Note, fields in green are new in v2.9x, fields in yellow are added or changed from the v2.81 definition

		PART 1 (PROCID 1 thro	ough 4)	
Variable Short	Isolated CAB	Isolated AVR	Isolated MVR**	AVR + CAB
Name/Seq#	(ProcID=1)	(ProcID=2)	(ProcID=3)	(ProcID=4)
OpCAB/2120	• Yes, planned	• No	• No	• Yes, planned
	• Yes, unplanned due to unsuspected	Yes, unplanned due to surgical	Yes, unplanned due to surgical	• Yes, unplanned due to unsuspected
	disease or anatomy	complication	complication	disease or anatomy
		Missing	Missing	•
OpCAB	OpCAB in(3,5)	OpCab in (NULL, 2,4)	OpCab in (NULL, 2,4)	OpCAB in(3,5)
OpValve/2125	<not calculation="" in="" this="" used=""></not>	• Yes	• Yes	• Yes
OpValve		Opvalve eq 1	Opvalve eq 1	Opvalve eq 1
VSAV/3390	• No	• Yes, planned	• No	• Yes, planned
	• Yes, unplanned due to surgical	• Yes, unplanned due to unsuspected	Yes, unplanned due to surgical	Yes, unplanned due to unsuspected
	complication	disease or anatomy	complication	disease or anatomy
	Missing		Missing	
VSAV	VSAV in (NULL, 2,4)	VSAV in (3,5)	VSAV in (NULL, 2,4)	VSAV in (3,5)
VSAVPr/3395	<not calculation="" in="" this="" used=""></not>	Replacement	<not calculation="" in="" this="" used=""></not>	Replacement
VSAVPr		VSAVPr eq 1		VSAVPr eq 1
VSMV/3495	• No	• No	• Yes, planned	• No
	• Yes, unplanned due to surgical	Yes, unplanned due to surgical	Yes, unplanned due to unsuspected	Yes, unplanned due to surgical
	complication	complication	disease or anatomy	complication
	Missing	Missing		Missing
VSMV	VSMV in (NULL, 2,4)	VSMV in (NULL, 2,4)	VSMV in (3,5)	VSMV in (NULL, 2,4)
VSMVPr/3500	<not calculation="" in="" this="" used=""></not>	<not calculation="" in="" this="" used=""></not>	Replacement	<not calculation="" in="" this="" used=""></not>
VSMVPr			VSMVPr eq 2	
OCarCongProc1/	Missing	Missing	Missing	Missing
6515	• PFO, Primary closure	• PFO, Primary closure	PFO, Primary closure	• PFO, Primary closure
	<ul> <li>Anomalous origin of coronary</li> </ul>		ASD repair, Primary closure	Anomalous origin of coronary
	artery from pulmonary artery		ASD repair, Patch	artery from pulmonary artery
	repair			repair
	Anomalous aortic origin of			Anomalous aortic origin of
	coronary artery from aorta			coronary artery from aorta
	(AAOCA) repair			(AAOCA) repair

OCarCongProc1	Ocarcongproc1 in	Ocarcongproc1 in (NULL,10)	Ocarcongproc1 in (NULL,10,20,30)	Ocarcongproc1 in
	(NULL,10,1291,1305)			(NULL,10,1291,1305)
OCarCongProc2/	Missing	Missing	• Missing	Missing
6520	<ul> <li>No other congenital procedures</li> </ul>	<ul> <li>No other congenital procedures</li> </ul>	<ul> <li>No other congenital procedures</li> </ul>	<ul> <li>No other congenital procedures</li> </ul>
	PFO, Primary closure	• PFO, Primary closure	• PFO, Primary closure	• PFO, Primary closure
	Anomalous origin of coronary		• ASD repair, Primary closure	Anomalous origin of coronary
	artery from pulmonary artery		• ASD repair, Patch	artery from pulmonary artery
	repair			repair
	Anomalous aortic origin of			• Anomalous aortic origin of
	coronary artery from aorta	0 2: (2) 11 1 10	2: (21111 1 10 20 20)	coronary artery from aorta
OCarCongProc2	Ocarcongproc2 in	Ocarcongproc2 in (NULL, 1.10)	Ocarcongproc2 in (NULL, 1, 10, 20, 30)	Ocarcongproc2 in
	(NULL, <mark>1</mark> ,10,1291,1305)			(NULL, <mark>1</mark> ,10,1291,1305)
OCarCongProc3/	Missing	Missing	Missing	Missing
6525	<ul> <li>No other congenital procedures</li> </ul>	<ul> <li>No other congenital procedures</li> </ul>	<ul> <li>No other congenital procedures</li> </ul>	<ul> <li>No other congenital procedures</li> </ul>
	• PFO, Primary closure	• PFO, Primary closure	• PFO, Primary closure	• PFO, Primary closure
	Anomalous origin of coronary		ASD repair, Primary closure	Anomalous origin of coronary
	artery from pulmonary artery		• ASD repair, Patch	artery from pulmonary artery
	repair			repair
	• Anomalous aortic origin of			• Anomalous aortic origin of
OC- "C- "-D"2	coronary artery from aorta	O2: (AUU I 1 10)	O2:-(NIII I 1 10 20 20)	coronary artery from aorta
OCarCongProc3	Ocarcongproc3 in (NULL, 1, 10, 1291, 1305)	Ocarcongproc3 in (NULL, 1,10)	Ocarcongproc3 in (NULL, 1, 10, 20, 30)	Ocarcongproc3 in (NULL, 1, 10, 1291, 1305)
Tricuspid	Unplanned Surgical Complications	Unplanned Surgical Complications	All tricuspid repairs are allowed.	Unplanned Surgical Complications
Procedures:	ONLY	ONLY	Tricuspid replacements and	ONLY
VSTV VSTrReplace	VSTV is one of:	VSTV is one of:	valvecotomies are only allowed if the	VSTV is one of:
VSTrKeplace VSTrValvec	• No	• No	tricuspid procedure was unplanned due to surgical complications. Must	• No
3640, 3650, 3653	• Yes, unplanned due to surgical	Yes, unplanned due to surgical	satisfy at least one of (1) or (2):	Yes, unplanned due to surgical
3040, 3030, 3033	complication	complication	1.	complication
	• Missing	• Missing	VSTrReplace:	• Missing
	Wilssing	Wilssing	• No	Wilssing
			• Missing	
			AND	
			VSTrValvec:	
			• No	
			• Missing	
			2.	
