

Supplementary material

How much does a heart valve implantation cost and what are the health care costs afterwards? - Results from analyses of national health insurance claims data

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Table S1. DRG codes of heart valve implantations.

Diagnosis code	Description diagnosis	Treatment code	Description treatment	Children	Young adults	Middle aged	Elderly	Unknown
2770	Aortic root + CABG + MPL/MVR	110027700120	First surgery with implantation		9	9	9	
2770	Aortic root + CABG + MPL/MVR	979001058	Surgery ascending aorta with two or more valves – with hospital stay		4	7	2	
2770	Aortic root + CABG + MPL/MVR	979001057	Surgery ascending aorta with two or more valves – without hospital stay				1	
2770	Aortic root + CABG + MPL/MVR	110027700220	Reoperation with implantation		4	1	1	
2660	Aortic root + MVR/MPL	110026600120	First surgery with implantation		9	7	4	
2660	Aortic root + MVR/MPL	110026600220	Reoperation with implantation		4	5	2	
2660	Aortic root + MVR/MPL	979001057	Surgery ascending aorta with two or more valves – without hospital stay		1	1	1	
2660	Aortic root + MVR/MPL	979001058	Surgery ascending aorta with two or more valves – with hospital stay		10	4	1	
2660	Aortic root + MVR/MPL	110026600420	Combined heart/artery surgery with implantation			2		
2325	Aortic valve replacement (AVR)	110023250120	First surgery with implantation	6	636	964	2135	3
2325	Aortic valve replacement (AVR)	979001038	Isolated valve surgery – with hospital stay	2	340	533	1009	4
2325	Aortic valve replacement (AVR)	979001193	Valve surgery - 1 cost unit	6	348	519	881	1
2325	Aortic valve replacement (AVR)	979001188	Transcatheter valve implantation - Non-coronary intervention class 3 – with hospital stay		6	22	325	
2325	Aortic valve replacement (AVR)	110023250220	Reoperation with implantation	3	72	86	182	
2325	Aortic valve replacement (AVR)	979001037	Isolated valve surgery – without hospital stay	1	1	9	73	
2325	Aortic valve replacement (AVR)	979001189	Transcatheter valve implantation - Non-coronary intervention class 3 - without hospital stay			3	68	
2325	Aortic valve replacement (AVR)	979001192	Valve surgery - 2 cost units				25	
2325	Aortic valve replacement (AVR)	979001028	Two/Multiple valve surgery – with hospital stay	1	5	13	20	
2325	Aortic valve replacement (AVR)	110023250320	Combined heart/lung surgery with implantation		1	3	5	
2325	Aortic valve replacement (AVR)	979001027	Two/Multiple valve surgery – without hospital stay	1		1	3	
2325	Aortic valve replacement (AVR)	979001191	Valve surgery - 3 cost units				2	
2325	Aortic valve replacement (AVR)	979001190	Valve surgery - at least 4 cost units			1		
2325	Aortic valve replacement (AVR)	979001192	Valve surgery - 2 cost units		18	16		
2325	Aortic valve replacement (AVR)	110023250420	Combined heart/artery surgery with implantation		1	2		
2680	AVR + Ascending aorta	110026800120	First surgery with implantation		88	93	61	
2680	AVR + Ascending aorta	979001068	Surgery ascending aorta with a valve – with hospital stay		68	55	44	
2680	AVR + Ascending aorta	110026800220	Reoperation with implantation		12	8	7	1

Diagnosis code	Description diagnosis	Treatment code	Description treatment	Children	Young adults	Middle aged	Elderly	Unknown
2680	AVR + Ascending aorta	110026800110	First surgery		3	4	2	
2680	AVR + Ascending aorta	979001067	Surgery ascending aorta with a valve – without hospital stay		2			
2680	AVR + Ascending aorta	110026800320	Combined heart/lung surgery with implantation			1		
2655	AVR + CABG + HOCM	110026550120	First surgery with implantation		1	2	18	
2655	AVR + CABG + HOCM	979001046	Isolated valve surgery with CABG – with hospital stay				4	
2655	AVR + CABG + HOCM	979001191	Valve surgery - 3 cost units				3	
2655	AVR + CABG + HOCM	979001036	Two/Multiple valve surgery with CABG – with hospital stay				1	
2655	AVR + CABG + HOCM	979001192	Valve surgery - 2 cost units				1	
2655	AVR + CABG + HOCM	110026550110	First surgery		1		1	
2580	AVR + HOCM	110025800120	First surgery with implantation		4	6	7	
2580	AVR + HOCM	979001038	Isolated valve surgery – with hospital stay			6	6	
2580	AVR + HOCM	979001193	Valve surgery - 1 cost unit				4	
2580	AVR + HOCM	979001192	Valve surgery - 2 cost units		1		3	
2580	AVR + HOCM	979001191	Valve surgery - 3 cost units				2	
2580	AVR + HOCM	979001037	Isolated valve surgery – without hospital stay				1	
2580	AVR + HOCM	110025800220	Reoperation with implantation				1	
2580	AVR + HOCM	979001038	Isolated valve surgery – with hospital stay		2			
2580	AVR + HOCM	110025800110	First surgery		2			
2575	AVR + MPL	110025750120	First surgery with implantation		49	58	109	
2575	AVR + MPL	979001192	Valve surgery - 2 cost units	1	26	33	71	
2575	AVR + MPL	979001028	Two/Multiple valve surgery – with hospital stay		17	31	47	
2575	AVR + MPL	110025750220	Reoperation with implantation		1	7	10	
2575	AVR + MPL	979001038	Isolated valve surgery – with hospital stay		1		5	
2575	AVR + MPL	979001190	Valve surgery - at least 4 cost units		1		3	
2575	AVR + MPL	979001193	Valve surgery - 1 cost unit		2		3	
2575	AVR + MPL	110025750110	First surgery		2	5	3	
2575	AVR + MPL	979001027	Two/Multiple valve surgery – without hospital stay		1		2	
2575	AVR + MPL	979001191	Valve surgery - 3 cost units		6	1		
2420	AVR + MVR	110024200120	First surgery with implantation		30	35	39	1
2420	AVR + MVR	979001028	Two/Multiple valve surgery – with hospital stay		16	10	17	

Diagnosis code	Description diagnosis	Treatment code	Description treatment	Children	Young adults	Middle aged	Elderly	Unknown
2420	AVR + MVR	979001192	Valve surgery - 2 cost units	1	10	15	15	
2420	AVR + MVR	110024200220	Reoperation with implantation		8	2	6	
2420	AVR + MVR	110024200110	First surgery			1	3	
2420	AVR + MVR	979001027	Two/Multiple valve surgery – without hospital stay		2		2	
2420	AVR + MVR	979001038	Isolated valve surgery – with hospital stay		1	1	2	
2420	AVR + MVR	979001193	Valve surgery - 1 cost unit			1		
2565	AVR + MVR + TPL	110025650120	First surgery with implantation		5	2	13	
2565	AVR + MVR + TPL	979001028	Two/Multiple valve surgery – with hospital stay		2	2	10	
2565	AVR + MVR + TPL	979001191	Valve surgery - 3 cost units		8	5	10	
2565	AVR + MVR + TPL	110025650110	First surgery			1	3	
2565	AVR + MVR + TPL	110025650220	Reoperation with implantation			1	2	
2695	AVR + MVR +/- TPL	110026950120	First surgery with implantation		15	16	21	
2695	AVR + MVR +/- TPL	979001028	Two/Multiple valve surgery – with hospital stay		11	11	20	
2695	AVR + MVR +/- TPL	979001191	Valve surgery - 3 cost units		2	9	13	
2695	AVR + MVR +/- TPL	979001192	Valve surgery - 2 cost units		6	6	9	
2695	AVR + MVR +/- TPL	110026950220	Reoperation with implantation		3	1	9	
2695	AVR + MVR +/- TPL	979001190	Valve surgery - at least 4 cost units		1	3	3	
2695	AVR + MVR +/- TPL	979001193	Valve surgery - 1 cost unit				2	
2695	AVR + MVR +/- TPL	979001027	Two/Multiple valve surgery – without hospital stay		1	1	1	
2695	AVR + MVR +/- TPL	110026950210	Reoperation			2	1	
2695	AVR + MVR +/- TPL	979001038	Isolated valve surgery – with hospital stay		1			
2695	AVR + MVR +/- TPL	110026950110	First surgery		1	1		
2790	AVR+ascending aorta+MPL+/-TPL	110027900120	First surgery with implantation		9	12	19	
2790	AVR+ascending aorta+MPL+/-TPL	979001058	Surgery ascending aorta with two or more valves – with hospital stay		16	12	13	
2790	AVR+ascending aorta+MPL+/-TPL	110027900220	Reoperation with implantation			5	3	
2790	AVR+ascending aorta+MPL+/-TPL	110027900420	Combined heart/artery surgery with implantation				1	
2790	AVR+ascending aorta+MPL+/-TPL	979001057	Surgery ascending aorta with two or more valves – without hospital stay			1		
2790	AVR+ascending aorta+MPL+/-TPL	110027900210	Reoperation			1		
2790	AVR+ascending aorta+MPL+/-TPL	110027900220	Reoperation with implantation		2			
2545	Bentall	110025450120	First surgery with implantation	2	163	79	40	

