via social media, where a Facebook event page that links to the survey was created and shared with all institutional contacts for dissemination.

At the final stretch in November and early December, SAC members who had contacts within the eight institutions were encouraged to make a final push for the survey through social media, e-mail, and LinkedIn.

The survey period closed on December 5th, 2016.

DATA ANALYSIS

A series of considerations and changes were made to clean the data for analysis. For a detailed list of changes by each question, please see Appendix D.

FINDINGS

RESPONDENTS

Two hundred and nine individuals consented to completing the study. Forty-eight respondents were removed from analysis for either not answering if they graduated in 2016 or responding “no” to having graduated in 2016. Four students were removed from analysis for not responding to the school of graduation in 2016 or being ineligible to participate in the study. Three respondents were removed from analysis for not indicating their current status of employment.

Ultimately, 152 graduates from 2016 of selected institutions were included in analysis (out of 256 potential respondents, giving a 59 percent response rate). One hundred percent of eligible respondents consented to participate in the survey.

DEMOGRAPHICS

Demographic information from the respondents divided by employment status are presented in Table 2. There were more than three times greater female than male respondents and nearly double had obtained an MPH with a concentration in global health in comparison to the Master of Science in global medicine. The most advanced degree of over three-fourths of respondents (77.8 percent) going into their recent Master’s program was a Bachelor's Degree. One hundred and two out of 152 (67.1 percent) respondents were employed (Table 1).

Table 1. Demographics Information

QUESTION		NUMBER	PERCENT
Degree Obtained in 2016	Master of Science in Global Medicine	57	37.5 %
	Master of Public Health, with a concentration in Global Health or Master of Science in Public Health	95	62.5 %
Gender	Male	36	23.7 %
	Female	115	75.7 %
	Other/Prefer Not to Answer	1	0.6 %
Race/Ethnic Background	American Indian/Alaskan Native	1	0.7 %
	Hawaiian	1	0.7 %
	Asian or Pacific Islander, including Indian Subcontinent	38	26.6 %
	Black, not of Hispanic Origin	9	6.3 %
	Hispanic Origin	14	9.8 %
	White	69	48.3 %
	Prefer not to disclose	11	7.7 %
Currently a citizen of U.S. or a holder of a U.S. permanent resident visa	Yes	125	83.7 %
	No	26	16.3 %
What degrees do you hold, excluding your recent Master's level degree?	Bachelor's degree	112	77.8 %
	Degree in Nursing	21	14.6 %
	Master's from a school of Public Health	11	7.6 %
Employed and Not Employed	Employed	102	67.1 %
	Not Employed	47	30.9 %
	Volunteering	3	2.0 %

EMPLOYMENT DATA:

A broad landscape of employment was noted among the graduates sampled. Just under 1/3 of respondents (30.9 percent) were not employed at the time of this survey with no immediate prospects. Although initially being described as not employed, 18/47 (38.3 percent) respondents were in fact in an academic training program.

EMPLOYED:

One hundred and two respondents were employed at the time of this survey. The details of their job, including current responsibilities are outlined in Table 2. Almost 3/4 of respondents were working full time (74.7 percent)

Table 2. Employment Characteristics

QUESTION		RESPONSE COUNT	PERCENT
Is this your first job in global health?	Yes	44	48.4 %
	No	47	51.6 %
Are you working part time or full time?	Part time	23	25.3 %
	Full time	68	74.7 %
My search for a global health related job resulted in few opportunities specific to my training.	Not accurate	30	33.0 %
	Somewhat accurate	39	42.9 %
	More accurate	13	14.3 %
	Very accurate	9	9.9 %

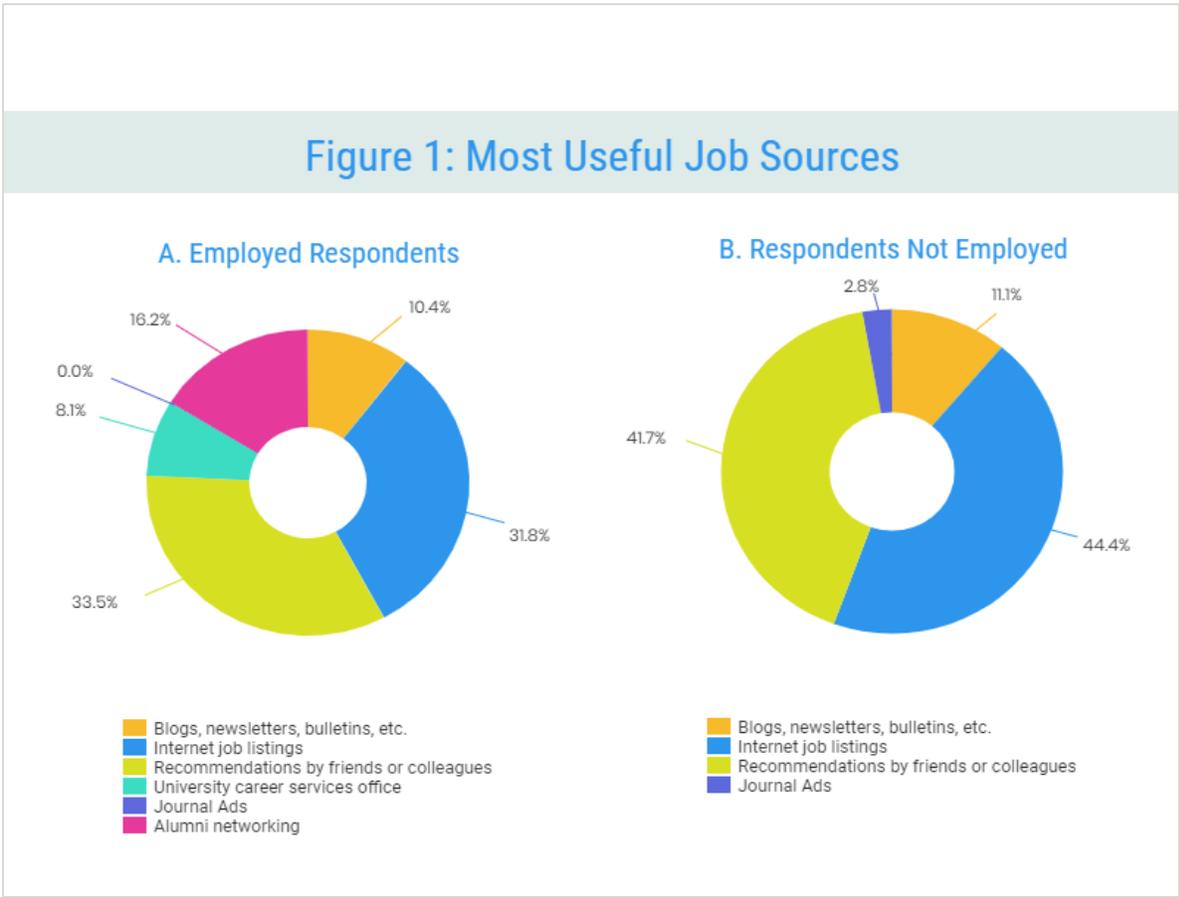


Figure 1. Most Useful Job Sources

Over one-third of respondents (33.5 percent) stated that they obtained their job through recommendations by friends and colleagues. Next, 31.8 percent stated they found their job through Internet postings. None of the respondents used journal advertisements, and 8.1 percent of employed respondents reported the utility of the university career services offices.

When looking for jobs nearly one-half (44.4 percent) of respondents not currently employed stated that they used online job posting, while 41.7 percent stated that they used recommendations from friends or colleagues. Similar to the employed group, very few – only 2.8 percent of respondents – stated that they used journal ads to search for jobs.

