ICU
MANAGEMENT & PRACTICE

# Elderly Heart Patients With ICD Devices Live Longer After Heart Failure, Study Shows

Researchers examined healthcare data from a nationally representative sample of 14,250 Medicare beneficiaries over age 66 who were treated for congestive heart failure at over 2,000 academic and community hospitals nationwide. Peter Groeneveld, M.D., M.S., Assistant Professor of General Internal Medicine, and his co-authors reported their findings in the May 2008 issue of the journal Heart Rhythm.

Researchers found that, on average, patients receiving ICDs--electric monitoring devices that deliver a lifesaving shock to the heart--for primary prevention had a 38 percent lower mortality rate than patients who did not. Thirteen percent of patients who received ICDs died in the first year after implantation, compared with 23 percent of patients who did not receive ICDs. During the second year, the gap widened, as 17 percent of ICD recipients died, compared with 29 percent who did not receive the device.

According to the study, the average cost for ICD recipients in the first 30 days after initial hospitalisation was about $42,000 more than for patients who received other treatments for congestive heart failure, which is comparable to cost estimates from previous clinical studies. Excluding the costs of implantation, after six months the total healthcare costs for ICD recipients were approximately $1,700 higher than for patients who did not receive an ICD. However, after six months, the healthcare costs associated with both patient groups were almost identical. Sudden cardiac arrest is a leading cause of death in the United States, ending the life of about 350,000 Americans each year. In recent years, landmark clinical trials have shown ICDs to be effective in preventing death from cardiac arrest. Subsequently, in 2005 Medicare and other health payers expanded coverage of the device for primary prevention purposes, that is, for patients with heart disease at greater risk of sudden death, but who have not yet experienced heart stoppage. Over 75,000 ICD implants were performed in the United States in 2005.

According to Dr. Groeneveld, while ICDs are among the most common cardiac devices used in contemporary clinical practice, their impact on survival rates and healthcare costs in non-experimental settings have not been well defined. "This study confirms, through real-world experience among thousands of patients, what clinical trials among hundreds of patients found, which is that ICDs enable patients to live longer, at a reasonable cost to society," said Groeneveld.

Primary prevention patients are the largest and fastest growing segment of the ICD patient population. As the Baby Boomer generation ages, hundreds of thousands of patients nationwide may become clinically eligible for and may benefit from an ICD, said Groeneveld.
"The findings show that the overall economic value delivered by the ICD is acceptable by U.S. standards for healthcare expenditures, further substantiating Medicare's decision to expand coverage of ICDs for primary prevention patients," said Groeneveld. "This is particularly relevant to policy-makers, healthcare providers and payers who face difficult decisions about the use of innovative medical technology in the face of rising health care costs."

The University of Pennsylvania School of Medicine research team also included Steven A. Farmer, M.D., Ph.D of the Division of Cardiology, as well as Janice J. Suh, B.S., Mary Anne Matta, M.S., and Feifei Yang, M.S., of the Division of General Internal Medicine.

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