Diagnosis code	Description diagnosis	Treatment code	Description treatment	Children	Young adults	Middle aged	Elderly	Unknown
2545	Bentall	979001068	Surgery ascending aorta with a valve – with hospital stay	1	86	54	30	
2545	Bentall	110025450220	Reoperation with implantation	3	38	15	15	
2545	Bentall	110025450110	First surgery	1	6	6	5	
2545	Bentall	979001067	Surgery ascending aorta with a valve – without hospital stay	1	3	4	3	
2545	Bentall	110025450420	Combined heart/artery surgery with implantation		6	2	1	
2545	Bentall	110025450210	Reoperation		1	1		
2545	Bentall	110025450410	Combined heart/artery surgery			1		
2425	CABG (1 art) + AVR	110024250120	First surgery with implantation		131	483	1304	1
2425	CABG (1 art) + AVR	979001046	Isolated valve surgery with CABG – with hospital stay		46	225	656	
2425	CABG (1 art) + AVR	979001192	Valve surgery - 2 cost units		57	193	530	1
2425	CABG (1 art) + AVR	979001191	Valve surgery - 3 cost units		10	35	75	
2425	CABG (1 art) + AVR	110024250220	Reoperation with implantation		8	20	42	
2425	CABG (1 art) + AVR	979001045	Isolated valve surgery with CABG – without hospital stay			4	19	
2425	CABG (1 art) + AVR	979001193	Valve surgery - 1 cost unit		3	10	17	
2425	CABG (1 art) + AVR	979001036	Two/Multiple valve surgery with CABG – with hospital stay		1	2	7	
2425	CABG (1 art) + AVR	110024250320	Combined heart/lung surgery with implantation				4	
2425	CABG (1 art) + AVR	979001190	Valve surgery - at least 4 cost units		1		3	
2425	CABG (1 art) + AVR	979001188	Transcatheter valve implantation - Non-coronary intervention class 3 - with hospital stay				2	
2425	CABG (1 art) + AVR	110024250420	Combined heart/artery surgery with implantation				2	
2415	CABG (1 art) + MVR	110024150120	First surgery with implantation		27	57	93	
2415	CABG (1 art) + MVR	979001046	Isolated valve surgery with CABG – with hospital stay		12	32	72	
2415	CABG (1 art) + MVR	979001192	Valve surgery - 2 cost units		10	15	28	
2415	CABG (1 art) + MVR	110024150110	First surgery		3	3	7	
2415	CABG (1 art) + MVR	110024150220	Reoperation with implantation		1	2	7	
2415	CABG (1 art) + MVR	979001045	Isolated valve surgery with CABG – without hospital stay		1	3	3	
2415	CABG (1 art) + MVR	979001036	Two/Multiple valve surgery with CABG – with hospital stay		1	2	2	
2415	CABG (1 art) + MVR	979001190	Valve surgery - at least 4 cost units			1	2	
2415	CABG (1 art) + MVR	979001193	Valve surgery - 1 cost unit				2	
2415	CABG (1 art) + MVR	110024150210	Reoperation			1	2	
2415	CABG (1 art) + MVR	110024150420	Combined heart/artery surgery with implantation				2	

Diagnosis code	Description diagnosis	Treatment code	Description treatment	Children	Young adults	Middle aged	Elderly	Unknown
2415	CABG (1 art) + MVR	979001191	Valve surgery - 3 cost units		2	4	1	
2415	CABG (1 art) + MVR	110024150310	Combined heart/lung surgery				1	
2560	CABG (1art) + AVR + MVR	110025600120	First surgery with implantation		5	16	26	
2560	CABG (1art) + AVR + MVR	979001036	Two/Multiple valve surgery with CABG – with hospital stay			6	14	
2560	CABG (1art) + AVR + MVR	979001191	Valve surgery - 3 cost units		3	5	4	
2560	CABG (1art) + AVR + MVR	979001035	Two/Multiple valve surgery with CABG – without hospital stay				2	
2560	CABG (1art) + AVR + MVR	979001190	Valve surgery - at least 4 cost units		1		2	
2560	CABG (1art) + AVR + MVR	979001192	Valve surgery - 2 cost units			2	2	
2560	CABG (1art) + AVR + MVR	979001046	Isolated valve surgery with CABG – with hospital stay			1	1	
2560	CABG (1art) + AVR + MVR	110025600110	First surgery				1	
2560	CABG (1art) + AVR + MVR	110025600220	Reoperation with implantation				1	
2570	CABG (2 art) + AVR	110025700120	First surgery with implantation		39	102	234	1
2570	CABG (2 art) + AVR	979001046	Isolated valve surgery with CABG – with hospital stay		17	61	105	
2570	CABG (2 art) + AVR	979001192	Valve surgery - 2 cost units		12	39	79	
2570	CABG (2 art) + AVR	979001191	Valve surgery - 3 cost units		3	2	8	
2570	CABG (2 art) + AVR	110025700110	First surgery		3	4	7	
2570	CABG (2 art) + AVR	110025700220	Reoperation with implantation			1	6	
2570	CABG (2 art) + AVR	979001036	Two/Multiple valve surgery with CABG – with hospital stay			1	3	
2570	CABG (2 art) + AVR	979001190	Valve surgery - at least 4 cost units			1	3	
2570	CABG (2 art) + AVR	979001045	Isolated valve surgery with CABG – without hospital stay				2	
2570	CABG (2 art) + AVR	979001193	Valve surgery - 1 cost unit			1	2	
2570	CABG (2 art) + AVR	110025700210	Reoperation			2		
2570	CABG (2 art) + AVR	110025700420	Combined heart/artery surgery with implantation			1		
2555	CABG (2 art) + MVR	110025550120	First surgery with implantation		5	9	12	
2555	CABG (2 art) + MVR	979001046	Isolated valve surgery with CABG – with hospital stay		2	9	9	
2555	CABG (2 art) + MVR	979001192	Valve surgery - 2 cost units		2	6	2	
2555	CABG (2 art) + MVR	110025550220	Reoperation with implantation				2	
2555	CABG (2 art) + MVR	979001045	Isolated valve surgery with CABG – without hospital stay		1	1	1	
2555	CABG (2 art) + MVR	979001190	Valve surgery - at least 4 cost units			1		
2555	CABG (2 art) + MVR	979001191	Valve surgery - 3 cost units			1		

Diagnosis code	Description diagnosis	Treatment code	Description treatment	Children	Young adults	Middle aged	Elderly	Unknown
502	Congenital heart defect	979001188	Transcatheter valve implantation - Non-coronary intervention class 3 - with hospital stay		15		1	
501	Heart defect	979001188	Transcatheter valve implantation - Non-coronary intervention class 3 - with hospital stay		10	42	407	
501	Heart defect	979001189	Transcatheter valve implantation - Non-coronary intervention class 3 - without hospital stay			2	6	
2475	Left ventricle repair+AVR/MVR	110024750120	First surgery with implantation		3	4	3	
2475	Left ventricle repair+AVR/MVR	979001192	Valve surgery - 2 cost units		1	4	1	
2475	Left ventricle repair+AVR/MVR	110024750220	Reoperation with implantation		2	3	1	
2475	Left ventricle repair+AVR/MVR	979001028	Two/Multiple valve surgery – with hospital stay		1	4		
2475	Left ventricle repair+AVR/MVR	979001038	Isolated valve surgery – with hospital stay		2	1		
2475	Left ventricle repair+AVR/MVR	979001190	Valve surgery - at least 4 cost units		1			
2475	Left ventricle repair+AVR/MVR	979001191	Valve surgery - 3 cost units			1		
2475	Left ventricle repair+AVR/MVR	979001193	Valve surgery - 1 cost unit	1				
2785	Maze+CABG of AVR+MPL +/- TPL	110027850120	First surgery with implantation		24	98	235	
2785	Maze+CABG of AVR+MPL +/- TPL	979001044	Surgical treatment atrium fibrillation/with multiple valves– with hospital stay		15	55	98	
2785	Maze+CABG of AVR+MPL +/- TPL	979001191	Valve surgery - 3 cost units		11	22	40	
2785	Maze+CABG of AVR+MPL +/- TPL	979001192	Valve surgery - 2 cost units		2	11	17	
2785	Maze+CABG of AVR+MPL +/- TPL	979001190	Valve surgery - at least 4 cost units		5	13	15	
2785	Maze+CABG of AVR+MPL +/- TPL	110027850110	First surgery		1	5	6	
2785	Maze+CABG of AVR+MPL +/- TPL	110027850220	Reoperation with implantation			7	6	
2785	Maze+CABG of AVR+MPL +/- TPL	979001043	Surgical treatment atrium fibrillation/with multiple valves– without hospital stay			1	1	
2335	Mitral valve replacement (MVR)	110023350120	First surgery with implantation	3	97	72	100	
2335	Mitral valve replacement (MVR)	979001038	Isolated valve surgery – with hospital stay	2	48	53	56	
2335	Mitral valve replacement (MVR)	979001193	Valve surgery - 1 cost unit	4	48	42	42	
2335	Mitral valve replacement (MVR)	110023350220	Reoperation with implantation	7	37	30	35	
2335	Mitral valve replacement (MVR)	979001192	Valve surgery - 2 cost units	1	16	19	29	
2335	Mitral valve replacement (MVR)	979001037	Isolated valve surgery – without hospital stay	1	4	5	7	
2335	Mitral valve replacement (MVR)	110023350110	First surgery		3	8	5	
2335	Mitral valve replacement (MVR)	979001028	Two/Multiple valve surgery – with hospital stay	1	7	7	2	
2335	Mitral valve replacement (MVR)	979001191	Valve surgery - 3 cost units				1	
2335	Mitral valve replacement (MVR)	110023350210	Reoperation		1	1	1	

Diagnosis code	Description diagnosis	Treatment code	Description treatment	Children	Young adults	Middle aged	Elderly	Unknown
2335	Mitral valve replacement (MVR)	979001188	Transcatheter valve implantation - Non-coronary intervention class 3 - with hospital stay		1	1		
2335	Mitral valve replacement (MVR)	979001189	Transcatheter valve implantation - Non-coronary intervention class 3 - without hospital stay		1			
2335	Mitral valve replacement (MVR)	110023350320	Combined heart/lung surgery with implantation					1
2645	MPL + AVR + CABG	110026450120	First surgery with implantation		16	39	83	
2645	MPL + AVR + CABG	979001036	Two/Multiple valve surgery with CABG – with hospital stay		4	18	35	
2645	MPL + AVR + CABG	979001191	Valve surgery - 3 cost units		4	22	25	
2645	MPL + AVR + CABG	979001190	Valve surgery - At least 4 cost units		2	3	9	
2645	MPL + AVR + CABG	979001046	Isolated valve surgery with CABG – with hospital stay		1	2	5	
2645	MPL + AVR + CABG	110026450220	Reoperation with implantation		1		4	
2645	MPL + AVR + CABG	110026450110	First surgery				3	
2645	MPL + AVR + CABG	979001035	Two/Multiple valve surgery with CABG – without hospital stay				1	
2645	MPL + AVR + CABG	979001045	Isolated valve surgery with CABG – without hospital stay				1	
2645	MPL + AVR + CABG	979001192	Valve surgery - 2 cost units		1		1	
2645	MPL + AVR + CABG	110026450210	Reoperation				1	
2465	MVR + TPL	110024650120	First surgery with implantation		24	20	44	
2465	MVR + TPL	979001192	Valve surgery - 2 cost units		13	13	25	
2465	MVR + TPL	979001028	Two/Multiple valve surgery – with hospital stay		10	15	21	
2465	MVR + TPL	110024650220	Reoperation with implantation		11	7	10	
2465	MVR + TPL	979001191	Valve surgery - 3 cost units		2	5	3	
2465	MVR + TPL	979001027	Two/Multiple valve surgery – without hospital stay		1	1	2	
2465	MVR + TPL	979001038	Isolated valve surgery – with hospital stay		1			
2465	MVR + TPL	979001190	Valve surgery - at least 4 cost units			1		
2465	MVR + TPL	110024650110	First surgery			2		
2340	Pulmonary valve repair / replacement	979001037	Isolated valve surgery – without hospital stay	8			1	
2340	Pulmonary valve repair / replacement	979001038	Isolated valve surgery – with hospital stay	14	21		1	
2340	Pulmonary valve repair / replacement	979001027	Two/Multiple valve surgery – without hospital stay	1				
2340	Pulmonary valve repair / replacement	979001028	Two/Multiple valve surgery – with hospital stay	8	3			
2340	Pulmonary valve repair / replacement	979001192	Valve surgery - 2 cost units	3	2			
2340	Pulmonary valve repair / replacement	979001193	Valve surgery - 1 cost unit	31	20			
2340	Pulmonary valve repair / replacement	110023400110	First surgery	10				

