Every year, some 800,000 children suffering from congenital cardiopathies are born in developing countries. More than half of these have little chance of survival. These horrifying statistics are what led to the establishment of the Associazione Bambini Cardiopatici nel Mondo.

The organisation was founded in Milan in 1994 by paediatrician Alessandro Frigiola, MD, San Donato Hospital, Milan, Italy, and anaesthesiologist Silvia Cirri, MD, Sant’ Ambrogio Hospital, Milan, Italy (Figure 1). The driving force behind the association is a passion for helping these unfortunate children in developing countries who have congenital heart disease and for finding treatment and hope for them. These activities also strengthen the personal and professional development of the health professionals involved.

The association has support not only from cardiac surgeons and cardiologists in Italy, but also from important centres elsewhere, including the Mayo Clinic in Rochester, Minn; Great Ormond Street Children’s Hospital in London, England; and l’Hôpital des Enfants-Malades in Paris, France.

The Associazione Bambini Cardiopatici nel Mondo works on several levels. Its goals are to create autonomous centres and to provide treatment in the target countries. These goals are approached by several steps that include fundraising activities, training activities for key personnel such as nurses, technicians, and doctors in Europe and in developing countries, and treatment in Italy of the most complex cardiac cases or cases in which the overseas centre has not yet gained enough experience.

In more experienced centres in developing countries, health care is provided under the supervision of the Italian team. There are also academic activities that involve participation in local congresses, the organisation of international meetings in the country, and the promotion of research projects investigating local diseases. Another important facet is the teaching of appropriate administrative skills, such as interacting with local administrators to develop management expertise and the competence to manage complex organisations such as medical and surgical cardiac centres. The supply of modern equipment is also an association objective.

Throughout the 13 years of its existence, the association has treated >500 patients at San Donato Hospital, and >800 children have been treated in their own countries. About 200
Approximately 200 doctors and nurses from developing countries have been trained in Italy. One hundred fifteen major surgical missions have been carried out in various countries, including Egypt, Tunisia, Libya, Palestine, Cameroon, Romania, Azerbaijan, Peru, Syria, Yemen, Kurdistan, and Mali.

At present, there are 3 main projects with which the association is involved. The first is the Cameroon Project, the start of which was celebrated in 2001 (Figure 2.) in collaboration with the Tertiary Franciscan Sisters (who have run a general hospital and a number of health centres around Kumbo, Cameroon, since 1952) and the Italian charity Cuore Fratello (www.cuorefratello.org). The project is a programme for the development of the diagnosis and treatment of congenital and acquired heart disease in northern Cameroon.

So far, with the help of Italian benefactors, a hospital with cardiology and cardiac surgery facilities, the Shisong Cardiac Centre, is under construction near the general hospital (Figure 3). In the meantime, 3 doctors (a cardiologist, a cardiac surgeon, and an anaesthesiologist), 3 technicians, and 10 nurses are being trained in Italy. The most critical cases (about 40 children per year) are treated in San Donato. During the last 2 years, children with simpler forms of cardiac disease have been treated in their own country by the Italian team and Cameroonian doctors in training. The inauguration of the Shisong Cardiac Centre is scheduled for March 2008.

The second major undertaking is the Syria Project. The association is helping the University of Damascus with the construction of a paediatric cardiological and cardiosurgical unit (Figure 4) that will be the most modern and the largest in the region. Five doctors have been trained in Italy. The unit will open in a few years.

The Peru Project is the third important activity. This project is being carried out in collaboration with Essalud, the national insurance provider of Peru. This programme started in 2003 and is due to run for 6 years. More than 300 procedures were carried out by the Italian–Peruvian team. Several Peruvian doctors and nurses trained for 6 months in Italy. Furthermore, a network of medical assistance was created; this included the opening of 3 new centres in Cuzco, Iquitos, and Arequipa. When the initial period of training and collaboration had been completed, the opening of the centres was marked by the organisation of the Symposium of the Latin Society of Pediatric Cardiology and Cardiovascular Surgery in Lima in November 2006. A faculty of more than 30 high-level professionals in the field took part in this congress.

The central objective of all these activities is to provide hope for cardiac children in developing countries. To succeed, it is essential to extend contacts and collaboration between highly experienced professionals and other charitable associations and to create a network of friendship between people around the world.

This is what is being achieved in Cameroon, and it is wonderfully expressed by Sister Alphonsa, the Matron of the Franciscan Sisters there. She says, “The Cardiac Centre is giving Cameroonians health and life but also a strong sense of belonging to the wider world. The uniting force of the Cardiac Centre becomes even more amazing when considering the reality of the wars and political, social, and religious discrimination ravaging our continent. Many people have entered into our history through the gift of the Cardiac Centre, and, consequently, we are being called on to deepen our understanding of the necessity of collaboration. Indeed, the Cardiac Centre is more than a project of San Donato Hospital and the Tertiary Sisters of St Francis—it is a world concern! The relationships that have been established in the process are irreplaceable. We are making a difference in the history of the world, and it is wonderful to see, touch, feel, and actually be a part of it.”

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Cardiovascular Risk Scores in Relation to Social Deprivation and Ethnicity

Hugh Tunstall-Pedoe, MD, FRCP, professor at the Cardiovascular Epidemiology Unit at the University of Dundee, talks to Judy Ozkan, BA, about the development of a fairer risk score in relation to social deprivation and ethnicity.

