

Supplemental Table 1. Aggregate complication rates based on timing of ICD placement from last HF hospitalization stratified by device type.

	Overall		Patients Admitted for HF		HF Admission ≤ 90 days		HF Admission > 90 days or last HF admission unknown		Adjusted p-value‡
Single Chamber									
	#	Rate (95% CI)	#	Rate (95% CI)	#	Rate (95% CI)	#	Rate (95% CI)	
Periprocedural									
N	15,264		1,851		1,089		12,342		
Any	142	0.93 (0.78-1.10)	37	2.00 (1.41-2.74)	13	1.19 (0.64-2.03)	92	0.75 (0.60-0.91)	<0.001
30-Day Complications									
N*	14,137		1,698		1,035		11,404		
Any complication	228	1.61 (1.41-1.83)	81	4.77 (3.81-5.89)	21	2.03 (1.26-3.08)	126	1.10 (0.92-1.31)	<0.001
Any complication requiring reoperation	27	0.19 (0.13-0.28)	7	0.41 (0.17-0.85)	1	0.10 (0.00-0.54)	19	0.17 (0.10-0.26)	0.149
Any complication without reoperation	203	1.44 (1.25-1.65)	75	4.42 (3.49-5.51)	20	1.93 (1.18-2.97)	108	0.95 (0.78-1.14)	<.0001
90-Day Complications									
N†	13,336		1,601		969		10,766		
Any complication	555	4.16 (3.83-4.51)	115	7.18 (5.97-8.56)	54	5.57 (4.21-7.21)	386	3.59 (3.24-3.95)	<0.001
Any complication requiring reoperation	229	1.72 (1.50-1.95)	26	1.62 (1.06-2.37)	20	2.06 (1.27-3.17)	183	1.70 (1.46-1.96)	0.673
Any complication without reoperation	354	2.65 (2.39-2.94)	94	5.87 (4.77-7.14)	36	3.72 (2.62-5.11)	224	2.08 (1.82-2.37)	<0.001
Dual Chamber									
	#	Rate (95% CI)	#	Rate (95% CI)	#	Rate (95% CI)	#	Rate (95% CI)	
Periprocedural									
N	21,583		2,844		1,389		17,350		
Any	280	1.3 (1.15-1.46)	68	2.39 (1.86-3.02)	21	1.51 (0.94-2.3)	191	1.1 (0.95-1.27)	<0.001
30-Day Complications									
N*	20,300		2,671		1,327		16,302		
Any complication	402	1.98 (1.79-2.18)	145	5.43 (4.60-6.36)	43	3.24 (2.35-4.34)	214	1.31 (1.14-1.50)	<0.001
Any complication requiring reoperation	51	0.25 (0.19-0.33)	7	0.26 (0.11-0.54)	5	0.38 (0.12-0.88)	39	0.24 (0.17-0.33)	0.695
Any complication without reoperation	353	1.74 (1.56-1.93)	139	5.20 (4.39-6.12)	38	2.86 (2.03-3.91)	176	1.08 (0.93-1.25)	<0.001
90-Day Complications									
N†	19,357		2,544		1,282		15,531		

