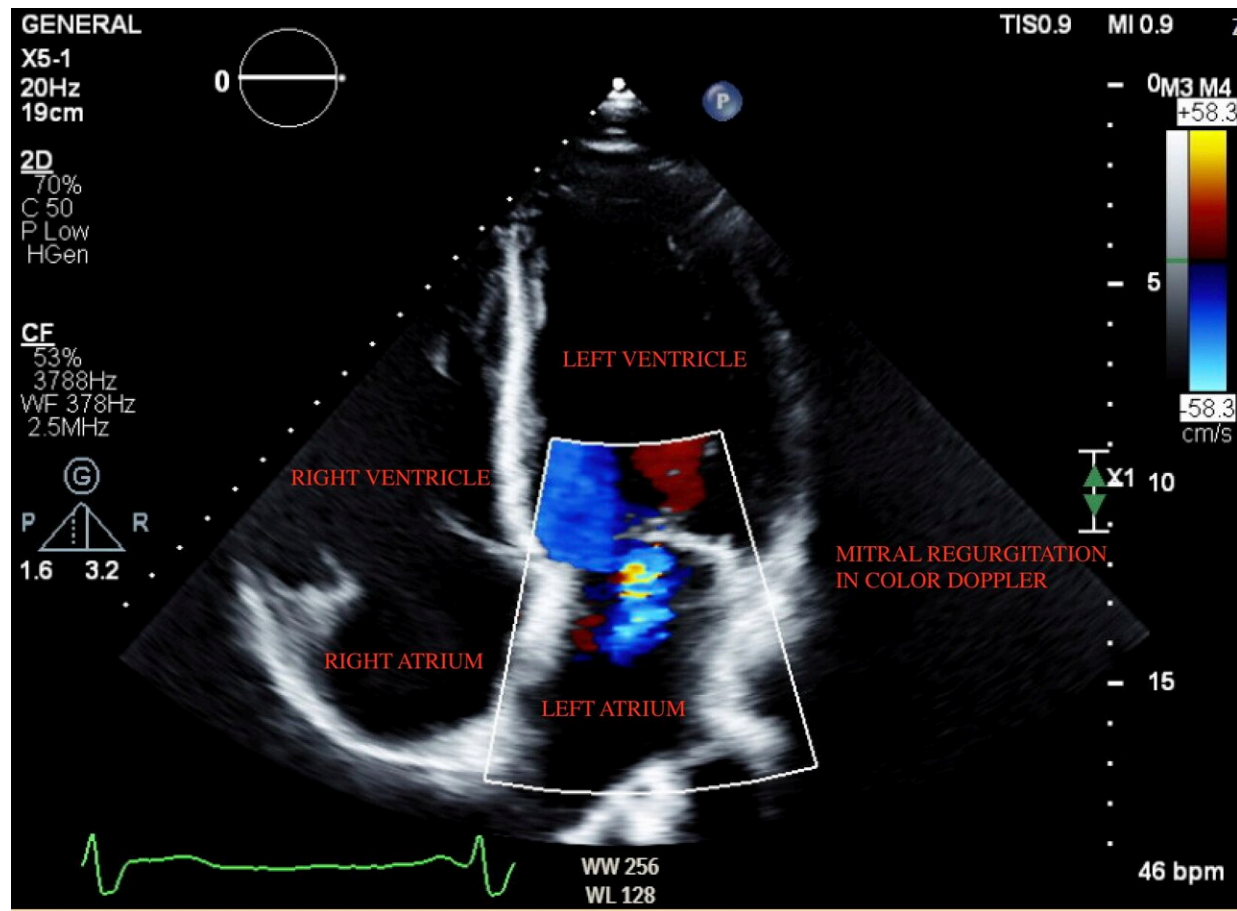


AI study identifies alternative treatment plans for heart failure patients

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A labeled echo report image, as studied by AI created by the University of Dundee and Red Star AI. Credit: University of Dundee

A team from the University's School of Medicine, working with Red

Star AI, were able to identify alternative treatment plans for patients who may currently be on outdated or less effective treatment plans.

The pilot project has used machine learning to examine [health](#) records of heart failure patients, determining whether or not modern knowledge and medications could potentially improve their welfare.

Up to a million people in the UK are living with heart failure, a condition that reduces quality of life and increases the risk of being admitted to hospital with symptoms such as breathlessness and fluid build-up.

The team behind the project say that utilizing AI could tailor [treatment](#) for each patient, ensuring individuals receive optimized treatment with the potential to improve their quality of life.

Dr. Ify Mordi, Senior Lecturer at the University of Dundee, who led the research project, said, "AI is already beginning to show its potential, but projects such as this are a demonstration of how we can harness this to revolutionize [patient care](#).

"Over the past few years, there have been major advances in [heart failure](#) care with new medications. However, many patients who were diagnosed before these advances may not yet be on up-to-date treatment. Unfortunately, due to service constraints, sometimes the first opportunity to identify patients who might benefit from more intensive treatment is after their condition has deteriorated and they have been admitted to hospital, which might be too late.

"If we could identify such patients at an earlier stage, we might be able to intervene before a deterioration, but at present doing this is often difficult and time-consuming, as it requires busy clinical teams to do a manual search of patient records over weeks and months."

The study team worked with Red Star AI to develop software capable of scanning "echo reports," an ultrasound of the heart, and other medical data to determine what treatment would best benefit each patient. The team then developed personalized treatment plans for patients that lead to improvements in quality of life and markers of heart stress.

The sheer number of health records and time required to do this by health care staff makes such a process inefficient. However, through this [pilot project](#) the Dundee team was able to determine that AI was able to scan records both quickly and accurately.

The study was conducted with support from DataLab Scotland, the Small Business Research Initiative and the University's Health Informatics Centre. The findings have been presented at the [European Society of Cardiology Conference](#) in London.

Andrew Conkie, CEO of Red Star AI, said, "The NHS holds vast quantities of cradle to grave data, but this is far more than any single person can understand. Additionally, a lot of health care data is held in a Free Text format, which is difficult to analyze at scale.

"This study allowed us to identify—across a large population—patients who were not on the correct treatment. Importantly, we then presented these patients to the cardiologists allowing them to make the final decision on how best to treat the patient. The improvements in [quality of life](#) shown in this study demonstrate the potential for AI to improve population health at scale."

Provided by University of Dundee

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