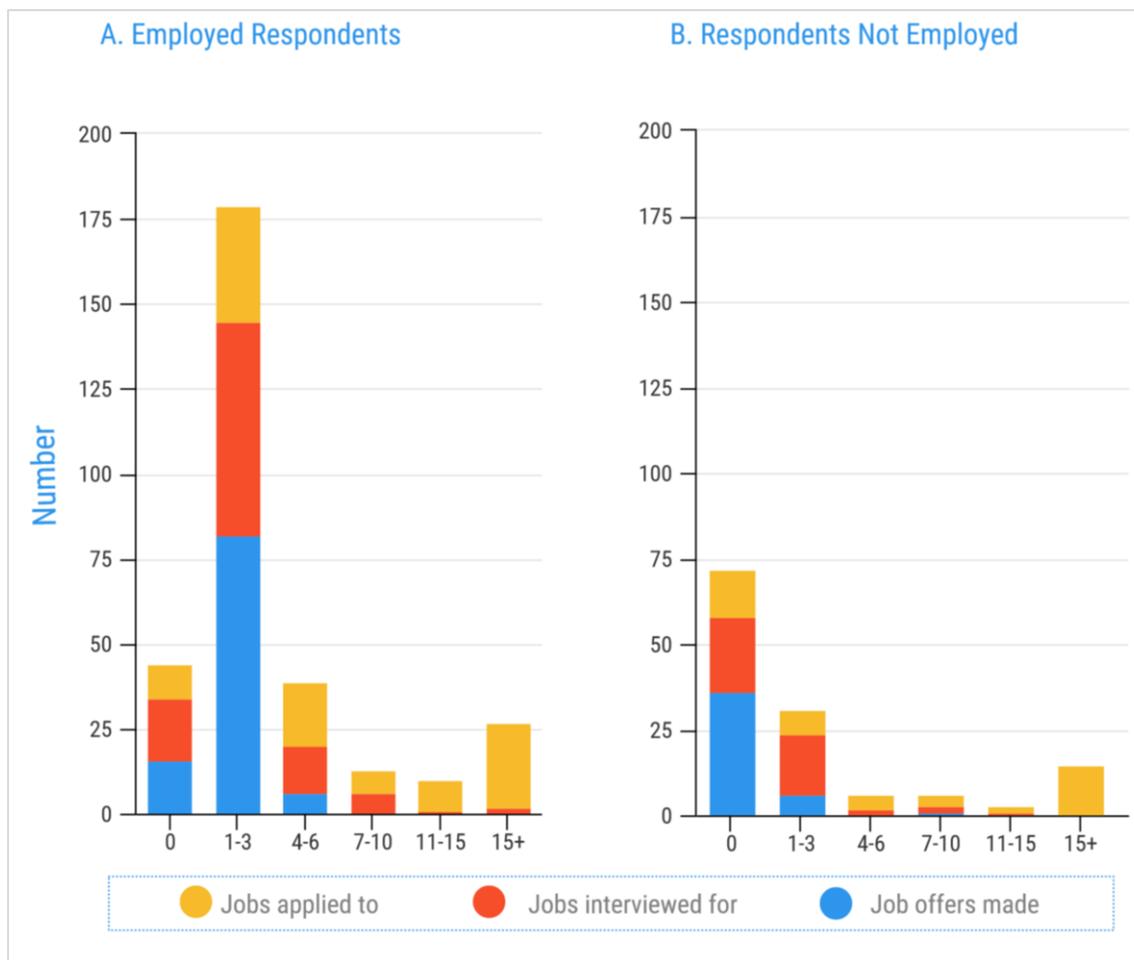


Figure 2. Job Applications, Interviews, and Offers

The experience of both employed and not employed respondents finding their current job is depicted in Figure 2. For number of interviews and final job offers, there was a clear majority at one to three (59/91, 64.8 percent and 73/91, 80.2 percent respectively) for respondents currently employed. Only 5 percent of respondents interviewed for more than six jobs, and 88/91, 97 percent of respondents received less than four job offers.

When searching for a job the experience of those who were not employed, when compared to those not employed but in an academic program, was quite different. Of respondents who were not in an academic training program, 14/24 (58.3 percent) reported that they applied to more than 15 jobs, while 15/24 (62.5 percent) reported receiving only 1 to 3 interviews. Seventy five percent reported receiving zero job offers.

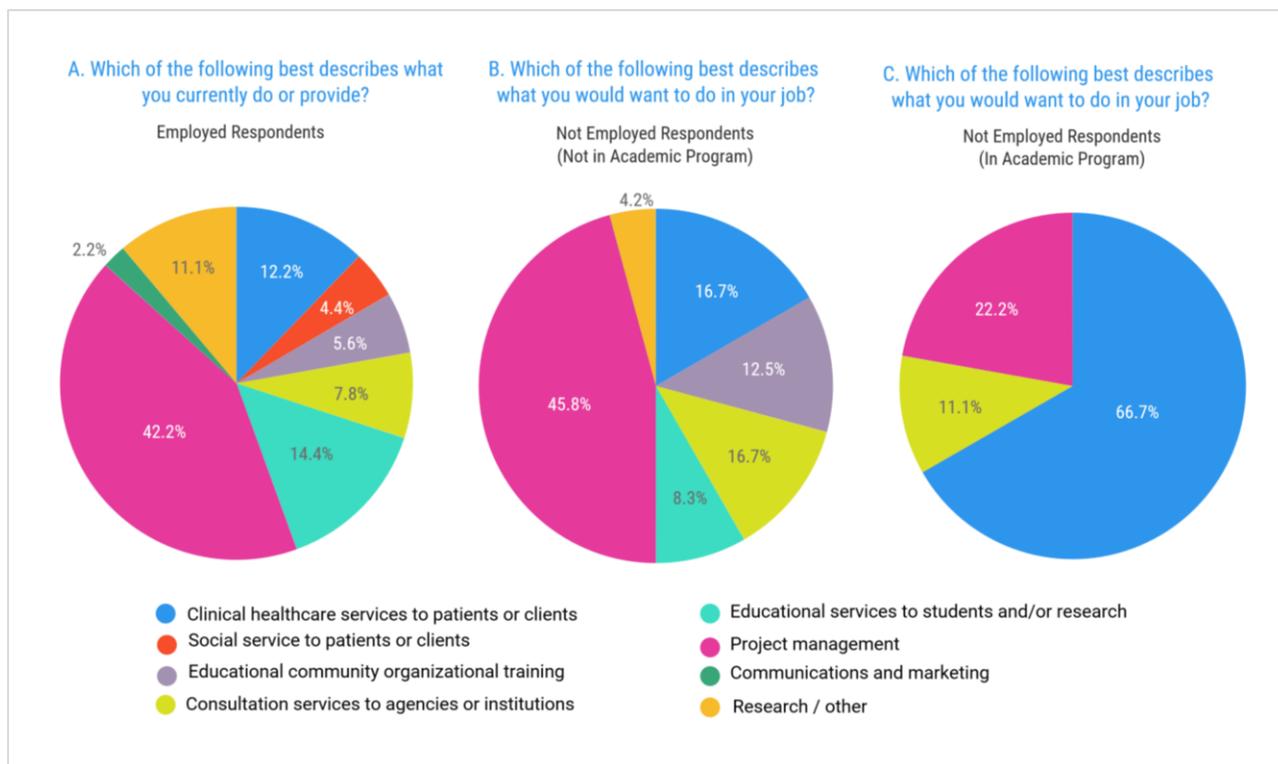


Figure 3. Employment Services

Figure 3 depicts respondents' job descriptions. Forty-two point two percent of employed and 45.8 percent of not employed respondents described their current and ideal jobs (respectively) as project management. Interestingly, the next highest categories were educational services to students and/or research (14.4 percent) and data analysis/research (11.1 percent). The least common job description was communications and marketing (2.2 percent)

The distinction between those not employed and in an academic training program versus not employed and not in an academic training program was present in respondent's ideal job. While 66.7 percent of those currently in an academic program stated that they would like to work in a clinical setting, 45.8 percent of those not employed and not in training stated they would like to work in a project management capacity, with only 16.7 percent of similar respondents stating they would like to work clinically (Figure 3).