			VSTV	

PrevVADExp				77 1 11			
No				• Yes, unplanned due to surgical			
VSTV abec   VSTV in (NULL, 24)							
VSPV 3685  VSPV 3685  VSPV 3685  VSPV Missing  VSPV MINULL, 2.49  PrevVADExp' 3825  PrevVADExp' 3825  PrevVADExp Missing  VADImpTmg Missing  VExp Missing  View Missing  View Missing  View Missing  View Missing  View Missing  Missing  Missing		VSTV in (NULL, 2,4)	VSTV in (NULL, 2,4)				
VSTV eq 4  VSTV eq 4  VSPV/3685  • Yes, unplanned due to surgical complication • Missing  VSPV  VSPV in (NULL, 2,4)  PrevVADExp/ 3825  • Yes, not during this procedure • Missing  PrevVADExp in (NULL, 1,3)  PrevVADExp  • 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 (same trip to the OR)- unplanned • Post-Operative (after surgical procedure (same trip to the OR)- unplanned • Post-Operative (after surgical procedure (same trip to the OR)- unplanned • Post-Operative (after surgical procedure (same trip to the OR)- unplanned • Post-Operative (after surgical procedure (same trip to the OR)- unplanned • Post-Operative (after surgical procedure (same trip to the OR)- unplanned • Post-Operative (after surgical procedure (same trip to the OR)- unplanned • Post-Operative (after surgical procedure (same trip to the OR)- unplanned • Post-Operative (after surgical procedure (same trip to the OR)- unplanned • Post-Operative (after surgical procedure (same trip to the OR)- unplanned • Post-Operative (after surgical procedure (same trip to the OR)- unplanned • Post-Operative (after surgical procedure (same trip to the OR)- unplanned • Post-Operative (after surgical procedure (same trip to the OR)- unplanned • Post-Operative (after surgical procedure (same trip to the OR)- unplanned • Post-Operative (after surgical procedure (same trip to the OR)- unplanned • Post-Operative (after surgical procedure (same trip to the OR)- unplanned • Post-Operative (after surgical procedure (same trip to the OR)- unplanned • Post-Operative (after surgical procedure (same trip to the OR)- unplanned • Post-Operative (after surgical procedure (same trip to the OR)- unplanned • Post-Operative (after surgical procedure (same trip to the OR)- unplanned • Post-Operative (after surgical procedure (same trip to the OR)- unplanned • Post-Operative (after surgical procedure (same trip to the OR				\ ' / 2			
VSPV 3685  VSPV 9685  VSPV 1000							
VSPV/3685				VSTV eq 4			
System	VSIrValvec						
New York	VSPV/3685		·				
VSPV   VSPV in (NULL, 2,4)			• Yes, unplann				
PrevVADExp   State   S				C			
PrevVADExp							
PrevVADExp PrevVADExp PrevVADExp in (NULL, 1,3)  VADImpTmg/ 3845 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 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  • Mossing  VADImpTmg3/  • Pre-Operative (during same hospitalization but not same OR trip as CV surgical procedure)  • Missing  VADImpTmg3/  • Pre-Operative (during same hospitalization but not same or R trip as CV surgical procedure)  • In conjunction with CV surgical procedure during reoperation)  • In conjunction with CV surgical procedure (same trip to the OR)- unplanned  • Post-Operative (after surgical procedure during reoperation)  • Missing  VADImpTmg3 in (NULL, 1, 4, 5)  VExp(3875  • Yes, not during this procedure  • No  • Missing  VExp  VExp  VExp (VExp in (NULL, 3, 2)  VExp  VExp in (NULL, 3, 2)  VExp  Vexp  • Yes, not during this procedure							
PrevVADExp	3825						
VADImpTmg/ 3845  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  VADImpTmg2/ 3900  • 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/  VADImpTmg3/ 3955  VADImpTmg3/ 3955  • 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 (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 (same trip to the OR)- unplanned  • Post-Operative (after surgical procedure (same trip to the OR)- unplanned  • Post-Operative (after surgical procedure (same trip to the OR)- unplanned  • Post-Operative (after surgical procedure (same trip to the OR)- unplanned  • Post-Operative (after surgical procedure (same trip to the OR)- unplanned  • Post-Operative (after surgical procedure (same trip to the OR)- unplanned  • Post-Operative (after surgical procedure (same trip to the OR)- unplanned  • Post-Operative (after surgical procedure (same trip to the OR)- unplanned  • Post-Operative (after surgical procedure (same trip to the OR)- unplanned  • Post-Operative (after surgical procedure (same trip to the OR)- unplanned  • Post-Operative (after surgical procedure (same trip to the OR)- unplanned  • Post-Operative (after surgical procedure (same trip to the OR)- unplanned  • Post-Operative (after surgical procedure (same trip to the OR)- unplanned  • Post-Operative (after surgical procedure (same trip to the OR)- unplanned  • Post-Operative (after surgical procedu		Č					
