

the ground” clinical experience designed the full-time, three-week, case-oriented “Arizona Course,” Global Health : Clinical & Community Care, revised and conducted annually since 1982. The evolution of GH education preparing North American clinical professions students for short or career experiences abroad evolved, leading to the 1991 founding meeting in Tucson of the International Health Medical Education Consortium, which became Global Health Education Consortium a decade later, prior to its 2012 merger into CUGH.

**Structure/Method/Design:** Entering our 35<sup>th</sup> year, University Arizona and distinguished visiting faculty present this intensive 90-hour seminar in “flipped classroom” format, with daily breakouts into three mentor-led clinical/community problem-solving groups of ~8 participants each. Limited to ~24 participants, the “Arizona Course” now has 729 “graduates.” While we now supply our extensive content via easily-portable “thumb drives,” we maintain the real-time interactive dialogue and clinical procedure demonstrations possible only in this live seminar setting. As [www.globalhealth.arizona.edu](http://www.globalhealth.arizona.edu) details, this content now forms the core of the College of Medicine’s 5-element Global Health Distinction Track.

**Outcome & Evaluation:** In 1992 and 2009, we surveyed our graduates’ careers, supplemented by annual updates on recent graduates’ specialty choices and experiences in LMICs. Among the first 700 graduates [1982–2015], 239 [34%] were UArizona senior medical students; another 81 [11.5%] were other Arizona students or clinicians. The other 380 [54%] were from elsewhere, including medical schools in 32 states; 52 came from Canada. Over 60% are women. Of all 543 graduates surveyed in 2009, only 7 could not be located; 16% earned MPH degrees. Among the 322 physicians, 46% had entered family practice, 14% internal medicine and 14% pediatrics. Graduates have subsequently learned and served in 73 LMICs, including several with distinguished careers who return annually as faculty.

**Going Forward:** We welcome clinical students and faculty to this longest-running USA clinical global health course each October.

**Source of Funding:** We thank over 40 faculty who, other than the authors, have all been volunteers.

**Abstract #:** 2.036\_HHR

### Cost Recovery and Service Usage in a Community Health Insurance Plan in Rural Uganda

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**Background:** Without a national health insurance system in Uganda, many areas have developed community health insurance initiatives (CHI). Although several studies examine the increased access to healthcare with CHI’s, few studies investigate its sustainability at a hospital level. This study aims to find the differences in cost recovery and service usage between patients paying out of pocket (OOP) and those paying through the Kabale Diocese Community Health Insurance Scheme.

**Methods:** Accounting data on individual hospital visits from September 2011 to February 2012 was used. Data included services utilized, the department treating the patient, the total bill, and the

amount paid. The CHI plan reimbursed the hospital using the flat rate based on the department treating the patient. Net deficits and percentage paid for each hospital visit were calculated and compared between the two patient groups.

**Findings:** A total of 4,279 hospital visits were recorded ( $n=3928$  for CHI,  $n=351$  for OOP). Two-proportion Z-tests demonstrated that a larger proportion of OOP patient visits used X-rays (19.7% OOP vs. 13.7% CHI,  $p<0.05$ ), were administered medications (99.6% OOP vs. 95.7% CHI,  $p<0.05$ ), involved operations (17.6% OOP vs. 9.1% CHI,  $p<0.05$ ), and deliveries (25.9% OOP vs. 15.7% CHI). A larger percentage of CHI visits used laboratory services (62.7% CHI vs. 53.8% OOP,  $p<0.05$ ). The total bill was larger for OOP visits (\$23.77 OOP vs. \$19.10 CHI,  $p<0.05$ ). The percentage of the bill that was paid was higher for CHI visits (149.0% for CHI vs. 97.1% for OOP,  $p<0.05$ ). The net deficit for each visit was higher for CHI patients (\$1.45 CHI vs. \$0.80 for OOP), but this was not significant ( $p=0.18$ ). A 6-month aggregate of payments and costs showed lower cost recovery for CHI visits (84.6% vs 96.6%).

**Interpretation:** Patients with CHI generally used fewer services per hospital visit, and the total bill was larger for OOP visits. Percentage of bill payment was significantly higher for CHI visits, but there is some data to suggest that the hospital suffers a larger aggregate deficit with CHI patients. This suggests that changes need to be made in the CHI reimbursement schedule to make it more sustainable for the hospital without decreasing access.

**Source of Funding:** None.

**Abstract #:** 2.037\_HHR

### A Novel Telephone Triage Program for HIV-Positive Children in Resource Poor Settings: Training Triage Coordinators in Chennai, India

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**Background:** India is home to the world’s third largest HIV-positive population. One particular sub-population—children living with HIV (CLHIV)—requires unique ‘HIV triaging’ to ensure patients at high risk receive priority interventions and treatment without delay. The International Alliance for the Prevention of AIDS (IAPA), an NGO in Chennai, India, supports 43 CLHIV by offering free once monthly medical visits and packages of nutritional supplements. Between once-a-month visits, all calls from patients are triaged by a single staff member. In Tamil, “uthavi,” means help. The UTHAVI Project, a training curriculum and web-based telephone triage database, aims to help IAPA’s CLHIV get the treatment they need between monthly visits. Specifically, the UTHAVI project’s triage protocol trains community social workers and IAPA staff in triage categorization, evaluating trainees’ knowledge and preparedness pre- and post-training.

