EFFECT OF EDUCATIONAL INTERVENTION ON THE ACCURACY OF DATA SUBMITTED TO A NATIONAL REGISTRY

Poster Contributions
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Background: A recent study published by Al-Khatib and colleagues in JAMA claimed that 22.5% of primary prevention implantable cardioverter defibrillators (ICDs) implanted were non-evidence based. We hypothesized that errors in data entry may be an important limitation of this study.

Objective: To describe the frequency of data-entry errors in ICD implant data from our institution and develop a plan for quality improvement using a Deming cycle.

Methods: We reviewed clinical records and National Cardiovascular Data Registry-ICD Registry (NCDR® ICD Registry™) submission records for discrepancies to establish the frequency of data entry error in our practice, with disagreements resolved by consensus. A subsequent multi-component staff education program included review of the NCDR® ICD Registry™ methodology and 2008 ACC/AHA guidelines as well as dedicated training for two staff members in NCDR® ICD Registry™ data definitions and collection procedures. Electrophysiology laboratory procedures were modified to ensure that a datasheet was completed prior to ICD implantation and staff were empowered to ask the implanting physician to clarify any data fields. After 12 months of continuing educational intervention, the discrepancy between the clinical and the NCDR® ICD Registry™ data was measured and compared using the chi square test.

Results: Baseline review of 369 patients' data submitted to the NCDR® ICD Registry™ between July 2007 and March 2010 identified 24 (6.50%) subjects out of 36 mislabeled due to data entry errors and 12 (3.25%) genuinely non-evidence-based. After the educational intervention, review of 97 submitted patients' data between April 2011 and February 2012 revealed 1 (1.03%) data entry error and 3 (3.09%) genuinely non-evidence-based. There was significant improvement in the data entry errors (6.50% vs. 1.03%, p=0.03). There was no change in the number of non-evidence based ICD implantations (3.25% vs. 3.09%, p=0.937).

Conclusion: Data entry errors may corrupt data in national registry. Multi-component educational intervention was effective in reducing errors in data submitted to the NCDR® ICD Registry™. We propose continuous education for improvement of data quality.