

## CLINICAL PRESENTATIONS AND INVESTIGATIONS

Zubin Othman Ibrahim and Sazzli Shahlan Kasim  
*Cardiology Unit, UiTM Specialist Centre, Faculty of Medicine, UiTM*

### Summary

1. Majority of patients (76.0%) had a low TIMI risk index.
2. Atrial fibrillation in patients undergoing PCI is 1.2%.
3. A rising trend of patients with unstable angina and STEMI-Killip IV undergoing PCI.
4. Thirty-five percent (35.0%) of PCIs were performed in patients with ACS and 57.5% of these were STEMI patients. Anterior STEMI (56.2%) remains the predominant presentation of all STEMI PCIs.
5. When we compare the data between the 2007 – 2012 and 2013 – 2014 periods for STEMI PCIs, we see improvements in all quality indicator times.

This chapter will deal with the clinical presentation and relevant investigations at the time of PCI for patients enrolled in the registry between 2013 – 2014. Overall, there were 15,514 procedures during the years studied (2013 – 2014). In comparison, there were 11,621 in 2007 – 2009 and 14,862 in 2010 – 2012.

Heart rate and blood pressure were recorded at the start of each procedure. The TIMI risk index (TRI) were analysed for low, intermediate, and high (< 30, 30 – 70 and > 70) risks, respectively. This index is predictive of 30-day and long term mortality in ACS. Functional ischaemia relates to information obtained from either stress testing or imaging pre-procedure. Time to treatment follows current practice standards.

Only 10.7% of patients who underwent elective PCI had a functional ischaemic test before the procedure. As there was a large component of missing data in this category, further interpretation cannot be made. We are reminded, however, that many patients undergoing elective PCI could benefit from prior ischaemic testing if the symptoms were atypical, and if the burden of ischaemia was unclear. [Table 2.1]

The mean systolic blood pressure for the years 2013 – 2014 was 136 mmHg (SD 25 mmHg), and mean diastolic blood pressure was 76 mmHg (SD 13 mmHg). Seventy-six percent of all PCI patients in 2013 – 2014 had a TRI < 30. This is a reduction compared to the period of 2007 – 2012, in which 82.2% of all PCI patients had a TRI < 30. [Table 2.1]

Baseline ECG shows that 84.4% of patients were in sinus rhythm compared to 86.4% in 2007 – 2012. In 2013 – 2014, patients undergoing PCI with atrial fibrillation was 1.2% (n = 176). [Table 2.1]

In comparison to the NCVD-PCI data, the prevalence of atrial fibrillation in patients admitted to two large Malaysian hospitals were 2.7% and 2.8%<sup>1,2</sup>. Further epidemiological data collected in Malaysia (PURE-REDISCOVER Study) shows that the prevalence of atrial fibrillation in the population was 0.56%<sup>2</sup>. Interestingly, this is much lower than the 6.2 – 7.9% of patients with atrial fibrillation seen in the GRACE registry<sup>3</sup>.

Data shown in the NCVD-PCI registry shows the potential scope of problems PCI operators have in dealing with anticoagulation to prevent stroke in patients requiring DAPT. Although the numbers seem small (1.2%), it is a real problem faced daily by interventionalists and patients. [Table 2.1]

Renal function recorded shows a similar profile with patients from 2007 – 2012. Majority (65.3%) of patients undergoing PCI had a glomerular filtration rate GFR (MDRD) that was more than 60 mls/min/1.73m<sup>2</sup>. This is similar with patients studied during the periods of 2007 – 2012. Mean eGFR did not differ much in patients who underwent elective or emergency PCIs. [Table 2.12]

Total cholesterol (TC) and LDL levels were higher in STEMI PCI patients. During the studied period, median TC was 4.1 mmol/l and 5.2 mmol/l in patients with elective PCI and STEMI PCI, respectively. In elective PCI patients, the median LDL was 2.3 mmol/L and for STEMI-PCI, the LDL was 3.2 mmol/L. Depending on the timing of blood sampling for lipid levels in post STEMI patients, the levels will be falsely low. Thus, the difference will likely be even larger. [Table 2.14 and Table 2.15]

The percentage of PCIs performed in patients who presented with an ACS was 35.0% in 2013 – 2014. In 2007 – 2012, the PCIs performed for ACS was 38.7%. Although the percentage decreased, the absolute numbers per year markedly increased. Of the ACS subtypes, STEMI PCI predominates with an increasing trend, from 55.8% in 2007 – 2012 to 57.5% in 2013 – 2014. Of these, 56.2% were anterior STEMIs. [Table 2.1]

