

# Life-saving role of heart attack centers confirmed in new study

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Recent studies questioning the role of specialist heart attack centres produced misleading results because doctors tend to send the sickest patients to have the best care, according to new research.

Many [heart attack patients](#) in the UK are sent to a specialist centre for [primary angioplasty](#) - a surgical procedure to reopen the blocked artery. Randomised trials have found that angioplasty is much more successful than drug treatment alone, but research based on "real-world" data suggest that patients given an angioplasty don't tend to do better.

Now researchers at Imperial College London have shown that the apparent lack of benefit in the clinical records is due to high-[risk patients](#) being more likely to be sent to a heart attack centre, which skews the data. After taking this bias into account, they find that primary angioplasty reduces the death rate from heart attacks by 22 per cent.

They say the findings confirm that heart attack centres play a vital role, and should be made available more widely. The latest figures show that 82 per cent of heart attack patients in England and 30 per cent in Wales receive a primary angioplasty, with wide discrepancies in access between regions.

"There has been some debate in the cardiology community about whether it is worthwhile to run specialist heart attack centres, despite evidence from clinical trials that they save lives," said Dr Iqbal Malik,

one of the study's authors, from the National Heart and Lung Institute at Imperial . "This study resolves an important question. We must strive to make sure everyone in the UK has access to the best [emergency treatment](#) in the event of a heart attack."

The findings are published today in *Circulation Cardiovascular Quality and Outcomes*. The authors warn that in real life, doctors faced with a very sick patient tend to give them the most effective possible treatment. This phenomenon - termed allocation bias - is good medical practice but can make "[comparative effectiveness](#)" research unreliable. Adjusting for this bias is difficult because doctors may base their decisions on many features that are difficult to document. The Imperial team developed a method to help other researchers detect when a disease is vulnerable to this form of bias in evaluation of its treatments.

Co-author Dr Sayan Sen said: "Comparing treatments based on clinical records will always be hindered by the good wisdom of the first-line doctors, who choose the most effective therapy for the most sick patients. We demonstrate that decisions regarding the therapy of heart attack patients should be tested in the most reliable way, namely a randomised trial, and should not rely on registries."

Ellen Mason, Senior Cardiac Nurse at the British Heart Foundation, which co-funded the research, said:

"It is essential to reopen a blocked coronary artery during a heart attack, to prevent part of the heart muscle from dying. A blocked artery can be re-opened during a heart attack by using clot-dissolving drugs or primary angioplasty, where the artery is reopened using a tube. Both these emergency treatments have saved many lives and reduced the amount of long lasting damage to the heart.

"At the moment, throughout the world there is a trend towards using

primary angioplasty in more patients - the UK continues to follow this trend because of continued research showing better outcomes for [patients](#) and quicker discharge times. Heart attack centres are essential for providing 24 hour angioplasty, and it's vital that the UK continues to keep up with the latest in [heart attack](#) research and treatments."

**More information:** S Sen et al. 'Why Does Primary Angioplasty Not Work in Registries? Quantifying the Susceptibility of Real-World Comparative Effectiveness Data to Allocation Bias' Circulation Cardiovascular Quality and Outcomes, 13 November 2012. [DOI: 10.1161/CIRCOUTCOMES.112.966853](#)

Provided by Imperial College London

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