

A cloud-based medical device for predicting cardiac risk in suspected coronary artery disease: a rapid review and conceptual economic model

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Plain language summary

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Plain language summary

Coronary artery disease affects around 2.3 million people in the United Kingdom. It is caused by a build-up of fatty plaques on the walls of the blood vessels that supply the heart muscle. This can reduce the flow of blood to the heart and result in people experiencing chest pain (angina), especially when they exercise. Over time, the fatty plaques can grow and block more or all of the artery and blood clots can also form, causing blockage. A heart attack happens when the supply of blood to the heart muscle is blocked.

People who have episodes of chest pain, whose doctors think that they may have coronary artery disease, can have a type of imaging (computed tomography coronary angiography) which shows whether there is any narrowing of their coronary arteries. When offering treatment, specialist heart doctors are likely to consider a person's symptoms and other risk factors (such as family history of heart disease, diabetes and smoking history), as well as how much narrowing of the arteries has happened.

CaRi-Heart® is a computer programme that uses information about inflammation in a person's coronary arteries, together with recognised risk factors, such as age, sex, smoking, high cholesterol levels, high blood pressure and diabetes, to estimate an individual's risk of dying from a heart attack in the next 8 years. There is evidence that CaRi-Heart® is better at estimating this risk than using information recognised risk factors alone. However, there is a lack of information about how treatment could change as a result of using CaRi-Heart® and whether any changes would improve outcomes for patients. There is also a lack of information about how much CaRi-Heart® would cost the National Health Service.

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This article

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