

PART 1 (PROCID 1 through 4)				
Variable Short Name/Seq #	Isolated CAB (ProcID=1)	Isolated AVR (ProcID=2)	Isolated MVR** (ProcID=3)	AVR + CAB (ProcID=4)
OpCAB/2120	<ul style="list-style-type: none"> Yes, planned Yes, unplanned due to unsuspected disease or anatomy 	<ul style="list-style-type: none"> No Yes, unplanned due to surgical complication Missing 	<ul style="list-style-type: none"> No Yes, unplanned due to surgical complication Missing 	<ul style="list-style-type: none"> Yes, planned Yes, unplanned due to unsuspected disease or anatomy
OpCAB	OpCAB in(3,5)	OpCab in (NULL, 2,4)	OpCab in (NULL, 2,4)	OpCAB in(3,5)
OpValve/2129	<Not used in this calculation>	<ul style="list-style-type: none"> Yes 	<ul style="list-style-type: none"> Yes 	<ul style="list-style-type: none"> Yes
OpValve		Opvalve eq 1	Opvalve eq 1	Opvalve eq 1
VSAV/2131	<ul style="list-style-type: none"> No Yes, unplanned due to surgical complication Missing 	<ul style="list-style-type: none"> Yes, planned Yes, unplanned due to unsuspected disease or anatomy 	<ul style="list-style-type: none"> No Yes, unplanned due to surgical complication Missing 	<ul style="list-style-type: none"> Yes, planned Yes, unplanned due to unsuspected disease or anatomy
VSAV	VSAV in (NULL, 2,4)	VSAV in (3,5)	VSAV in (NULL, 2,4)	VSAV in (3,5)
VSAVPr/3395	<Not used in this calculation>	Replacement	<Not used in this calculation>	Replacement
VSAVPr		VSAVPr eq 1		VSAVPr eq 1
VSMV/2133	<ul style="list-style-type: none"> No Yes, unplanned due to surgical complication Missing 	<ul style="list-style-type: none"> No Yes, unplanned due to surgical complication Missing 	<ul style="list-style-type: none"> Yes, planned Yes, unplanned due to unsuspected disease or anatomy 	<ul style="list-style-type: none"> No Yes, unplanned due to surgical complication Missing
VSMV	VSMV in (NULL, 2,4)	VSMV in (NULL, 2,4)	VSMV in (3,5)	VSMV in (NULL, 2,4)
VSMVPr/3500	<Not used in this calculation>	<Not used in this calculation>	<ul style="list-style-type: none"> Replacement 	<Not used in this calculation>
VSMVPr			VSMVPr eq 2	
OCarCongProc1/6515	<ul style="list-style-type: none"> Missing PFO, Primary closure Anomalous origin of coronary artery from pulmonary artery repair Anomalous aortic origin of coronary artery from aorta (AAOCA) repair 	<ul style="list-style-type: none"> Missing PFO, Primary closure 	<ul style="list-style-type: none"> Missing PFO, Primary closure ASD repair, Primary closure ASD repair, Patch 	<ul style="list-style-type: none"> Missing PFO, Primary closure Anomalous origin of coronary artery from pulmonary artery repair Anomalous aortic origin of coronary artery from aorta (AAOCA) repair
OCarCongProc1	Ocarconproc1 in (NULL,10,1291,1305)	Ocarconproc1 in (NULL,10)	Ocarconproc1 in (NULL,10,20,30)	Ocarconproc1 in (NULL,10,1291,1305)