**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  **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  VADImpTmg3/  VADImpTmg3/  **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 (same trip to the OR)- unplanned  **Post-Operative (after surgical procedure during reoperation)  **Missing  VADImpTmg3  VADImpTmg3  VADImpTmg3 in (NULL, 1, 4, 5)  VExp/3875  **Yes, not during this procedure  **No  **Mo  **Missing  VExp  VExp  VExp in (NULL, 3, 2)  VExp in (NULL, 3, 2)  **Yes, not during this procedure  **No  **No  **Missing		1 \ ' ' ' /					
Post-Operative (after surgical procedure during reoperation)  Missing  VADImpTmg  VADImpTmg in (NULL, 1, 4, 5)  VADImpTmg2/ 3900  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  VADImpTmg3/ 3955  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 (same trip to the OR)- unplanned  Post-Operative (after surgical procedure during reoperation)  Missing  VADImpTmg3  VADImpTmg3  VADImpTmg3  VADImpTmg3  VADImpTmg3  VADImpTmg3  VADImpTmg3  VADImpTmg3  VADImpTmg3 in (NULL, 1, 4, 5)  VExp/3875  Pyes, not during this procedure  No  Missing  VExp  VExp (NULL, 3, 2)  VExp2/3930  Pyes, not during this procedure  No  No  Missing		•					
VADImpTmg VADImpTmg in (NULL, 1, 4, 5)  VADImpTmg2/ 3900  • Pre-Operative (during same hospitalization but not same OR trip as CV surgical procedure)  • Post-Operative (after surgical procedure (same trip to the OR)- unplanned  • Post-Operative (after surgical procedure during reoperation)  • Missing  VADImpTmg2  VADImpTmg3/ VADImpTmg3/ 3955  • 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 (same trip to the OR)- unplanned  • Post-Operative (after surgical procedure during reoperation)  • Missing  VADImpTmg3  VADImpTmg3  VADImpTmg3  VADImpTmg3  • Yes, not during this procedure  • No  • Missing  VExp  VExp  VExp  VExp  VExp in (NULL, 3, 2)  VExp2/3930  • Yes, not during this procedure  • No  • Missing	3845						
VADImpTmg in (NULL, 1, 4, 5)  VADImpTmg2/ 3900  • 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  VADImpTmg3/ 3955  • 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 (same trip to the OR)- unplanned  • Post-Operative (after surgical procedure during reoperation)  • Missing  VADImpTmg3  VADImpTmg3 in (NULL, 1, 4, 5)  VExp/3875  • Yes, not during this procedure  • No  • Missing  VExp  VExp (Sex)  • Yes, not during this procedure  • No  • Missing  VExp  • Yes, not during this procedure  • No  • Missing  VExp (Sex)  • Yes, not during this procedure  • No  • Missing  VExp (Sex)  • Yes, not during this procedure  • No  • Missing  • Yes, not during this procedure  • No  • Missing			<ul> <li>Post-Operative (after</li> </ul>				
VADImpTmg2/ 3900  • 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  • 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  • Yes, not during this procedure • No • Missing  VExp  VExp  VExp  VExp  VExp in (NULL, 3, 2)  VExp2/3930  • Yes, not during his procedure • No • Missing  Wishing  • Missing							
**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  **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  **Yes, not during this procedure  **No  **Missing  VExp  VExp in (NULL, 3, 2)  VExp2/3930  **Yes, not during this procedure  **No  **Missing  VExp  **Missing  VExp  **Missing  **Missing  **Missing  **Missing  **Missing  **Missing							
VADImpTmg2 VADImpTmg3/ 3955 VADImpTmg3/ 3955 VADImpTmg3		•					
VADImpTmg2 VADImpTmg3/ 3955  VADImpTmg3/ 3955  • 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  VADImpTmg3  VADImpTmg3 in (NULL, 1, 4, 5)  VExp/3875  • Yes, not during this procedure • No • Missing  VExp  VExp  VExp  VExp  VExp  VExp  VExp  Vexp  Vexp  Vexp in (NULL, 3, 2)  Vexp/3930  • Yes, not during this procedure • No • Missing	3900						
VADImpTmg2			<ul> <li>Post-Operative (after</li> </ul>				
VADImpTmg3/ 3955  • 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  • Yes, not during this procedure  • No  • Missing  VExp  VExp  VExp  VExp in (NULL, 3, 2)  • Yes, not during this procedure  • No  • Missing  With the procedure  • No  • Missing  Wexp  • Mo  • Missing							
3955  In conjunction with CV surgical procedure (same trip to the OR)- unplanned  Post-Operative (after surgical procedure during reoperation)  Missing  VADImpTmg3 in (NULL, 1, 4, 5)  VExp/3875  Yes, not during this procedure  No  Missing  VExp  VExp  VExp  VExp  Vexp in (NULL, 3, 2)  Vexp 2/3930  Yes, not during this procedure  No  Missing							
Post-Operative (after surgical procedure during reoperation)   Missing	1 0	•					
VADImpTmg3         VADImpTmg3 in (NULL, 1, 4, 5)           VExp/3875         • Yes, not during this procedure           • No         • Missing           VExp         VExp in (NULL, 3, 2)           VExp2/3930         • Yes, not during this procedure           • No         • No           • Missing	3955						
VADImpTmg3         VADImpTmg3 in (NULL, 1, 4, 5)           VExp/3875         • Yes, not during this procedure           • No         • Missing           VExp         VExp in (NULL, 3, 2)           VExp2/3930         • Yes, not during this procedure           • No         • Missing			<ul> <li>Post-Operative (after</li> </ul>				
