**Suppl 1.** ICD codes used to define the studied population and outcomes

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| **Diagnosis** | **ICD-9 code(s)** | **ICD-10 code(s)** | **CPT code(s)** |
| Non-ischemic cardiomyopathy | 425.4 (exclude Pregnancy: 640-676, V22; Ischemic heart disease: 410-414; Valvular heart disease: 394-397; Alcoholism: 291, 303, 305.0-305.03, 571.0-517.3, 980, V113; Thyroid disease: 242-246; HIV/AIDS: 042; Amyloid: 277.3; Myocarditis: 422; Chemotherapy related: V073, V581, V662, V672.) | I50 AND I42.0-I42.9 | - |
| HFrEF | 428.20, 428.21, 428.22, 428.23 | I5020, I5021, I5022, I5023 | - |
| HFpEF | 428.30, 428.31, 428.32, 428.33 | I5030, I5031, I5032, I5033 | - |
| Congestive heart failure | 398.91, 402.01, 402.11, 402.91, 404.01, 404.11, 404.13, 404.91, 404.93, 425.4, 425.5, 425.7, 425.8, 425.9, 428, 428.0, 428.1, 428.220, 428.21, 428.22, 428.23, 428.30, 4283.1, 428.32, 4283.3, 428.40, 428.41, 428.42, 428.43, 428.9 | I50.20, I50.22, 15030, I50.30, I50.32, I50.40, I50.42, I50.9, I11.0, I13.0, I13.2 | - |
| Ventricular tachycardia or fibrillation | 427.1, 427.41, 427.42 | I472, I4901, I4902 | - |
| Sudden cardiac arrest | 427.5 | I469, I462, I468 | - |
| Pacemaker placement | 37.70 to 37.73, 37.80 to 37.83, 00.50, 00.51 | 0JH604Z to 0JH607Z, 0JH634Z to 0JH637Z, 0JH804Z to 0JH807Z, 0JH834Z to 0JH837Z | 33206 to 33208, 33225, 33249 |
| ICD placement | 37.94, 37.95, 37.96, 00.51, 00.50 | 0JH608Z, 0JH609Z, 0JH638Z, 0JH639Z, 0JH808Z, 0JH809Z, 0JH838Z, 0JH839Z, 0JH60FZ, 0JH63FZ, 02H43KZ, 02H60KZ, 02H63KZ, 02H64KZ, 02H70KZ, 02H73KZ, 02H74KZ, 02HK0KZ, 02HK3KZ, 02HK4KZ, 02HL0KZ, 02HL3KZ, 02HL4KZ, 02H40KZ, 02H40MZ, 02H44KZ, 02HN0KZ, 02HN3KZ, 02HN4KZ | - |
| Acute coronary syndrome | 410.00, 410.01, 410.02, 410.10, 410.11, 410.12, 410.20, 410.21, 410.22, 410.30-410.32, 410.40, 410.41, 410.42, 410.50, 410.51, 410.52, 410.60-410.62, 410.70, 410.71, 410.72, 410.80, 410.81, 410.82, 410.90, 410.91, 410.92, 411.1, 411.8 | I210, I2102, I2109, I2111, I2119, I2121, I2129, I213, I214, I219, I21A1, I21A9, I220, I221, I222, I228, I229 | - |
| Right bundle branch block | 426.4 | I4510, I4519 | - |
| Left bundle branch block | 426.3 | I447 | - |
| 1st Degree heart block | 426.11 | I440 | - |
| 2nd Degree heart block | 426.13, 426.12 | I441 | - |
| 3rd Degree heart block | 426.0 | I442 | - |
| Fascicular block | 426.51, 426.52, 426.53 426.54, 426.2 | I4460, I4469, I450, I452, I453, I444 I445 | - |
| Complete heart block | 426.0, 426.10, 426.54 | I44.2, I44.30, I45.3 | - |

ICD: implantable cardioverter defibrillator; HFrEF: heart failure with reduced ejection fraction; HFpEF: heart failure with preserved ejection fraction.