Researchers test an algorithm that could predict heart attacks in young people

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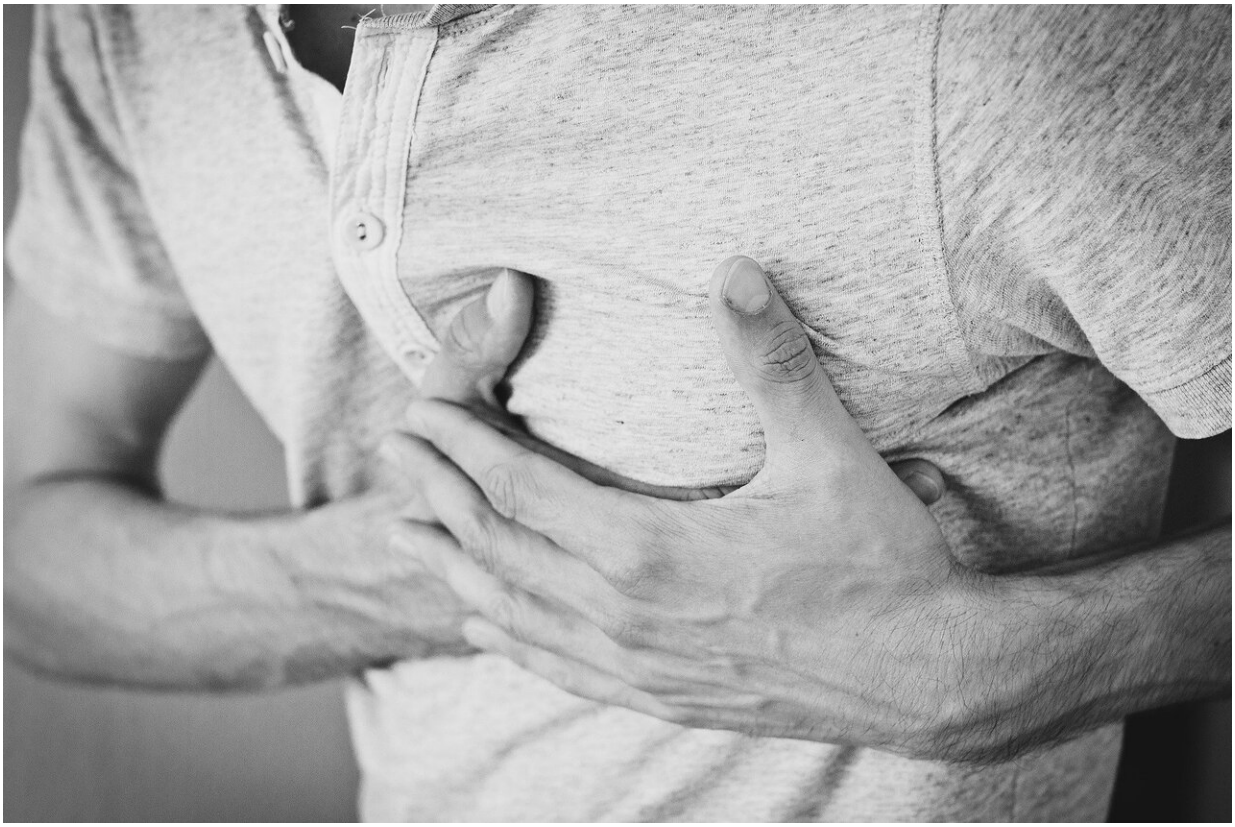

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Researchers at Queen Mary University of London have tested an algorithm on 700,000 patient records in east London, to find out if the data routinely collected by GPs can reveal cases of Familial

Hypercholesterolemia—a leading cause of heart attack in young people.

Familial Hypercholesterolemia (FH) is a condition passed down through families that causes extremely high levels of cholesterol in the blood. Without treatment, it can lead to a heart attack at a very young age. FH affects 320,000 people in the UK, the vast majority of whom are unaware they have it.

One method of detection is the 'FAMCAT' (Familial Hypercholesterolemia Case Assertation Tool) which analyses data in GP records—including blood test results and family history—to predict who is 'likely' or 'unlikely' to have FH. The result is a long list of patients that GPs can call in for further investigation. This is the first time FAMCAT has been used on data from a large, inner-city, ethnically diverse population.

Dr. John Robson, Reader in Primary Care at Queen Mary University of London, said, "There is an urgent need for better methods to detect people who might have FH. We have demonstrated the FAMCAT algorithm can be applied to whole boroughs or cities, using the data we already have in the system to help find those undiagnosed cases. But FAMCAT generates a very long list of possible candidates, and this needs to be assessed for cost-effectiveness. For every confirmed case of FH, FAMCAT found 119 likely candidates all needing investigation—first by the GP, with a detailed family history and examination, then in secondary care for genetic testing and advice.

"It is also unclear whether the algorithm performs equally well at detecting FH in different ethnic groups. We are now planning further research with east London data to investigate this."

More information: Chris Carvalho et al, Application of a risk stratification tool for familial hypercholesterolaemia in primary care: an

observational cross-sectional study in an unselected urban population, *Heart* (2021). DOI: 10.1136/heartjnl-2020-318714