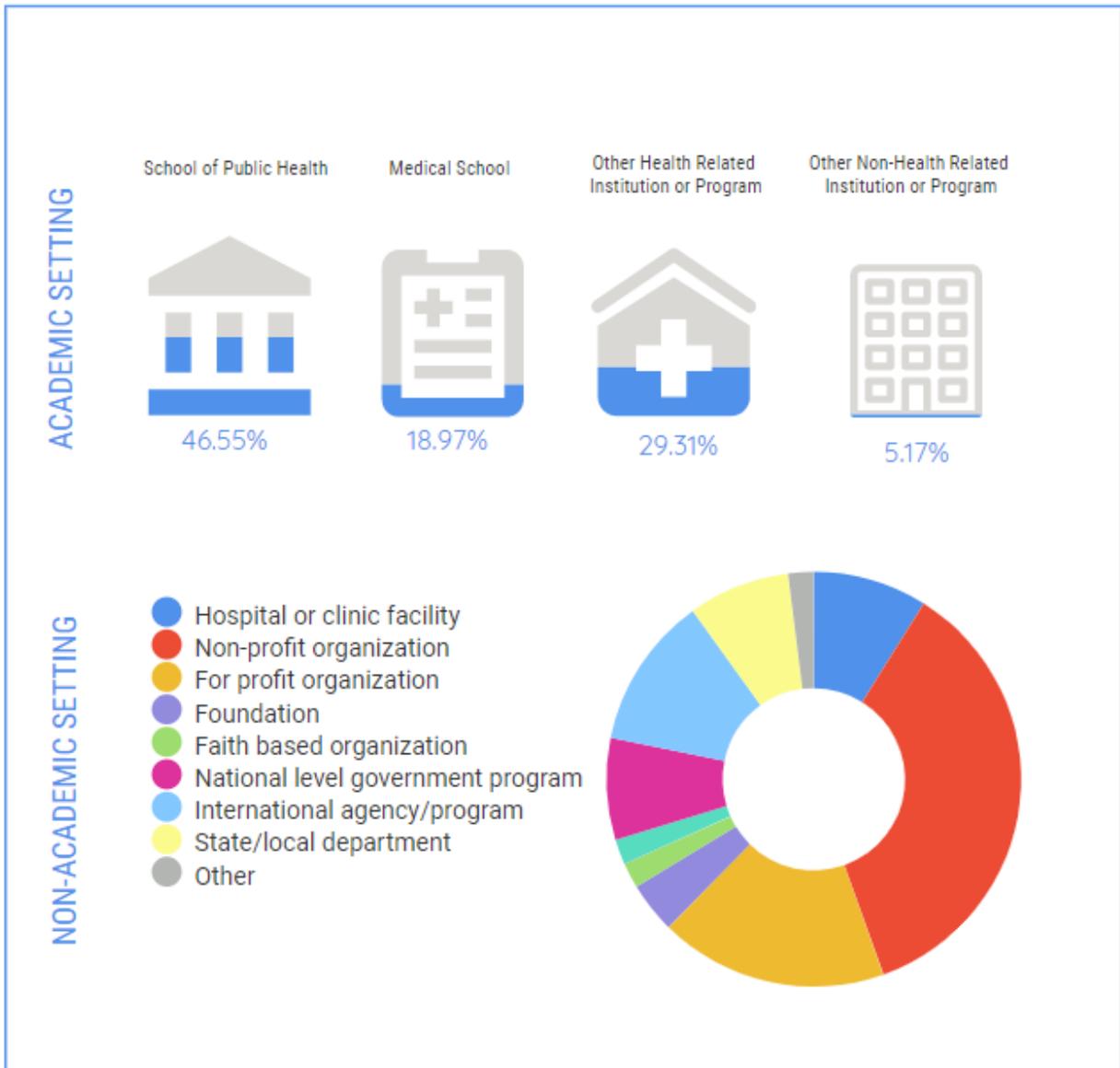


Figure 4. Setting that Describes Respondents Current Employment

Figure 4 demonstrates that the institutions most commonly cited as a current place of employment were schools of public health, not for profit/NGOs, and other health-related educational institutions. The least commonly institutional categories selected by currently employed respondents were nursing schools and faith based organizations.

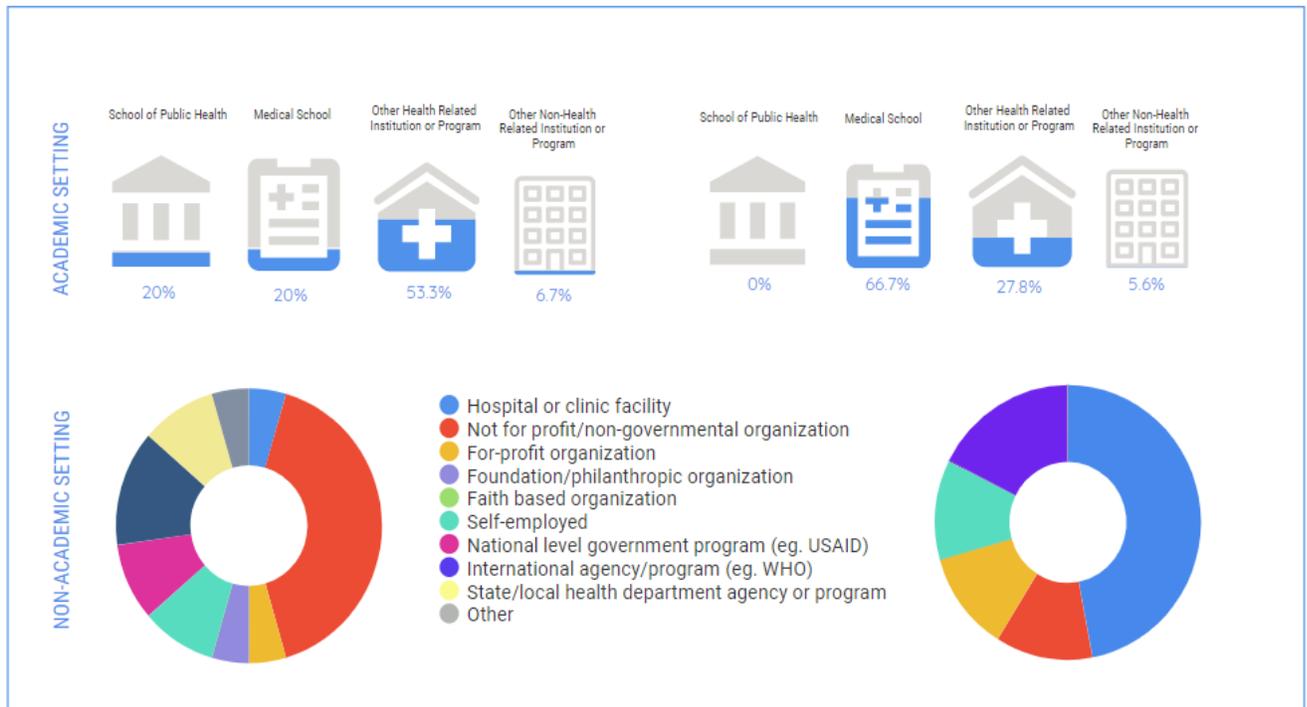


Figure 5. Setting that Best Describes Respondents Ideal Employment

Figure 5 describes respondents who were not employed and in an academic program separately from the remaining respondents currently not employed. The distinction between cohorts currently in an academic program and those not employed and not in training was present in respondent's ideal place of work. Similar to ideal job description, nearly 50 percent of those in training stated that they would like to work in a clinical setting with patients, while 45 percent of those not employed and not in training stated they would like to work in a project management capacity within a not for profit/NGO, with only 16.7 percent stating they would like to work clinically.