VExp/3875              • Yes, not during this procedure             • No             • No				<u> </u>			
VExp         VExp in (NULL, 3, 2)           VExp2/3930              ◆ Yes, not during this procedure                   ◆ No	VExp/3875	• Yes, not during this procedure					
VExp         VExp in (NULL, 3, 2)           VExp2/3930         • Yes, not during this procedure           • No         • Missing							
VExp2/3930  • Yes, not during this procedure  • No  • Missing		Ü					
No     Missing							
• Missing	VExp2/3930						
· ·							
VExp2 in (NULL, 3, 2)		• Missing					
	VExp2		VI	xp2 in (NULL, 3, 2)			

OCarACDLE/ 4065	• Yes, unplanned due to surgical complication • No					
OCarACD 4055 OCarACD	<not calculation="" in="" this="" used=""> <not calculation="" in="" this="" used=""> • No • Missing • Permanent Pacemaker OCarACD in (NULL, 1, 2)</not></not>					
OCarASDSec	OCarASDSec in (NULL, 2) OCarASDSec in (NULL, 2) OCarASDSec in (NULL, 2)					
OCarAFibLesLoc OCarASDSec/ 4035	No     Missing	OCarAFibLesLoc ne 2  • No • Missing	<not calculation="" in="" this="" used=""></not>	OCarAFibLesLoc ne 2     No     Missing		
OCarAFibLesLoc/	<ul><li>Primarily epicardial</li><li>Missing</li><li>OCarAFibLesLoc ne 2</li></ul>	Primarily epicardial     Missing	<not calculation="" in="" this="" used=""></not>	<ul> <li>Primarily epicardial</li> <li>Missing</li> <li>OCarAFibLesLoc ne 2</li> </ul>		
4040 OCarAFibIntraLes	Missing     OcarAFibIntraLes in (NULL, 2)	Missing     OcarAFibIntraLes in (NULL, 2)		Missing     OcarAFibIntraLes in (NULL, 2)		
EndovasProc  OCarAFibIntraLes/	• No		Proc in (NULL, 2)  Not used in this calculation>	• No		
EndovasProc/5066		•	• No • Missing			
AortProc		•	Missing oc in (NULL, 2,4)			
AortProc/2125		Voq yamları - 1 J	No ue to surgical complication			
OCarVSD			SD in (NULL, 2)			
OCarVSD/4130			• No Missing			
OCarLVA			Missing VA in (NULL, 2)			
VExp3 OCarLVA/4075		VExp3 in (NULL, 3, 2)  • No				
THE A		No     Missing				
VExp3/3985	• Yes, not during this procedure					

OCarACDLE	OCarACDLE in (NULL, 2,4)				
OCarLasr/4110	<not calculation="" in="" this="" used=""></not>	<not calculation="" in="" this="" used=""></not>	• No	<not calculation="" in="" this="" used=""></not>	
			Missing		
OCarLasr			OCarLasr in (NULL, 2)		
OCPulThromDis/			• No		
4085			Missing		
OCPulThromDis		OCPulThro	omDis in (NULL, 1)		
OCarSubaStenRes/			• No		
4090			Missing		
OCarSubaStenRes		OCarSubaS	tenRes in (NULL, 2)		
OCarSVR/4105			• No		
			Missing		
OCarSVR		OCarSV	R in (NULL, 2)		
OCarCrTx/4120			• No		
			Missing		
OCarCrTx		OCarCr	Tx in (NULL, 2)		
OCarTrma/4125			• No		
0.00			Missing		
OCarTrma (411.5)		OCarTr	ma in (NULL, 2)		
OCTumor/4115			• No		
0.07			Missing		
OCTumor (4125		OCTur	or in (NULL, 1)		
OCarOthr/4135			• No		
OCarOthr			Missing thr in (NULL, 2)		
VSTCV/3400		OCarO	• No		
VS1CV/3400			• No Missing		
VSTCV			V in (NULL, 2)		
VSTCVMit/3610		VSIC	• No		
VSTC VIVIIU 3010					
VSTCVMit	• Missing VSTCVMit in (NULL, 2)				
VSTCVTri/3652	• No				
1510 1111 3032	• Mossing				
VSTCVTri			Tri in (NULL, 2)		
VSTCVPu/3695		VSICV	• No		
. 510 11 4/30/3		•	Missing		
VSTCVPu			Pu in (NULL, 2)		
. 210 114	VSTCVTu III (IVOLL, 2)				

CCancCase/2050	• No
	• Missing
CCancCase	CCancCase in (NULL, 2)
ONCCarEn/6530	• No
	• Yes, unplanned due to surgical complication
	• Missing
ONCCarEn	ONCCarEn in (NULL, 2, 4)
ONCOVasc/6535	• No
	• Yes, unplanned due to surgical complication
	• Missing
ONCOVasc	ONCOVasc in (NULL, 2, 4)
ONCOThor/6540	• No
	• Yes, unplanned due to surgical complication
	• Missing
ONCOThor	ONCOThor in (NULL, 2, 4)
ONCOther/6545	• No
	• Yes, unplanned due to surgical complication
	• 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> <li>Yes, planned</li> <li>Yes, unplanned due to unsuspected disease or anatomy</li> </ul>	<ul><li>No</li><li>Yes, unplanned due to surgical complication</li><li>Missing</li></ul>	<ul><li>No</li><li>Yes, unplanned due to surgical complication</li><li>Missing</li></ul>	<ul> <li>Yes, planned</li> <li>Yes, unplanned due to unsuspected disease or anatomy</li> </ul>	
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><li>No</li><li>Yes, unplanned due to surgical complication</li><li>Missing</li></ul>	Yes, planned     Yes, unplanned due to unsuspected disease or anatomy	<ul><li>No</li><li>Yes, unplanned due to surgical complication</li><li>Missing</li></ul>	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 calculation="" in="" this="" used=""></not>	Replacement	<not calculation="" in="" this="" used=""></not>	<not calculation="" in="" this="" used=""></not>	
VSAVPr		VSAVPr eq 1			