A clear trend is seen throughout the period of NCVD-PCI reporting, as there were more PCIs for UA being performed. The ACS PCI cases were 11.2% (n = 1140) during 2007 – 2012 and this increased to 17.4% (n = 946) in 2013 – 2014. This may just represent the higher number of centres reporting to the NCVD-PCI database, but could possibly be proof of adherence to current guidelines that encourage early invasive strategy for patients with unstable angina. [Table 2.1]

The proportion of STEMI PCI in Killip class IV was 6.2% (n = 358) in 2007 – 2012 compared to 14.9% (n = 395) in 2013 – 2014. The doubling of the percentage of patients getting treated for a STEMI with PCI who present with cardiogenic shock may indicate the readiness of interventionalists in the country to attempt emergency revascularisation in high risk patients. [Table 2.1]

When we compare the data for STEMI PCIs with recorded time to treatment between the 2007 – 2012 and 2013 – 2014 periods, the median symptom-to-door time improved from 175 minutes to 87.5 minutes when presenting to a PCI-capable hospital, and 260 minutes to 107 minutes when presenting to a non-PCI-capable hospital. [Table 2.2.1 and Table 2.2.2] The improvement in these times is encouraging, and could be a reflection of improved awareness of the public and successful health promotion.

An area which also showed improvement was the median door-to-balloon (D2B) time for patients presenting to a PCI-capable hospital. During the 2007 – 2012 period, it was 104 minutes, and this improved to 73 minutes during the 2013 – 2014 period. [Table 2.2.2]

For STEMI patients transferred from a non-PCI-capable hospital, the median transfer time markedly improved from 201 minutes to 65 minutes between the two studied cohorts (2007 – 2012 vs. 2013 – 2014); and between these study periods, the median D2B time in these patients also improved from 74 minutes to 62 minutes. [Table 2.2.1]

In all STEMI PCIs (non-transfer and transfer), the median D2B time was 70 minutes. Compared to the median D2B time of 90 minutes during the 2007 – 2012 periods, this was a tremendous improvement in our reported data. It must be noted, however, that the STEMI-PCI numbers during this earlier period was low, and missing data was not insignificant. [Table 2.1]

The improved quality indicator times were encouraging; however more work need to be done to obtain further outcome benefit for STEMI patients treated with primary PCI. With the MySTEMI network initiative (collaboration between PCI capable centres and non-PCI capable centres for patients presenting with STEMI) commenced in 2016, further improvements are expected.

### ***References***

1. Freestone B, Rajaratnam R, Hussain N, Lip GYH. Admissions with atrial fibrillation in a multiracial population in Kuala Lumpur, Malaysia. *Int J Cardiol.* 91:(2003)233–8.
2. Goay SE, Lim CW, Tee TY, et al. Prevalence and contemporary management of atrial fibrillation in a single tertiary hospital. Presented as a poster at National Heart Association-Annual Scientific Meeting 2016: 8-10 April 2016, Kuala Lumpur, Malaysia.
3. Mehta RH, Dabbous OH, Granger CB, et al. Comparison of outcomes of patients with acute coronary syndromes with and without atrial fibrillation. *Am J Cardiol.* 2003;92:1031–6.