Diagnosis code	Description diagnosis	Treatment code	Description treatment	Children	Young adults	Middle aged	Elderly	Unknown
2340	Pulmonary valve repair / replacement	110023400120	First surgery with implantation	16	15			
2340	Pulmonary valve repair / replacement	110023400210	Reoperation	12	1			
2340	Pulmonary valve repair / replacement	110023400220	Reoperation with implantation	48	47	2		
2435	Tetralogy of Fallot	979001009	Congenital heart surgery with ECC (complex) – without hospital stay	16				
2435	Tetralogy of Fallot	979001010	Congenital heart surgery with ECC (complex) – with hospital stay	23	1			
2435	Tetralogy of Fallot	979001210	Congenital heart surgery with ECC (complex) – without hospital stay	20	1			
2435	Tetralogy of Fallot	979001211	Congenital heart surgery with ECC (complex) – with hospital stay	17				
2435	Tetralogy of Fallot	110024350110	First surgery	68	1			
2435	Tetralogy of Fallot	110024350120	First surgery with implantation	27				
2435	Tetralogy of Fallot	110024350210	Reoperation	9				
2435	Tetralogy of Fallot	110024350220	Reoperation with implantation	7	3			
2410	Tricuspid valve repair / replacement	110024100120	First surgery with implantation	7	18	13	12	
2410	Tricuspid valve repair / replacement	110024100220	Reoperation with implantation	2	13	6	10	
2410	Tricuspid valve repair / replacement	979001193	Valve surgery - 1 cost unit	2	13	9	5	
2410	Tricuspid valve repair / replacement	979001038	Isolated valve surgery – with hospital stay		10	3	4	
2410	Tricuspid valve repair / replacement	110024100110	First surgery	6	4		4	
2410	Tricuspid valve repair / replacement	979001028	Two/Multiple valve surgery – with hospital stay	3	1		1	
2410	Tricuspid valve repair / replacement	979001027	Two/Multiple valve surgery – without hospital stay	1				
2410	Tricuspid valve repair / replacement	979001037	Isolated valve surgery – without hospital stay	1				
2410	Tricuspid valve repair / replacement	979001190	Valve surgery - at least 4 cost units			1		
2410	Tricuspid valve repair / replacement	979001192	Valve surgery - 2 cost units		4	2		
2410	Tricuspid valve repair / replacement	110024100210	Reoperation	1	2			

CABG = coronary artery bypass grafting. AVR = aortic valve replacement. MVR = mitral valve replacement. MPL = mitral valve repair. TPL = tricuspid valve repair. HOCM = Hypertrophic Obstructive Cardiomyopathy. ECC = Extracorporeal Circulation.

Table S2. DRG codes of complications after heart valve implantations.

Diagnosis code	Description diagnosis	Treatment code	Description treatment	SVR				TVI		
				Children	Young adults	Middle aged	Elderly	Young adults	Middle aged	Elderly
Acute kidney injury										
322	Acute kidney insufficiency with dialysis	140301009	Haemodialysis in hospital - Acute dialysis - Not clinical - Dialysis 1-3 - Urogenital kidney insufficiency		9	18	29			7
322	Acute kidney insufficiency with dialysis	140301010	Haemodialysis in hospital - Acute dialysis - Clinical - Dialysis 1-3 - Urogenital kidney insufficiency		2	3	3			
322	Acute kidney insufficiency with dialysis	140301025	Haemodialysis in hospital - Acute dialysis - Not clinical - Dialysis 4-5 - Urogenital kidney insufficiency		6	3	20			2
322	Acute kidney insufficiency with dialysis	140301026	Haemodialysis in hospital - Acute dialysis - Clinical - Dialysis 4-5 - Urogenital kidney insufficiency		2	2				
322	Acute kidney insufficiency with dialysis	140301045	Haemodialysis in hospital - Acute dialysis - Not clinical - Dialysis >=6 - Urogenital kidney insufficiency		6	21	34			
322	Acute kidney insufficiency with dialysis	140301047	Haemodialysis in hospital - Acute dialysis - Clinical - Dialysis >=6 - Urogenital kidney insufficiency		1	4	5			
322	Acute kidney insufficiency with dialysis	110003221103	Clinical tests/treatment		6	9	30			
323	Acute kidney insufficiency without dialysis	140301028	Acute kidney insufficiency without dialysis - Clinical short		2	8	8			
323	Acute kidney insufficiency without dialysis	140301049	Acute kidney insufficiency without dialysis - Clinical long			1				
323	Acute kidney insufficiency without dialysis	140301050	Acute kidney insufficiency without dialysis - Clinical average			6	16			1
323	Acute kidney insufficiency without dialysis	110003231103	Clinical tests/treatment		2	6	15			
4005	Kidney insufficiency, acute	990016040	Clinical average	1						
4005	Kidney insufficiency, acute	990016042	Haemodialysis in hospital Not clinical Dialysis 1-3	1						
Atrial fibrillation										
401	Atrium fibrillation / flutter	99899064	Supraventricular arrhythmias - day/clinical cumulative short	1	201	385	583			15
401	Atrium fibrillation / flutter	99899063	Supraventricular arrhythmias - Average ambulant	2	97	220	517	1		16
401	Atrium fibrillation / flutter	99899072	Supraventricular arrhythmias - Mild ambulant		57	167	384			6
401	Atrium fibrillation / flutter	110004010103	Regular treatment/no treatment with clinical periods		95	132	241			
401	Atrium fibrillation / flutter	110004010101	Regular treatment/no treatment outpatient		43	65	204			
401	Atrium fibrillation / flutter	110004010102	Regular treatment/no treatment with day admission(s)		28	81	138			
401	Atrium fibrillation / flutter	99899074	Supraventricular arrhythmias - day/clinical cumulative average		11	22	67			1
401	Atrium fibrillation / flutter	979001102	Catheter ablation class 2 - with hospital stay		2		3			
401	Atrium fibrillation / flutter	979001237	Catheter ablation class 2 - with hospital stay		2	3	2			1
401	Atrium fibrillation / flutter	979001239	Catheter ablation class 1 - with hospital stay				2			
401	Atrium fibrillation / flutter	979001110	Catheter ablation class 1 - with hospital stay			1	1			

Diagnosis code	Description diagnosis	Treatment code	Description treatment	SVR				TVI		
				Children	Young adults	Middle aged	Elderly	Young adults	Middle aged	Elderly
401	Atrium fibrillation / flutter	110004010313	Catheter ablation class1 with clinical episodes		1		1			
401	Atrium fibrillation / flutter	99899073	Supraventricular arrhythmias - day/clinical cumulative long				1			
401	Atrium fibrillation / flutter	979001238	Catheter ablation class 2 - without hospital stay				1			
401	Atrium fibrillation / flutter	979001233	Catheter ablation class 4 - with hospital stay		4	2				
401	Atrium fibrillation / flutter	110004010343	Catheter ablation class4 with clinical episodes			2				
401	Atrium fibrillation / flutter	110004010323	Catheter ablation class2 with clinical episodes		4	1				
401	Atrium fibrillation / flutter	979001087	Catheter ablation class 4 - with hospital stay		1	1				
401	Atrium fibrillation / flutter	979001101	Catheter ablation class 2 - without hospital stay		1	1				
401	Atrium fibrillation / flutter	979001234	Catheter ablation class 4 - without hospital stay			1				
2525	Maze procedure	979001069	Surgical treatment atrium fibrillation - without hospital stay				2			
2525	Maze procedure	979001070	Surgical treatment atrium fibrillation - with hospital stay			1				
2675	Maze + MVP/MPL +/- TPL	110026750220	Reoperation with implantation			1				
2785	Maze+CABG of AVR+MPL +/- TPL	979001070	Surgical treatment atrium fibrillation - with hospital stay			1	1			
3410	Arrhythmias	990016087	Other cardiovascular diagnoses Clinical average	1						
3410	Arrhythmias	990016102	Other cardiovascular diagnoses Mild ambulant	1						
3410	Arrhythmias	990016103	Other cardiovascular diagnoses Other cardiologic activities	1						
3410	Arrhythmias	990016114	Other cardiovascular diagnoses Clinical short With other cardiologic activities	1						
3410	Arrhythmias	990516028	Other cardiologic diagnoses Clinical short Without other cardiologic activities	1						
3410	Arrhythmias	990516035	Other cardiologic diagnoses Mild ambulant	1						
3410	Arrhythmias	990516036	Other cardiologic diagnoses Ambulant average / Day =1 Without other cardiologic activities	1						
3410	Arrhythmias	990516039	Other cardiologic diagnoses Clinical average With other cardiologic activities	1						
Stroke										
1101	Subarachnoid haemorrhage	99999003	Subarachnoid haemorrhage - Clinical short				4			
1101	Subarachnoid haemorrhage	99999010	Subarachnoid haemorrhage - Clinical average			1				
1101	Subarachnoid haemorrhage	99999040	Subarachnoid haemorrhage - Clinical average - without guidance with neurological intervention				1			
1101	Subarachnoid haemorrhage	99999042	Subarachnoid haemorrhage - Clinical long - without guidance with neurological intervention				1			
1101	Subarachnoid haemorrhage	110011010111	Regular treatment outpatient		1	1	1			
1101	Subarachnoid haemorrhage	110011010113	Regular treatment with clinical episodes			1				

