Costs of screening children for sudden cardiac death outweigh its benefits

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An article, published in *Circulation* by Laurel K. Leslie, MD, MPH from the Tufts Clinical and Translational Science Institute (CTSI) and colleagues from Tufts Medical Center and Floating Hospital for Children at Tufts Medical Center, has evaluated the lifesaving benefits and costs of screening programs for the prevention of sudden cardiac death (SCD) in children and adolescents. The authors found that screening can save lives, but that because it targets rare conditions and available tests have limited accuracy, screening for SCD is costly, compared to other life-saving measures.

Although rare, SCD often receives widespread attention because it is unexpected and can occur during childhood. Those factors have prompted many parents and policy makers to support screening programs. To help decision makers and the public understand whether more SCD screening is warranted, the authors, including collaborating clinical researchers from Children's Hospital Boston, compared the potential life saving benefits (measured in terms of life years saved) to program costs. They considered two groups thought to be at elevated risk: school-aged children taking stimulants, which are often used to treat Attention Deficit Hyperactivity Disorder (ADHD), and adolescents playing organized sports. The research team determined that each year of life saved would cost from $90,000 (to screen adolescents before they participate in sports) to $200,000 (to screen children before they take ADHD medications).

Although there is no hard and fast line separating worthwhile and

expensive public health interventions, programs can be compared to get an idea of their value. For example, interventions that cost $90,000 to $200,000 per life year saved are considered expensive, compared to other interventions, which often save life years at $50,000 to $100,000, or even less. The results of this study suggest that finite public health resources might be better spent elsewhere.

The "human cost" of screening suggests its true price may be even higher. Because conditions causing SCD are so rare, even an occasional "false positive" means that for every previously undiagnosed child accurately identified, many children who would never have died from SCD may be labeled as being at-risk.

The research team stressed that the cardiac conditions causing SCD in children are incredibly rare. Many are cardiac conditions are genetic and there may be a family history of early (children should certainly be evaluated." Since some disorders that cause SCD may not be identifiable on an ECG until late adolescence or early adulthood, an ECG in a parent with a positive family history may provide more information than an ECG in a child. Another indication to consult with a doctor is if a child reports any experiences of fainting or shortness of breath with strong emotions or during exertion (not related to a medical condition like asthma).

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