

**Methods:** This scoping review follows the standard methodology outlined by Arksey and O'Malley (2005). Database literature searches of MEDLINE and Global Health were conducted and variations of two main search terms were utilized: 1) congenital heart disease and 2) low- and middle-income countries. The date range used for the present search was from January 1, 2000 to June 15, 2015 and only articles published in English were chosen. A search of Cochrane library confirmed that no systematic review was previously conducted on the topic.

**Findings:** 55 studies were chosen for inclusion after screening and review. Review of relevant studies suggested that a number of factors lead to inadequate care for individuals with CHD in LMICs, including poor healthcare infrastructure, lack of public education and lack of healthcare worker education on CHD, financial challenges of countries and individuals, and poor governmental and non-governmental organization coordination. Ventricular Septal Defects (VSDs), Atrial Septal Defects (ASDs) and Tetralogy of Fallot (TOF) were described as common forms of CHD in LMICs.

**Interpretation:** Based on this scoping review, it is recommended that a country- or region-specific triage model for non-critical CHD should be developed to prioritize sending patients for surgical repair at Centres of Excellence. The basis of the non-critical CHD cases that could form the basis of the triage models include VSDs, ASDs and TOFs since they are easier to treat in a low-resource setting. Models would require pre- and post-operative medical management, likely in the patient's home country, with capacity building and infrastructure supports, in order to maximize the number of patients treated. Critical CHD cases would unfortunately require a complicated, expensive and resource-draining care model involving surgery and potential complications.

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**Abstract #:** 1.022\_NEP

### Factors associated with HIV testing among female entertainment workers in Cambodia: a cross-sectional study

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**Background:** In Cambodia, women account for over half of all HIV infections and female entertainment workers, of which there are an estimated 35,000, are now considered a high-risk group for HIV. Entertainment venues such as karaoke bars and beer gardens, have been identified as an important location for prevention activities including HIV education and community-based testing. This study aims to identify factors associated with recent HIV testing among female entertainment workers in Cambodia.

**Methods:** For this cross-sectional study, data was collected during April and May 2014 as part of the evaluation of the Sustainable Action against HIV and AIDS in Communities (SAHACOM) Project implemented. Two-stage cluster sampling was used to select participants from the two provinces. A structured questionnaire was developed using standardized tools. A multivariable logistic regression model was constructed to control for the effects of potential confounding factors.

**Results:** Data were collected from 667 female entertainment workers of which 81.7% reported ever having had an HIV test and 52.8% report having had an HIV test in the past 6 months. In our model that controls for confounding factors, respondents who were tested for HIV in the past 6 months were more likely to live in Phnom Penh (aOR=2.17 95%CI 1.43-3.28,  $p<0.001$ ), to have received any form of HIV education in the past 6 months (aOR 3.48 95%CI 2.35-5.15,  $p<0.001$ ), to report condom use at last sex with a non-commercial partner (aOR 0.48 95%CI 0.26-0.88,  $p=0.02$ ), to agree that "Getting tested for HIV helps people feel better" (aOR 0.31 95%CI 0.13-0.81,  $p=0.02$ ) and to disagree that "I would rather not know if I have HIV" (aOR=2.15 95%CI 1.41-3.30,  $p<0.001$ ).

**Interpretation:** Health behavior messages regarding condom use with non-commercial partner and HIV testing attitudes may be important areas for future interventions involving female entertainment workers in Phnom Penh.

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### Assessment and management of arterial hypertension, diabetes, and obesity in the medically underserved town of Chimbo, Ecuador

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**Project Purpose:** Initially approved in June 2014 as a prevalence study within the Fundación Natividad de Los Andes (FNDLA), the project has grown to include participation from Loyola SSOM's International Service Immersion (ISI) program and the local health clinic. The project is in place to address the need for health screenings and proper management of chronic diseases in Chimbo, Ecuador. It aims to provide a sustainable system to identify and monitor patients unknowingly suffering from hypertension, diabetes, and obesity while also promoting lifestyle changes through community outreach. A longitudinal study was initiated in June 2015; groups of medical students will travel to Chimbo each January and June for follow-up and recruitment of additional participants.

**Structure/Method/Design:** The following are established priorities: identify through screening and monitor individuals unknowingly suffering from diabetes, hypertension, and obesity; educate about lifestyle modifications to address the high prevalence of chronic diseases; and encourage sustainability through local support. Participants are recruited by door-to-door canvassing. Student volunteers are selected through Loyola's Center for Community and Global Health via application. To promote sustainability, subsequent student cohorts will identify willing residents of Chimbo to serve as local health advocates. These advocates will be educated and allotted necessary materials to provide enrolled participants with monthly monitoring of blood glucose, blood pressure, and weight.