OCarCongProc2/ 6520	<ul style="list-style-type: none"> Missing No Other Congenital Procedures PFO, Primary closure Anomalous origin of coronary artery from pulmonary artery repair Anomalous aortic origin of coronary artery from aorta (AAOCA) repair 	<ul style="list-style-type: none"> Missing No Other Congenital Procedures PFO, Primary closure 	<ul style="list-style-type: none"> Missing No Other Congenital Procedures PFO, Primary closure ASD repair, Primary closure ASD repair, Patch 	<ul style="list-style-type: none"> Missing No Other Congenital Procedures PFO, Primary closure Anomalous origin of coronary artery from pulmonary artery repair Anomalous aortic origin of coronary artery from aorta (AAOCA) repair
OCarCongProc2	Ocarconproc2 in (NULL,1,10,1291,1305)	Ocarconproc2 in (NULL,1,10)	Ocarconproc2 in (NULL,1,10,20,30)	Ocarconproc2 in (NULL,1,10,1291,1305)
OCarCongProc3/ 6525	<ul style="list-style-type: none"> Missing No Other Congenital Procedures PFO, Primary closure Anomalous origin of coronary artery from pulmonary artery repair Anomalous aortic origin of coronary artery from aorta (AAOCA) repair 	<ul style="list-style-type: none"> Missing No Other Congenital Procedures PFO, Primary closure 	<ul style="list-style-type: none"> Missing No Other Congenital Procedures PFO, Primary closure ASD repair, Primary closure ASD repair, Patch 	<ul style="list-style-type: none"> Missing No Other Congenital Procedures PFO, Primary closure Anomalous origin of coronary artery from pulmonary artery repair Anomalous aortic origin of coronary artery from aorta (AAOCA) repair
OCarCongProc3	Ocarconproc3 in (NULL,10,1291,1305)	Ocarconproc3 in (NULL,10)	Ocarconproc3 in (NULL,10,20,30)	Ocarconproc3 in (NULL,10,1291,1305)
Tricuspid Procedures: VSTV/2134 VSTrPr/3636	<p>Unplanned Surgical Complications ONLY</p> <p>VSTV is one of :</p> <ul style="list-style-type: none"> No Yes, unplanned due to surgical complication Missing 	<p>Unplanned Surgical Complications ONLY</p> <p>VSTV is one of :</p> <ul style="list-style-type: none"> No Yes, unplanned due to surgical complication Missing 	<p>All tricuspid repairs are allowed. Tricuspid replacements or surgical prosthetic valve intervention – Not explant of valve or Valvectomys are only allowed if the tricuspid procedure was unplanned due to surgical complications. Must satisfy at least one of (1) or (2):</p> <p>1. VSTrPr:</p> <ul style="list-style-type: none"> Repair Missing <p>AND VsTrValvec</p> <ul style="list-style-type: none"> No 	<p>Unplanned Surgical Complications ONLY</p> <p>VSTV is one of :</p> <ul style="list-style-type: none"> No Yes, unplanned due to surgical complication Missing

			<ul style="list-style-type: none"> • Missing <p>2. VSTV</p> <ul style="list-style-type: none"> • Yes, unplanned due to surgical complication” • No • Missing 	
Tricuspid Procedures: VSTV VSTrPr	VSTV in (NULL, 2,4)	VSTV in (NULL, 2,4)	[VSTrPr in (NULL, 1) AND VsTrValvec in (NULL, 2)] OR VSTV in (NULL, 2, 4)	VSTV in (NULL, 2,4)
VSPV/2135	<ul style="list-style-type: none"> • No • Yes, unplanned due to surgical complication • Missing 			
VSPV	VSPV in (NULL, 2,4)			
PrevVADExp/ 3825	<ul style="list-style-type: none"> • Yes, not during this procedure • No • Missing 			
PrevVADExp	PrevVADExp in (NULL, 1,3)			
VADImpTmg/ 3845	<ul style="list-style-type: none"> • Pre-Operative (during same hospitalization and prior to OR trip for CV surgical procedure) <ul style="list-style-type: none"> • In conjunction with CV surgical procedure (same trip to the OR)- unplanned <ul style="list-style-type: none"> • Post-Operative (after surgical procedure during reoperation) • Missing 			
VADImpTmg	VADImpTmg in (NULL, 1, 4, 5)			
VADImpTmg2/ 3900	<ul style="list-style-type: none"> • Pre-Operative (during same hospitalization and prior to OR trip for CV surgical procedure) <ul style="list-style-type: none"> • In conjunction with CV surgical procedure (same trip to the OR)- unplanned <ul style="list-style-type: none"> • Post-Operative (after surgical procedure during reoperation) • Missing 			
VADImpTmg2	VADImpTmg2 in (NULL, 1, 4, 5)			
VADImpTmg3/ 3955	<ul style="list-style-type: none"> • Pre-Operative (during same hospitalization and prior to OR trip for CV surgical procedure) <ul style="list-style-type: none"> • In conjunction with CV surgical procedure (same trip to the OR)- unplanned <ul style="list-style-type: none"> • Post-Operative (after surgical procedure during reoperation) • Missing 			
VADImpTmg3	VADImpTmg3 in (NULL, 1, 4, 5)			
VExp/3875	<ul style="list-style-type: none"> • Yes, not during this procedure • No • Missing 			
VExp	VExp in (NULL, 3, 2)			

