



## Migrant and Refugee Health: Rheumatic Heart Disease

Rheumatic heart disease (RHD) is a preventable, treatable form of cardiovascular disease that affects over 33 million people around the world and kills an estimated 275,000 of them each year.<sup>1</sup> It affects the world's poorest, most vulnerable populations and imposes heavy costs on the health systems that can least afford it. If left untreated, RHD can lead to heart valve damage, stroke, heart failure, and death. Women with RHD have an increased risk of cardiac failure and death during pregnancy. The persistence of this preventable disease is a stark measure of health system failure and inequity.

RHD is the most commonly acquired heart disease in young people under the age of 25. It most often begins in childhood as strep throat, caused by a group A streptococcal (GAS) infection. If left untreated, this can lead to acute rheumatic fever (ARF), which is an abnormal immune reaction to this bacterial infection. Repeated episodes of ARF cause inflammation of the heart valves and muscle, and may progress to RHD resulting in serious heart damage that kills or debilitates adolescents and adults.



UN Photo / Tobin Jones

The global refugee crisis is likely contributing to the burden of RHD and raising serious new concerns about increasing prevalence and limitations of care. Currently, an unprecedented 65.3 million people around the world have been forced from their homes.<sup>2</sup> Among them are 21.3 million refugees, over half of whom are under the age of 18, when the risk of ARF is greatest.<sup>3</sup>

Refugees and displaced persons from settings affected by crisis often have complex needs and an increased risk of health problems related to their journeys. Many migrants experience difficulties in access to and continuity of health care. Many refugees lack access to any health records, continuity of service or care for chronic disease. This makes identifying and managing RHD particularly difficult.

While the exact burden of RHD among migrant and refugee populations globally is difficult to determine, rates are thought to be high. Médecins Sans Frontières (MSF) has been using echocardiography to screen refugees aged 10-25 years for RHD in Rome, Italy. Of these 1.7% were found to have definite disease.<sup>4,5</sup> Additionally, it has been estimated that of the more than 1 million asylum seekers who arrived in Europe in 2015, approximately 10,000 could be expected to have RHD.<sup>6</sup>



## Why is RHD a problem in refugee communities?

### Source countries with refugee populations have a high burden of RHD

In the most recent figures from UNHCR more than half of all refugees globally came from the Syrian Arab Republic, Afghanistan and South Sudan in 2016.<sup>3</sup> Poverty, inadequate and disrupted primary healthcare systems are major contributors to the persistence and resurgence of ARF/RHD in source countries. Prior to conflict, RHD was the leading indication for valvular heart surgery in Syria.<sup>7</sup> Displaced Syrian children continue to present for RHD surgery in neighbouring Jordan.<sup>8</sup> In Afghanistan, there are anecdotal reports of high burden and unmet need for humanitarian evacuation for cardiac surgery.<sup>9</sup> These reports likely represent the tip of the iceberg, as they only capture a minority of people with diagnosed disease who are in contact with health services.

### Access to care for RHD is disrupted in times of crisis

Management of RHD involves regular antibiotic injections to prevent recurrent strep infections, episodes of rheumatic fever and progress to heart valve damage. These injections must be given monthly for up to a decade, necessitating a stable and supportive health service. This kind of service is rare for refugees, raising the risk of ARF recurrence. Prolonged periods of displacement and disrupted healthcare mean that children and adolescents are particularly vulnerable to developing ARF and subsequently RHD. The devastating impact of disrupted health services on disease burden in vulnerable populations has been seen before: following the breakdown of the Union of Soviet Socialist Republics (USSR), RHD prevalence increased significantly in association with social and economic disruption.<sup>10</sup> Equally, refugees have a high burden of non-communicable diseases which may contribute to other heart diseases in older adults.

### Refugee camps and informal settlements are overcrowded

The strep infections which cause acute rheumatic fever and subsequent RHD spread most easily in overcrowded communities. Worldwide, refugee settlements are grossly overcrowded, fostering conditions for RHD.

### Refugees may settle in places where RHD is unfamiliar or not recognised

RHD is rare in developed countries, outside some vulnerable Indigenous populations. This means that doctors and health care workers in resource-rich settings may not be familiar with RHD, leading to late diagnosis and poor care. The infrastructure for delivering register-based secondary prophylaxis recommended for RHD by the World Health Organization is often not in place in developed countries. In addition, access to health care in host countries may often be restricted.

### What can be done?

Research is underway to better understand the burden of RHD in refugee communities, making it possible to plan for improved care and prevention. There have been strong calls for receiving countries to strengthen care capacity of refugee children with RHD.<sup>6</sup> Given the serious potential consequences of this disease, there is a strong humanitarian imperative to accurately understand the extent to which refugee populations experience RHD, so that appropriate systems actions can be put in place. RHD Action offers technical support to researchers, clinicians and policy makers addressing RHD in all settings. Further information is available at [rhdaaction.org](http://rhdaaction.org)





1. GBD 2013 Mortality and Causes of Death Collaborators. Global, regional, and national age-sex specific all-cause and cause-specific mortality for 240 causes of death, 1990-2013: a systematic analysis for the Global Burden of Disease Study 2013. *The Lancet* 2014; **385**(9963): 117-71.
2. UNHCR. Global Trends: Forced Displacement in 2015: United Nations High Commissioner for Refugees, 2015.
3. UNHCR. Figures at a Glance. 2016. <http://www.unhcr.org/en-au/figures-at-a-glance.html> (accessed 19 June 2017 2016).
4. De Maio G, Lupiz M, Condemni F, Pagano A, Al-Rousan A, Rossi G. Screening for Rheumatic Heart Disease in Refugee Children in Europe – MSF leads, will others please follow? 2016. [https://rhdaaction.org/sites/default/files/Screening%20for%20RHD%20in%20Refugee%20Children%20in%20Europe\\_MSF.pdf](https://rhdaaction.org/sites/default/files/Screening%20for%20RHD%20in%20Refugee%20Children%20in%20Europe_MSF.pdf).
5. Médecins Sans Frontières. MSF EU Migration Activities January 2017, 2017.
6. Rossi G. Call for preventative care for rheumatic heart disease in refugee children. *British Medical Journal* 2016; **352**: i484.
7. Kabbani S, Bashour T. Mitral valve surgery in Syria. In: Birks W, ed. *Cardiovascular Surgery* 1980. Berlin Heidelberg: Springer-Verlag; 1981.
8. Al-Ammouri I, Ayoub F. Heart Disease in Syrian Refugee Children: Experience at Jordan University Hospital. *Ann Glob Health* 2016; **82**(2): 300-6.
9. American College of Cardiology. Going Army: The Life of a Deployed Cardiologist. 2015. <http://www.acc.org/latest-in-cardiology/articles/2015/09/24/17/25/going-army-the-life-of-a-deployed-cardiologist> (accessed April 13 2016).
10. Omurzakova N, Yamano Y, Saatova G, et al. High incidence of rheumatic fever and rheumatic heart diseases in the republics of Central Asia. *International Journal of Rheumatic Diseases* 2009; **12**: 79-83.