

Implantable tech could be a game-changer for heart patients

October 6 2021



Credit: CC0 Public Domain

Implantable heart technology is being used in Manchester to assess when a patient is at high risk of dying, thanks to University of Manchester and Manchester University NHS Foundation Trust-led research.

The implantable pacemakers and defibrillators contain multiple sensors that allow continuous monitoring of a patient's heart health, 24 hours a day.

The study published in *Europace* and funded by the Medical Research Council is a collaboration between The University of Manchester, Manchester University NHS Foundation Trust (MFT), Health Innovation Manchester and Medtronic—which manufactures implantable devices.

The research team examined remotely monitored health related data from 439 patients being cared for at Manchester Royal Infirmary (MRI), part of MFT, over two years.

The study reported a three-fold increase in the odds of mortality for patients who spent at least one day in 'high-risk' status. The risk status is determined by a combination of up to nine factors.

There was also a 26 percent increase in the odds of mortality for patients who had 14 consecutive days or more in a high-risk status—compared with those whose high-risk episodes were shorter.

The researchers are currently investigating if integration of the remotely-monitored device data into healthcare pathways can reduce hospitalisations and mortality.

Dr. Fozia Ahmed, Honorary Reader in Cardiovascular Sciences from The University of Manchester and Consultant Cardiologist at The Manchester Heart Centre, part of the MRI, said that "remote monitoring capabilities of modern-day cardiac devices enables continuous monitoring of health-related data in the patients' own homes.

"The data can help identify when there is a potentially significant shift in a patient's clinical condition, helping to predict future adverse clinical

events, such as hospitalization and death.

"Historically, cardiologists have seen patients at six to 12-month hospital-based appointments. If a patient with heart failure is unwell between appointments, then we rely on the patient getting in touch. But patients don't always know they are unwell until it is too late."

"We believe this technology could be a game-changer in the management of cardiac patients, particularly those with heart failure.

"In Greater Manchester, based on the data from the research, we have started to use the device-derived alerts, which notify the care team when a patient is detected by the device as 'high-risk', prompting a telephone consultation with a specialist.

"The whole process from detection of a high-risk episode, through to assessment and follow-up is known as the TriageHF Plus care pathway—originally developed in Manchester, it is now being used more widely."

Dr. Camilla Sammut-Powell, from the NIHR Applied Research Collaboration Greater Manchester at The University of Manchester and lead statistician for the research, says that "this is the first prospective study to show that remotely monitored cardiovascular implantable electronic device (CIED) data, summarized as a risk score, can be used to predict mortality.

"This routinely monitored data, automatically collected every day, can help discriminate between patients at high and low risk of death.

"Such information may personalize a clinician's decision making towards ensuring that the patient is in receipt of therapies designed to improve their long-term prognosis."

A spokesperson from Medtronic, the industry collaborators which manufactures the device, says that "the increased mortality identified in the evaluation justified the need for an industry and NHS collaboration in this space, to create a digital solution to that aims to ensure that the high risk notifications are sent direct to [heart](#) care teams who can take action as clinically indicated, based on the health-related data from the patient's device and patient reported symptoms."

More information: Fozia Zahir Ahmed et al, Remote monitoring data from cardiac implantable electronic devices predicts all-cause mortality, *Europace* (2021). doi.org/10.1093/europace/euab160

Provided by University of Manchester

Citation: Implantable tech could be a game-changer for heart patients (2021, October 6) retrieved 8 May 2024 from

<https://medicalxpress.com/news/2021-10-implantable-tech-game-changer-heart-patients.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.