VExp2/3930	<ul style="list-style-type: none"> • Yes, not during this procedure <ul style="list-style-type: none"> • No • Missing 			
VExp2	VExp2 in (NULL, 3, 2)			
VExp3/3985	<ul style="list-style-type: none"> • Yes, not during this procedure <ul style="list-style-type: none"> • No • Missing 			
VExp3	VExp3 in (NULL, 3, 2)			
OCarLVA/4054	<ul style="list-style-type: none"> • No • Missing 			
OCarLVA	OCarLVA in (NULL, 2)			
OCarAcqVSD/4131	<ul style="list-style-type: none"> • No • Missing 			
OCarAcqVSD	OCarVSD in (NULL, 2)			
AortProc/2123	<ul style="list-style-type: none"> • No • Yes, unplanned due to surgical complication <ul style="list-style-type: none"> • Missing 			
AortProc	Aortproc in (NULL, 2,4)			
EndovasProc/5066	<ul style="list-style-type: none"> • No • Missing 			
EndovasProc	EndovasProc in (NULL, 2)			
OCarAFibLesLoc/4191	<ul style="list-style-type: none"> • Epicardial • None • Missing 	<ul style="list-style-type: none"> • Epicardial • None • Missing 	<Not used in this calculation>	<ul style="list-style-type: none"> • Epicardial • None • Missing
OCarAFibLesLoc	OCarAFibLesLoc not in(2,3)	OCarAFibLesLoc not in(2,3)		OCarAFibLesLoc not in(2,3)
OCarASDRep/4136	<ul style="list-style-type: none"> • No • Missing 	<ul style="list-style-type: none"> • No • Missing 	<Not used in this calculation>	<ul style="list-style-type: none"> • No • Missing
OCarASDRep	OCarASDRep in (NULL, 2)	OCarASDRep in (NULL, 2)		OCarASDRep in (NULL, 2)
OCarACD/4055	<Not used in this calculation>	<Not used in this calculation>	<ul style="list-style-type: none"> • None • Missing • Pacemaker 	<Not used in this calculation>
OCarACD			OCarACD in (NULL, 1, 2)	
OCarACDLE/	<ul style="list-style-type: none"> • Yes, unplanned due to surgical complication 			

4065			<ul style="list-style-type: none"> • No • Missing 	
OCarACDLE	OCarACDLE in (NULL, 2,4)			
OCarLasr/4110	<Not used in this calculation>	<Not used in this calculation>	<ul style="list-style-type: none"> • No • Missing 	<Not used in this calculation>
OCarLasr			OCarLasr in (NULL, 2)	
OCPulThromDis/4052			<ul style="list-style-type: none"> • No • Missing 	
OCPulThromDis	OCPulThromDis in (NULL, 1)			
OCarSubaStenResTy/4051			<ul style="list-style-type: none"> • No • Missing • Not Documented 	
OCarSubaStenResTy	OCarSubaStenResTy in (NULL, 5,7)			
OCarCrTx/4120			<ul style="list-style-type: none"> • No • Missing 	
OCarCrTx	OCarCrTx in (NULL, 2)			
OCarTrma/4125			<ul style="list-style-type: none"> • No • Missing 	
OCarTrma	OCarTrma in (NULL, 2)			
OCTumor/4115			<ul style="list-style-type: none"> • No • Missing 	
OCTumor	OCTumor in (NULL, 1)			
OCarOthr/4135			<ul style="list-style-type: none"> • No • Missing 	
OCarOthr	OCarOthr in (NULL, 2)			
VSTCV/3400			<ul style="list-style-type: none"> • No • Missing 	
VSTCV	VSTCV in (NULL, 2)			
VSTCVMit/3610			<ul style="list-style-type: none"> • No • Missing 	
VSTCVMit	VSTCVMit in (NULL, 2)			
VSTCVTri/3652			<ul style="list-style-type: none"> • No • Missing 	
VSTCVTri	VSTCVTri in (NULL, 2)			
VSTCVPu/3695			<ul style="list-style-type: none"> • No • Missing 	
VSTCVPu	VSTCVPu in (NULL, 2)			