VSMV/3495	<ul><li>Yes, planned</li><li>Yes, unplanned due to unsuspected disease or anatomy</li></ul>	Yes, planned     Yes, unplanned due to unsuspected disease or anatomy	Yes, planned     Yes, unplanned due to unsuspected disease or anatomy	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> <li>Missing</li> <li>PFO, Primary closure</li> <li>Anomalous origin of coronary artery from pulmonary artery repair</li> <li>Anomalous aortic origin of coronary artery from aorta (AAOCA) repair</li> <li>ASD repair, Primary closure</li> <li>ASD repair, Patch</li> </ul>	<ul> <li>Missing</li> <li>PFO, Primary closure</li> <li>ASD repair, Primary closure</li> <li>ASD repair, Patch</li> </ul>	<ul> <li>Missing</li> <li>PFO, Primary closure</li> <li>ASD repair, Primary closure</li> <li>ASD repair, Patch</li> </ul>	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	Ocarcongproc1 in (NULL,10,20, 30,1291,1305)	Ocarcongproc1 in (NULL,10,20,30)	Ocarcongproc1 in (NULL,10,20,30)	Ocarcongproc1 in (NULL,10,20,30,1291,1305)	
OCarCongProc2/ 6520	<ul> <li>Missing</li> <li>No other congenital procedures</li> <li>PFO, Primary closure</li> <li>Anomalous origin of coronary artery</li> </ul>	<ul> <li>Missing</li> <li>No other congenital procedures</li> <li>PFO, Primary closure</li> <li>ASD repair, Primary closure</li> </ul>	<ul> <li>Missing</li> <li>No other congenital procedures</li> <li>PFO, Primary closure</li> <li>ASD repair, Primary closure</li> </ul>	<ul> <li>Missing</li> <li>No other congenital procedures</li> <li>PFO, Primary closure</li> <li>Anomalous origin of coronary</li> </ul>	

		PART 2 (PROCID 5 through	gh 8)	
Variable Short Name	MVR + CAB** (ProcID=5)	AVR + MVR** (ProcID=6)	MV Repair** (ProcID=7)	MV Repair + CAB** (ProcID=8)
	<ul> <li>Anomalous aortic origin of coronary artery from aorta (AAOCA) repair</li> <li>ASD repair, Primary closure</li> <li>ASD repair, Patch</li> </ul>			<ul> <li>Anomalous aortic origin of coronary artery from aorta (AAOCA) repair</li> <li>ASD repair, Primary closure</li> <li>ASD repair, Patch</li> </ul>
OCarCongProc2	Ocarcongproc2 in (NULL, 1, 10, 20, 30, 1291, 1305)	Ocarcongproc2 in (NULL, 1, 10, 20, 30)	Ocarcongproc2 in (NULL, 1,10,20,30)	Ocarcongproc2 in (NULL, 1, 10, 20, 30, 1291, 1305)
OCarCongProc3/ 6525	<ul> <li>Missing</li> <li>No other congenital procedures</li> <li>PFO, Primary closure</li> <li>Anomalous origin of coronary artery from pulmonary artery repair</li> <li>Anomalous aortic origin of coronary artery from aorta (AAOCA) repair</li> <li>ASD repair, Primary closure</li> <li>ASD repair, Patch</li> </ul>	<ul> <li>Missing</li> <li>No other congenital procedures</li> <li>PFO, Primary closure</li> <li>ASD repair, Primary closure</li> <li>ASD repair, Patch</li> </ul>	<ul> <li>Missing</li> <li>No other congenital procedures</li> <li>PFO, Primary closure</li> <li>ASD repair, Primary closure</li> <li>ASD repair, Patch</li> </ul>	<ul> <li>Missing</li> <li>No other congenital procedures</li> <li>PFO, Primary closure</li> <li>Anomalous origin of coronary artery from pulmonary artery repair</li> <li>Anomalous aortic origin of coronary artery from aorta (AAOCA) repair</li> <li>ASD repair, Primary closure</li> </ul>
OCarCongProc3	Ocarcongproc3 in (NULL, 1, 10, 20, 30, 1291, 1305)	Ocarcongproc3 in (NULL, 1, 10, 20, 30)	Ocarcongproc3 in (NULL, 1, 10, 20, 30)	Ocarcongproc3 in (NULL,1,10, 20, 30,1291,1305)
Tricuspid Procedures: VSTV VSTrReplace VSTrValvec/ 3640, 3650, 3653	All tricuspid repairs are allowed. Tricuspid replacements and valvecotomies are only allowed if the tricuspid procedure was unplanned due to surgical complications. Must satisfy at least one of (1) or (2): 1. VSTrReplace: • No • Missing AND VSTrValvec: • No • Missing	All tricuspid repairs are allowed. Tricuspid replacements and valvecotomies are only allowed if the tricuspid procedure was unplanned due to surgical complications. Must satisfy at least one of (1) or (2): 1. VSTrReplace:  • No • Missing AND VSTrValvec: • No • Missing	All tricuspid repairs are allowed. Tricuspid replacements and valvecotomies are only allowed if the tricuspid procedure was unplanned due to surgical complications. Must satisfy at least one of (1) or (2): 1. VSTrReplace:  • No • Missing AND VSTrValvec: • No • Missing	All tricuspid repairs are allowed. Tricuspid replacements and valvecotomies are only allowed if the tricuspid procedure was unplanned due to surgical complications. Must satisfy at least one of (1) or (2): 1. VSTrReplace:  • No • Missing AND VSTrValvec: • No • Missing
	2. VSTV	2. VSTV	2. VSTV	2. VSTV

Name		PART 2 (PROCID 5 through 8)				
Ves. unplaned due to surgical complication"   S. Ves. unplaned due to surgical complication"   Surgical complication"   Surgical complication"   Surgical complication   Sur	Variable Short	MVR + CAB**	AVR + MVR**	MV Repair**	MV Repair + CAB**	
Incuspid   Prevalue	Name	(ProcID=5)	(ProcID=6)	(ProcID=7)	(ProcID=8)	
Irisupid   Procedurs   VSTrValve in (NULL, 2) and VSTrValve in (NULL, 2) and VSTrValve in (NULL, 2) and VSTrValve in (NULL, 2)   OR VSTV eq 4   VSTV						
VSTV vstv vstv vstv vstv vstv vstv vstv vst						
VSTV eq 4						
VSTV eq 4  VSTV eq ther surgical complication  VSTV eq this sing  VSTV eq 10						
