

DEVICE THERAPY JUST IN-TIME FOR ICD TELEMONITORING

New generations of implantable cardioverter-defibrillators (ICDs) and cardiac resynchronization therapy defibrillators (CRT-Ds) have telemonitoring functions. Technical and physiological information is recorded by the device and automatically sent to a clinical monitoring team via a mobile telephone link. In a new report published in *The Lancet*, patients with heart failure who received a telemonitoring ICD or CRT-D had significantly improved outcomes compared with an unmonitored control group.

Investigators conducting the IN-TIME trial randomly assigned 664 patients with chronic heart failure (NYHA functional class II or III, left ventricular ejection fraction $\leq 35\%$), and an indication for an ICD or CRT-D to undergo telemonitoring ($n = 333$) or to an unmonitored control group ($n = 331$). The majority of patients in the overall cohort received a CRT-D (58.7%). Patients were then assessed at 1 year for a composite combined score that included death, hospital admission for heart failure, NYHA class, and patient self-assessment.

At 1-year follow-up, 90 patients in the control group had a worse composite score compared with 63 in the telemonitoring group (OR 0.63, 95% CI 0.43–0.90, $P = 0.013$). This improved outcome was attributed to reduced mortality in those with a monitored device (10 versus 27 deaths), with a Kaplan–Meier estimated 1-year all-cause mortality of 3.4% in the telemonitoring group and 8.7% in the control group (HR 0.36, 95% CI 0.17–0.74, $P = 0.004$). No significant differences were recorded between the two groups for hospitalization for worsening heart failure or median hospital stay.

The team believes that direct device telemonitoring might enable clinicians to detect arrhythmias earlier, identify suboptimal device function, or initiate patient interviews that reveal worsening heart failure, which can subsequently be treated, which could explain the improved outcome in patients who received a telemonitoring device. The investigators conclude that “the telemonitoring technique ... is feasible and should be used in clinical practice for patients with heart failure and an indication for ... ICD or CRT-D treatment.”

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Original article Hindricks, G. *et al.* Implant-based multiparameter telemonitoring of patients with heart failure (IN-TIME): a randomised controlled trial. *Lancet* **384**, 583–590 (2014)