Dr Hugh Tunstall-Pedoe and his team at Dundee University, Scotland, have been collecting information to enable them to develop a more accurate alternative to the Framingham scoring system. To do this, they tracked the health of more than 13,000 men and women aged 30 to 74 in Scotland for 10 to 20 years, up to the end of 2005. The work was carried out as part of the development by the Scottish Intercollegiate Guidelines Network of clinical guidelines on the primary prevention of coronary vascular disease. They call the new system ASSIGN.

Dr Tunstall-Pedoe says, “The Framingham score is a very good score for a homogeneous population where everybody is of the same social status and ethnic background, but if you have a modern, complex, heterogeneous population, then it isn’t only age, sex, smoking, blood pressure, and cholesterol that determine risk differences between individuals; it’s also their ethnicity and their social status.

He continues, “Last year, our team published a study in which we found that by dividing people in Scotland by their social status, using the Scottish index of multiple deprivation, there was a 2.5-to-1 difference between the top people who were most deprived and the people who were least deprived.”

The results show that the Framingham score seriously underestimated the variation in risk with deprivation (Figure 1). The relative risk of observed 10-year coronary risk (sexes combined) analysed across population fifths had a steep gradient, from least to most deprived, of 1.00, 1.81, 1.98, 2.22, and 2.57. Expected risk, calculated from baseline risk-factor values and the Framingham score, had one quarter of that gradient, with relative risks of 1.00, 1.17, 1.19, 1.28, and 1.36.

Dr Tunstall-Pedoe explains, “Social deprivation in itself gave a very large gradient of risk. When we applied Framingham to these groups, we found it only accounted for part of that gradient. So, if you use Framingham to determine preventive treatment, the financially better-off people will be getting more treatment in relation to their future risk than the more deprived people. For a private practice with selected patients, this probably isn’t of great concern, but for a national health service or any widespread insurance scheme, you need a risk score that is fair to everyone, and you are under an obligation to do something about it.”

Dr Tunstall-Pedoe says that family history also was significant. “When we tested the ASSIGN score in Scotland, we found it was fairer to socially deprived people than Framingham, in that it allocated proportionately as much treatment as they would need in relation to their future risk. We also found that if you ask people about family history of heart disease, you will then pick up ethnic family susceptibility. Given that ethnicity is a sensitive issue, family history is an indirect route into that. Family history also accounts for some of the social deprivation because people from deprived backgrounds tend to have a history of heart disease more so than people from more privileged backgrounds.”

Dr Tunstall-Pedoe comments that the ASSIGN score is more fair, but he admits to one disappointment. Adding factors that were missing from the main scoring system was expected to improve performance in all areas; however, adding more factors to basic risk scores has not clearly led to an overall improvement in performance.

In trying to explain this, Dr Tunstall-Pedoe says, “Framingham and ASSIGN perform fairly similarly, and the ASSIGN score is slightly better—as you would expect—if it is tested out in the population from which it was produced. Although there are established standards for measuring blood pressure and cholesterol, social deprivation is more difficult to quantify, which means that if the score were tested everywhere, the indicators of deprivation would need to be adjusted in line with local measurements.” The original objective was to produce a fairer score, and Dr Tunstall-Pedoe hopes that other people with sets of data similar to those of Scotland will test ASSIGN to see whether it works for them.

He says, “This is very much a live issue because in the last 10 years, more and more countries have developed national policies on preventing coronary vascular disease and reducing social gradients, and they don’t necessarily run in tandem.” He points out, “What was shown by our work on ASSIGN is that there is a paradox: you could actually have a policy to prevent coronary vascular disease that would benefit the people with less disease to a greater extent than the people with more disease.
International Mentoring Programme Can Benefit European Cardiologists

The American Heart Association has established an international mentoring programme to demonstrate its support for young physicians and scientists in Europe and elsewhere in the world.

The aims of the American Heart Association’s mentoring programme are to help interested doctors and scientists to develop their professional careers whilst promoting the highest possible quality of science and practice throughout the world. It is hoped this will help stimulate more international collaboration in basic and clinical research in cardiovascular and cerebrovascular disease.

The plan is that senior and experienced mentors will be recruited who will match the areas of interest with the aspiring specialist and will act on a one-to-one basis. Contact will initially be by e-mail, but subsequently there will be the opportunity for face-to-face meetings at scientific sessions, where members of the mentoring programme will attend receptions, meet key opinion leaders, and be provided with additional information and resources.

Those selected to take part in the programme will initially be international AHA or American Stroke Association members currently involved in a post-doctoral fellowship or equivalent. As the international mentoring develops, potential participants will also be identified by department chairs in medical schools or equivalent training establishments in Europe and elsewhere in the world. Beneficiaries will be required to first take up AHA/American Stroke Association professional membership.

Anyone interested in joining the programme can register by taking out the appropriate professional membership, completing a survey, and submitting their curriculum vitae. Further details can be obtained by visiting the American Heart Association’s website on www.americanheart.org/mentoring.

If policies aren’t adjusted, this could lead to an increase in social gradients.”

Dr Tunstall-Pedoe concludes, “We’re not promoting ASSIGN as being better at predicting heart disease overall than Framingham; we’re promoting it as being potentially fairer, dealing with a problem that is now apparent in the Framingham score.”

Judy Ozkan is a freelance medical writer.

References

Figure 2. The web-based ASSIGN risk assessment calculator.

Mentors will be senior professionals who will match areas of interest with the aspiring specialist and will act on a one-to-one basis.