VSPV/3685 VSPV   VSPV in (NULL, 2,4) PrevVADExp/ 3825 PrevVADExp/ 3825 PrevVADExp   • Yes, not laring this procedure • No • Missing PrevVADExp   • Yes, not laring this procedure • No • Missing PrevVADExp   • Pre-Operative (during same hospitalization but not same OR trip as CV surgical procedure) • Post-Operative (after surgical procedure (same trip to the OR)- unplanned • Post-Operative (after surgical procedure (same trip to the OR)- unplanned • Post-Operative (after surgical procedure (same trip to the OR)- unplanned • Post-Operative (after surgical procedure (same trip to the OR)- unplanned • Post-Operative (after surgical procedure (same trip to the OR)- unplanned • Post-Operative (after surgical procedure (same trip to the OR)- unplanned • Post-Operative (after surgical procedure (same trip to the OR)- unplanned • Post-Operative (after surgical procedure (same trip to the OR)- unplanned • Post-Operative (after surgical procedure during reoperation) • Missing  VADImpTmg2  VADImpTmg3/ • Pre-Operative (after surgical procedure during reoperation) • Missing  VADImpTmg3/ • Pre-Operative (after surgical procedure foremetrip to the OR)- unplanned • Post-Operative (after surgical procedure foremetrip to the OR)- unplanned • Post-Operative (after surgical procedure during reoperation) • Missing  VADImpTmg3/ • Pre-Operative (after surgical procedure foremetrip to the OR)- unplanned • Post-Operative (after surgical procedure foremetrip to the OR)- unplanned • Post-Operative (after surgical procedure foremetrip to the OR)- unplanned • Post-Operative (after surgical procedure foremetrip to the OR)- unplanned • Post-Operative (after surgical procedure foremetrip to the OR)- unplanned • Post-Operative (after surgical procedure foremetrip to the OR)- unplanned • Post-Operative (after surgical procedure foremetrip to the OR)- unplanned • Post-Operative (after surgical procedure foremetrip to the OR)- unplanned • Post-Operative (after surgical procedure foremetrip to the OR)- unplanned • Post-Operative (after surgical proc				OR VSTV eq 4		
VSPV VSPV in (NULL, 2.4)  PrevVADExp/ 3825  PrevVADExp/ 3825  PrevVADExp PrevVADExp PrevVADExp in (NULL, 1.3)  PrevVADExp PrevVADExp in (NULL, 1.3)  VADImpTmg/ 3845  VADImpTmg/ 3845  VADImpTmg/ VADImpTmg/ 3890  PrevVADExp Pre-Operative (during same hospitalization but not same OR trip as CV surgical procedure)  **No **No **In conjunction with CV surgical procedure (during reoperation)  **No **Nissing**  VADImpTmg/ 3900  **Pre-Operative (during same hospitalization but not same OR trip as CV surgical procedure)  **In conjunction with CV surgical procedure (during reoperation)  **No **In surgical procedure (during reoperation)  **In conjunction with CV surgical procedure (same trip to the OR)- unplanned  **Post-Operative (after surgical procedure (uring reoperation)  **Post-Operative (after surgical procedure (during reoperation)  **Post-Operative (during same hospitalization but not same OR trip as CV surgical procedure)  **VADImpTmg2*  **VADImpTmg3*  **VADImpTmg2*  **VADImpTmg2*  **VADImpTmg2*  **VADImpTmg2*  **VADImpTmg2*  **VADImpTmg2*  **VADImpTmg2*  **VADImpTmg2*  **VADImpTmg3*  **Pre-Operative (during same hospitalization but not same OR trip as CV surgical procedure)  **In conjunction with CV surgical procedure during reoperation)  **Nissing*  **VADImpTmg3*  **VADImpTmg		VSTV eq 4	VSTV eq 4		VSTV eq 4	
VSPV MOLUL, 2,4)  PrevVADExp/ 3825  PrevVADExp/ 3825  PrevVADExp  PrevVADExp PrevVADExp in (NULL, 1,3  VADImpTmg/ 3845  VADImpTmg/ 3846  VADImpTmg/ 3847  VADImpTmg/ 3849  VADImpTmg/ 3849  VADImpTmg/ 3849  VADImpTmg/ 3840  VADImpTmg/ 3840  VADImpTmg/ 3840  VADImpTmg/ 3841  VADImpTmg/ 3845  PrevVADExp in (NULL, 1,4,5)  VADImpTmg/ 4840  VADImpTmg/ 4840  VADImpTmg/ 4840  VADImpTmg/ 4840  VADImpTmg/ 4840  VADImpTmg/ 4840  VADImpTmg/ 5840  VADImpTmg/ 5840  VADImpTmg/ 5840  VADImpTmg/ 5840  VADImpTmg/ 5840  VADImpTmg/ 5850  VExp/3875  VExp/3875  VExp, not during this procedure 5850  VExp (WULL, 1, 4, 5)	VSPV/3685					
VSPV   VSPV in (NULL, 2,4)			_	•		
PrevVADExp/ 3825  PrevVADExp PrevVADExp PrevVADExp PrevVADExp in (NULL, 1,3  VADImpTmg/ 3845  VADImpTmg/ VADImpTmg/ 3895  VADImpTmg/ 3900  VADImpTmg2/ 3900  VADImpTmg3/ 3900  VADImpTmg2  VADImpTmg2/ 4 Pre-Operative (during same hospitalization but not same OR trip as CV surgical procedure)  • Pre-Operative (during same hospitalization but not same OR trip as CV surgical procedure)  • Pre-Operative (after surgical procedure during reoperation)  • Missing  VADImpTmg2  VADImpTmg2  VADImpTmg2  VADImpTmg2  VADImpTmg2  • Pre-Operative (during same hospitalization but not same OR trip as CV surgical procedure)  • Missing  VADImpTmg3  • Pre-Operative (during same hospitalization but not same OR trip as CV surgical procedure)  • Missing  VADImpTmg3  • Pre-Operative (during same hospitalization but not same OR trip as CV surgical procedure)  • Post-Operative (after surgical procedure during reoperation)  • Post-Operative (after surgical procedure during reoperation)  • Missing  VADImpTmg3  VADImpTmg3  • Pre-Operative (after surgical procedure during reoperation)  • Missing  VADImpTmg3  • Yes, not during this procedure  • No  • No  • Missing  VExp in (NULL, 1, 4, 5)						