Diagnosis code	Description diagnosis	Treatment code	Description treatment	SVR				TVI		
				Children	Young adults	Middle aged	Elderly	Young adults	Middle aged	Elderly
1102	Intracerebral haemorrhage	99999008	Intracerebral- / intracranial haemorrhage- Clinical short		2	3	21			
1102	Intracerebral haemorrhage	99999012	Intracerebral- / intracranial haemorrhage- Clinical long		1					
1102	Intracerebral haemorrhage	99999013	Intracerebral- / intracranial haemorrhage- Clinical average			4	6			
1102	Intracerebral haemorrhage	99999045	Intracerebral- / intracranial haemorrhage- Clinical average - without guidance with neurological intervention		5	2	6			1
1102	Intracerebral haemorrhage	110011020111	Regular treatment outpatient		4	1	5			
1102	Intracerebral haemorrhage	110011020113	Regular treatment with Clinical episodes		6	6	20			
1103	Intracranial haemorrhage (sub- /epidural)	99999008	Intracerebral- / intracranial haemorrhage- Clinical short		3	2	5			
1103	Intracranial haemorrhage (sub- /epidural)	99999013	Intracerebral- / intracranial haemorrhage- Clinical average				8			
1103	Intracranial haemorrhage (sub- /epidural)	99999045	Intracerebral- / intracranial haemorrhage- Clinical average - without guidance with neurological intervention		1		9			1
1103	Intracranial haemorrhage (sub- /epidural)	99999047	Intracerebral- / intracranial haemorrhage- Clinical long - without guidance with neurological intervention				1			
1103	Intracranial haemorrhage (sub- /epidural)	110011030111	Regular treatment outpatient		3	2	4			
1103	Intracranial haemorrhage (sub- /epidural)	110011030113	Regular treatment with clinical episodes		4	3	9			
1103	Intracranial haemorrhage (sub- /epidural)	110011030133	Post-operative neurosurgical guidance patient with clinical episodes		1					
1111	Non-haemorrhagic stroke	99999006	CVA non-haemorrhagic and TIA - Day - Without clinical neurophysiology		1	1	11			
1111	Non-haemorrhagic stroke	99999007	CVA non-haemorrhagic and TIA - Day - With clinical neurophysiology		2	4	9			1
1111	Non-haemorrhagic stroke	99999011	CVA non-haemorrhagic and TIA - clinical neurophysiology severe		2	1	1			
1111	Non-haemorrhagic stroke	99999016	CVA non-haemorrhagic and TIA - clinical neurophysiology mild		13	33	68			1
1111	Non-haemorrhagic stroke	99999017	CVA non-haemorrhagic/TIA/other cerebral disorders - Clinical short - Without clinical neurophysiology		8	15	36			1
1111	Non-haemorrhagic stroke	99999018	CVA non-haemorrhagic/TIA/other cerebral disorders - Clinical short - With clinical neurophysiology		9	18	46			1
1111	Non-haemorrhagic stroke	99999019	CVA non-haemorrhagic/TIA/other cerebral disorders - Thrombolytic - Clinical short - Without clinical neurophysiology		1	1	4			
1111	Non-haemorrhagic stroke	99999020	CVA non-haemorrhagic/TIA/other cerebral disorders - Thrombolytic therapy - Clinical short - With clinical neurophysiology		1	1	2			2
1111	Non-haemorrhagic stroke	99999025	CVA non-haemorrhagic/TIA/other cerebral disorders - Clinical long - With clinical neurophysiology		1		1			
1111	Non-haemorrhagic stroke	99999026	CVA non-haemorrhagic/TIA/other cerebral disorders - Clinical average - Without clinical neurophysiology		4	16	41			3
1111	Non-haemorrhagic stroke	99999027	CVA non-haemorrhagic/TIA/other cerebral disorders - Clinical average - With clinical neurophysiology		10	16	50			3
1111	Non-haemorrhagic stroke	99999028	CVA non-haemorrhagic/TIA/other cerebral disorders - Thrombolytic therapy - Clinical long - Without clinical neurophysiology				1			

Diagnosis code	Description diagnosis	Treatment code	Description treatment	SVR				TVI		
				Children	Young adults	Middle aged	Elderly	Young adults	Middle aged	Elderly
1111	Non-haemorrhagic stroke	99999030	CVA non-haemorrhagic/TIA/other cerebral disorders - Thrombolytic therapy - Clinical average - Without clinical neurophysiology		1		4			
1111	Non-haemorrhagic stroke	99999031	CVA non-haemorrhagic/TIA/other cerebral disorders - Thrombolytic therapy - Clinical average - With clinical neurophysiology			4	2			
1111	Non-haemorrhagic stroke	99999035	CVA non-haemorrhagic and TIA - Ambulant average - Continuation		19	14	55			10
1111	Non-haemorrhagic stroke	99999036	CVA non-haemorrhagic and TIA - Ambulant average - Regular		11	15	37			3
1111	Non-haemorrhagic stroke	99999037	CVA non-haemorrhagic and TIA - Mild ambulant - Continuation		28	33	66			8
1111	Non-haemorrhagic stroke	99999038	CVA non-haemorrhagic and TIA - Mild ambulant - Regular		6	4	26			
1111	Non-haemorrhagic stroke	110011110111	Regular treatment outpatient		17	42	107			
1111	Non-haemorrhagic stroke	110011110112	Regular treatment with day admission(s)		3	2	7			
1111	Non-haemorrhagic stroke	110011110113	Regular treatment with clinical episodes		21	27	68			
1111	Non-haemorrhagic stroke	110011110213	Thrombolysis with clinical episodes			1	6			
1199	Other cerebrovascular diseases	99999002	Other cerebrovascular diseases - Day		1	1	1			
1199	Other cerebrovascular diseases	99999004	Other cerebrovascular diseases - Multidisciplinary treatment				1			
1199	Other cerebrovascular diseases	99999014	Other cerebrovascular diseases - clinical neurophysiology - Continuation		3					
1199	Other cerebrovascular diseases	99999014	Other cerebrovascular diseases clinical neurophysiology - Continuation			5	13			
1199	Other cerebrovascular diseases	99999015	Other cerebrovascular diseases - clinical neurophysiology - Regular		3	14	46			1
1199	Other cerebrovascular diseases	99999017	CVA non-haemorrhagic/TIA/other cerebral disorders - Clinical short - Without clinical neurophysiology		2		3			
1199	Other cerebrovascular diseases	99999018	CVA non-haemorrhagic/TIA/other cerebral disorders - Clinical short - With clinical neurophysiology		1	2				
1199	Other cerebrovascular diseases	99999022	Other cerebrovascular diseases - Ambulant average - Continuation		6	1	8			1
1199	Other cerebrovascular diseases	99999023	Other cerebrovascular diseases - Ambulant average - Regular		5	8	19			
1199	Other cerebrovascular diseases	99999026	CVA non-haemorrhagic/TIA/other cerebral disorders - Clinical average - Without clinical neurophysiology		1		5			
1199	Other cerebrovascular diseases	99999027	CVA non-haemorrhagic/TIA/other cerebral disorders - Clinical average - With clinical neurophysiology				1			
1199	Other cerebrovascular diseases	99999032	Other cerebrovascular diseases - Mild ambulant - Continuation		2	2	10			
1199	Other cerebrovascular diseases	99999033	Other cerebrovascular diseases - Mild ambulant - Regular		18	32	61			2
1199	Other cerebrovascular diseases	110011990111	Regular treatment outpatient		25	63	153			
1199	Other cerebrovascular diseases	110011990112	Regular treatment with day admission(s)			1	3			
1199	Other cerebrovascular diseases	110011990113	Regular treatment with clinical episodes		1		3			

Diagnosis code	Description diagnosis	Treatment code	Description treatment	SVR				TVI		
				Children	Young adults	Middle aged	Elderly	Young adults	Middle aged	Elderly
3508	Intracranial bleeding	990916050	Retardation/ CVA Clinical short Without activities Retardation specific	1						
TIA										
1112	TIA (incl. amaurosis fugax)	99999006	CVA non-haemorrhagic and TIA - Day - Without clinical neurophysiology		7	10	14			2
1112	TIA (incl. amaurosis fugax)	99999007	CVA non-haemorrhagic and TIA - Day - With clinical neurophysiology		11	28	73			2
1112	TIA (incl. amaurosis fugax)	99999011	CVA non-haemorrhagic and TIA - clinical neurophysiology		1	1				
1112	TIA (incl. amaurosis fugax)	99999016	CVA non-haemorrhagic and TIA - clinical neurophysiology		15	39	45			2
1112	TIA (incl. amaurosis fugax)	99999017	CVA non-haemorrhagic/TIA/other cerebral disorders - Clinical short - Without clinical neurophysiology		4	11	25			1
1112	TIA (incl. amaurosis fugax)	99999018	CVA non-haemorrhagic/TIA/other cerebral disorders - Clinical short - With clinical neurophysiology		8	12	25			2
1112	TIA (incl. amaurosis fugax)	99999026	CVA non-haemorrhagic/TIA/other cerebral disorders - Clinical average - Without clinical neurophysiology			1	4			
1112	TIA (incl. amaurosis fugax)	99999027	CVA non-haemorrhagic/TIA/other cerebral disorders - Clinical average - With clinical neurophysiology		2	5				
1112	TIA (incl. amaurosis fugax)	99999035	CVA non-haemorrhagic and TIA - Ambulant average - Continuation		3	5	10			2
1112	TIA (incl. amaurosis fugax)	99999036	CVA non-haemorrhagic and TIA - Ambulant average - Regular		11	24	21			1
1112	TIA (incl. amaurosis fugax)	99999037	CVA non-haemorrhagic and TIA - Mild ambulant - Continuation		6	13	15			
1112	TIA (incl. amaurosis fugax)	99999038	CVA non-haemorrhagic and TIA - Mild ambulant - Regular		4	6	10			
1112	TIA (incl. amaurosis fugax)	11001120111	Regular treatment outpatient		20	36	66			
1112	TIA (incl. amaurosis fugax)	11001120112	Regular treatment with day admission(s)		6	17	48			
1112	TIA (incl. amaurosis fugax)	11001120113	Regular treatment with Clinical episodes		6	10	19			
1112	TIA (incl. amaurosis fugax)	11001120122	Multidisciplinary treatment outpatient with day admission(s)			2				
Endocarditis										
432	Endocarditis/endovascular infection	99899009	Inflammation of the heart - Ambulant Average/Day 1-2		16	14	17			1
432	Endocarditis/endovascular infection	99899010	Inflammation of the heart - Day >2/Clinical cumulative short		4	7	6			1
432	Endocarditis/endovascular infection	99899018	Inflammation of the heart - Mild ambulant		13	22	9			
432	Endocarditis/endovascular infection	99899019	Inflammation of the heart - Day >2/Clinical cumulative long			2	4			1
432	Endocarditis/endovascular infection	99899020	Inflammation of the heart - Day >2/Clinical cumulative average		5	4	18			
432	Endocarditis/endovascular infection	110004321103	Clinical tests/treatment	1	5	9	13			
702	Endocarditis	99899012	Inflammation of the heart - Ambulant average		41	34	40	2		1
702	Endocarditis	99899013	Inflammation of the heart - Day/Clinical cumulative short		33	30	36			3
702	Endocarditis	99899026	Inflammation of the heart - Mild ambulant		9	17	13			