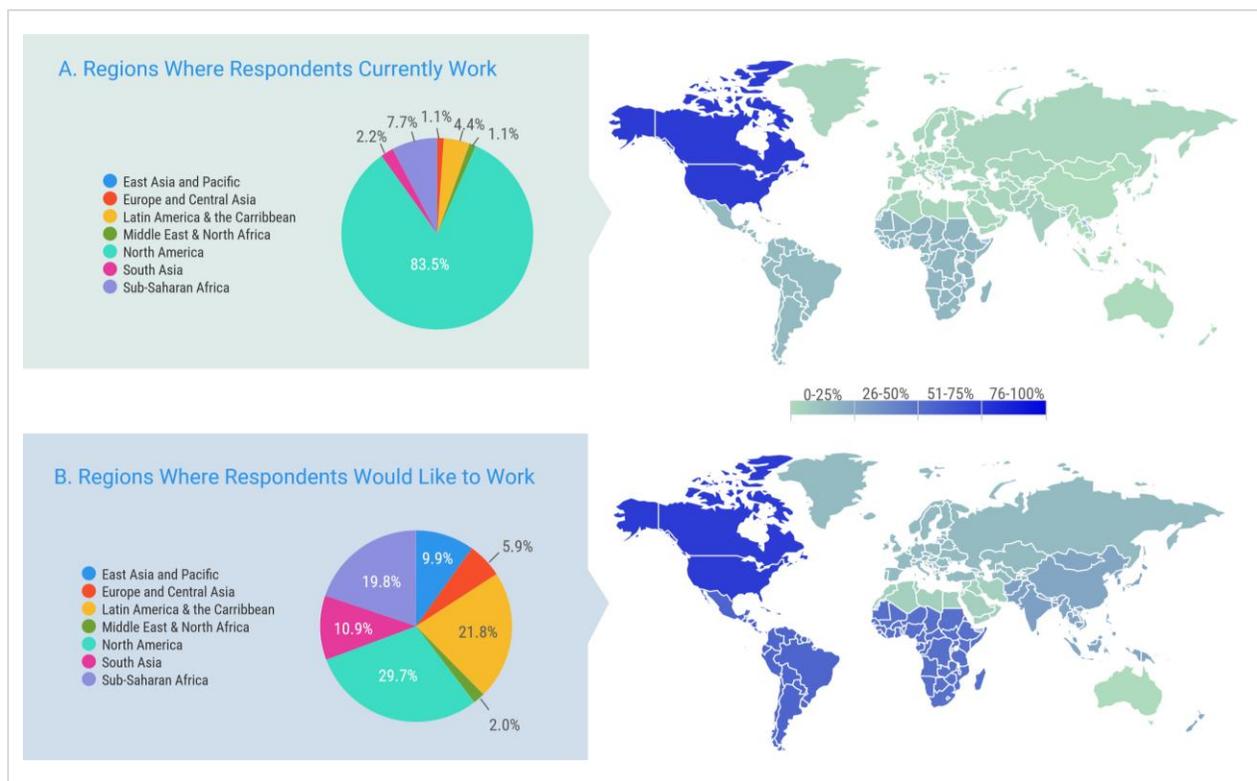


Figure 6. Employment Location

Respondents were additionally asked where their jobs are located, as well as where they would like to work. When the data are compared it becomes clear that the vast majority of respondents work in North America (83.5 percent) whereas only 29.7 percent would like to work in North America. The distribution of preferred location for work is more evenly divided amongst all World Bank analytic regions, with the most common after North America (29.7 percent) being Latin America and the Caribbean (21.8 percent) and Sub-Saharan Africa (19.8 percent).

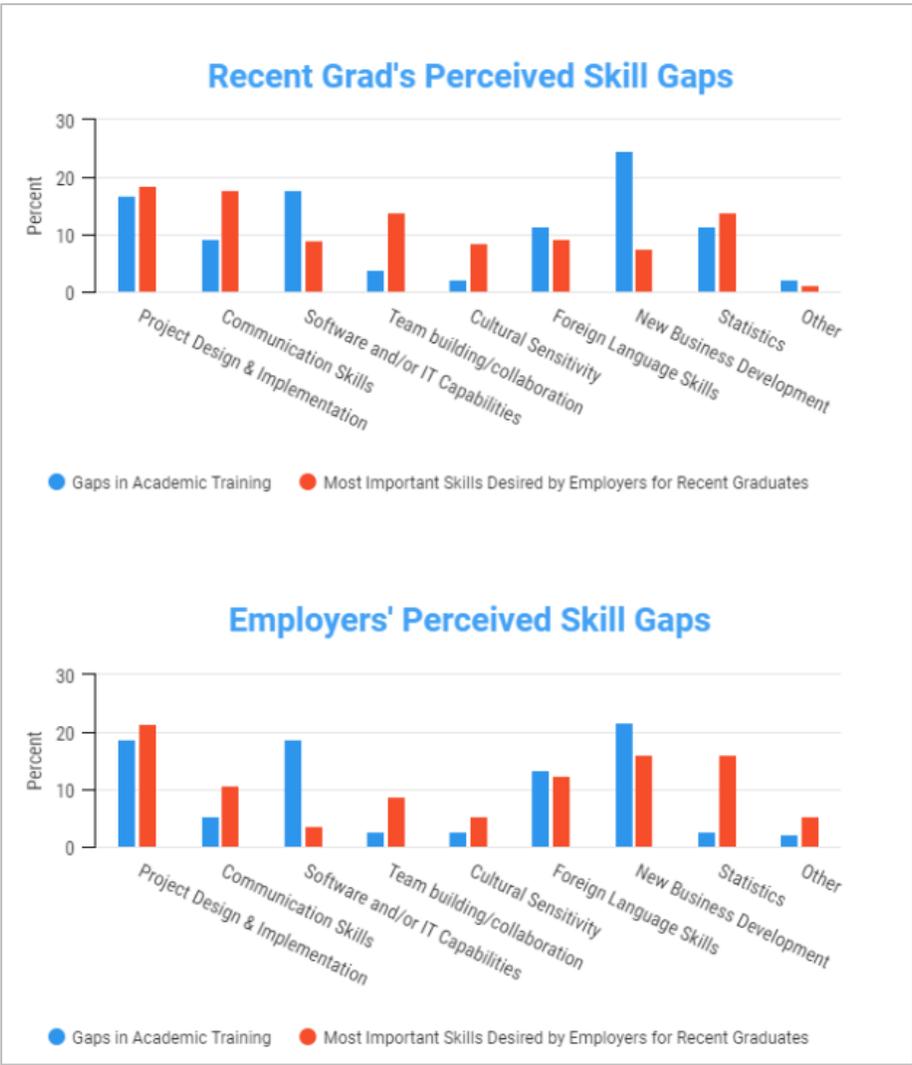


Figure 7. Gaps in Academic Training and Most Important Skills Desired by Employers

Of those limitations, new business development (such as fundraising), software and/or IT capabilities, and project design implementation were selected the most frequently (25 percent, 17.5 percent and 16 percent respectively). When compared to what respondents thought would be the most important skills to their employers, new business development was rated less important to employers than gaps in training while project design/implementation and communication skills were higher.