Any complication	907	4.69 (4.39-4.99)	195	7.67 (6.66-8.77)	74	5.77 (4.56-7.19)	638	4.11 (3.80-4.43)	<0.001
Any complication requiring reoperation	413	2.13 (1.93-2.35)	49	1.93 (1.43-2.54)	26	2.03 (1.33-2.96)	338	2.18 (1.95-2.42)	0.695
Any complication without reoperation	533	2.75 (2.53-2.99)	149	5.86 (4.98-6.84)	52	4.06 (3.04-5.29)	332	2.14 (1.92-2.38)	<0.001
CRT-D									
	#	Rate (95% CI)	#	Rate (95% CI)	#	Rate (95% CI)	#	Rate (95% CI)	
Periprocedural									
N	44,209		6,851		3,765		33,593		
Any	772	1.75 (1.63-1.87)	196	2.86 (2.48-3.28)	73	1.94 (1.52-2.43)	503	1.50 (1.37-1.63)	<0.001
30-Day Complications									
N*	41,709		6,406		3,632		31,671		
Any complication	978	2.34 (2.20-2.49)	339	5.29 (4.76-5.87)	134	3.69 (3.10-4.35)	505	1.59 (1.46-1.74)	<0.001
Any complication requiring reoperation	131	0.31 (0.26-0.37)	24	0.37 (0.24-0.56)	13	0.36 (0.19-0.61)	94	0.30 (0.24-0.36)	0.528
Any complication without reoperation	849	2.04 (1.90-2.18)	315	4.92 (4.40-5.48)	121	3.33 (2.77-3.97)	413	1.30 (1.18-1.44)	<0.001
90-Day Complications									
N†	39,805		6,145		3,470		30,190		
Any complication	2297	5.77 (5.54-6.00)	488	7.94 (7.28-8.65)	230	6.63 (5.82-7.51)	1579	5.23 (4.98-5.49)	<0.001
Any complication requiring reoperation	1280	3.22 (3.04-3.39)	183	2.98 (2.57-3.43)	97	2.80 (2.27-3.40)	1000	3.31 (3.11-3.52)	0.272
Any complication without reoperation	1137	2.86 (2.69-3.02)	335	5.45 (4.90-6.05)	144	4.15 (3.51-4.87)	658	2.18 (2.02-2.35)	<0.001

*Patients with at least 1 month of FFS follow up

†Patients with at least 3 months of FFS follow up

‡Adjusted using the Holm procedure for multiple comparisons

Abbreviations: ICD = implantable cardioverter-defibrillation; HF = heart failure; N = number; CRT-D = cardiac resynchronization therapy-defibrillator.

Supplemental Table 2. Timing of ICD placement from last HF hospitalization and outcomes and interaction with device type.

Outcome	p-value
In Hospital	
Any Adverse Event	0.820
Mortality	0.576
30 Day Outcomes	
All-Cause Mortality	0.610
All-Cause Readmissions	0.098
CV Readmissions	0.092
90 Day Outcomes	
All-Cause Mortality	0.682
All-Cause Readmissions	0.028
CV Readmissions	<0.001

Abbreviations: ICD = implantable cardioverter-defibrillation; HF = heart failure; CV = cardiovascular.

Supplemental Table 3. Multivariable adjusted odds ratios (95% confidence interval) between timing of ICD placement from last HF hospitalization and 90-day all-cause readmissions by device type.

Outcome	Group			p-value		
	Currently Hospitalized (1)	Hospitalized ≤ 3 months (2)	Hospitalized > 3 months or unknown (3)	(1) vs. (3)	(2) vs. (3)	(1) vs. (2)
Single Chamber	2.17 (1.94-2.44)	1.90 (1.64-2.20)	1	<0.001	<0.001	0.126
Dual Chamber	1.86 (.68-2.06)	1.73 (1.52-1.96)	1	<0.001	<0.001	0.318
CRT-D	1.83 (1.71-1.96)	1.57 (1.45-1.71)	1	<0.001	<0.001	0.002

Abbreviations: ICD = implantable cardioverter-defibrillation; HF = heart failure; CRT-D = cardiac resynchronization therapy-defibrillator.

Supplemental Table 4. Multivariable adjusted odds ratios (95% confidence interval) between timing of ICD placement from last HF hospitalization and 90-day CV readmissions by device type.

Outcome	Group			p-value		
	Currently Hospitalized (1)	Hospitalized ≤ 3 months (2)	Hospitalized > 3 months or unknown (3)	(1) vs. (3)	(2) vs. (3)	(1) vs. (2)
Single Chamber	3.02 (2.59-3.51)	2.39 (1.94-2.93)	1	<0.001	<0.001	0.035
Dual Chamber	2.07 (1.81-2.36)	2.41 (2.05-2.82)	1	<0.001	<0.001	0.086
CRT-D	2.16 (1.97-2.37)	1.98 (1.78-2.21)	1	<0.001	<0.001	0.164

Abbreviations: ICD = implantable cardioverter-defibrillation; HF = heart failure; CRT-D = cardiac resynchronization therapy-defibrillator.