No   Nissing						
PrevVADExp PrevVADExp in (NULL, 1,3  VADImpTmg/ 3845  VADImpTmg/ 3845  VADImpTmg/ 3845  VADImpTmg/ 3890  VADImpTmg/ 3900  VADImpTmg2  VADImpTmg2  VADImpTmg2  VADImpTmg2  VADImpTmg2  VADImpTmg2  VADImpTmg3  VADImpTmg4  VADI						
PrevVADExp PrevVADExp in (NULL, 1,3  VADImpTmg/ 3845  **Pre-Operative (during same hospitalization but not same OR trip as CV surgical procedure)  **Post-Operative (after surgical procedure (same trip to the OR)- unplanned  **Post-Operative (after surgical procedure during reoperation)  **Missing  VADImpTmg VADImpTmg2/  3900  **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/  VADImpTmg3/  3955  **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 (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  VADImpTmg3 in (NULL, 1, 4, 5)  VExp/3875  **Yes, not during this procedure  **No  **Missing  VExp in (NULL, 3, 2)	3825					
VADImpTmg/ 3845  Pre-Operative (during same hospitalization but not same OR trip as CV surgical procedure)  Post-Operative (after surgical procedure during reoperation)  Naissing  VADImpTmg  VADImpTmg in (NULL, 1, 4, 5)  VADImpTmg/ 3900  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)  Naissing  VADImpTmg2  VADImpTmg2  VADImpTmg3  VADImpTmg3  Pre-Operative (during same hospitalization but not same OR trip as CV surgical procedure)  Naissing  VADImpTmg3  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  VADImpTmg4  VADImp				C		
SA45  In conjunction with CV surgical procedure (same trip to the OR)- unplanned  Post-Operative (after surgical procedure during reoperation)  Missing  VADImpTmg  VADImpTmg2/ 3900  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 (same trip to the OR)- unplanned  Post-Operative (after surgical procedure during reoperation)  Missing  VADImpTmg2  VADImpTmg3  VADImpTmg3  Pre-Operative (during same hospitalization but not same OR trip as CV surgical procedure)  NADImpTmg3  VADImpTmg3  Pre-Operative (after surgical procedure during reoperation)  Post-Operative (after surgical procedure (same trip to the OR)- unplanned  Post-Operative (after surgical procedure during reoperation)  Missing  VADImpTmg3  VADImpTmg3  VADImpTmg3  VADImpTmg3  VADImpTmg3 in (NULL, 1, 4, 5)  VExp/3875  Pyes, not during this procedure  No  No  No  Missing  VExp  VExp  VExp  VExp  VExp  NExp  VExp in (NULL, 3, 2)		1 \ ' '				
VADImpTmg VADImpTmg2/ 3900 Pre-Operative (during same hospitalization but not same OR trip as CV surgical procedure)  In conjunction with CV surgical procedure during reoperation)  NADImpTmg2 Post-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 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 Pyes, not during this procedure  No  Missing  VExp System (NULL, 3, 2)		• Pro			dure)	
VADImpTmg VADImpTmg in (NULL, 1, 4, 5)  VADImpTmg2/ 3900  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  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 (same trip to the OR)- unplanned  Post-Operative (after surgical procedure during reoperation)  Missing  VADImpTmg3  VADImpTmg3  VADImpTmg3 in (NULL, 1, 4, 5)  VExp/3875  Pyes, not during this procedure  No  Missing  VExp  VExp  VExp  VExp  VExp  VExp  VExp  NO  VExp in (NULL, 3, 2)	3845					
VADImpTmg 1  VADImpTmg in (NULL, 1, 4, 5)  VADImpTmg2/ 3900  • 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  VADImpTmg3/ 3955  • 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 (same trip to the OR)- unplanned  • Post-Operative (after surgical procedure during reoperation)  • Missing  VADImpTmg3  VADImpTmg3 in (NULL, 1, 4, 5)  VExp/3875  • Yes, not during this procedure  • No  • Missing  VExp  • No  • Missing  VExp  • No  • Missing			1 \			
VADImpTmg2/ 3900  • 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  VADImpTmg3/ 3955  • 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 (same trip to the OR)- unplanned  • Post-Operative (after surgical procedure during reoperation)  • Missing  VADImpTmg3  VADImpTmg3 in (NULL, 1, 4, 5)  • Yes, not during this procedure  • No  • Missing  VExp No  • Missing  VExp in (NULL, 3, 2)				E		
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  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  VADImpTmg3 in (NULL, 1, 4, 5)  VExp/3875  Pyes, not during this procedure  No  Missing  VExp  VExp  VExp  VExp  VExp in (NULL, 3, 2)		2				
• Post-Operative (after surgical procedure during reoperation) • Missing  VADImpTmg2  VADImpTmg2 in (NULL, 1, 4, 5)  VADImpTmg3/ 3955  • 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  • Yes, not during this procedure • No • Missing  VExp						
VADImpTmg2  VADImpTmg2 in (NULL, 1, 4, 5)  VADImpTmg3/  3955  • 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  VADImpTmg3 in (NULL, 1, 4, 5)  • Yes, not during this procedure  • No  • Missing  VExp  VExp  VExp  VExp  VExp  VExp in (NULL, 3, 2)	3900					
