

Screening for cardiac conditions associated with sudden cardiac death (SCD) in young people: understanding the evidence map

Incidence



The worldwide incidence of SCD is low but its impact is severe



It is estimated that 1 to 3 out of every 100,000 people die from SCD each year

Effectiveness of screening for conditions causing SCD

10,000 people aged 12 to 39 are screened

Between 8,000 and 9,600 people have a normal result. We do not know how many are false negatives.

Between 400 and 2,000 people have an abnormal result

People with an abnormal result are referred for tests (such as electrocardiography, genetic testing and cardiac magnetic resonance imaging) and specialist review

Between 390 and 1,950 people are not diagnosed with a condition associated with SCD. We do not know how many of these are false negatives.

Between 10 and 50 people are diagnosed with a condition associated with SCD

Those diagnosed are offered ongoing management including monitoring, lifestyle advice, medication and/or medical procedures

There is little strong evidence that screening reduces deaths from SCD compared to finding cardiac conditions associated with SCD through other clinical routes

- Most abnormal results do not lead to the diagnosis of a cardiac condition associated with SCD
- Evidence is insufficient to assess the benefits and harms of screening

The screening challenge

- **Inconclusive test accuracy:** Tests with limited accuracy can lead to high numbers of people receiving a positive result despite not having a cardiac condition that causes SCD. In most studies, only around 2% to 14% of positive tests were ultimately confirmed as a cardiac problem. These false alarms can cause distress and uncertainty, with some people experiencing lasting anxiety or avoiding exercise unnecessarily. It can also add pressure on cardiology services.
- We also do not reliably know how often screening would miss someone at risk of SCD, as studies did not follow up people who tested negative. This means we cannot rule out false reassurance, where someone may be told their test is normal even though they have a cardiac condition.
- **Insufficient clinical effectiveness:** There is very little strong evidence comparing screening with not screening. We cannot currently show that screening reduces deaths compared with usual care.

Screening for cardiac conditions associated with SCD in young people will be reconsidered by the UK National Screening Committee in 3 years' time or sooner if new evidence becomes available that may impact this recommendation

