

# Cardiac device complications vary widely among hospitals

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The chances of patients experiencing complications after having a cardiac device implanted vary according to where they have the procedure.

A study of 174 hospitals in Australia and New Zealand published today in the *Annals of Internal Medicine* shows that the quality of care people receive may account for the wide variation in the rate of complications after having a cardiovascular implantable electronic device (CIED) insertion.

"The study included 81,304 patients who received a new CIED with 65,711 permanent pacemakers and 15,593 implantable cardioverter-defibrillators," says the study's lead author, University of Adelaide's Dr. Isuru Ranasinghe, Senior Cardiologist, Central Adelaide Local Health Network.

"Permanent pacemakers and [implantable cardioverter-defibrillators](#) are among the most common and costly devices implanted in hospitals."

"CIED complications are common with 8.2 per cent of patients implanted with new devices having a major device-related complication within 90 days of their operation. Complications experienced by patients vary between 2- and 3-fold among hospitals, which suggests that there is significant variation in CIED care quality."

Nearly 19,000 pacemakers and more than 4000 defibrillators were

implanted in Australia alone last year. Pacemakers are often fitted to elderly people who suffer from bradycardia where their [heart](#) beats too slowly. They use electrical pulses to prompt the heart to beat at a normal rate. Cardioverter-defibrillators track a person's heart rate, and if an abnormal heart rhythm is detected, the device delivers an electric shock to restore the heart rhythm to normal.

"Serious complications can cause considerable patient harm and adds to avoidable health care costs. About 60 per cent of these complications occur after leaving the hospital so many doctors and hospitals may not be fully aware of the complications experienced by patients," says Dr. Ranasinghe.

Associate Professor Anand Ganesan, a study co-investigator and a Cardiac Electrophysiologist at Flinders Medical Centre says: "What this study really shows is that we should be routinely reporting [hospital complication](#) rates to make these fully visible to clinicians, hospitals and the community at large. We should also invest in strategies proven to reduce these, such as optimising procedural technique, adopting better infection control measures, and managing blood thinning drugs peri-procedure."

Dr. Ranasinghe says: "Encouraging hospitals to take part in quality improvement activities such as auditing complications and engaging in clinical quality registries also reduce complications over time."

**More information:** Isuru Ranasinghe et al, Institutional Variation in Quality of Cardiovascular Implantable Electronic Device Implantation, *Annals of Internal Medicine* (2019). [DOI: 10.7326/M18-2810](https://doi.org/10.7326/M18-2810)

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