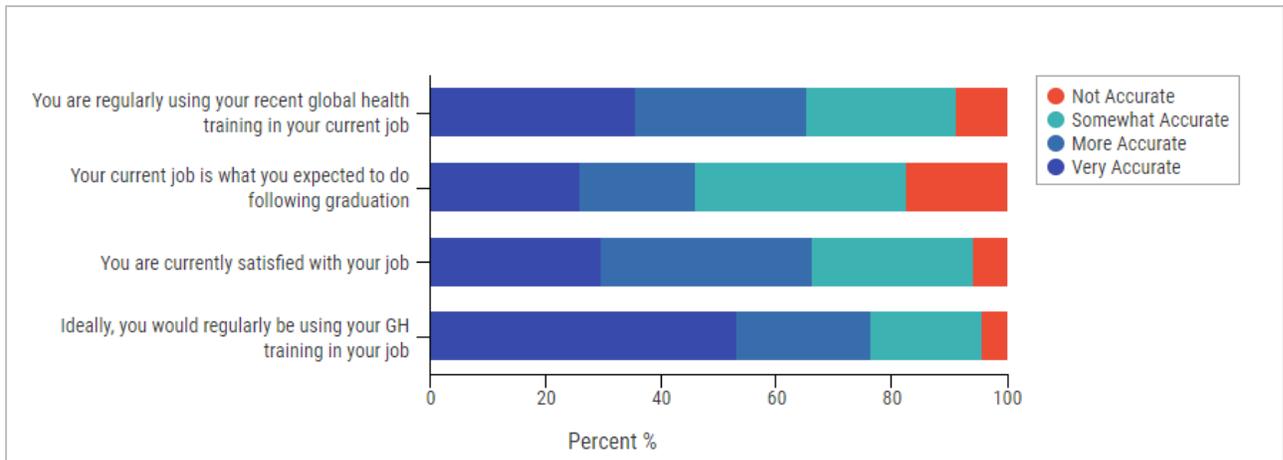


Figure 8. Global health training, job expectations and satisfaction

Looking more closely at respondents’ perspectives of their jobs, the least accurate statement identified was “Your current job is what you expected to do following graduation” while the most accurate was “Ideally, you would regularly be using your GH training in your job.”

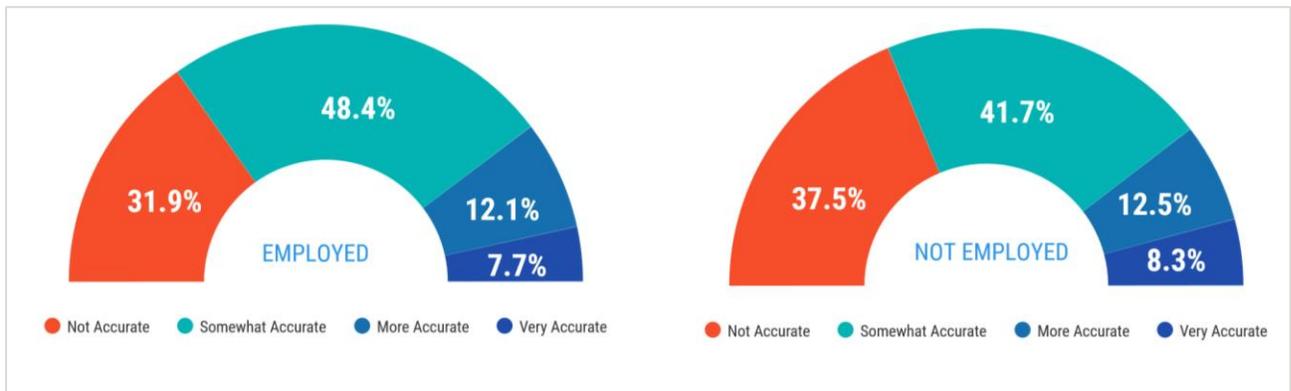


Figure 9. Limitations in Academic Training

More than two-thirds of employed respondents (68.2 percent) felt it was somewhat to very accurate that they had limitations or gaps in their academic training. More respondents who were not employed felt the statement was not accurate (37.5 percent), although the majority still at least somewhat agreed with the statement.

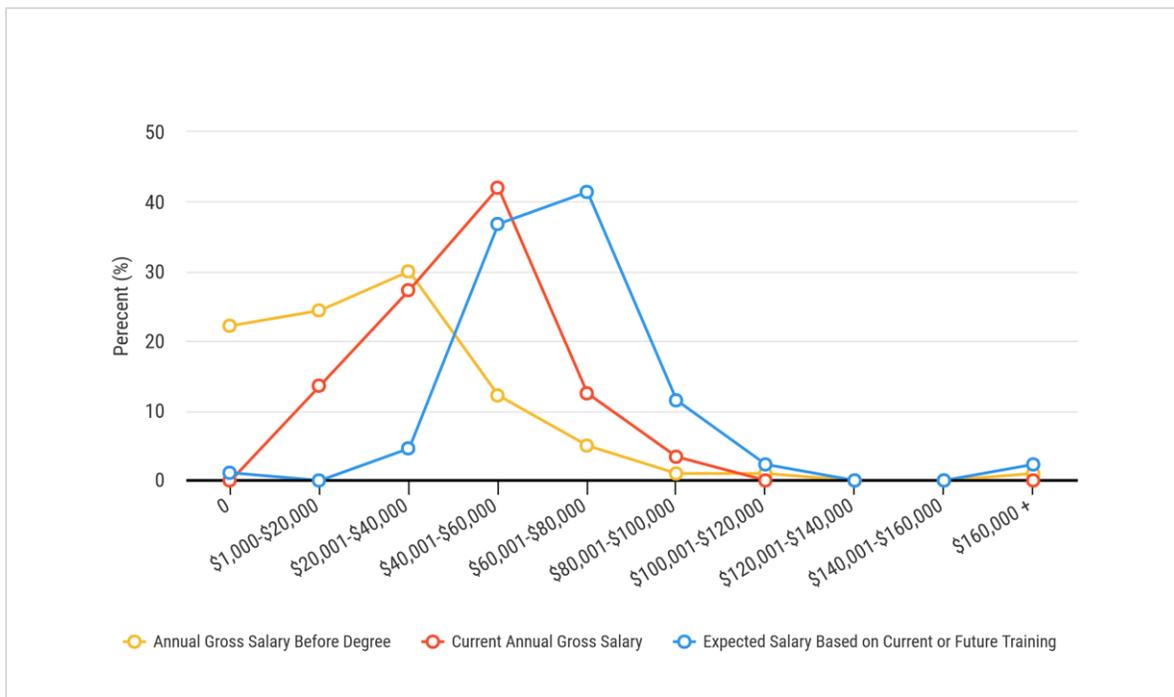


Figure 10. Salary Before Degree, Current, and Expected

When looking at gross salary, clear trends emerged between pre-program, post-program, and desired amounts. Before beginning the recent Master’s level degree respondents on average earned \$40,000 or less per year (77 percent) at the time of this survey. After graduation, most respondents were earning between \$20,001 to \$60,000 (71 percent). However, 78 percent of respondents identified that for their current level of training and experience, they felt that they should be earning a gross yearly income of between \$40,001 to \$80,000.

When expected salary was asked to those who were not employed, 72 percent of respondents who were currently in an academic training program anticipated earnings between \$100,001 to more than \$160,000/year. Conversely, the majority of those not in an academic training program estimated a range between \$40,001 to \$80,000/year (80 percent).