ONCCarEn/6530	<ul style="list-style-type: none"> • No • Yes, unplanned due to surgical complication <ul style="list-style-type: none"> • Missing
ONCCarEn	ONCCarEn in (NULL, 2, 4)
ONCOVasc/6535	<ul style="list-style-type: none"> • No • Yes, unplanned due to surgical complication <ul style="list-style-type: none"> • Missing
ONCOVasc	ONCOVasc in (NULL, 2, 4)
ONCOThor/6540	<ul style="list-style-type: none"> • No • Yes, unplanned due to surgical complication <ul style="list-style-type: none"> • Missing
ONCOThor	ONCOThor in (NULL, 2, 4)
ONCOther/6545	<ul style="list-style-type: none"> • No • Yes, unplanned due to surgical complication <ul style="list-style-type: none"> • Missing
ONCOther	ONCOther in (NULL, 2, 4)

PART 2 (PROCID 5 through 8)				
Variable Short Name	MVR + CAB** (ProcID=5)	AVR + MVR** (ProcID=6)	MV Repair** (ProcID=7)	MV Repair + CAB** (ProcID=8)
OpCAB/2120	<ul style="list-style-type: none"> • Yes, planned • Yes, unplanned due to unsuspected disease or anatomy 	<ul style="list-style-type: none"> • No • Yes, unplanned due to surgical complication • Missing 	<ul style="list-style-type: none"> • No • Yes, unplanned due to surgical complication • Missing 	<ul style="list-style-type: none"> • Yes, planned • Yes, unplanned due to unsuspected disease or anatomy
OpCAB	OpCAB in(3,5)	OpCab in (NULL, 2,4)	OpCab in (NULL, 2,4)	OpCAB in(3,5)
OpValve/2125	• Yes	• Yes	• Yes	• Yes
OpValve	Opvalve eq 1	Opvalve eq 1	Opvalve eq 1	Opvalve eq 1
VSAV/3390	<ul style="list-style-type: none"> • No • Yes, unplanned due to surgical complication • Missing 	<ul style="list-style-type: none"> • Yes, planned • Yes, unplanned due to unsuspected disease or anatomy 	<ul style="list-style-type: none"> • No • Yes, unplanned due to surgical complication • Missing 	<ul style="list-style-type: none"> • No • Yes, unplanned due to surgical complication • Missing
VSAV	VSAV in (NULL, 2,4)	VSAV in (3,5)	VSAV in (NULL, 2,4)	VSAV in (NULL, 2,4)
VSAVPr/3395	<Not used in this calculation>	• Replacement	<Not used in this calculation>	<Not used in this calculation>
VSAVPr		VSAVPr eq 1		
VSMV/3495	<ul style="list-style-type: none"> • Yes, planned • Yes, unplanned due to unsuspected disease or anatomy 	<ul style="list-style-type: none"> • Yes, planned • Yes, unplanned due to unsuspected disease or anatomy 	<ul style="list-style-type: none"> • Yes, planned • Yes, unplanned due to unsuspected disease or anatomy 	<ul style="list-style-type: none"> • Yes, planned • Yes, unplanned due to unsuspected disease or anatomy
VSMV	VSMV in (3,5)	VSMV in (3,5)	VSMV in (3,5)	VSMV in (3,5)
VSMVPr/3500	• Replacement	• Replacement	• Repair	• Repair
VSMVPr	VSMVPr eq 2	VSMVPr eq 2	VSMVPr eq 1	VSMVPr eq 1
OCarCongProc1/6515	<ul style="list-style-type: none"> • Missing • PFO, Primary closure • Anomalous origin of coronary artery from pulmonary artery repair • Anomalous aortic origin of coronary artery from aorta (AAOCA) repair • ASD repair, Primary closure • ASD repair, Patch 	<ul style="list-style-type: none"> • Missing • PFO, Primary closure • ASD repair, Primary closure • ASD repair, Patch 	<ul style="list-style-type: none"> • Missing • PFO, Primary closure • ASD repair, Primary closure • ASD repair, Patch 	<ul style="list-style-type: none"> • Missing • PFO, Primary closure • Anomalous origin of coronary artery from pulmonary artery repair • Anomalous aortic origin of coronary artery from aorta (AAOCA) repair • ASD repair, Primary closure • ASD repair, Patch
OCarCongProc1	Ocarconproc1 in (NULL,10,20,30,1291,1305)	Ocarconproc1 in (NULL,10,20,30)	Ocarconproc1 in (NULL,10,20,30)	Ocarconproc1 in (NULL,10,20,30,1291,1305)
OCarCongProc2/6520	<ul style="list-style-type: none"> • Missing • No Other Congenital Procedures • PFO, Primary closure 	<ul style="list-style-type: none"> • Missing • No Other Congenital Procedures • PFO, Primary closure • ASD repair, Primary closure 	<ul style="list-style-type: none"> • Missing • No Other Congenital Procedures • PFO, Primary closure • ASD repair, Primary closure 	<ul style="list-style-type: none"> • Missing • No Other Congenital Procedures • PFO, Primary closure