Diagnosis code	Description diagnosis	Treatment code	Description treatment	SVR				TVI		
				Children	Young adults	Middle aged	Elderly	Young adults	Middle aged	Elderly
702	Endocarditis	99899027	Inflammation of the heart - Day/Clinical cumulative long		26	27	41			2
702	Endocarditis	99899028	Inflammation of the heart - Day/Clinical cumulative average		30	50	66			2
702	Endocarditis	110007020101	Regular treatment/no treatment outpatient		5	6	7			
702	Endocarditis	110007020103	Regular treatment/no treatment with Clinical episodes	1	64	69	96			
702	Endocarditis	110007020104	Regular treatment/no treatment single outpatient		1	1	3			
3407	Endocarditis	990016084	Other cardiovascular diagnoses Ambulant average/ Day	1						
3407	Endocarditis	990016087	Other cardiovascular diagnoses Clinical average	1						
3407	Endocarditis	990516038	Other cardiologic diagnoses Clinical average Without Other cardiologic activities	2						
Myocardial infarction										
204	STEMI	99499019	Ischaemia with/without damage - Mild ambulant		1					
204	STEMI	99499020	Ischaemia with damage - Day/Clinical cumulative short			2	7			
204	STEMI	99499028	Ischaemia with damage - Day/Clinical cumulative average		1	4	7			
204	STEMI	979001083	Percutaneous coronary intervention class 4 Without hospital stay		2	2	1			
204	STEMI	979001084	Percutaneous coronary intervention class 4 With hospital stay		1	2	5			
204	STEMI	979001097	Percutaneous coronary intervention class 2 With hospital stay				1			
204	STEMI	979001219	Percutaneous coronary intervention class 4 With hospital stay		1		3			2
204	STEMI	979001220	Percutaneous coronary intervention class 4 Without hospital stay		2	2	1			
204	STEMI	979001223	Percutaneous coronary intervention class 2 With hospital stay			1	2			
204	STEMI	110002040103	Regular treatment/no treatment with clinical episodes		4	1	10			
204	STEMI	110002040223	PCI treatment class 2 with clinical episodes				1			
204	STEMI	110002040231	PCI treatment class 3 outpatient				1			
204	STEMI	110002040233	PCI treatment class 3 with clinical episodes				1			
204	STEMI	110002040241	PCI treatment class 4 outpatient		1		2			
204	STEMI	110002040242	PCI treatment class 4 with day admission(s)			2	2			
204	STEMI	110002040243	PCI treatment class 4 with clinical episodes		3	3	8			
205	NSTEMI	99499019	Ischaemia with/without damage - Mild ambulant		1	2	6			
205	NSTEMI	99499020	Ischaemia with damage - Day/Clinical cumulative short		13	16	38			
205	NSTEMI	99499027	Ischaemia with damage - Day/Clinical cumulative long		1	1				
205	NSTEMI	99499028	Ischaemia with damage - Day/Clinical cumulative average		6	18	40			2

Diagnosis code	Description diagnosis	Treatment code	Description treatment	SVR				TVI		
				Children	Young adults	Middle aged	Elderly	Young adults	Middle aged	Elderly
205	NSTEMI	979001083	Percutaneous coronary intervention class 4 Without hospital stay			1	4			
205	NSTEMI	979001084	Percutaneous coronary intervention class 4 With hospital stay		1	1				
205	NSTEMI	979001096	Percutaneous coronary intervention class 2 Without hospital stay			1				
205	NSTEMI	979001104	Percutaneous coronary intervention class 1 With hospital stay			1	3			
205	NSTEMI	979001219	Percutaneous coronary intervention class 4 With hospital stay		1	4	6			1
205	NSTEMI	979001221	Percutaneous coronary intervention class 3 With hospital stay		1	2	3			
205	NSTEMI	979001222	Percutaneous coronary intervention class 3 Without hospital stay		1					
205	NSTEMI	979001223	Percutaneous coronary intervention class 2 With hospital stay		1	1	1			
205	NSTEMI	979001224	Percutaneous coronary intervention class 2 Without hospital stay		1		1			
205	NSTEMI	979001226	Percutaneous coronary intervention class 1 Without hospital stay		1					
205	NSTEMI	110002050103	Regular treatment/no treatment with Clinical episodes		4	14	39			
205	NSTEMI	110002050211	PCI treatment class 1 outpatient			1				
205	NSTEMI	110002050212	PCI treatment class 1 with day admission(s)				1			
205	NSTEMI	110002050213	PCI treatment class 1 with clinical episodes				1			
205	NSTEMI	110002050233	PCI treatment class 3 with clinical episodes			1	1			
205	NSTEMI	110002050241	PCI treatment class 4 outpatient		1					
205	NSTEMI	110002050243	PCI treatment class 4 with clinical episodes				2			
Pacemaker implantation										
301	Acute heart failure	99899030	Pacemaker surgery biventricular - with hospital stay				1			
301	Acute heart failure	99899055	Pacemaker surgery other - without hospital stay				1			
301	Acute heart failure	99899058	Pacemaker surgery 1 and 2 pacing leads pacemaker - with hospital stay			2	3			1
302	Chronic heart failure	99899029	Pacemaker surgery biventricular - without hospital stay				1			
302	Chronic heart failure	99899030	Pacemaker surgery biventricular - with hospital stay			3	7			1
302	Chronic heart failure	99899055	Pacemaker surgery other - without hospital stay				1			
302	Chronic heart failure	99899055	Pacemaker surgery other - without hospital stay							1
302	Chronic heart failure	99899056	Pacemaker surgery other - with hospital stay		3					
302	Chronic heart failure	99899056	Pacemaker surgery other - with hospital stay			1	2			
302	Chronic heart failure	99899057	Pacemaker surgery 1 and 2 pacing leads pacemaker - without hospital stay			1				
302	Chronic heart failure	99899058	Pacemaker surgery 1 and 2 pacing leads pacemaker - with hospital stay				9			1

Diagnosis code	Description diagnosis	Treatment code	Description treatment	SVR				TVI		
				Children	Young adults	Middle aged	Elderly	Young adults	Middle aged	Elderly
302	Chronic heart failure	110003020111	Regular treatment with PM implantation outpatient				1			
302	Chronic heart failure	110003020113	Regular treatment with PM with clinical periods				6			
401	Atrium fibrillation / flutter	99899030	Pacemaker surgery biventricular - with hospital stay		1	1				
401	Atrium fibrillation / flutter	99899057	Pacemaker surgery 1 and 2 pacing leads pacemaker - without hospital stay			2	5			1
401	Atrium fibrillation / flutter	99899058	Pacemaker surgery 1 and 2 pacing leads pacemaker - with hospital stay		1	5	18			
401	Atrium fibrillation / flutter	110004010111	Regular treatment with PM implantation outpatient				1			
401	Atrium fibrillation / flutter	110004010113	Regular treatment with PM with clinical periods		5	2	18			
402	Other supraventricular arrhythmias	99899030	Pacemaker surgery biventricular - with hospital stay				1			
402	Other supraventricular arrhythmias	99899057	Pacemaker surgery 1 and 2 pacing leads pacemaker - without hospital stay				2			
402	Other supraventricular arrhythmias	99899058	Pacemaker surgery 1 and 2 pacing leads pacemaker - with hospital stay		1	1	3			2
402	Other supraventricular arrhythmias	110004020111	Regular treatment with PM implantation outpatient				1			
402	Other supraventricular arrhythmias	110004020113	Regular treatment with PM with clinical periods			1	2			
403	Ventricular arrhythmias	99899055	Pacemaker surgery other - without hospital stay				1			
403	Ventricular arrhythmias	99899056	Pacemaker surgery other - with hospital stay		2	1	1			
403	Ventricular arrhythmias	99899057	Pacemaker surgery 1 and 2 pacing leads pacemaker - without hospital stay			1	1			1
403	Ventricular arrhythmias	99899058	Pacemaker surgery 1 and 2 pacing leads pacemaker - with hospital stay		1	1	1			1
404	Conduction disorders	99899029	Pacemaker surgery biventricular - without hospital stay		1	1	1			
404	Conduction disorders	99899030	Pacemaker surgery biventricular - with hospital stay			5	1			
404	Conduction disorders	99899055	Pacemaker surgery other - without hospital stay		1	2	3			
404	Conduction disorders	99899056	Pacemaker surgery other - with hospital stay		2	1	6			
404	Conduction disorders	99899057	Pacemaker surgery 1 and 2 pacing leads pacemaker - without hospital stay		14	30	50			9
404	Conduction disorders	99899058	Pacemaker surgery 1 and 2 pacing leads pacemaker - with hospital stay		31	59	203	2	1	38
404	Conduction disorders	110004040111	Regular treatment with PM implantation outpatient		10	17	25			
404	Conduction disorders	110004040112	Regular treatment with PM implantation with day admission(s)		1	1	1			
404	Conduction disorders	110004040113	Regular treatment with PM with Clinical periods		27	52	152			
409	Other arrhythmias	99899055	Pacemaker surgery other - without hospital stay			1				
409	Other arrhythmias	99899056	Pacemaker surgery other - with hospital stay			1	1			
409	Other arrhythmias	99899057	Pacemaker surgery 1 and 2 pacing leads pacemaker - without		1	1	2			

Diagnosis code	Description diagnosis	Treatment code	Description treatment	SVR				TVI		
				Children	Young adults	Middle aged	Elderly	Young adults	Middle aged	Elderly
			hospital stay							
409	Other arrhythmias	99899058	Pacemaker surgery 1 and 2 pacing leads pacemaker - with hospital stay			2	1			1
409	Other arrhythmias	110004090111	Regular treatment with PM implantation outpatient			3	2			
409	Other arrhythmias	110004090113	Regular treatment with PM with Clinical periods		5		9			
2220	Pacemaker implantation	99899021	Implantation biventricular pacemaker - without hospital stay	1						
2220	Pacemaker implantation	99899022	Implantation biventricular pacemaker - with hospital stay		1					
2220	Pacemaker implantation	99899041	Pacemaker surgery other - without hospital stay		1	5	12			
2220	Pacemaker implantation	99899042	Pacemaker surgery other - with hospital stay	2		1	1			
2220	Pacemaker implantation	99899043	Implantation 1 and 2 pacing leads pacemaker - without hospital stay		2					
2220	Pacemaker implantation	99899044	Implantation 1 and 2 pacing leads pacemaker - with hospital stay	1						
2220	Pacemaker implantation	110022200110	First surgery		2	4	2			
2390	Implantation bipolar pacemaker	99899041	Pacemaker surgery other - without hospital stay		1		2			
2390	Implantation bipolar pacemaker	99899042	Pacemaker surgery other - with hospital stay		1		1			
2390	Implantation bipolar pacemaker	99899044	Implantation 1 and 2 pacing leads pacemaker - with hospital stay		1					
Re-intervention										
501	Heart defect	979001188	Transcatheter valve implantation - Non-coronary intervention class 3 - With hospital stay		2	5	24	1		9
502	Congenital heart defect	979001188	Transcatheter valve implantation - Non-coronary intervention class 3 - With hospital stay	1						
2325	Aortic valve replacement (AVR)	979001027	Two/Multiple valve surgery – without hospital stay				1			
2325	Aortic valve replacement (AVR)	979001028	Two/Multiple valve surgery – with hospital stay		1		1			
2325	Aortic valve replacement (AVR)	979001038	Isolated valve surgery – with hospital stay		6	5	12			
2325	Aortic valve replacement (AVR)	979001188	Transcatheter valve implantation - Non-coronary intervention class 3 - With hospital stay			1				
2325	Aortic valve replacement (AVR)	979001193	Valve surgery - 1 cost unit		10					
2325	Aortic valve replacement (AVR)	979001189	Transcatheter valve implantation - Non-coronary intervention class 3 - Without hospital stay		1		1			6
2325	Aortic valve replacement (AVR)	979001192	Valve surgery - 2 cost units		1					
2325	Aortic valve replacement (AVR)	979001193	Valve surgery - 1 cost unit			15	9		1	18
2325	Aortic valve replacement (AVR)	110023250120	First surgery with implantation	1		1	2			
2325	Aortic valve replacement (AVR)	110023250220	Reoperation with implantation		6	12	11			
2335	Mitral valve replacement (MVR)	979001027	Two/Multiple valve surgery – without hospital stay			1				

