

APPENDIX 1.**Cardiac diagnoses by modified World Health Organization classification, frequency in Nationwide Readmissions Database, expected adverse cardiac event rate, and corresponding International Disease Classification, Tenth Revision, Clinical Modification codes**

Diagnosis	ICD-10-CM code
Modified WHO classification I	
Uncomplicated or mild pulmonary stenosis	Q221, I37.0, I09.89
Uncomplicated or small patent ductus arteriosus	Q25.0
Uncomplicated or mild mitral valve prolapse	I34.1
Successfully repaired ASD	Q21.1, Q21.2, Q20.8, Q21.8, Q21.9
Successfully repaired VSD	Q21.0
Successfully repaired PDA	Q25.0
Successfully repaired anomalous pulmonary venous return	Q26.2 or Q26.3
Atrial ectopic beats	I49.1, I49.49
Ventricular ectopic beats	I49.3
Modified WHO classification II	
Unoperated ASD	*Same as above for repaired ASD
Unoperated VSD	*Same as above for repaired VSD
Repaired Tetralogy of Fallot	Q21.3
Repaired aortic coarctation	Q25.1
Supraventricular arrhythmias	I47.1, I48.91, I48.20, Z86.79, I48.92, I45.6
Turner syndrome without congenital cardiac disease	Q96.x
Modified WHO classification II-III	
Mild left ventricular impairment (EF > 45%)	†
Hypertrophic cardiomyopathy	I42.1, I42.2
Mild mitral stenosis	I05.0, I34.2
Moderate aortic stenosis	I06.0, I06.2, I35.0, I35.2, Q25.3, Q24.3, Q25.2, Q23.0, Q24.4
Marfan or other HTAD syndrome without aortic dilation	Q87.40, Q79.60, Q79.61, Q79.63,
Aorta < 45 mm in bicuspid aortic valve pathology	Q23.1
Repaired coarctation without residua (non-Turner)	Excluded (see above in class II)
Modified WHO classification III	
Previous peripartum cardiomyopathy with no residual left ventricular dysfunction	†
Moderate left ventricular impairment (EF 30%-45%)	I50.1, I50.2x, I50.3x, I50.4x, I50.9, I11.0
Mechanical valve	Z95.2
Systemic right ventricle with good or mildly decreased ventricular function	Q23.4, Q20.5
Uncomplicated Fontan circulation	Q20.8
Unrepaired cyanotic heart disease	Q20.0, Q20.8, Q20.3, Q22.9, Q26.2
Moderate mitral stenosis	Same as above for mild mitral stenosis
Severe asymptomatic aortic stenosis	Same as above for moderate aortic stenosis
Moderate aortic dilation (40-45 mm in Marfan syndrome or other HTAD; 45-50 mm in bicuspid aortic valve; Turner syndrome ASI 20-25 mm/m ² ; Tetralogy of Fallot <50 mm)	Excluded as aortic aneurysm was included as part of composite outcome
Ventricular tachycardia	I47.2
Modified WHO classification IV	
Pulmonary arterial hypertension	I27.2, I27.21
Severe systemic ventricular dysfunction (EF 30%, NYHA III-IV)	Same as above for moderate left ventricular impairment
Previous peripartum cardiomyopathy with any residual left ventricular dysfunction	I42.0, O90.3
Severe mitral stenosis	Same as above for mild mitral stenosis
Severe symptomatic aortic stenosis	Same as above for moderate aortic stenosis
Systemic right ventricle with moderate to severely decreased ventricular function	Same as above for systemic right ventricle with good or mildly decreased ventricular function
Severe aortic dilation (45 mm in Marfan syndrome or other HTAD; 50 mm in bicuspid aortic valve; Turner syndrome ASI .25 mm/m ² ; Tetralogy of Fallot 50 mm)	Excluded as aortic aneurysm was included as part of composite outcome
Vascular Ehlers-Danlos	Q79.63 (only added in late 2019)
Severe (re)coarctation	Excluded (see above in class II)
Fontan circulation with any complication	Same as above for uncomplicated Fontan circulation

†