PART 2 (PROCID 5 through 8)				
Variable Short Name	MVR + CAB** (ProcID=5)	AVR + MVR** (ProcID=6)	MV Repair** (ProcID=7)	MV Repair + CAB** (ProcID=8)
	<ul style="list-style-type: none"> Anomalous origin of coronary artery from pulmonary artery repair Anomalous aortic origin of coronary artery from aorta (AAOCA) repair ASD repair, Primary closure ASD repair, Patch 	<ul style="list-style-type: none"> ASD repair, Patch 	<ul style="list-style-type: none"> ASD repair, Patch 	<ul style="list-style-type: none"> Anomalous origin of coronary artery from pulmonary artery repair Anomalous aortic origin of coronary artery from aorta (AAOCA) repair ASD repair, Primary closure ASD repair, Patch
OCarCongProc2	Ocarconproc2 in (NULL,1,10, 20, 30,1291,1305)	Ocarconproc2 in (NULL,1,10,20,30)	Ocarconproc2 in (NULL,1,10,20,30)	Ocarconproc2 in (NULL,1,10, 20, 30,1291,1305)
OCarCongProc3/ 6525	<ul style="list-style-type: none"> Missing No Other Congenital Procedures PFO, Primary closure Anomalous origin of coronary artery from pulmonary artery repair Anomalous aortic origin of coronary artery from aorta (AAOCA) repair ASD repair, Primary closure ASD repair, Patch 	<ul style="list-style-type: none"> Missing No Other Congenital Procedures PFO, Primary closure ASD repair, Primary closure ASD repair, Patch 	<ul style="list-style-type: none"> Missing No Other Congenital Procedures PFO, Primary closure ASD repair, Primary closure ASD repair, Patch 	<ul style="list-style-type: none"> Missing No Other Congenital Procedures PFO, Primary closure Anomalous origin of coronary artery from pulmonary artery repair Anomalous aortic origin of coronary artery from aorta (AAOCA) repair ASD repair, Primary closure ASD repair, Patch
OCarCongProc3	Ocarconproc3 in (NULL,1,10, 20, 30,1291,1305)	Ocarconproc3 in (NULL,1,10,20,30)	Ocarconproc3 in (NULL,1,10,20,30)	Ocarconproc3 in (NULL,1,10, 20, 30,1291,1305)
Tricuspid Procedures: VSTV VSTrPr	<p>All tricuspid repairs are allowed. Tricuspid replacements or surgical prosthetic valve intervention – Not explant of valve or Valvectomies are only allowed if the tricuspid procedure was unplanned due to surgical complications. Must satisfy at least one of (1) or (2):</p> <p>1. VSTrPr:</p> <ul style="list-style-type: none"> Repair Missing <p>AND VsTrValvec</p> <ul style="list-style-type: none"> No 	<p>All tricuspid repairs are allowed. Tricuspid replacements or surgical prosthetic valve intervention – Not explant of valve or Valvectomies are only allowed if the tricuspid procedure was unplanned due to surgical complications. Must satisfy at least one of (1) or (2):</p> <p>1. VSTrPr:</p> <ul style="list-style-type: none"> Repair Missing <p>AND VsTrValvec</p> <ul style="list-style-type: none"> No 	<p>All tricuspid repairs are allowed. Tricuspid replacements or surgical prosthetic valve intervention – Not explant of valve or Valvectomies are only allowed if the tricuspid procedure was unplanned due to surgical complications. Must satisfy at least one of (1) or (2):</p> <p>1. VSTrPr:</p> <ul style="list-style-type: none"> Repair Missing <p>AND VsTrValvec</p> <ul style="list-style-type: none"> No 	<p>All tricuspid repairs are allowed. Tricuspid replacements or surgical prosthetic valve intervention – Not explant of valve or Valvectomies are only allowed if the tricuspid procedure was unplanned due to surgical complications. Must satisfy at least one of (1) or (2):</p> <p>1. VSTrPr:</p> <ul style="list-style-type: none"> Repair Missing <p>AND VsTrValvec</p> <ul style="list-style-type: none"> No