Diagnosis code	Description diagnosis	Treatment code	Description treatment	SVR				TVI		
				Children	Young adults	Middle aged	Elderly	Young adults	Middle aged	Elderly
2335	Mitral valve replacement (MVR)	979001028	Two/Multiple valve surgery – with hospital stay		1					
2335	Mitral valve replacement (MVR)	979001038	Isolated valve surgery – with hospital stay		1	4	1			
2335	Mitral valve replacement (MVR)	979001188	Transcatheter valve implantation - Non-coronary intervention class 3 - With hospital stay			1				
2335	Mitral valve replacement (MVR)	979001192	Valve surgery - 2 cost units				1			
2335	Mitral valve replacement (MVR)	979001193	Valve surgery - 1 cost unit	2	4	2	3			1
2335	Mitral valve replacement (MVR)	110023350120	First surgery with implantation				1			
2335	Mitral valve replacement (MVR)	110023350210	Reoperation		1					
2335	Mitral valve replacement (MVR)	110023350220	Reoperation with implantation		4	3	5			
2340	Pulmonary valve repair / replacement	979001027	Two/Multiple valve surgery – without hospital stay	1						
2340	Pulmonary valve repair / replacement	979001028	Two/Multiple valve surgery – with hospital stay	3						
2340	Pulmonary valve repair / replacement	979001193	Valve surgery - 1 cost unit	4				1		
2340	Pulmonary valve repair / replacement	110023400120	First surgery with implantation	1						
2340	Pulmonary valve repair / replacement	110023400220	Reoperation with implantation	1	2					
2410	Tricuspid valve repair / replacement	979001028	Two/Multiple valve surgery – with hospital stay				1			
2410	Tricuspid valve repair / replacement	979001038	Isolated valve surgery – with hospital stay		1					
2410	Tricuspid valve repair / replacement	979001192	Valve surgery - 2 cost units				1			
2410	Tricuspid valve repair / replacement	979001193	Valve surgery - 1 cost unit		1					
2410	Tricuspid valve repair / replacement	110024100210	Reoperation	1						
2410	Tricuspid valve repair / replacement	110024100220	Reoperation with implantation		1	1				
2415	CABG (1 art) + MVR	979001192	Valve surgery - 2 cost units		1					
2420	AVR + MVR	979001028	Two/Multiple valve surgery – with hospital stay			1				
2420	AVR + MVR	979001192	Valve surgery - 2 cost units		1					
2420	AVR + MVR	979001192	Valve surgery - 2 cost units				1			
2420	AVR + MVR	110024200220	Reoperation with implantation		1	2				
2425	CABG (1 art) + AVR	979001045	Isolated valve surgery with CABG – without hospital stay			1				
2425	CABG (1 art) + AVR	979001046	Isolated valve surgery with CABG – with hospital stay			1				
2425	CABG (1 art) + AVR	979001193	Valve surgery - 1 cost unit				1			
2425	CABG (1 art) + AVR	110024250220	Reoperation with implantation		1		4			
2435	Tetralogy of Fallot	979001009	Congenital heart surgery with ECC (complex) – without hospital stay	1						

Diagnosis code	Description diagnosis	Treatment code	Description treatment	SVR				TVI		
				Children	Young adults	Middle aged	Elderly	Young adults	Middle aged	Elderly
2435	Tetralogy of Fallot	979001010	Congenital heart surgery with ECC (complex) – with hospital stay	2						
2435	Tetralogy of Fallot	979001210	Congenital heart surgery with ECC (complex) – without hospital stay	2						
2435	Tetralogy of Fallot	110024350210	Reoperation	2						
2465	MVR + TPL	979001028	Two/Multiple valve surgery – with hospital stay		1					
2465	MVR + TPL	979001191	Valve surgery - 3 cost units		1					
2465	MVR + TPL	979001192	Valve surgery - 2 cost units			2				
2465	MVR + TPL	110024650220	Reoperation with implantation		2		1			
2475	Left ventricle repair+AVR/MVR	979001037	Isolated valve surgery – without hospital stay				1			
2545	Bentall	979001067	Surgery ascending aorta with a valve – without hospital stay		1	1				
2545	Bentall	979001068	Surgery ascending aorta with a valve – with hospital stay		1	1	2			
2545	Bentall	110025450220	Reoperation with implantation		3	1	1			
2565	AVR + MVR + TPL	110025650220	Reoperation with implantation		1					
2570	CABG (2 art) + AVR	979001079	Non-coronary heart intervention - without hospital stay				1			
2570	CABG (2 art) + AVR	979001192	Valve surgery - 2 cost units				1			
2570	CABG (2 art) + AVR	979001193	Valve surgery - 1 cost unit				1			
2575	AVR + MPL	979001028	Two/Multiple valve surgery – with hospital stay		1					
2575	AVR + MPL	979001192	Valve surgery - 2 cost units		1	1	1			
2575	AVR + MPL	110025750110	First surgery		1					
2575	AVR + MPL	110025750220	Reoperation with implantation		1					
2580	AVR + HOCM	979001193	Valve surgery - 1 cost unit							1
2645	MPL + AVR + CABG	979001191	Valve surgery - 3 cost units				1			
2645	MPL + AVR + CABG	979001193	Valve surgery - 1 cost unit				1			
2660	Aortic root + MVR/MPL	979001057	Surgery ascending aorta with two or more valves – without hospital stay		1					
2660	Aortic root + MVR/MPL	979001058	Surgery ascending aorta with two or more valves – with hospital stay				1			
2660	Aortic root + MVR/MPL	110026600220	Reoperation with implantation			1				
2680	AVR + Ascending aorta	979001067	Surgery ascending aorta with a valve – without hospital stay				1			
2680	AVR + Ascending aorta	979001068	Surgery ascending aorta with a valve – with hospital stay		1	2	2			
2680	AVR + Ascending aorta	110026800220	Reoperation with implantation		1		1			
2695	AVR + MVR +/- TPL	979001028	Two/Multiple valve surgery – with hospital stay			2				

Diagnosis code	Description diagnosis	Treatment code	Description treatment	SVR				TVI		
				Children	Young adults	Middle aged	Elderly	Young adults	Middle aged	Elderly
2695	AVR + MVR +/- TPL	979001192	Valve surgery - 2 cost units		1	1	1			
2695	AVR + MVR +/- TPL	110026950220	Reoperation with implantation			1				
2770	Aortic root + CABG + MPL/MVR	979001058	Surgery ascending aorta with two or more valves – with hospital stay				2			
2770	Aortic root + CABG + MPL/MVR	110027700210	Reoperation		1					
2785	Maze+CABG of AVR+MPL +/- TPL	979001191	Valve surgery - 3 cost units			1				
2785	Maze+CABG of AVR+MPL +/- TPL	110027850120	First surgery with implantation		1					
2790	AVR+ascending aorta+MPL+/-TPL	979001058	Surgery ascending aorta with two or more valves – with hospital stay		1	1	1			

CABG = coronary artery bypass grafting. AVR = aortic valve replacement. MVR = mitral valve replacement. MPL = mitral valve repair. TPL = tricuspid valve repair. HOCM = Hypertrophic Obstructive Cardiomyopathy. ECC = Extracorporeal Circulation.

Table S3. Healthcare costs of children (0-18 years) after heart valve intervention compared to controls.

Children (0-18 years)	Costs (€, mean (CI))		
	Patients	Controls	Difference
Year 1			
General practitioner	168 (155-184)	103 (101-105)	65 (51-80)
Hospital costs (in- and outpatient) ¹	24,085 (22,909-25,229)	461 (429-497)	23,625 (22,451-24,751)
ICU stay	6,403 (4,749-8,646)	54 (31-81)	6,350 (4,695-8,580)
Medicines expensive drugs list	0 (0-0)	5 (0-14)	-5 (-14-0)
Primary care diagnostics	98 (67-131)	13 (12-14)	85 (54-119)
Other specialized care	459 (317-636)	30 (24-37)	429 (287-610)
Pharmaceuticals	1,602 (1,257-1,971)	67 (56-82)	1,534 (1,192-1,907)
Paramedical care	359 (294-433)	48 (44-53)	311 (246-385)
Patient transport	249 (186-320)	11 (08-14)	238 (175-310)
Home care	284 (25-744)	4 (0-12)	279 (20-740)
Nursing homes	0 (0-0)	0 (0-0)	0 (0-0)
Geriatric rehabilitation care	0 (0-0)	0 (0-0)	0 (0-0)
Total costs	33,707 (31,103-36,595)	796 (739-861)	32,912 (30,302-35,800)
Year 2			
General practitioner	157 (141-175)	112 (111-114)	45 (28-62)
Hospital costs (in- and outpatient)	3,244 (2,570-3,969)	460 (422-502)	2,784 (2,108-3,521)
ICU stay	217 (104-359)	47 (24-76)	170 (49-314)
Medicines expensive drugs list	0 (0-0)	5 (0-14)	-5 (-14-0)
Primary care diagnostics	88 (58-125)	14 (13-15)	75 (43-110)
Other specialized care	105 (44-185)	27 (22-34)	78 (15-158)
Pharmaceuticals	888 (535-1,284)	70 (58-85)	818 (464-1,214)
Paramedical care	295 (211-396)	51 (46-56)	244 (158-344)
Patient transport	72 (40-110)	10 (8-14)	62 (30-99)
Home care	429 (0-1,455)	4 (0-12)	425 (-9-1,450)
Nursing homes	0 (0-0)	0 (0-0)	0 (0-0)
Geriatric rehabilitation care	0 (0-0)	0 (0-0)	0 (0-0)
Total costs	5,495 (4,108-7,207)	802 (741-869)	4,694 (3,305-6,419)
Year 3			
General practitioner	148 (132-166)	116 (114-118)	32 (16-50)
Hospital costs (in- and outpatient)	3,313 (2,291-4,423)	446 (400-498)	2,868 (1,833-3,980)
ICU stay	35 (0-92)	40 (14-79)	-5 (-59-57)
Medicines expensive drugs list	0 (0-0)	5 (0-14)	-5 (-14-00)
Primary care diagnostics	113 (68-162)	14 (13-15)	98 (54-149)
Other specialized care	69 (7-182)	26 (19-34)	43 (-19-153)
Pharmaceuticals	296 (148-480)	69 (57-83)	227 (80-418)
Paramedical care	193 (123-275)	56 (50-62)	137 (66-219)
Patient transport	66 (25-120)	9 (7-12)	57 (16-111)
Home care	781 (47-1,950)	4 (0-12)	777 (42-1,944)
Nursing homes	0 (0-0)	0 (0-0)	0 (0-0)
Geriatric rehabilitation care	0 (0-0)	0 (0-0)	0 (0-0)
Total costs	5,015 (3,434-6,810)	786 (713-871)	4,229 (2,657-6,045)

ICU = intensive care unit. CI = 95% confidence interval. ¹Including DBC costs of the heart valve intervention.