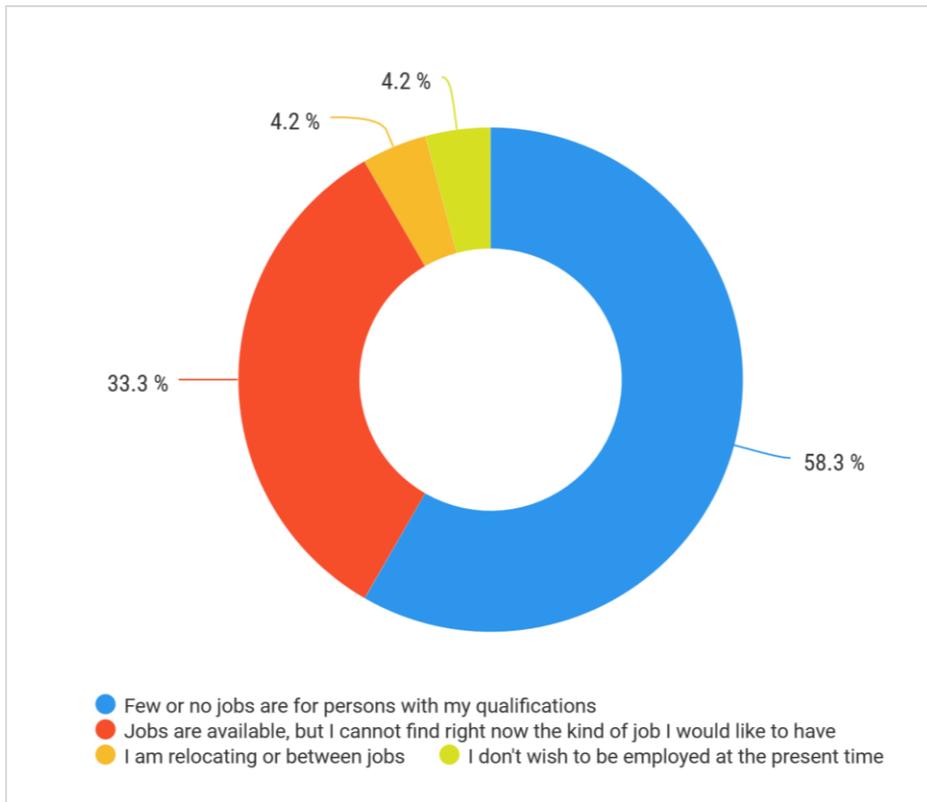


Figure 11. What is the Primary Reason That You Are Now Unemployed?

A total of 47/152 (30.9 percent) of respondents stated that they were not employed at the time of this survey. Interestingly, 18/47 (42.9 percent) stated that they were not employed as they were currently in an academic program that began following graduation from their recent master's degree.

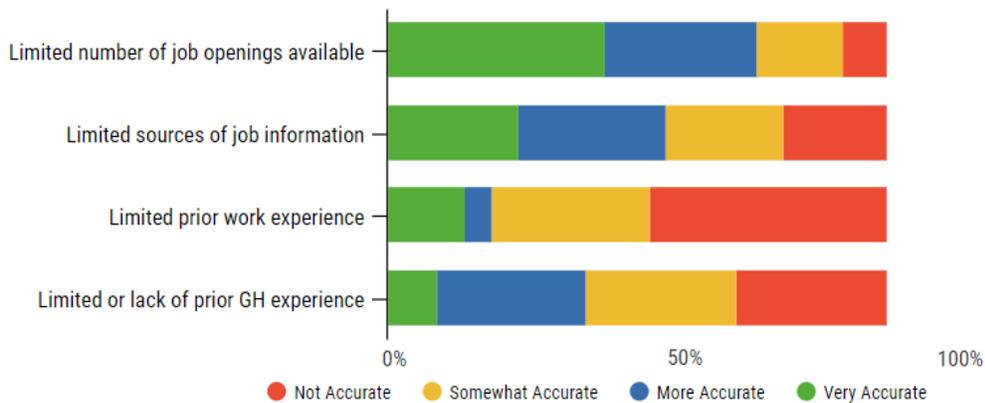


Figure 12. Barriers to Finding Global Health Employment

Respondents were asked to rate on a Likert scale their level agreement with a number of questions asking for their insights into reasons for currently being not employed. Respondents seem to disagree with

statements that they had academic training gaps, lacked prior global health experience, or had limited prior work experience. However, they seemed to endorse there being a limited number of open jobs and limited sources of job information.

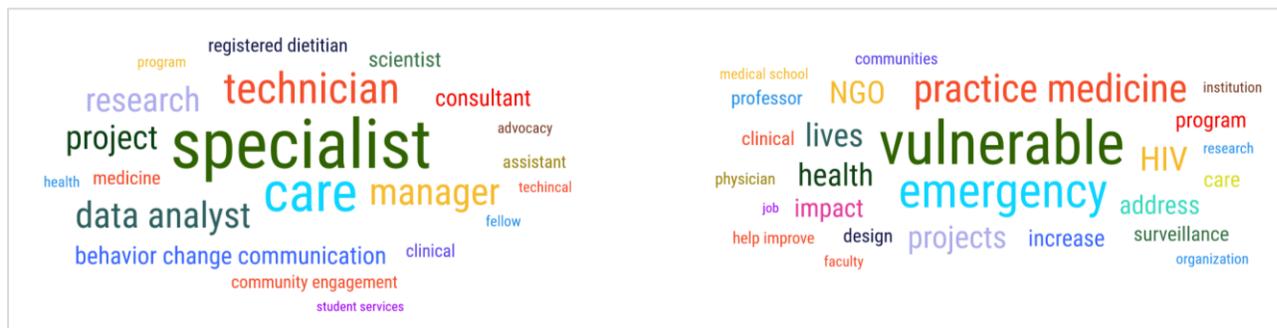


Figure 13. Aspirational Goals and Figure 14. Other goals

In one of the final questions of the survey respondents were asked to add in free text their career and aspirational goals in global health. The two most common themes in their answers were “Specialist” and “Vulnerable.”

LIMITATIONS

This project was carefully constructed and executed with an eye for the highest standards of research principles. However, there are some limitations that should be addressed.

DIFFICULTY ENGAGING MINORITY-SERVING INSTITUTIONS (MSIS)

One intended goal for this study was to better understand the barriers to employment experienced across diverse geographic and population groups. Selected institutions had to meet the following criteria in order to participate in the survey: hold CUGH membership, offer an MPH or MS program in the United States that contained a GH track or concentration, and include graduates from the most recent degree year, 2016. Multiple attempts were made to engage MSIs at both the onset and midpoint of the survey period. The desire was to obtain a diverse-population balance; ultimately three of the eight participating institutions (37.5 percent) were minority-serving institutions. Unfortunately, there were a limited number of MSIs who were CUGH members that also offered GH concentrations within their public health programs. Although a large proportion of respondents were from MSIs, there was not enough conclusive evidence to demonstrate the distinct employment barriers experienced by their graduates.

SURVEY DESIGN/DATA COLLECTION HEALTH PROFESSIONAL AND HEALTHCARE PROFESSIONAL TRAINING

The overlapping job roles that both trainees (i.e. Residents, Dental Students, Medical Students, etc.) and professionals (i.e. Doctors, Dentists, Nurses, etc.) share confounded the data and served as an overall limitation. More clearly defined job duties and job titles need to be identified for health professionals and health trainees.

INTERNSHIPS

The inclusion of internships, and whether they should be categorized as “employed” or “not-employed,” was not covered within the scope of this survey.

