Cardiology in the Young

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Cardiology across continents: an interactive, case-based learning series

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Brief Report

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Abstract

Heart University [https://www.heartuniversity.org/] is a free educational website providing structured training curricula with knowledge-based testing and access to webinars and conference recordings for practicing and in-training providers of paediatric and congenital cardiac care. To date, there are over 15,000 registered website users from over 140 countries on Heart University, with over 2,000 training modules and/or recorded educational videos. Heart University has developed an "asynchronous" educational lecture series entitled "Pediatric and Congenital Cardiac Care in Resource-Limited Settings." This recorded lecture series is specifically focused on topics relevant to practicing paediatric and/or congenital cardiac care in low-resource settings.

A relatively new initiative, "Cardiology Across Continents," supplements the existing educational resources for providers of paediatric and/or congenital cardiac care in low-income countries and lower-middle-income countries by providing an additional live, interactive, case-based forum. Sessions occur every 1–2 months and focus on challenging cases from diagnostic or management perspective with a view to promote collaboration between partnered institutions. "Cardiology Across Continents" is an expanding initiative that facilitates learning and collaboration between clinicians across varied practice settings via interactive case discussions. We welcome trainees and providers of paediatric and congenital cardiac care to join the sessions and invite any insight that can enhance learning for clinicians around the world. This manuscript describes "Cardiology Across Continents" and discusses the development, history, current status, and future plans of Heart University.

Background

Providers of paediatric and congenital cardiac care and their trainees have highly varied experiences related to the geographic location and socio-economic setting of their clinical practice. Trainees in high-income countries and upper-middle-income countries often lack exposure to specific disease processes, such as rheumatic heart disease, Eisenmenger syndrome, and late presentation of cyanotic heart disease and may have limitations in considerations and understanding of appropriate resource utilisation. In contrast, trainees in low-income countries and lower-middle-income countries may be less familiar with techniques and treatment strategies more readily available in high-income countries. Previous initiatives both within paediatric cardiology and other fields have demonstrated that technologic advances that allow for remote learning, including both synchronous (live and interactive) and asynchronous (online modules and webinars) formats, can augment subspecialty education in both low-income countries and high-income countries.[1–7]

To address these gaps in training, and specifically to increase educational resources for the care of patients with congenital and acquired heart disease in low-income countries and lower-middle-income countries, while also providing unique education and exposure to those in upper-middle-income countries and high-income countries, Heart University [https://www.heartuniversity.org/] has developed an "asynchronous" educational lecture series entitled "Pediatric and Congenital Cardiac Care in Resource-Limited Settings."[8] Heart University is a free educational website developed for practicing and in-training providers of paediatric and congenital cardiac care which now services over 15,000 users from over 190 countries (Fig 1), with over 2,000 training modules and/or recorded educational videos.[9] In order to supplement

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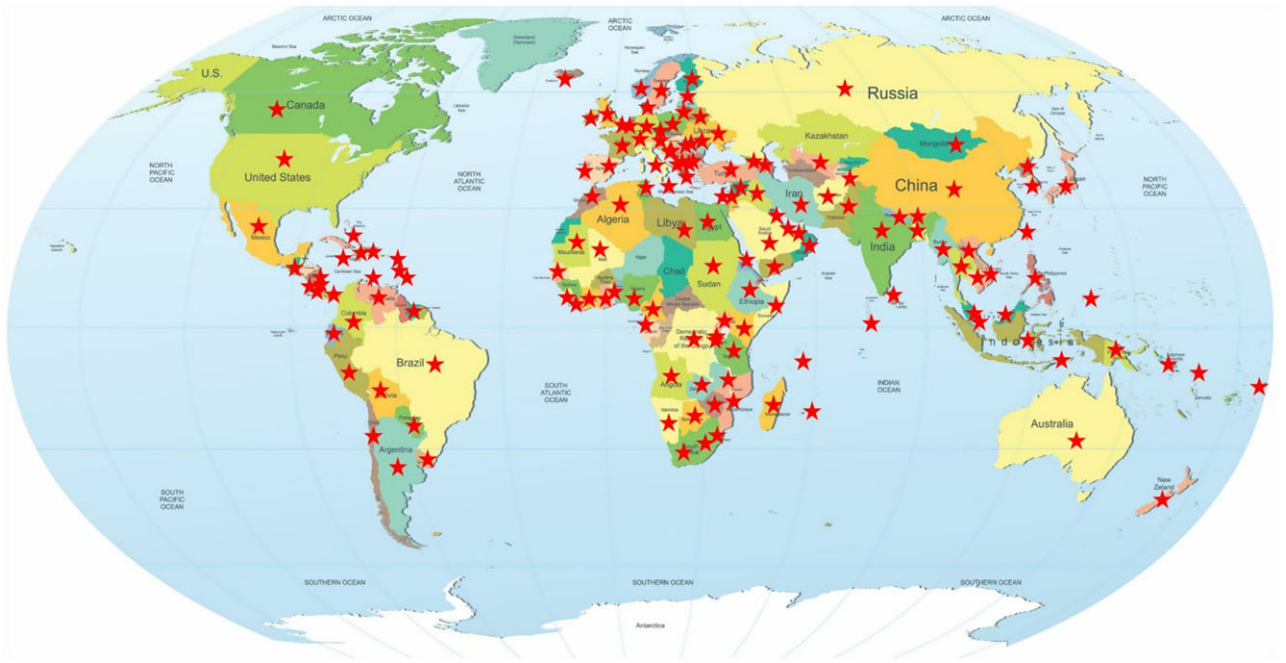


Figure 1. Global representation of Heart University users.

the standard material, this additional lecture series led by Krishna Kumar (Chief Pediatric Cardiologist, Amrita Institute in Kerala, India) addresses topics specifically relevant to practicing paediatric and/or congenital cardiac care in low-resource settings; current topics include rheumatic heart disease, Eisenmenger syndrome, delayed presentations of CHD, and general principles of delivering care with limited resources.

