

Death rates from rheumatic heart disease falling since 1990

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The risk of dying from rheumatic heart disease, a condition of damaged heart valves caused by bacterial infection that leads to rheumatic fever, has dropped around the world over the last 25 years, according to a new scientific study published today in the *New England Journal of Medicine*.

However, progress on rheumatic heart disease remains uneven. In several regions that include some of the world's poorest countries, mortality from rheumatic heart disease has not appreciably declined since 1990. The number of individuals who were living with rheumatic heart disease had not declined, either.

"The persistence of [rheumatic fever](#) and rheumatic heart disease reflects the challenges many countries face in improving the social, environmental, and economic conditions that lead to the disease." said Dr. Gregory A. Roth, senior author on the study, and Assistant Professor at the Institute for Health Metrics and Evaluation (IHME) at the University of Washington, and in the Division of Cardiology at the University of Washington School of Medicine. "It is a tragedy that, in 2016, rheumatic fever remains a serious health concern for so many people."

Rheumatic heart disease is a long-term consequence of untreated strep throat, which can be highly contagious, especially for children living in overcrowded and unsanitary settings. In susceptible individuals, untreated strep throat leads to rheumatic fever that damages heart valves

over time. The symptoms of the heart condition can appear up to 10 or 20 years after the original infection and can disable or kill individuals during their prime working years.

Pregnant women are also at very high risk. In most countries, progress - or lack of progress - in addressing social factors such as education, income, and access to health care has tracked closely with rheumatic heart disease.

The study, "Global, Regional, and National Burden of Rheumatic Heart Disease, 1990-2015," estimates 347,500 deaths from rheumatic heart disease in 1990 and 319,400 deaths in 2015, an 8% decrease.

The global age-standardized death rate for rheumatic heart disease decreased from 9.2 per 100,000 in 1990 to 4.8 per 100,000 in 2015, a reduction of 48%. Countries with the highest estimated numbers of deaths in 2015 were Indonesia (1.18 million), the Democratic Republic of the Congo (805,000), India, (119,100), China (72,600), and Pakistan (18,900). These five nations account for 73% of rheumatic heart disease deaths globally.

The highest estimated death rates - more than 10 per 100,000 - occurred in: the Central African Republic, Federated States of Micronesia, Fiji, India, Kiribati, Lesotho, Marshall Islands, Pakistan, Papua New Guinea, the Solomon Islands, and Vanuatu.

About of 1% of school age children in these endemic countries have evidence of rheumatic heart disease, said Dr. David Watkins, lead author on the study and an instructor of medicine in the Division of General Internal Medicine at the University of Washington School of Medicine.

"We have very cost-effective interventions that treat strep throat and prevent rheumatic fever and rheumatic heart disease from getting worse,

but these children often don't have access to the care they need," Dr. Watkins said. As a result, their heart conditions usually get worse with age and lead to premature death. Many of these individuals could be saved by open-heart surgery to repair or replace damaged valves, but unfortunately in these countries access to advanced cardiac surgery care is very low."

"We also need better data on rheumatic heart disease prevalence and mortality," he said. "In order to track progress and devote adequate resources to prevention and early treatment, countries where rheumatic heart [disease](#) is endemic need stronger national surveillance systems and more studies on the prevalence of [rheumatic heart disease](#), especially among adults."

The paper is based on the annual Global Burden of Disease Study (GBD), the world's largest health science enterprise, examining 400 diseases, injuries, and risk factors among all age groups in 195 countries. The GBD is convened by IHME and includes more than 2,500 scientists in 130 countries.

More information: vizhub.healthdata.org/gbd-compare/

Provided by Institute for Health Metrics and Evaluation

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