PART 2 (PROCID 5 through 8)				
Variable Short Name	MVR + CAB** (ProcID=5)	AVR + MVR** (ProcID=6)	MV Repair** (ProcID=7)	MV Repair + CAB** (ProcID=8)
	<ul style="list-style-type: none"> Missing 2. VSTV <ul style="list-style-type: none"> Yes, unplanned due to surgical complication” No Missing 	<ul style="list-style-type: none"> Missing 2. VSTV <ul style="list-style-type: none"> Yes, unplanned due to surgical complication” No Missing 	<ul style="list-style-type: none"> Missing 2. VSTV <ul style="list-style-type: none"> Yes, unplanned due to surgical complication” No Missing 	<ul style="list-style-type: none"> Missing 2. VSTV <ul style="list-style-type: none"> Yes, unplanned due to surgical complication” No Missing
Tricuspid Procedures VSTV VSTrPr	[VSTrPr in (NULL, 1) AND VsTrValvec in (NULL, 2)] OR VSTV in (NULL, 2, 4)	[VSTrPr in (NULL, 1) AND VsTrValvec in (NULL, 2)] OR VSTV in (NULL, 2, 4)	[VSTrPr in (NULL, 1) AND VsTrValvec in (NULL, 2)] OR VSTV in (NULL, 2, 4)	[VSTrPr in (NULL, 1) AND VsTrValvec in (NULL, 2)] OR VSTV in (NULL, 2, 4)
VSPV/3685	<ul style="list-style-type: none"> No Yes, unplanned due to surgical complication Missing 			
VSPV	VSPV in (NULL, 2,4)			
PrevVADExp/ 3825	<ul style="list-style-type: none"> Yes, not during this procedure No Missing 			
PrevVADExp	PrevVADExp in (NULL, 1,3)			
VADImpTmg/ 3845	<ul style="list-style-type: none"> Pre-Operative (during same hospitalization but not same OR trip as CV surgical procedure) In conjunction with CV surgical procedure (same trip to the OR)- unplanned Post-Operative (after surgical procedure during reoperation) Missing 			
VADImpTmg	VADImpTmg in (NULL, 1, 4, 5)			
VADImpTmg2/ 3900	<ul style="list-style-type: none"> Pre-Operative (during same hospitalization but not same OR trip as CV surgical procedure) In conjunction with CV surgical procedure (same trip to the OR)- unplanned Post-Operative (after surgical procedure during reoperation) Missing 			
VADImpTmg2	VADImpTmg2 in (NULL, 1, 4, 5)			
VADImpTmg3/ 3955	<ul style="list-style-type: none"> Pre-Operative (during same hospitalization but not same OR trip as CV surgical procedure) In conjunction with CV surgical procedure (same trip to the OR)- unplanned Post-Operative (after surgical procedure during reoperation) Missing 			
VADImpTmg3	VADImpTmg3 in (NULL, 1, 4, 5)			
VExp/3875	<ul style="list-style-type: none"> Yes, not during this procedure 			