**Outcome & Evaluation:** A 2014 prevalence study found 33.1% of people in Chimbo had blood pressures indicative of hypertension. Of this cohort, 70.1% had no prior knowledge of this fact. In addition, 9.6% of the adult population had been diagnosed with diabetes and the mean BMI was 29.3 kg/m<sup>2</sup>. A longitudinal study initiated in June 2015 enrolled 223 participants who will be educated and monitored indefinitely. Residents of Chimbo perceive the value of health monitoring and express eagerness for the continuation of the project.

**Going Forward:** The project has institutional support of the local clinic, the FNDLA, and Loyola's ISI program. Difficulties will include recruitment of future student volunteers, loss to follow-up in the longitudinal study, and education of local health advocates promoting local sustainability. Feedback from future cohorts and local participants will direct future actions.

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### Making imaging around the world better: global survey of radiologists in 10 Countries

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**Purpose:** There are substantial unmet imaging needs for vulnerable and crisis affected populations. Our aim was to survey radiologists across developing countries in Asia, Europe, and South America to assess their imaging needs and find out what, in their opinion, are the most effective ways to improve imaging in their respective countries.

**Methods and Materials:** A standardized questionnaire containing 11 questions was sent to radiologists in 18 developing countries across the world. Radiologists from 10 countries responded (response rate=55%). These included Sri Lanka, Thailand, Costa Rica, Belarus, Serbia, Macedonia, Singapore, the Czech Republic, Lithuania and Slovenia. Some questions addressed the overall status of radiology in their countries and focused on potential shortages of radiologists, residency positions and medical physicists, while others focused on effective solutions to problems they face everyday.

**Results:** Survey results indicated that most of the countries (90%), need to establish more radiology residency training positions. For improving knowledge in radiology, every participant (100%), thought online-teaching modules would be the most effective, while only thirty-percent believed onsite-teaching workshops would help. Sixty-percent of radiologists (95% CI being 47.6 to 72.4%) believed that humanitarian "second opinion" teleradiology would be valuable in more than 50% of their cases, while forty-percent (95% CI being 27.6 to 52.4%) believed that a second opinion would be needed in less than 50% of their cases. Every radiologist surveyed (100%), believed that the subspecialty in which they feel most deficient is neuroradiology, with musculoskeletal imaging and pediatric imaging being the second and third most highly ranked choices, respectively.

Only 60% (95% CI being 47.6 to 72.4%) had access to a medical physicist and most believed that they need education in radiation safety and dose reduction. Other practical questions focused on image transfer, organizational development and informatics.

**Conclusion:** This survey helps radiologists around the world communicate the imaging needs in their respective countries and how they can be met. This survey can help radiologists who want to reach out in their humanitarian efforts to improve imaging around the world.

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### RISE (Radiology International Student Education): creation and utilization of virtual online classroom for global radiology education

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**Program Project/Purpose:** One of the major challenges facing international radiology is a lack of available subspecialty fellowship training in the developing world. For example, the entire continent of Africa has no neuroradiology fellowship training available within the region. International travel to complete subspecialty training presents financial challenges for trainees and is in practice unsustainable as a routine method of training. We created an innovative solution by designing a virtual classroom which allow trainees from around the world to tune in live during radiology lectures at UCSF.

**Structure, Method & Design:** A virtual classroom was created at UCSF Medical Center to enable international radiology residents to tune in live to the radiology lectures given at UCSF. The pilot project was launched with Kenyatta National Hospital, University of Nairobi, Kenya. Kenyatta National Hospital has 45 radiology residents. Specifically, the live lectures involve two-way audio and video communication with interactive technologic solutions to annotate shared slides. The limitations in internet access, equipment availability, and cross platform technologies were solved with support of local IT staff and the Center of Digital Health and Innovation at UCSF.

**Outcome & Evaluation:** The impact of the virtual classroom was studied with close monitoring using pre and post lecture online exams. Advanced result analytics to assess the longitudinal performance of each radiology resident at University of Nairobi is being performed to assess the improvement in knowledge gap in multiple subspecialties in radiology. For asynchronous teaching, the RISE platform provides continuous online access to the recorded lecture database for access across different time zones.

**Going Forward:** In the future, the aim is to expand the RISE platform to include other countries around the world for live virtual education. We also plan to make this technology available to different medicine specialties in academic institutions across the United States so that it can be utilized for virtual education worldwide to benefit those who do not have access to specialized medical education.