Supplementary Appendix

This appendix has been provided by the authors to give readers additional information about their work.

Supplement to: Sanders GD, Hlatky MA, Owens DK. Cost-effectiveness of implantable cardioverter–defibrillators. N Engl J Med 2005;353:1471-80.

Supplementary Appendix:
Input Variables and Sources

Clinical Trial	Inclusion Criteria
MADIT-I	MI three weeks or more before study; unsustained VT; EF ≤35%
CABG-PATCH	Scheduled for CABG, EF ≤35%, abnormalities on SAECG
MUSTT	CAD, EF ≤ 40%, asymptomatic non-sustained VT within 6 months and not within 4 days after an MI or CABG
MADIT-II	MI one month or more before study; EF ≤ 30%
DEFINITE	EF ≤35%, ambient arrhythmias, symptomatic heart failure, presence of nonischemic cardiomyopathy
COMPANION	NYHA III or IV, EF ≤ 35%, QRS = 120 ms, PR > 150 ms, sinus rhythm, and a hospitalization for the treatment of CHF in the preceding 12 months
DINAMIT	Within 4 to 40 days of an MI, EF ≤ 35%, impaired autonomic tone by heart rate variability
SCD-HeFT	NYHA class II or III symptoms, EF ≤ 35% and on optimal medical therapy

Input Variable	Base-Case Estimate (Range)	Source
Control therapy clinical variables		
Annual total mortality, %		
MADIT-I	19.5	[1]
CABG-PATCH	8.5	[2]
MUSTT	16.7	[3]
MADIT-II	12.4	[4]
DEFINITE	7.3	[5]
COMPANION	18.9	[6]
DINAMIT	7.2	[7]
SCD-HeFT	12.3	[8]
ICD clinical variables		
Efficacy of ICD in reducing total mortality, %		
MADIT-I	0.46 (0.26, 0.82)	[1]
CABG-PATCH	1.07 (0.81, 1.42)	[2]
MUSTT	0.45 (0.32, 0.63)	[3]
MADIT-II	0.69 (0.51, 0.93)	[4]
DEFINITE	0.65 (0.40, 1.06)	[5]
COMPANION	0.64 (0.48, 0.86)	[6]
DINAMIT	1.08 (0.76, 1.55)	[7]
SCD-HeFT	0.77 (0.62, 0.96)	[8]
Frequency of ICD generator replacement, y	5 (2–9)	Estimate based on [9-12], Medtronic and Guidant unpublished data,[13] and expert opinion
Probability of lead problems requiring surgical intervention (20 months), %	2.4 (0–5)	[4]
Duration of ICD benefit	Lifetime (3, 5, 12)	Assumed
Control therapy costs, $		
Monthly inpatient costs	494† (85-2500)	MITI registry, unpublished data and [14]
Monthly outpatient costs	50 (0-100)	[15]
ICD costs, $		
ICD implantation	27,975 (10,000–60,000)	FY 2005 Medicare Inpatient Hospital Payments and Professional Fees
Monthly inpatient costs	494† (85-2500)	MITI registry, unpublished data and [14]
Monthly outpatient costs	50 (0-100)	[15]
Generator replacement	18,390 (5,000-30,000)	FY 2005 Medicare Inpatient Hospital Payments and Professional Fees
Utilities		

Baseline health state (Control therapy)	0.88 (0.6–1)	[16, 17, 18]
ICD	0.88 (0.6–1)	Assumed to be equivalent to current health for base case
Hospitalization for ICD infection (days lost)	3.5	
Other variables		
Discount rate, %	3 (0–5)	[19]

The base-case estimate represents our best estimate for each value. Costs are expressed in 2005 U.S. dollars. †The monthly inpatient cost reported here reflects the average of the first 36 months. ICD = implantable cardioverter defibrillator; MITI = Myocardial Infarction Triage and Intervention, MI = myocardial infarction; EF = ejection fraction; NYHA= New York Heart Classification, SAECG = signal averaged ECG.

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