PART 2 (PROCID 5 through 8)				
Variable Short Name	MVR + CAB** (ProcID=5)	AVR + MVR** (ProcID=6)	MV Repair** (ProcID=7)	MV Repair + CAB** (ProcID=8)
			<ul style="list-style-type: none"> • No • Missing 	
VExp			VExp in (NULL, 3, 2)	
VExp2/3930			<ul style="list-style-type: none"> • Yes, not during this procedure • No • Missing 	
VExp2			VExp2 in (NULL, 3, 2)	
VExp3/3985			<ul style="list-style-type: none"> • Yes, not during this procedure • No • Missing 	
VExp3			VExp3 in (NULL, 3, 2)	
OCarLVA/4075			<ul style="list-style-type: none"> • No • Missing 	
OCarLVA			OCarLVA in (NULL, 2)	
OCarAcqVSD/4131			<ul style="list-style-type: none"> • No • Missing 	
OCarAcqVSD			OCarVSD in (NULL, 2)	
AortProc/2125			<ul style="list-style-type: none"> • No • Yes, unplanned due to surgical complication • Missing 	
AortProc			Aortproc in (NULL, 2,4)	
EndovasProc/5066			<ul style="list-style-type: none"> • No • Missing 	
EndovasProc			EndovasProc in (NULL, 2)	
OCarAFibLesLoc/4191	<Not used in this calculation>	<Not used in this calculation>	<Not used in this calculation>	<Not used in this calculation>
OCarAFibLesLoc				
OCarASDRep/4136	<Not used in this calculation>	<Not used in this calculation>	<Not used in this calculation>	<Not used in this calculation>
OCarASDRep				
OCarACD4055	<ul style="list-style-type: none"> • None • Missing • Pacemaker 	<ul style="list-style-type: none"> • None • Missing • Pacemaker 	<ul style="list-style-type: none"> • None • Missing • Pacemaker 	<ul style="list-style-type: none"> • None • Missing • Pacemaker
OCarACD	OCarACD in (NULL, 1, 2)	OCarACD in (NULL, 1, 2)	OCarACD in (NULL, 1, 2)	OCarACD in (NULL, 1, 2)

PART 2 (PROCID 5 through 8)				
Variable Short Name	MVR + CAB** (ProcID=5)	AVR + MVR** (ProcID=6)	MV Repair** (ProcID=7)	MV Repair + CAB** (ProcID=8)
OCarACDLE/4065			<ul style="list-style-type: none"> • Yes, unplanned due to surgical complication • No • Missing 	
OCarACDLE			OCarACDLE in (NULL, 2,4)	
OCarLasr/4110	<ul style="list-style-type: none"> • No • Missing 	<ul style="list-style-type: none"> • No • Missing 	<ul style="list-style-type: none"> • No • Missing 	<ul style="list-style-type: none"> • No • Missing
OCarLasr	OCarLasr in (NULL, 2)	OCarLasr in (NULL, 2)	OCarLasr in (NULL, 2)	OCarLasr in (NULL, 2)
OCPulThromDis/4085			<ul style="list-style-type: none"> • No • Missing 	
OCPulThromDis			OCPulThromDis in (NULL, 1)	
OCarSubaStenResTy/4051			<ul style="list-style-type: none"> • No • Missing • Not Documented 	
OCarSubaStenResTy			OCarSubaStenResTy in (NULL, 5,7)	
OCarCrTx/4120			<ul style="list-style-type: none"> • No • Missing 	
OCarCrTx			OCarCrTx in (NULL, 2)	
OCarTrma/4125			<ul style="list-style-type: none"> • No • Missing 	
OCarTrma			OCarTrma in (NULL, 2)	
OCTumor/4115			<ul style="list-style-type: none"> • No • Missing 	
OCTumor			OCTumor in (NULL, 1)	
OCarOthr/4135			<ul style="list-style-type: none"> • No • Missing 	
OCarOthr			OCarOthr in (NULL, 2)	
VSTCV/3400			<ul style="list-style-type: none"> • No • Missing 	
VSTCV			VSTCV in (NULL, 2)	
VSTCVMit/3610			<ul style="list-style-type: none"> • No • Missing 	
VSTCVMit			VSTCVMit in (NULL, 2)	
VSTCVTri/3652			<ul style="list-style-type: none"> • No • Missing 	