**Table 2.1 Patient clinical status at the time of PCI procedure, NCD-PCI Registry, 2007 – 2014**

	2007 – 2012		2013		2014		2013 – 2014	
	Total no. of procedures = 26483		Total no. of procedures = 6928		Total no. of procedures = 8586		Total no. of procedures = 15514	
	No.	%	No.	%	No.	%	No.	%
<b>Clinical examination</b>								
Heart rate at presentation, beats/minute								
N	24115		5975		7642		13617	
Mean (SD)	71.3 (15.9)		74.3 (17.6)		75.1 (18.1)		74.8 (17.9)	
Median (min, max)	69.0 (25.0, 193.0)		72.0 (26.0, 191.0)		72.0 (25.0, 194.0)		72.0 (25.0, 194.0)	
Missing, No. (%)	2368	9.0	953	13.8	944	11.0	1897	12.2
Heart rate at presentation, beats/minute, No. (%)								
< 90	21282	80.4	5058	73.0	6376	74.2	11434	73.8
≥ 90	2833	10.6	917	13.2	1266	14.8	2183	14.0
Missing	2368	9.0	953	13.8	944	11.0	1897	12.2
Systolic blood pressure, mmHg								
N	23837		5873		7529		13402	
Mean (SD)	136.4 (25.2)		135.1 (25.5)		138.0 (26.1)		136.7 (25.9)	
Median (min, max)	134.0 (60.0, 230.0)		133.0 (60.0, 230.0)		136.0 (60.0, 227.0)		135.0 (60.0, 230.0)	
Missing, No. (%)	2646	10.0	1055	15.2	1057	12.4	2112	13.6
Systolic blood pressure, mmHg, No. (%)								
< 90	261	1.0	130	1.9	159	1.8	289	1.8
≥ 90	23576	89.0	5743	82.9	7370	85.8	13113	84.6
Missing	2646	10.0	1055	15.2	1057	12.4	2112	13.6
Diastolic blood pressure, mmHg								
N	23798		5865		7513		13378	
Mean (SD)	76.3 (12.8)		75.8 (13.5)		77.1 (13.7)		76.5 (13.6)	
Median (min, max)	76.0 (10.0, 120.0)		76.0 (10.0, 120.0)		78.0 (11.0, 120.0)		77.0 (10.0, 120.0)	
Missing, No. (%)	2685	10.2	1063	15.4	1073	12.4	2136	13.8
TIMI risk index (TRI)								
N	23542		5813		7410		13223	
Mean (SD)	18.1 (8.1)		19.4 (9.3)		19.3 (9.3)		19.4 (9.3)	
Median (min, max)	16.6 (2.1, 105.2)		17.5 (3.1, 97.0)		17.5 (2.7, 142.7)		17.5 (2.7, 142.7)	
Missing, No. (%)	2941	11.2	1115	16.0	1176	13.6	2291	14.8

	2007 – 2012		2013		2014		2013 – 2014	
	Total no. of procedures = 26483		Total no. of procedures = 6928		Total no. of procedures = 8586		Total no. of procedures = 15514	
	No.	%	No.	%	No.	%	No.	%
TRI classification, No. (%)								
Low (< 30)	21779	82.2	5187	74.9	6615	77.1	11802	76.0
Intermediate (30 – 70)	1742	6.6	614	8.9	777	9.1	1391	9.0
High (> 70)	21	0.0	12	0.2	18	0.2	30	0.2
Missing	2941	11.2	1115	16.0	1176	13.6	2291	14.8
Baseline ECG, No. (%)								
Sinus rhythm	22907	86.4	5621	81.2	7467	87.0	13088	84.4
Atrial fibrillation	256	1.0	90	1.2	86	1.0	176	1.2
2 <sup>nd</sup> /3 <sup>rd</sup> AVB	111	0.4	20	0.2	23	0.2	43	0.2
LBBB	107	0.4	28	0.4	31	0.4	59	0.4
RBBB	155	0.6	22	0.4	17	0.2	39	0.2
HbA1c, %								
N			527		2349		2876	
Mean (SD)			7.8 (2.9)		7.4 (2.4)		7.4 (2.5)	
Median (min, max)			7.0 (4.0, 32.0)		6.7 (4.0, 32.0)		6.7 (4.0, 32.0)	
Missing, No. (%)			6401	92.4	6237	72.6	12638	81.4
NYHA, No. (%)								
<i>Total no. of procedures among patients with heart failure</i>	969	100	251	100	402	100	653	100
NYHA I	306	31.6	106	42.1	201	50.1	307	47.1
NYHA II	463	47.8	81	32.3	131	32.6	212	32.5
NYHA III	130	13.4	24	9.6	35	8.7	59	9.0
NYHA IV	35	3.6	13	5.2	21	5.2	34	5.2
Not available	33	3.4	22	8.8	9	2.2	31	4.7
Missing	2	0.2	5	2.0	5	1.2	10	1.5
Functional ischaemia, No. (%)								
Positive	4684	17.7	645	9.4	520	6.1	1165	7.5
Negative	440	1.6	46	0.6	49	0.7	95	0.5
Equivocal	276	1.0	105	1.6	38	0.4	143	1.0
Not applicable	20716	78.3	3590	51.8	2891	33.6	6481	41.8
Missing	367	1.4	2542	36.6	5088	59.2	7630	49.2

