Appendix I: Distributions used in the probabilistic sensitivity analysis

Parameter description	Point estimate	Probability distribution	Notes	Source
Costs				
Ambulatory ECG using Holter or EER	£54 IQR (37 – 63)	Gamma (66.75, 0.81)	Estimated by fitting 95%CI of Gamma to interquartile range of HRG cost	HRG reference costs 07/09
Tilt testing	£117 IQR (64 – 156)	Gamma (24.66, 4.74)		HRG reference costs 07/09
IER implantation	£1,895 IQR (1160 – 2564)	Gamma (27.83, 68.11)		HRG reference costs 07/09
IER removal	£5,26 IQR (347 – 575)	Gamma (80.87, 6.50)		HRG reference costs 07/09
Pacemaker implantation	£2430 IQR (1352 -3762)	Gamma (15.46, 157.31)		HRG reference costs 07/09
Pacemaker follow-up	£105 IQR (75-122)	Gamma (76.93, 1.37)		
Ambulance attendance due to recurrence	£208 IQR (176-229)	Gamma (106.24, 1.26)		HRG reference costs 07/09
ED attendance due to recurrence	£134 IQR (111 – 161)	Gamma (237.60, 0.88)		HRG reference costs 07/09
Hospital admission due to recurrence	£318 IQR (237-365)	Gamma (94.83, 3.36)		HRG reference costs 07/09
Conventional monitoring (additional cost compared to IER monitoring)	£809 95%CI (123 – 2766)	Gamma (1.28, 631.92)	Used in sensitivity analysis only	Farwell 2004
Recurrence rates for paced and unpaced patients with SSS and AVB				
Year 1 for pacing	6%	Beta (2,34)		Alboni 1997
Year 2 for pacing	0%	Beta (0+1*,58+1*)	*(1,1) added to event rates as uninformative prior	Alboni 1997
Year 1 for no pacing	16.4%	Beta (6,29)		Alboni 1997
Year 2 for no pacing	16.7%	Beta (4,19)		Alboni 1997
Effect of treatment on HRQoL				

Utility gain due to pacing	0.165 (SE = 0.02)	Beta (40.19, 203.36)		Lopez-Jimenez 2002
Utility gain due to ICD	0.117 (SE = 0.05)	Beta (5.13, 38.71)	Estimates ranging from 0.069 to 0.165	HRQoL review in appendix H
Diagnostic outcomes for testing strategies to direct pacing				
Prob of diagnosis by IER	27%	Beta (106, 392)		Brignole 2006
Distribution of IER diagnoses: 　　Asystole 　　Bradyarrhythmia 　　No arrhythmia or slight 　　Tachyarrhythmia	 54% 4% 27% 15%	 Dirichlet (57, 4, 29, 16)		Brignole 2006
Sensitivity of tilt (for asystole only)	13%	Beta(6,41)		Brignole 2006
Specificity of tilt (for asystole only)	96%	Beta(45,2)		Brignole 2006
Proportion of asystole that are AV block	28%	Beta (16,41)		Brignole 2006
Sensitivity of tilt when including bradyarrhythmia	12%	Beta (6,45)	Used in sensitivity analysis only	Brignole 2006
Specificity of tilt when including bradyarrhythmia	95%	Beta(41,2)	Used in sensitivity analysis only	Brignole 2006
Proportion of asystole and bradycardia that are AV block	26%	Beta (16,45)	Used in sensitivity analysis only	Brignole 2006
Diagnostic outcomes for ambulatory ECG (suspected arrhythmia and unexplained TLoC and initial assessment and secondary investigations) As detailed in section 5.8.9, we used the event rates in Tables 25, 26 and 27 to specify beta functions and dirichlet distributions for the event rates used to model the diagnostic outcomes. We added uninformative priors with one event per outcome to the data shown in Tables 25 and 26 in order to handle zero event rates. As the event rates for each strategy have already been specified in Tables 25 to 27, these are not repeated here.				

Abbreviations: ECG, electrocardiogram; EER, external event recorder; IER, implantable event recorder; IQR, interquartile range; HRG, healthcare resource group; ICD, implantable cardioverter defibrillator; atrioventricular; SSS, sick sinus syndrome; ED, emergency department; CI, confidence interval; SE, standard error; SD, standard deviation