



AWARENESS

Newer Horizons in Human Excellence



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Essay

Connecting Hearts Globally

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In today's age of social media and greater connectedness in the internet age, our hearts still remain disconnected. True connection remains a vital yet often missing element, particularly when it is required for addressing global challenges. This is especially evident in the management of congenital heart disease (CHD), the most common congenital condition worldwide. While epidemiological studies suggest that about 1% of all live births are affected by CHD, the realistic truth in many low- and middle-income countries (LMICs) is far more ominous due to the significant impact of higher fertility rates, effects of social determinants on *fetal health*, relatively high rates missed diagnoses at birth, and unaccounted deaths in early life. For example, birth rates in LMICs average about 22 per 1000 population as compared to 10 per 1000 population in high-income countries¹. Approximately 90% of children with CHD are born in the LMICs and they lack access to appropriate medical or surgical care². Despite the disproportionately larger numbers of children born with CHD in underdeveloped countries, many with complex CHD tragically do not survive their first year, while others with less severe heart defects lack access to necessary treatment and chronically succumb to their disease. Although countries like Lebanon³, India⁴⁻⁶, Turkey⁷, Sri Lanka⁸, Ethiopia⁹, or Nigeria¹⁰ may have achieved some degree of success in establishing specialized programs for CHD surgery, these programs appear unlikely to be scalable or sustainable². One high-volume program currently delivering care to large numbers of children with CHD may provide a sustainable and scalable model to enable CHD surgeries in LMICs through sustained societal support, frugal innovation, standardized approaches, as well as cohesive, collaborative networks¹¹.

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Numerous non-profit organizations around the globe are dedicated to addressing this critical need through various humanitarian efforts. However, these dedicated groups often operate independently, leading to piecemeal and duplicated efforts and an overall diminished capacity to maximize patient care delivery – a crucial aspect of our collective moral and fiscal responsibility.

To overcome this fragmentation and to foster a more unified approach, the *Global Heart Network (GHN)* was inaugurated at the *Global Congenital Heart Disease Conference: Launching The Global Heart Network* at Stanford University in November, 2024. This worldwide initiative was inspired by the vision of Professor Afksendiyos Kalangos and supported by the Kalangos Foundation. The conference featured a distinguished panel of international speakers with leading cardiac surgeons and cardiologists specializing in CHD surgery from Argentina, the African continent, Fiji Islands, Greece, Germany, India, Lebanon, Turkey, UK, and USA. Various non-profit organizations represented at this conference included not only the Kalangos Foundation (Greece), but also the German African Heart Forum (Germany), Sri Sathya Sai Health and Education Trust (India), Brave Heart Fund (Lebanon), Novick Cardiac Alliance (Memphis, TN), Children's HeartLink (Minneapolis, MN), Healing Little Hearts Fund (UK), Saloni Heart Foundation (San Jose, CA), and the Prashanthi Balamandira Trust (India).

This conference succeeded in bringing together the congenital heart disease community under a shared vision and common purpose. Coordination efforts for the GHN initiative will be spearheaded by a patient-centric, smartphone-enabled mobile application with worldwide reach (created by *Techunion Software*, Cincinnati, OH). This online platform will ultimately serve as a beacon of hope for all CHD patients and their families. The app's multilingual accessibility will further facilitate integration of piecemeal efforts across many countries within the GHN.

Beyond the technological platform, the GHN's core mission is to unite all non-governmental organizations, hospitals, healthcare networks, various kinds of specialists, and family support groups serving their precious and fragile patients in the CHD community. Whenever a family registers their child with a particular CHD lesion on this platform, a proprietary algorithm using Artificial Intelligence will map out a pathway for the family to confirm the CHD diagnosis, locate a child heart surgery center, identify and contact the cardiac surgeon, the cardiac anesthesiologist, and a nearby hospital that will come together to provide them high-quality repair of this CHD lesion without any associated financial burdens. We believe that through collaboration, we can forge stronger bonds and amplify our collective impact on the global prevalence of untreated CHD and the patients that we serve. The GHN also will also integrate adult CHD patients using the same format to take care of their own ailments.

Just as many individual rivers converge to form the vast ocean, our unified efforts within the Global Heart Network will create a more powerful voice to advocate for and treat the millions of adults and children with congenital heart disease in underserved areas worldwide. As the international *Awareness* journal completes the first year of its operation, it will serve as a scholarly forum to explore the underlying genetic and environmental causes of congenital heart disease, to expand the therapeutic options available through non-invasive, invasive, or hybrid approaches, to implement the latest advances into clinical practice, to improve the quality of care and clinical outcomes, to compare the effectiveness of different approaches, in essence, to celebrate the successes of the GHN and similar programs, while also chronicling the lived experiences of families and children as they receive the most competent and compassionate care — regardless of who they are, where they live, or whether they have the ability to pay. This is truly part of the mission that the *Awareness* journal was born to achieve!

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