

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 CABG-PATCH MUSTT	MI three weeks or more before study; unsustained VT; EF \leq 35% Scheduled for CABG, EF \leq 35%, abnormalities on SAECG CAD, EF \leq 40%, asymptomatic non-sustained VT within 6 months and not within 4 days after an MI or CABG	
MADIT-II DEFINITE	MI one month or more before study; EF \leq 30% EF \leq 35%, ambient arrhythmias, symptomatic heart failure, presence of nonischemic cardiomyopathy	
COMPANION	NYHA III or IV, EF \leq 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 \leq 35%, impaired autonomic tone by heart rate variability	
SCD-HeFT	NYHA class II or III symptoms, EF \leq 35% and on optimal medical therapy	
Input Variable	Base-Case Estimate (Range)	Source
<i>Control therapy clinical variables</i>		
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
<i>ICD clinical variables</i>		
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Frequency of ICD generator replacement, y	5 (2–9)	Estimate based on ⁹⁻¹² , Medtronic and Guidant unpublished data, ¹³ and expert opinion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
<i>Control therapy costs, \$</i>		
Monthly inpatient costs	494† (85-2500)	MITI registry, unpublished data and ¹⁴
Monthly outpatient costs	50 (0-100)	¹⁵
<i>ICD costs, \$</i>		
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Monthly inpatient costs	494† (85-2500)	MITI registry, unpublished data and ¹⁴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
<i>Utilities</i>		

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	
<i>Other variables</i>		
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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