	2007 – 2012		2013		2014		2013 – 2014	
	Total no. of procedures = 26483		Total no. of procedures = 6928		Total no. of procedures = 8586		Total no. of procedures = 15514	
	No.	%	No.	%	No.	%	No.	%
Canadian cardiovascular score (CCS), No. (%)								
CCS 1	7535	28.4	2371	34.2	2758	32.1	5129	33.0
CCS 2	11240	42.4	1437	20.8	2319	26.9	3756	24.2
CCS 3	1340	5.0	286	4.2	440	5.1	726	4.6
CCS 4	800	3.0	528	7.6	473	5.5	1001	6.4
Asymptomatic	3211	12.2	1076	15.6	1305	15.2	2381	15.4
Not available	1688	6.4	560	8.0	576	6.8	1136	7.4
Missing	669	2.6	670	9.6	715	8.4	1385	9.0
*Intra-aortic balloon pump (IABP), No. (%)								
Yes	648	2.4	159	2.2	142	1.7	301	2.0
No	25452	96.2	6035	87.2	8215	95.7	14250	91.8
Not Applicable	0	0	217	3.2	17	0.2	234	1.6
Missing	383	1.4	517	7.4	212	2.4	729	4.6
Acute coronary syndrome (ACS), No. (%)								
Yes	10256	38.7	2356	34.0	3062	35.6	5418	35.0
No	16140	60.9	4572	66.0	5524	64.4	10096	65.0
Missing	87	0.4	0	0	0	0	0	0
ACS type, No. (%)								
STEMI	5722	55.8	1374	58.3	1741	56.8	3115	57.5
NSTEMI	3308	32.2	507	21.5	772	25.2	1279	23.7
UA	1140	11.2	451	19.2	495	16.2	946	17.4
Not available	76	0.8	24	1.0	54	1.8	78	1.4
Missing	10	0.0	0	0	0	0	0	0
STEMI, No. (%)								
Anterior	3137	54.8	765	55.6	984	56.5	1749	56.2
Non-anterior	1916	33.5	499	36.4	667	38.3	1166	37.4
Not available	139	2.5	60	4.4	90	5.2	150	4.8
Missing	530	9.2	50	3.6	0	0	50	1.6

	2007 – 2012		2013		2014		2013 – 2014	
	Total no. of procedures = 26483		Total no. of procedures = 6928		Total no. of procedures = 8586		Total no. of procedures = 15514	
	No.	%	No.	%	No.	%	No.	%
Ejection fraction (EF) status								
N	9630		2343		3127		5470	
Mean (SD)	51.6 (12.7)		51.1 (12.6)		50.5 (12.7)		50.8 (12.6)	
Median (min, max)	53.0 (10.0, 80.0)		53.0 (10.0, 80.0)		51.0 (10.0, 80.0)		52.0 (10.0, 80.0)	
Not available, No. (%)	15604	59.0	3666	53.0	4522	52.6	8188	52.8
Missing, No. (%)	1249	4.8	919	13.2	937	11.0	1856	12.0
Ejection fraction (EF) status, No. (%)								
< 30	423	1.6	119	1.8	160	1.8	279	1.8
30 – < 45	2258	8.6	532	7.6	788	9.2	1320	8.6
45 – < 55	2502	9.3	583	8.4	796	9.2	1379	8.8
≥ 55	4447	16.7	1109	16.0	1383	16.2	2492	16.0
Not available	15604	59.0	3666	53.0	4522	52.6	8188	52.8
Missing	1249	4.8	919	13.2	937	11.0	1856	12.0
Killip class, No. (%)								
<i>Total no. of procedures among patients with PCI STEMI**</i>	5722	100	1231	100	1423	100	2654	100
I	2046	35.9	673	54.7	906	63.7	1579	59.5
II	1937	33.9	160	13.0	162	11.4	322	12.1
III	117	2.0	46	3.7	30	2.1	76	2.9
IV	358	6.2	166	13.5	229	16.1	395	14.9
Not applicable/Not available	1217	21.2	127	10.3	80	5.6	207	7.8
Missing	47	0.8	59	4.8	16	1.1	75	2.8
<b>STEMI: Time-to-treatment analysis<sup>^</sup></b>								
Symptom-to-door time, minutes								
N	687		100		122		222	
Mean (SD)	270.3 (221.8)		100.6 (44.3)		101.5 (41.4)		101.1 (42.6)	
Median (min, max)	197.0 (10.0, 1350.0)		100.5 (20.0, 176.0)		104.0 (15.0, 173.0)		102.5 (15.0, 176.0)	
Negative/zero, No. (%)	113	2.0	146	37.1	214	43.7	360	40.7
Not available, No. (%)	4922	86.0	148	37.6	154	31.4	302	34.2