VOLUNTEER DATA COUNTED AS EMPLOYED INSTEAD OF NOT-EMPLOYED

Volunteer work does not meet the same standard of living as “full-time” employment (when comparing salary and benefits) and should be considered as “not-employed” work. The limitation of question wording and options within Question 8 (See Appendix A) redirected those who selected “volunteer” to the “employed” section. After final analysis of the data, the three respondents who self-identified as volunteers in the employed section were placed in the not-employed section as the original survey design should have categorized them as “not-employed” to highlight their unique experiences.

RESEARCH AND DATA ANALYSIS AS A JOB TITLE

The survey did not distinguish educational research from basic science and clinical research. In the survey, “research and data analysis” were grouped within “education and research,” leading many respondents to select “other” for questions related to job functions. This was a limitation as “research” was one of the most common self-defined job titles, as evident from Question 30 (See Appendix A).

LIKERT-SCALE QUESTIONS:

Not included in these questions were those related to job satisfaction during the job search and/or job hiring process.

SCOPE

This survey did not cover the full extent of available jobs, or a complete cross-section of all available global health program alumni. Further survey of graduates from peer institutions globally is recommended.

CONCLUSIONS

Through our study we sought to provide a picture of not only available jobs in global health, but the experience of recent graduates in finding those jobs. As well, we sought their views on what they may have thought they would be doing after graduation, or what they believe they should have learned before graduation. We also obtained the viewpoints and perspectives of recent graduates who were not able to find jobs, and obtained a more defined picture of the challenges involved in navigating the international global health workforce landscape.

Ultimately, the vast majority of respondents were employed at either schools of public health, NGOs, or other health related institutions. The enthusiasm for working in these arenas parallels an era of expanded awareness among a generation of health professionals of the role of governments, foundations, and academic institutions in responding to epidemic and pandemic disease.³⁵ Critiques of the rapid growth in global health programs have urged a focus on health system strengthening, innovation, and leadership development in LMICs in light of changing funding patterns and the need to better bridge medicine and public health across all health systems.³⁶

EMPLOYMENT FIGURES

Through our survey of eight programs from eight institutions spread across the continental USA we learned that the **majority of recent graduates were employed or in school** and not looking for work (**120/152, 79 percent**). Encouragingly, of the respondents who indicated they were employed, almost three-fourths stated that they were employed full-time. This is a significant finding considering the large number of new global health programs and the resulting concern expressed about job opportunities.

According to a 2016 report by the Bureau of Labor and Statistics, the general unemployment rate for United States Citizens with a Master's level degree is only 2.4 percent. Comparing the 21 percent not employed in our survey to the 2015 national average of 2.4 percent unemployed (an absolute difference of 18.6 percent) raises questions around the sustainability of the global health job market.³⁷

EXPERIENCE IN THE JOB HUNT

We learned that the experience of searching for a job was different between respondents who were employed and not employed at the time of this survey. Those who were currently employed applied for only 1-6 jobs, with the vast majority receiving 1-6 interviews and 1-3 job offers. Conversely, those who were not employed on average applied to more than 15 jobs, received 1-3 interviews, and ultimately had no job offers.

To better understand these different experiences, we surveyed resources utilized for the job search. Recommendations by friends and colleagues as well as internet job listings formed the backbone of most respondent's application processes. There was also a similar trend in utilization of alumni networks. Unfortunately, we did not include this question in our survey of those not employed so comparisons between groups cannot accurately be assessed at this time.

REASONS FOR BEING NOT-EMPLOYED

To better understand the reasons for respondents not being employed, we looked more closely at those who were not voluntarily in an academic training program. Interestingly, when asked why they were not currently employed the vast majority identified with the statement that "few or no jobs are available for a person with my qualifications". Later in the survey, we asked those same respondents to rate their agreement with statements around their experience in searching for a job. Similar to previous, the most strongly agreed upon statement was "...limited number of job openings available."

Overall, the past three decades has seen a shift towards clinical expertise being less sought after than community work experience and managerial skills. Social entrepreneurship and design thinking, computer science, engineering, urban planning, social work, business, architecture, and improvement science skills, all offer a diverse range of career options for developing and disseminating novel and cost-effective interventions within global health. Responsive organizations have concurrently shown an increase in jobs focusing on novel solutions to complex global health challenges.^{38,39,40}

In addition to a perceived lack of jobs, more than 50 percent of all respondents at least somewhat agreed with the statement that there were gaps in their academic training. Both employed respondents and those not employed identified project design/implementation skills, statistics, new business development, and software/IT services at the top of their list of academic weaknesses. Interestingly, they also both identified these same weaknesses as perceived areas employers are looking for, whilst adding communication skills to the list.

These results reflect skillsets identified while onboarding for an initial position post-graduation. How these gaps were to be addressed by the respondents, or their employers, was not made evident by the

respondents' selections. Presumably, in-service training, adaptation and on the job learning, or task shifting to colleagues and peer staff are the most common resulting scenarios as noted by Rudy, et al (2015).⁴¹ Notably, respondents perceived that employers most desired new hires to have program management and statistical competency, while also bringing communication skills, team building and collaboration, alongside cultural sensitivity and foreign language skills. These latter skills were previously noted by a survey of major employers to be lacking in job candidates with domestic experience, specifically "flexibility, adaptability, and creativity; cultural sensitivity; and cross-cultural communication skills."⁴² The consistency of this identification of desired skills across both cohorts should be well noted and could help to inform further curricular intersection between the academic and employer contexts.

SALARY QUESTIONS

Interesting trends emerged amongst those who were employed, not employed but in an academic training program, and not employed or in an academic program. In particular, the average salary of respondents who were currently employed moved in roughly \$20,000 increments:

1. Pre-Master degree: Most commonly identified salary range was \$20,001 to \$40,000
2. Post-Master degree: Most commonly identified salary range was \$40,001 to \$60,000
3. Perceptions Post-Master: Most commonly identified salary range of what they perceived they should be earning for their level of training was \$60,001 to \$80,000

No respondents currently reported earning more than \$100,000, although some did suggest they should be earning more than \$160,000.

This demonstrates that there is indeed a notable increase in the annual gross salary of respondents after having completed their Master's level training in global health (a roughly 150 percent increase). However, when compared to national level data for average income for those with a Master's degree of any kind, the annual gross income is approximately \$69,000. These findings beg the question of whether there is a disconnect between what students expect going into a Master's degree in global health, and if perspectives should be re-framed from standard annual income.

When looking at the salaries of respondents who were not employed, the expectations of those who were not in an academic training program nicely matched with those who were currently employed at a range between \$40,001 to \$80,000. However, approximately 45 percent of respondents currently in an academic training program estimated that they would earn more than \$160,000. Further exploration of the data demonstrated that those respondents tended to be in MD, DDs, or Veterinary medical degree programs.

RECOMMENDATIONS

The experience of recent graduates can be useful for students, academia, and those who employ graduates of schools focusing on global health. The following are specific recommendations that can be taken to increase the likelihood that students in global health programs will successfully transition into the global health workforce.

I. FOR STUDENTS:

- Start creating your global health professional network. Get to know your professors. Create a tracking system to easily recall interesting people and maintain contact, starting with your fellow students, but including faculty, colleagues, mentors, and alumni.
- Get to know your professors and engage in work, whether paid or not, early. Seek out and take on project work.
- Pay attention to Global Health trends in skill areas GHFP-II's recent GH graduate's study reported as important. Consider courses in program design and management, and statistics/data analysis, as well as software and IT related content. As interpersonal effectiveness is so important, if skill training in teamwork and collaboration isn't offered in the core curricula, seek training elsewhere (even weekend workshops) to strengthen these skills and document your competence.
- Apply to as many positions as possible that fit your interests and what you think you do well. Identify a strong technical fit, but leave some space for learning too. Note to women: don't assume you need 100 of the qualifications to apply.
- The market for international work is global. Online application processes are becoming the norm. Become comfortable with subscribing to and following online job posting sites. Leverage your professional network to track opportunities across the United States and beyond.
- Be prepared for a somewhat lower starting salary compared to peers with a Master's level degree in other disciplines, particularly if you begin your career at a non-governmental organization (NGO).
- Be prepared and open to working in North America upon graduation, especially in global health organizations. It is a legitimate strategy to break into the GH industry.
- However, if you don't have overseas global health living and working experience, make that an early career priority.

