

# Remote monitoring keeps heart failure patients out of hospital

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Remote monitoring keeps heart failure patients out of hospital, according to late-breaking findings from the RESULT trial presented today at EHRA 2019, a European Society of Cardiology (ESC) congress. The set-up is so effective that it has won reimbursement from the national health system.

Study author Dr. Mateusz Tajstra, of the Silesian Centre of Heart Disease, Zabrze, Poland, said: "The trial showed that remote [monitoring](#) of implanted defibrillators in patients with [heart failure](#) leads to prompt treatment when a problem occurs and prevents hospital admissions."

Around 1–2% of adults in developed countries have heart failure, a clinical syndrome characterised by breathlessness, ankle swelling, and fatigue. A high proportion of deaths in these patients, especially those with milder symptoms, occur suddenly due to ventricular tachyarrhythmias. Implantable cardioverter defibrillators (ICDs) or cardiac resynchronisation therapy with a defibrillator (CRT-D) are recommended for some patients to correct potentially lethal arrhythmias and reduce the risk of sudden death.

The number of heart failure patients with implanted devices is growing, and hospitalisations and outpatient appointments are common. This trial examined whether remote monitoring of the devices reduces the rate of hospitalisation and death.

A total of 600 heart failure patients with an ICD or CRT-D were

randomly allocated to remote monitoring or standard care with face-to-face appointments. During the subsequent 12 months, the researchers recorded deaths from any cause and hospitalisations for cardiovascular reasons (the composite primary endpoint).

The rate of the primary endpoint was significantly lower in the remote monitoring group (39.5%) compared to the standard care group (48.5%;  $p=0.032$ ). When the researchers looked at the components of the endpoint separately, they found that the rate of all-cause mortality was similar between groups (6% versus 6%;  $p=0.9$ ), whereas the hospitalisation rate for cardiovascular causes rate was significantly lower in the remote arm (37.1%) compared to the standard arm (45.5%;  $p=0.045$ ).

Dr. Tajstra said: "The death rate may have been similar between groups because the trial was not powered to show differences in survival alone."

"It is important to stress that remote monitoring is not effective as a plug and play gadget," he continued. "It will only be successful with a specified workflow to act on data retrieved from the devices, performed by a dedicated team."

In this study, remote monitoring was conducted from an office in the hospital, open for ten hours daily Monday to Friday, with three levels of staff. Two electrophysiology nurses checked device transmissions, contacted patients if further information was needed, and decided the course of action. Cardiology residents investigated suspected arrhythmias or device malfunctions and took action if indicated. A clinical cardiologist and electrophysiologist were available for difficult clinical situations.

"Our pragmatic approach facilitated rapid clinical reactions to data from the devices," said Dr. Tajstra. "This prevented [heart](#) failure

decompensation, where symptoms suddenly get worse and [patients](#) are often hospitalised. Even though there is no reimbursement for [remote monitoring](#) in Poland, our results have convinced the health authorities to pay for this service."

**More information:** The abstract 'Remote supervision to decrease hospitalization rate study (RESULT) in patients with heart failure and implanted cardioverter-defibrillator or cardiac resynchronization therapy' will be presented during the session Late-breaking trials 2 on Monday 18 March at 08:30 to 10:00 WET (GMT) in the Sokolov lecture room.

Provided by European Society of Cardiology

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