Table S4. Healthcare costs of young adults (19-60 years) after heart valve intervention compared to controls.

Young adults (19-60 years)	Costs (€, mean (CI))		
	Patients	Controls	Difference
Year 1			
General practitioner	220 (214-227)	142 (141-143)	79 (72-85)
Hospital costs (in- and outpatient) ¹	29,558 (28,932-30,217)	1,525 (1,484-1,568)	28,033 (27,410-28,696)
ICU stay	7,070 (6,452-7,737)	76 (67-86)	6,993 (6,375-7,662)
Medicines expensive drugs list	179 (77-299)	131 (112-153)	49 (-54-170)
Primary care diagnostics	496 (472-523)	89 (83-96)	407 (383-435)
Other specialized care	520 (471-582)	51 (36-69)	470 (416-531)
Pharmaceuticals	1,057 (966-1,157)	649 (630-668)	408 (312-510)
Paramedical care	79 (69-91)	46 (43-49)	33 (22-45)
Patient transport	602 (565-640)	55 (51-58)	547 (511-586)
Home care	145 (88-215)	103 (86-122)	42 (-16-112)
Nursing homes	30 (11-54)	58 (40-77)	-28 (-57-1)
Geriatric rehabilitation care ²	229 (87-419)	20 (15-26)	209 (66-398)
Total costs	40,186 (39,145-41,334)	2,944 (2,870-3,021)	37,242 (36,181-38,384)
Year 2			
General practitioner	172 (165-178)	143 (142-145)	28 (22-35)
Hospital costs (in- and outpatient)	4,560 (3,990-5,139)	1,550 (1,503-1,595)	3,010 (2,442-3,587)
ICU stay	573 (322-917)	86 (75-98)	487 (235-834)
Medicines expensive drugs list	114 (33-217)	131 (112-153)	-17 (-103-91)
Primary care diagnostics	537 (510-564)	82 (79-85)	455 (428-483)
Other specialized care	85 (64-108)	56 (36-81)	29 (-2-59)
Pharmaceuticals	859 (755-983)	642 (624-662)	216 (112-342)
Paramedical care	83 (68-99)	45 (42-47)	39 (23-55)
Patient transport	173 (136-211)	55 (52-59)	118 (81-157)
Home care	160 (77-263)	103 (86-122)	57 (-28-162)
Nursing homes	150 (13-361)	58 (40-77)	92 (-49-301)
Geriatric rehabilitation care ²	131 (23-274)	20 (15-26)	110 (2-253)
Total costs	7,596 (6,809-8,447)	2,972 (2,892-3,054)	4,624 (3,828-5,476)
Year 3			
General practitioner	171 (160-183)	142 (141-144)	28 (18-40)
Hospital costs (in- and outpatient)	3,706 (3,024-4,481)	1,552 (1,500-1,602)	2,154 (1,470-2,937)
ICU stay	533 (216-936)	102 (87-118)	432 (113-834)
Medicines expensive drugs list	70 (15-146)	131 (112-153)	-61 (-120-20)
Primary care diagnostics	538 (500-577)	80 (78-82)	458 (420-497)
Other specialized care	38 (20-63)	53 (33-79)	-15 (-49-17)
Pharmaceuticals	815 (688-957)	618 (598-638)	198 (72-341)
Paramedical care	46 (28-67)	40 (38-43)	5 (-13-26)
Patient transport	148 (98-209)	56 (52-60)	92 (42-152)
Home care	189 (67-379)	103 (86-122)	86 (-40-277)
Nursing homes	296 (33-644)	58 (40-77)	237 (-25-583)
Geriatric rehabilitation care ²	84 (2-213)	20 (15-26)	63 (-19-195)
Total costs	6,633 (5,587-7,751)	2,955 (2,873-3,043)	3,678 (2,641-4,824)

ICU = intensive care unit. CI = 95% confidence interval. ¹Including DBC costs of the heart valve intervention. ²The proportion of patients using geriatric rehabilitation care of the “young” adults was small (<1%) and their mean age was above 50 years.

Table S5. Healthcare costs of middle aged patients (61-70 years) after heart valve intervention compared to controls.

Middle aged patients (61-70 years)	Costs (€, mean (CI))		
	Patients	Controls	Difference
Year 1			
General practitioner	254 (248-260)	173 (172-174)	81 (75-87)
Hospital costs (in- and outpatient) ¹	30,108 (29,635-30,560)	2,384 (2,342-2,425)	27,724 (27,244-28,175)
ICU stay	7,523 (6,976-8,091)	140 (129-151)	7,383 (6,836-7,955)
Medicines expensive drugs list	225 (93-407)	172 (153-191)	53 (-84-239)
Primary care diagnostics	321 (307-336)	125 (118-132)	197 (181-213)
Other specialized care	407 (382-432)	49 (37-63)	358 (327-387)
Pharmaceuticals	1,148 (1,086-1,221)	855 (839-871)	293 (230-368)
Paramedical care	89 (79-99)	75 (73-78)	13 (4-23)
Patient transport	679 (647-711)	82 (79-85)	598 (566-630)
Home care	389 (305-483)	252 (234-271)	137 (48-234)
Nursing homes	131 (59-221)	226 (201-254)	-96 (-172--5)
Geriatric rehabilitation care	424 (263-592)	79 (71-88)	344 (182-513)
Total costs	41,699 (40,766-42,594)	4,612 (4,536-4,693)	37,086 (36,158-38,011)
Year 2			
General practitioner	209 (202-216)	176 (175-177)	32 (25-39)
Hospital costs (in- and outpatient)	4,483 (4,077-4,902)	2,428 (2,383-2,471)	2,056 (1,647-2,476)
ICU stay	522 (300-836)	162 (148-177)	359 (137-676)
Medicines expensive drugs list	206 (90-351)	172 (153-191)	34 (-84-181)
Primary care diagnostics	285 (268-303)	119 (117-122)	166 (149-184)
Other specialized care	48 (36-61)	53 (37-72)	-05 (-28-15)
Pharmaceuticals	1,051 (969-1,149)	852 (836-869)	199 (114-299)
Paramedical care	105 (90-123)	74 (71-77)	31 (15-48)
Patient transport	149 (126-174)	85 (82-88)	64 (41-89)
Home care	279 (188-388)	252 (234-271)	27 (-67-138)
Nursing homes	270 (92-500)	226 (201-254)	43 (-135-282)
Geriatric rehabilitation care	216 (90-385)	79 (71-88)	136 (13-307)
Total costs	7,823 (7,195-8,559)	4,679 (4,599-4,763)	3,144 (2,488-3,892)
Year 3			
General practitioner	207 (197-217)	177 (175-178)	30 (20-40)
Hospital costs (in- and outpatient)	4,050 (3,553-4,567)	2,434 (2,386-2,483)	1,615 (1,120-2,147)
ICU stay	609 (311-954)	192 (173-212)	416 (119-765)
Medicines expensive drugs list	113 (51-191)	172 (153-191)	-59 (-128-21)
Primary care diagnostics	301 (278-329)	119 (117-121)	182 (159-211)
Other specialized care	36 (25-49)	50 (32-73)	-14 (-40-8)
Pharmaceuticals	1,049 (923-1,208)	823 (807-840)	227 (99-389)
Paramedical care	76 (55-97)	67 (64-70)	8 (-12-29)
Patient transport	170 (136-207)	89 (85-93)	81 (47-118)
Home care	510 (373-667)	252 (234-271)	257 (118-418)
Nursing homes	489 (223-814)	226 (201-254)	262 (-4-593)
Geriatric rehabilitation care	156 (54-286)	79 (71-88)	77 (-25-205)
Total costs	7,764 (6,913-8,703)	4,681 (4,594-4,770)	3,083 (2,226-4,019)

ICU = intensive care unit. CI = 95% confidence interval. ¹Including DBC costs of the heart valve intervention.

Table S6. Healthcare costs of elderly patients (>70 years) after heart valve intervention compared to controls.