VADImpTmg2 in (NULL, 1, 4, 5)  VADImpTmg3/ 3955  • 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  VADImpTmg3 in (NULL, 1, 4, 5)  VExp/3875  • Yes, not during this procedure • No • Missing  VExp  VExp  VExp  VExp  VExp in (NULL, 3, 2)						
VADImpTmg3/ 3955  • 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  • Yes, not during this procedure  • No  • Missing  VExp  VExp  VExp  VExp  VExp in (NULL, 3, 2)	WADI T 2			<u>e</u>		
3955          • 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          • Yes, not during this procedure         • No         • No         • Missing          VExp          • VExp in (NULL, 3, 2)		70			1)	
Post-Operative (after surgical procedure during reoperation)  Missing  VADImpTmg3  VADImpTmg3 in (NULL, 1, 4, 5)  VExp/3875  • Yes, not during this procedure  • No  • Missing  VExp		• Pro			aure)	
VADImpTmg3         VADImpTmg3 in (NULL, 1, 4, 5)           VExp/3875         • Yes, not during this procedure           • No         • Missing           VExp         VExp in (NULL, 3, 2)	) JJJJ					
VADImpTmg3         VADImpTmg3 in (NULL, 1, 4, 5)           VExp/3875         • Yes, not during this procedure           • No         • Missing           VExp         VExp in (NULL, 3, 2)						
VExp/3875              • Yes, not during this procedure             • No             • No	VADImpTmg3					
● No ● Missing  VExp VExp in (NULL, 3, 2)	1 0					
● Missing VExp in (NULL, 3, 2)	2					
VExp in (NULL, 3, 2)						
1 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	VExp					
	VExp2/3930		1 \	,		

		PART 2 (PROCID 5 thro				
Variable Short	MVR + CAB**	AVR + MVR**	MV Repair**	MV Repair + CAB**		
Name	(ProcID=5)	(ProcID=6)	No (ProcID=7)	(ProcID=8)		
			issing			
VExp2			(NULL, 3, 2)			
VExp3/3985		• Yes, not during this procedure				
1			No I			
		• M	issing			
VExp3			(NULL, 3, 2)			
OCarLVA/4075			No			
			issing			
OCarLVA			in (NULL, 2)			
OCarVSD/4130			No · · ·			
OCarVSD			issing			
AortProc/2128			in (NULL, 2) No			
A01ti 100/2126			to surgical complication			
			issing			
AortProc			n (NULL, 2,4)			
EndovasProc/5066		•	No			
			issing			
EndovasProc			oc in (NULL, 2)			
OCarAFibIntraLes 4040	<not calculation="" in="" this="" used=""></not>					
OCarAFibIntraLes						
OCarAFibLesLoc 4191	<not calculation="" in="" this="" used=""></not>					
OCarAFibLesLoc						
OCarASDSec 4035	<not calculation="" in="" this="" used=""></not>					
OCarASDSec OCarASDSec						
OCarACD	• No	• No	• No	• No		
405	• Missing	• Missing	• Missing	• Missing		
OC ACD	Permanent Pacemaker  OG AGD: OHH L 1 2	Permanent Pacemaker	Permanent Pacemaker      Off AGD: QHHLL 1 2)	Permanent Pacemaker  OG AGD: OHHL 1-2)		
OCarACDLE/4065	OCarACD in (NULL, 1, 2)					
OCarACDLE/4065			to surgical complication No			

		PART 2 (PROCID 5 throu	gh 8)		
Variable Short Name	MVR + CAB** (ProcID=5)	AVR + MVR** (ProcID=6)	MV Repair** (ProcID=7)	MV Repair + CAB** (ProcID=8)	
		• Mis			
OCarACDLE			in (NULL, 2,4)		
OCarLasr/4110	• No	• No	• No	• No	
	• Missing	• Missing	• Missing	• Missing	
OCarLasr	OCarLasr in (NULL, 2)				
OCPulThromDis/		• 1			
4085		• Mis			
OCPulThromDis OCarSubaStenRes/		OCPull hromL  • N	Dis in (NULL, 1)		
4090		• Mis			
OCarSubaStenRes			Res in (NULL, 2)		
OCarSVR/4105		• N	. ,		
		• Mis			
OCarSVR		• OCarSVR i			
OCarCrTx/4120		• 1			
		• Mis	ssing		
OCarCrTx		• OCarCrTx i	in (NULL, 2)		
OCarTrma/4125		• 1	No		
		• Mis			
OCarTrma		• OCarTrma i			
OCTumor/4115	• No				
	• Missing				
OCTumor	• OCTumor in (NULL, 1)				
OCarOthr/4135	• No				
00.04	• Missing				
OCarOthr VSTCV/3400	• OCarOthr in (NULL, 2)				
VS1CV/3400	• No				
VSTCV	• Missing				
VSTCVMit/3610	• VSTCV in (NULL, 2) • No				
V 51 C V IVIIU 5010	• No • Missing				
VSTCVMit		• VSTCVMit			
VSTCVTri/3652		• N	/		
. 510 . 111/3032		• Mis			
		- 1711	55		

	PART 2 (PROCID 5 through 8)					
Variable Short	MVR + CAB**	AVR + MVR**	MV Repair**	MV Repair + CAB**		
Name	(ProcID=5)	(ProcID=6)	(ProcID=7)	(ProcID=8)		
VSTCVTri		• VSTCVTri i	in (NULL, 2)			
VSTCVPu/3695		• N				
		• Mis				
VSTCVPu		• VSTCVPu i	n (NULL, 2)			
CCancCase/2050		• N				
		• Mis				
CCancCase		• CCancCase	/			
ONCCarEn/6530		• N				
		<ul> <li>Yes, unplanned due to</li> </ul>	-			
		• Mis				
ONCCarEn		• ONCCarEn ir				
ONCOVasc/6535		• N	· -			
		• Yes, unplanned due to				
		• Mis				
ONCOVasc		ONCOVasc in	·			
ONCOThor/6540		• N				
		Yes, unplanned due to				
2276277	• Missing					
ONCOThor	• ONCOThor in (NULL, 2, 4)					
ONCOther/6545	• No					
	• Yes, unplanned due to surgical complication					
ONICOIL		• Mis				
ONCOther		• ONCOther in	(NULL, 2, 4)			

\*\*For Version 2.9 - Please note that the ProcID algorithms for all Mitral Valve Procedures now also include intracardiac lesions and tricuspid repairs. Since it is common practice to do a full Maze procedure and/or an occasional tricuspid repair STS Leadership wanted to keep these cases in the MV Risk Algorithms.

The following fields are no longer collected:

AortProcTEVAR – replaced by EndovascProc OpTricus – replaced by VSTrRepair, VSTrReplace, and VSTrValvec