PART 2 (PROCID 5 through 8)				
Variable Short Name	MVR + CAB** (ProcID=5)	AVR + MVR** (ProcID=6)	MV Repair** (ProcID=7)	MV Repair + CAB** (ProcID=8)
VSTCVTri				VSTCVTri in (NULL, 2)
VSTCVPu/3695				<ul style="list-style-type: none"> • No • Missing
VSTCVPu				VSTCVPu in (NULL, 2)
ONCCarEn/6530				<ul style="list-style-type: none"> • No • Yes, unplanned due to surgical complication • Missing
ONCCarEn				ONCCarEn in (NULL, 2, 4)
ONCOVasc/6535				<ul style="list-style-type: none"> • No • Yes, unplanned due to surgical complication • Missing
ONCOVasc				ONCOVasc in (NULL, 2, 4)
ONCOThor/6540				<ul style="list-style-type: none"> • No • Yes, unplanned due to surgical complication • Missing
ONCOThor				ONCOThor in (NULL, 2, 4)
ONCOther/6545				<ul style="list-style-type: none"> • No • Yes, unplanned due to surgical complication • Missing
ONCOther				ONCOther in (NULL, 2, 4)

The following fields from 2.9 data version are no longer collected in 4.20.2:

VSTrReplace and VSTrRepair – Substituted by VSTrPr (1=Repair/2=Replacement/3=Surgical Prosthetic Valve Intervention (Not explant of valve))

OCarVSD – Substituted by OCarAcqVSD

OCarAfibIntraLes – We only use OCarAFibLesLoc to retain EPICARDIAL location in PROCID 1,2,4.

OCarASDSec – Substituted by OCardASDRep

OCarSubaStenRes – Substituted by OCarSubaStenResTy

OCarSVR – No longer collected. These procedures are now included in OCarOthr (4135) – Other Cardiac Procedures.

CCancCase – No longer collected.

The following fields have been changed or have different options.

VSAVPr (1=Replacement/2=Repair) TO (1=Replacement/2=Repair/3=Surgical Prosthetic Valve Intervention (Not explant of valve))

VSMVPr (1=Repair/2=Replacement) TO (1=Repair/2=Replacement/3=Surgical Prosthetic Valve Intervention (Not explant of valve))

By consensus, conference call 6/5/2020: Option 3 (Surgical Prosthetic Intervention) is not considered a Replacement nor a Repair.

We ignore this code option when defining REPLACEMENTS and when defining MV REPAIRS.

As a concomitant procedure, it is only allowed if VSMV and VSAV are UNPLANNED, DUE TO SURGICAL COMPLICATIONS.

VSTrPr (VSTrRepair Yes/No and VSTrReplace Yes/No and VSTrValvec Yes/No) REPLACED BY (VSTrPr:

1=Repair/2=Replacement/3=Surgical Prosthetic Valve Intervention (Not explant of valve)).

By consensus, conference call 6/5/2020: Option 3 is ignored. For Mitral Valve Isolated Procedures (PROCID 3,5,6,7,8) we allowed only VSTrPr=1 Repair or Null. Replacements and Surgical Prosthetic Interventions are only allowed if VSTV=Unplanned, due to surgical complications.