Elderly patients (>70 years)	Costs (€), mean (CI)		
	Patients	Controls	Difference
Year 1			
General practitioner	319 (314-324)	240 (239-241)	79 (73-84)
Hospital costs (in- and outpatient) ¹	30,368 (30,096-30,645)	2,920 (2,891-2,949)	27,448 (27,180-27,727)
ICU stay	7,810 (7,466-8,172)	152 (145-159)	7,659 (7,312-8,021)
Medicines expensive drugs list	76 (46-113)	113 (101-129)	-37 (-73-2)
Primary care diagnostics	275 (266-284)	137 (136-139)	137 (128-147)
Other specialized care	293 (280-308)	35 (31-39)	259 (245-274)
Pharmaceuticals	1,136 (1,107-1,169)	998 (988-1,009)	138 (107-171)
Paramedical care	112 (104-120)	102 (99-104)	11 (2-19)
Patient transport	751 (731-771)	139 (136-141)	612 (592-633)
Home care	1,199 (1,080-1,321)	1,330 (1,295-1,368)	-131 (-254--6)
Nursing homes	866 (705-1,041)	2,761 (2,699-2,830)	-1,894 (-2,068--1,710)
Geriatric rehabilitation care	1,262 (1,068-1,466)	310 (298-322)	952 (761-1,157)
Total costs	44,470 (43,853-45,102)	9,236 (9,148-9,330)	35,233 (34,624-35,884)
Year 2			
General practitioner	278 (271-285)	244 (243-245)	34 (27-41)
Hospital costs (in- and outpatient)	4,436 (4,203-4,674)	2,938 (2,907-2,969)	1,498 (1,268-1,741)
ICU stay	364 (273-468)	171 (163-180)	192 (104-298)
Medicines expensive drugs list	76 (41-118)	113 (101-129)	-37 (-75-6)
Primary care diagnostics	212 (203-222)	141 (139-143)	71 (62-81)
Other specialized care	41 (34-49)	32 (28-39)	8 (-1-17)
Pharmaceuticals	1,158 (1,116-1,205)	991 (980-1,002)	168 (124-215)
Paramedical care	131 (118-144)	98 (96-101)	33 (20-46)
Patient transport	199 (181-217)	144 (141-146)	55 (37-73)
Home care	1,269 (1,106-1,444)	1,330 (1,295-1,368)	-61 (-232-120)
Nursing homes	1,763 (1,422-2,126)	2,761 (2,699-2,830)	-997 (-1,341--631)
Geriatric rehabilitation care	552 (400-713)	310 (298-322)	241 (92-405)
Total costs	10,478 (9,951-11,051)	9,273 (9,181-9,367)	1,205 (670-1,790)
Year 3			
General practitioner	267 (259-276)	243 (242-245)	24 (15-33)
Hospital costs (in- and outpatient)	4,311 (3,955-4,686)	2,885 (2,850-2,920)	1,425 (1,077-1,815)
ICU stay	320 (196-486)	198 (186-209)	122 (-4-289)
Medicines expensive drugs list	97 (51-154)	113 (101-129)	-16 (-65-44)
Primary care diagnostics	196 (186-206)	139 (138-141)	56 (46-67)
Other specialized care	22 (16-30)	25 (21-31)	-3 (-12-6)
Pharmaceuticals	1,132 (1,081-1,183)	957 (946-969)	175 (123-227)
Paramedical care	83 (69-98)	89 (86-91)	-6 (-20-10)
Patient transport	210 (184-238)	150 (147-153)	60 (34-89)
Home care	1,457 (1,283-1,647)	1,330 (1,295-1,368)	127 (-47-323)
Nursing homes	1,990 (1,636-2,366)	2,761 (2,699-2,830)	-770 (-1,132--389)
Geriatric rehabilitation care	618 (471-778)	310 (298-322)	307 (160-469)
Total costs	10,701 (10,031-11,384)	9,200 (9,108-9,298)	1,501 (821-2,184)

ICU = intensive care unit. CI = 95% confidence interval. ¹Including DBC costs of the heart valve intervention.

Table S7. Generalized linear model for the intervention costs (including ICU costs).

Parameter	SVR (n=17,963)			TVI (n=912)		
	β	95% CI	P-value	β	95% CI	P-value
Intercept	20,301	19,840-20,761	<.0001	31,157	29,126-33,188	<.0001
Valve position (compared to aortic)						
Pulmonary	-1,120	-2,368-128	0.079			
Mitral	2,879	2,361-3,398	<.0001			
Aortic and mitral	8,534	7,444-9,624	<.0001			
Tricuspid	6,250	4,680-7,819	<.0001			
Concomitant procedures (compared to isolated valve replacement)						
CABG	5,678	5,357-5,999	<.0001			
Valve repair	8,919	8,239-9,600	<.0001			
Maze + CABG or valve repair	8,354	7,521-9,187	<.0001			
Bentall	6,563	5,711-7,416	<.0001			
Aortic ascending aorta	4,635	3,752-5,519	<.0001			
Tetralogy of Fallot	2,299	785-3,812	0.003			
Aortic ascending aorta + valve repair	12,098	9,641-14,554	<.0001			
HOCM	9,026	6,599-11,454	<.0001			
Aortic root	12,768	8,926-16,610	<.0001			
Aortic root + CABG	6,358	3,067-9,650	0.000			
Left ventricle repair	6,023	1,303-10,743	0.012			
Age (compared to elderly)						
Children (0-18 years)	281	-1,144-1,706	0.699			
Young adults (19-60 years)	83	-292-459	0.664	1,762	-896-4,419	0.194
Middle aged (61-70 years)	-110	-417-197	0.484	557	-1,199-2,313	0.534
Male	544	282-806	<.0001	-166	-1,101-769	0.728
Co-morbidity (compared to no co-morbidity)						
COPD, DM, kidney disease and/or HF	376	-36-787	0.074	-265	-2,166-1,636	0.785
Hypertension	-237	-647-173	0.257	-535	-2,563-1,492	0.605
Other co-morbidities	-389	-959-181	0.181	-1,222	-3,970-1,526	0.384
SES¹ (compared to highest SES: 71-100)						
0-20	699	328-1,070	0.000	1,414	122-2,707	0.032
21-40	531	161-901	0.005	1,133	-250-2,516	0.108
41-70	67	-264-398	0.691	-20	-1,240-1,201	0.975
Death (within 6 months after the intervention)	14,092	13,216-14,969	<.0001	6,863	4,896-8,829	<.0001

Gamma distribution and identity link. SVR = surgical valve replacement. TVI = transcatheter valve implantation. CABG = concomitant coronary artery bypass grafting. HOCM = Hypertrophic Obstructive Cardiomyopathy. COPD = Chronic Obstructive Pulmonary Disease. DM = diabetes mellitus. HF = heart failure. SES = Socioeconomic status. ¹Higher percentiles represent higher SES.

Table S8. Generalized linear model for complication costs (including ICU costs).

Parameter						
	β	95% CI	P-value	β	95% CI	P-value
	Acute kidney injury (AKI)			Atrial fibrillation (AF)		
Intercept	8,211	4,372-12,050	<.0001	1,147	993-1,302	<.0001
Age (compared to elderly)						
Children (0-18 years)	-3,475	-11,704-4,755	0.408	1,479	-47-3,006	0.058
Young adults (19-60 years)	1,100	-2,260-4,461	0.521	263	138-389	<.0001
Middle aged (61-70 years)	-1,012	-2,913-889	0.297	84	00-168	0.051
Male	1,972	114-3,830	0.038	76	01-150	0.046
Co-morbidity (compared to no co-morbidity)						
COPD, DM, kidney disease and/or HF	-802	-3,946-2,343	0.617	-37	-177-102	0.600
Hypertension	-3,557	-6,783--330	0.031	-123	-270-24	0.101
Other co-morbidities	4,427	-4,515-13,369	0.332	-37	-258-184	0.742
SES¹ (compared to highest SES: 71-100)						
0-20	543	-2,198-3,285	0.698	15	-95-125	0.795
21-40	479	-2,227-3,186	0.729	-30	-135-74	0.573
41-70	-723	-3,290-1,844	0.581	14	-83-111	0.776
Death (within 6 months after complication)	2,188	-11-4,386	0.051	1,861	1,291-2,431	<.0001
	Stroke			Transient ischemic attack (TIA)		
Intercept	2,702	2,017-3,387	<.0001	1,076	803-1,349	<.0001
Age (compared to elderly)						
Children (0-18 years)	-1,590	-5,300-2,121	0.401	NA	.	.
Young adults (19-60 years)	284	-273-842	0.318	83	-152-319	0.488
Middle aged (61-70 years)	-169	-557-219	0.394	68	-107-242	0.446
Male	23	-319-364	0.896	-46	-202-110	0.566
Co-morbidity (compared to no co-morbidity)						
COPD, DM, kidney disease and/or HF	-380	-1,000-241	0.231	374	126-622	0.003
Hypertension	-179	-832-474	0.591	151	-88-390	0.217
Other co-morbidities	-878	-1,691--65	0.034	144	-165-454	0.361
SES¹ (compared to highest SES: 71-100)						
0-20	87	-374-547	0.712	-32	-264-200	0.787
21-40	306	-208-819	0.243	-69	-305-167	0.569
41-70	208	-218-635	0.338	-83	-285-119	0.422
Death (within 6 months after complication)	2,890	1,991-3,788	<.0001	-128	-573-317	0.574
	Endocarditis			Myocardial infarction (MI)		
Intercept	9,574	7,160-11,988	<.0001	3,545	1,973-5,117	<.0001
Age (compared to elderly)						
Children (0-18 years)	-827	-9,011-7,357	0.843	NA	.	.
Young adults (19-60 years)	-819	-2,544-906	0.352	1,422	139-2,705	0.030
Middle aged (61-70 years)	-796	-2,389-798	0.328	203	-706-1,113	0.661
Male	-1,250	-2,900-400	0.138	277	-496-1,051	0.482
Co-morbidity (compared to no co-morbidity)						
COPD, DM, kidney disease and/or HF	319	-1,524-2,162	0.735	1,370	117-2,623	0.032
Hypertension	-437	-2,205-1,330	0.628	1,102	-294-2,498	0.122
Other co-morbidities	-318	-3,313-2,677	0.835	1,474	-923-3,871	0.228
SES¹ (compared to highest SES: 71-100)						
0-20	-346	-2,408-1,716	0.742	-674	-1,751-403	0.220
21-40	137	-1,801-2,075	0.890	-595	-1,715-525	0.298
41-70	-1,089	-2,683-504	0.180	86	-1,047-1,219	0.882
Death (within 6 months after complication)	1,898	-387-4,183	0.104	2,990	1,515-4,466	<.0001

Parameter	β	95% CI	P-value	β	95% CI	P-value
	Pacemaker implantation (PI)			Re-intervention		
Intercept	10,552	9,559-11,545	<.0001	19,461	15,592-23,331	<.0001
Age (compared to elderly)						
Children (0-18 years)	-6,071	-7,967--4,176	<.0001	-52	-5,012-4,908	0.984
Young adults (19-60 years)	-445	-1,231-341	0.267	813	-2,491-4,118	0.630
Middle aged (61-70 years)	110	-575-794	0.754	-3,082	-5,974--190	0.037
Male	-52	-588-485	0.850	-148	-2,510-2,215	0.902
Co-morbidity (compared to no co-morbidity)						
COPD, DM, kidney disease and/or HF	377	-485-1,239	0.391	4,281	655-7,907	0.021
Hypertension	584	-340-1,509	0.215	3,360	-417-7,137	0.081
Other co-morbidities	726	-635-2,087	0.296	2,033	-4,114-8,179	0.517
SES¹ (compared to highest SES: 71-100)						
0-20	718	-36-1,472	0.062	239	-3,192-3,670	0.891
21-40	337	-378-1,052	0.355	1,611	-1,917-5,139	0.371
41-70	1,102	406-1,797	0.002	1,448	-1,319-4,215	0.305
Death (within 6 months after complication)	4,221	2,544-5,899	<.0001	9,492	5,011-13,973	<.0001

Gamma distribution and identity link. COPD=Chronic Obstructive Pulmonary Disease. DM=diabetes mellitus. HF=heart failure. SES=Socioeconomic status. ¹Higher percentiles = higher SES.