**Methods:** In-depth Interviews with staff and physicians were conducted to assess program needs. The triage curriculum, ‘The UTHAVI Project,’ was adapted from the WHO’s Integrated Management of Childhood Illness handbook. Using 25 CLHIV

triage scenarios, pre- and post-training knowledge and preparedness were assessed in 5 IAPA staff members and 12 Bachelor's in Social Work students. Participants used a 3-tier triage system (emergent, urgent, non-urgent) to assign a triage level for each scenario.

**Findings:** Paired t-test analysis showed significant differences ( $P < 0.05$ ) in overall pre- and post-test scores. The protocol categories of Fever, Diarrhea, General Danger Signs, and Opportunistic Infections showed the most significant differences ( $P < 0.05$ ) while the protocol category of Cough showed no significant difference ( $P > .05$ ). 94.1% of trainees felt equally or more prepared post-training vs. pre-training.

**Interpretation:** Recommendations were made to provide continued yearly CLHIV trainings. Future research looks to recruit more coordinators and assess the protocol's impact on control and treatment groups. Future direction of The UTHAVI Project include expanding the healthcare network to physicians of different specialties. Following the completion of the online triage database, trainings on how to use the technology will be conducted and triaging patients will be studied through the website.

**Source of Funding:** Center for World Health at UCLA.

**Abstract #:** 2.038\_HHR

### **Anemia and its Socio-demographic Correlates among Adolescent Girls in Bangladesh**

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**Background:** Anemia is a significant wide spread public health threat especially among the adolescent girls who are more vulnerable towards low level of hemoglobin particularly of low and middle income countries (LMICs). We investigated the prevalence of anemia among the adolescent girls (10-19 years) in Bangladesh and its socio-demographics distribution.

**Methods:** We collected data digitally in ODK platform from a sub-sample of a nationwide cross-sectional survey of 1314 adolescent girls in 2015. Venous blood hemoglobin level was estimated using HemoCue®; anthropometric measurements through standardized procedure and details socio-demographic information were captured and analyzed. Malnutrition was defined as BMI-for-age Z-score below -2SD (BAZ < -2SD), measured in WHO-AnthroPlus. Univariate analysis followed by multiple logistic regression were performed to examine the association between socio-demographic variables and anemia, while controlling the effect of potential confounding variables.

**Findings:** Overall, 52.8% girls were suffering from any form of anemia (non-pregnant-Hb < 12g/dl; pregnant-Hb < 11g/dl) while 47.3% were mildly (non-pregnant-Hb: 10-11.9g/dl; pregnant-Hb: 10-10.9g/dl) and 5.4% were moderately (Hb: 7-9.9g/dl) anemic while only 0.15% were severely anemic. After controlling for covariates such as wealth, residency, food insufficiency, pregnancy status and malnutrition in multiple logistic regression model, malnutrition (AOR: 1.5, 95% CI = 1.0-2.2, p-value = 0.046), pregnancy (AOR: 6.5, 95% CI = 2.7-15.7, p-value < 0.05) and poverty (AOR: 1.5, 95% CI = 1.0-2.3, p-value = 0.067) were identified as significant risk

demographic factors of anemia among adolescent girls of Bangladesh.

**Interpretation:** Huge number of adolescent girls are still suffering from anemia in Bangladesh and non-pregnant adolescent girls contributed the most. Immediate, long term and sustainable public health intervention would require to combat the situation.

**Source of Funding:** UKAID and AusAID.

**Abstract #:** 2.039\_HHR

### **Global is Local: Assessing Family Medicine Residency Programs' Training on the Care of Immigrants, Migrants, Torture Survivors, Asylees and Refugees (IMTARs)**

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**Program/Project Purpose:** We have three objectives for this project:

Objective 1: to determine the content and extent of required formal training in IMTARs health in Family Medicine Residency programs.

Objective 2: to explore which program characteristics (location, presence of Global Health track, underserved focus, faculty training, residency type) are correlated with an increased focus on this curricular content, and

Objective 3: to determine the general nature of this training, in terms of the prevalent methods of delivery.

**Structure/Method/Design:** Currently, there are 493 accredited Family Medicine Residency programs across the United States. The survey will be disseminated to all 493 Family Medicine Residency Program Directors. Expecting at least a 50% response rate, we predict to review a minimum of 250 surveys.

The survey will consist of eight questions addressing global health interests and training of faculty members in IMTARs' health, percentages of IMTARs in patient populations, and curriculum content pertaining to the care of IMTARs.

**Outcome & Evaluation:** We plan to use descriptive statistics to describe the responding population and estimate population parameters regarding the amount of time programs devoted to instruction care of IMTARs and the methods by which these instructional activities are delivered. We will report central tendencies (mean, median, mode) for each of the instructional topics identified, the overall time devoted to IMTARs content, and instructional method (didactic, community based or clinical).

We will use inferential statistics to identify characteristics of programs associated with higher levels of IMTARs instruction. Program characteristics from the demographics section of the survey and specific questions pertaining to global health curriculum will be analyzed as predictors of the amount of IMTARs instruction overall and in each topic area using a best-fit regression modeling.

**Going Forward:** Given the large and growing IMTARs population, residency programs may need to design focused curricula to