Synopsis

A relatively new initiative, "Cardiology Across Continents," supplements the existing educational resources by providing an additional interactive, case-based forum. The webinars, eight of which have occurred to date, have included fellows and faculty members from Cincinnati Children's Hospital, Texas Children's Hospital, the Amrita Institute in Kerala India, National Institute of Pediatrics in Mexico, and other institutions associated with Children's Heart Link. Sessions focus on challenging case presentations, promoting collaboration between partnered institutions (one from a low-income country or lower-middle-income country and one from a high-income country). In order to highlight practice variation and encourage discourse, a novel format was developed for these sessions (Fig 2), which are held every 1–2 months.

This structure facilitates meaningful discussion and knowledge-sharing between institutions, highlighting the importance of the contextual setting of the practice, availability of resources, and socio-economic factors in decision-making. While the two partnered institutions are the primary presenters during the session, multinational trainees and providers of paediatric and congenital cardiac care are encouraged to participate.

A notable recent session focused on the management of a late presenting patient with dextrocardia, double-outlet right ventricle, and restrictive ventricular septal defect. This unique presentation led to thorough discourse regarding both interventional and surgical management options, with input from providers from around the world

Over the course of eight sessions, "Cardiology Across Continents" has grown from a case discussion between two partnering institutions to an interactive discourse with a wide audience from across the globe. Recent sessions have included up to 140 participants from multiple countries. These webinars bring outstanding opportunities for patient care optimisation globally as we share multidisciplinary multicentre experience and expertise and also promote international collaborations amongst the participating centres. While objective evaluation has been limited to date, previous attendees from Mexico and Armenia have described the benefits of the sessions, saying "There's nothing better than to challenge my own best decisions in a forum of leadership and knowledge. The result for me and my team has been growth, admitting that there could be another option.." and "discussing a case and exchanging ideas about management, surgical techniques etc. . . . can give you some new ideas about how to manage similar patients."

Future direction

"Cardiology Across Continents" is now ready to expand. To maximise the benefit from this important initiative, we are welcoming new partnering institutions to participate in the sessions, which will continue to take place every 1–2 months and be available on Heart University. The format will continue to be a live, case-based, collaborative interaction between partnering institutions with a focus on concepts and challenges unique to providing congenital cardiac care in low-income countries and lower-middle-income countries. Meanwhile, the addition of new partnering institutions will provide a more inclusive perspective of settings of practice and strategies of treatment. Future plans to enhance the initiative include sharing case details prior to the live session, adding a discussion board, and exploring new topics. As

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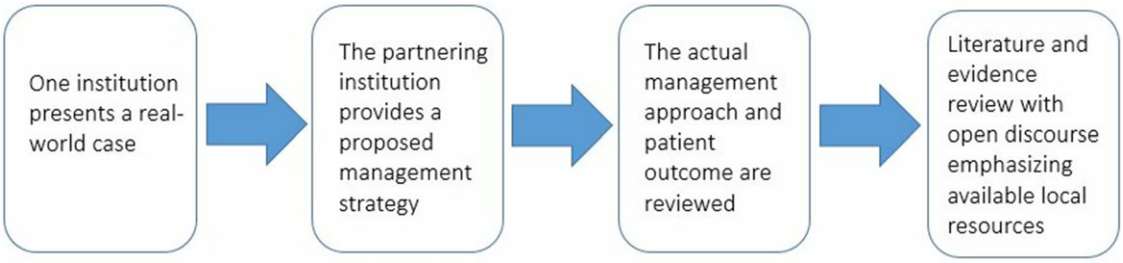


Figure 2. Cardiology across continents session format.

participation and global representation grows, the addition of participant surveys and clinical vignettes can also provide more objective data regarding practice variation across different settings. Additionally, we envisage "Cardiology Across Continents" evolving into collaborative written product with presentations forming the basis for Case Reports or practice reviews and providing an opportunity for trainees to contribute for publication in Cardiology in the Young.

In conclusion, "Cardiology Across Continents" is an expanding initiative that promotes collaboration between clinicians across varied practice settings via interactive case discussions. We welcome trainees and providers of paediatric and congenital cardiac care to join the sessions and invite any insight that can enhance learning for clinicians around the world. Please contact Dan Peck at peck0194@umn.edu if you would like to learn more about "Cardiology Across Continents," or if you are considering participating as an individual or institution. It is a fact that novel educational strategies can enhance equity in healthcare.[10,11] "Cardiology Across Continents" represents a novel strategy to help decrease the differences in paediatric and congenital cardiac care that currently exit between low-income countries and high-income countries,[12] while simultaneously creating a valuable opportunity for bidirectional exchange of knowledge amongst attendees.

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Ethical standard. The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national guidelines on human experimentation and with the Helsinki Declaration of 1975, as revised in 2008.

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