2. FOR UNIVERSITIES:

- Recognize that global health is a fast moving technical area and encourage academic systems that take a more flexible, facile approach to trending technical needs.
- Identify and ensure recruitment materials accurately reflect key program strengths in global health direct service, research, or program implementation.
- Include and incentivize internships and volunteer work within the curriculum to create as many practical job-like experiences as possible.
- Make overseas, applied learning opportunities a key priority of the program, especially for diverse and minority students.
- Develop mentorship programs and incentivize faculty and senior students to participate.
- Reward faculty who are able to reach across technical sectors and other parts of the university and encourage students to take a systems approach as relevant to their GH professional aspirations.
- Encourage and incentivize faculty to experiment with less didactic, more experiential learning approaches to address competency gaps in effective team membership and teambuilding, program management, and collaboration.
- Prioritize the importance of creating and maintaining a robust alumni network. Regularly co-learn and dialogue with your alumni. Seek feedback from recent graduates on their job-hunting

experience and what topics and content might be missing from the curricula.

- Actively engage potential employers to identify and describe the value of specific skill sets and competencies within global health curricula.
- Provide access to peer and professional networks, especially alumni and alumni stories.
- Ensure that students are competent in global health employment processes. For example, provide online job posting access.

3. FOR EMPLOYERS:

- Begin to view universities as preparation sites for your future employees and seek ways to invest in ensuring they are doing the best job possible in preparing the next generation of global health professionals.
- Create or support networking opportunities and interface with them to meet students and help to build alumni connections for students from related programs.
- Create feedback opportunities with academia to ensure alumni are prepared for work realities.
- Create internship and mentorship programs that support both established and emerging global health program students, especially for those seeking opportunities within your organization for overseas experience. Consider internships that focus on new business development and program implementation in addition to technical advising.
- Pay attention to what skills matter for successful global health work and assist in curricula development with universities based upon your understanding of the job market and future trends.
- Match the need for non-clinical skills (e.g. project management, proposal design, communication, team building, collaboration, and statistical/software skills) with early opportunities for learning through internships.
- Recognize the breadth of skills required to work in global health and offer opportunities for continuing education and skill development.
- Recognize that graduates are simultaneously applying to many jobs.

APPENDIX A

Survey Tool

The link to the survey tool can be found at:
<https://www.surveymonkey.com/r/CUGH-GHFPII2016Survey>

APPENDIX B

E-mail Template for Outreach September 21, 2016 to October 21, 2016

Subject Line:

Dear XX,

Thank you for agreeing to participate in this global health graduate survey, sponsored by the Global Health Fellows Program-II (USAID) and conducted by The Consortium of Universities for Global Health (CUGH). The survey will seek information from students like you across the Nation who are recent graduates from masters level programs in global health. The information you provide through this short 3-5 minute survey will help inform GHFP-II, CUGH, and your program directors of the ease or difficulty in finding jobs post-graduation, and ultimately provide better information for future graduates across the country.

This survey will be completely voluntary, and completely anonymous. The sweetener: As an incentive for completing this short survey, an external and *optional* link will be provided at the end to be entered into a draw to win two free tickets with Delta Airlines to travel to any of their destination around the world!

The link to the survey can be found at: <https://www.surveymonkey.com/r/CUGH-GHFPII2016Survey> or you can [click here](#).

Thank you again for taking the time to provide your thoughtful responses to these survey questions. We are grateful for your willingness to help improve the process of global health job finding following graduation for you, your peers, and the many future students to follow.

APPENDIX C

E-mail Template for Outreach, October 21, 2016 to December 5, 2016

Subject Line: It's Not Too Late: Respond to this 2016 Alumni Survey and Potentially Win 2 Delta Airline Tickets!

Hello (again) Recent Global Health Graduates!

Last week we sent a message asking you to participate in a global health graduate survey sponsored by the Global Health Fellows Program-II (USAID) and conducted by The Consortium of Universities for Global Health (CUGH). We wanted to let you know that if you haven't filled it out, it's not too late!

The survey will seek information from students like you across the Nation who are recent graduates from masters level programs in global health. The information you provide through this short 3-5 minute survey will help inform GHFP-II, CUGH, and your program directors of the ease or difficulty in finding jobs post-graduation, and ultimately provide better information for future graduates across the country.

This survey will be completely voluntary, and completely anonymous. The sweetener: As an incentive for completing this short survey, an external and optional link will be provided at the end to be entered into a draw to win two free tickets with Delta Airlines to travel to any of their destinations around the world!

The link to the survey can be found at: <https://www.surveymonkey.com/r/CUGH-GHFP2016Survey> or you can [click here](#).

Thank you again for taking the time to provide your thoughtful responses to these survey questions. We are grateful for your willingness to help improve the process of global-health job finding following graduation for you, your peers, and the many future students to follow.

APPENDIX D

Methods for Data Analysis

Beginning of Survey

- #1: We deleted all the NOs, 36 were taken out. Also, deleted one response who answered “YES.”
- #2: Eighteen responses in the “other” selection were recoded. Two were recoded to MPH, 15 were recoded to MS in Global Health. One response was deleted because it was “Dr PH,” which was not relevant. At this point, we had 158 responses.
- #3: Three responses were taken out because they didn’t respond to this question.
- #7: The 10 columns that existed before were reduced and categorized as: “Clinical Health Care Degree (i.e. social worker, doctor, nurses),” “Non-Clinical Health Degrees,” and “Bachelors.”
- #8: The categories settled on are: employed and non-employed without a prospective job. Educational fellowships and consultants were grouped within the “employed” category. For Question 8, Part B, all part-time workers are considered “employed.”

Employed Section

- #11: All the “NOs” are grouped together, all the “YES” are grouped together.
- #12: Kept categories as is (A, B, C); all comments in the “other” section went into A, B, C
- #13: Reorganized the choices into:
 - A: 0
 - B: 1-10
 - C: Greater than 10
- #15: Kept options A-C only
- #16: The majority of responses were between less than 6 months to find a job. Recoded as:
 - A: 0 Months
 - B: Less than a month- 5 months
 - C: 6 months and greater
- #22: Eight responses from the “other” category were re-categorized into the existing choices.

- #23: Same process as Q22
- #25: This question forgot to include, “location not important,” making it difficult to compare to its parallel question in the non-employed section.
- #28: For Part B, we combined “consultants” into the “for-profit category.”
- #29: Created a new option titled, “Research and Data Analysis” and re-categorized 19 responses who selected “other.”
- #30: Coded qualitative responses and matched options with Q29

Non-Employed Without a Prospective Job

- #31: Removed three people because they didn’t answer whether they were employed or not. Categorized six “other” options into the existing selections. The final count of respondents now is at 152/256.
- #33: This question was deleted because it wasn’t clear whether people are currently in school or answered this question because it followed the last. A confounding result.
- #37: Formatted similarly to Q13
- #38: Formatted similarly to Q14
- #39: Formatted similarly to Q13
- #47: Coded qualitative responses and matched options with Q29
- #48-52: Likert scale questions were compared through descriptive statistics

Final Set of Questions for All

- #55: Coded qualitative responses and grouped into job categories

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