	2007 – 2012		2013		2014		2013 – 2014	
	Total no. of procedures = 26483		Total no. of procedures = 6928		Total no. of procedures = 8586		Total no. of procedures = 15514	
	No.	%	No.	%	No.	%	No.	%
Door-to-balloon time, minutes								
N	666		184		254		438	
Mean (SD)	139.6 (149.2)		71.9 (36.5)		78.1 (38.7)		75.5 (37.9)	
Median (min, max)	90.0 (3.0, 963.0)		67.5 (15.0, 171.0)		70.0 (11.0, 178.0)		70.0 (11.0, 178.0)	
Negative/zero, No. (%)	77	1.3	51	12.9	79	16.1	130	14.7
Not available, No. (%)	4979	87.0	159	40.4	157	32.0	316	35.7
Door-to-balloon time, minutes, No. (%)								
< 90	327	5.7	127	32.2	164	33.5	291	32.9
≥ 90	339	5.9	57	14.5	90	18.4	147	16.6
Negative/zero, No. (%)	77	1.3	51	12.9	79	16.1	130	14.8
Not available	4979	87.1	159	40.4	157	32.0	316	35.7
*Transfer time								
N	200		37		61		98	
Mean (SD)	257.0 (203.5)		84.2 (39.9)		63.9 (33.4)		71.6 (37.1)	
Median (min, max)	201.5 (15.0, 1260.0)		80.0 (14.0, 171.0)		63.0 (12.0, 165.0)		65.5 (12.0, 171.0)	
Negative/zero, No. (%)	121	2.1	85	21.6	177	36.1	262	29.6
Not available, No. (%)	5401	94.4	272	69.0	252	51.4	524	59.3
Glomerular filtration rate (GFR), MDRD, No. (%)								
< 15	772	2.9	182	2.7	240	2.7	422	2.8
15 – < 30	533	2.0	128	1.9	153	1.8	281	1.8
30 – < 45	1285	4.9	301	4.3	386	4.5	687	4.4
45 – < 60	3453	13.0	764	11.0	926	10.8	1690	10.9
≥ 60	18079	68.3	4491	64.8	5647	65.8	10138	65.3
Missing	2361	8.9	1062	15.3	1234	14.4	2296	14.8

\*IABP was listed in separate sections in the previous and new CRFs. In the old CRF, it was reported in Section 6 (cath lab visit) and in the new CRF, it was reported in Section 7 (PCI procedure details)

\*\*The definition of STEMI is different in the 2007 – 2012 and 2013 – 2014 results. In the 2007 – 2009 results, the patient's clinical status was presented for patients with ACS STEMI (Section 5, no. 4)

In 2013 – 2014, it was presented for PCI STEMI patients (Section 6, no. 2)

^Results were presented differently in 2007 – 2012 and 2013 – 2014

In 2007 – 2012, it was presented for ACS STEMI patients

In 2013 – 2014, it was presented for PCI STEMI patients with primary PCI



**Table 2.2.1 Time to treatment for STEMI, with transfer, NCVD-PCI Registry, 2007 – 2014<sup>^</sup>**

Year	With transfer			
	2007 – 2012	2013	2014	2013 – 2014
	<b>Total no. of procedures = 26483</b>	<b>Total no. of procedures = 6928</b>	<b>Total no. of procedures = 8586</b>	<b>Total no. of procedures = 15514</b>
Symptom-to-door time (minutes)				
N	256	44	75	119
Mean (SD)	325.3 (242.5)	112.1 (39.4)	101.2 (40.0)	105.2 (39.9)
Median (min, max)	263.5 (13.0, 1350.0)	110.5 (35.0, 176.0)	105 (15.0, 171.0)	107 (15.0, 176.0)
N for negative/zero time	49	76	159	235
Door-to-balloon time (minutes)				
N	240	86	166	252
Mean (SD)	137.0 (178.4)	61.8 (36.0)	76.5 (41.5)	71.5 (40.2)
Median (min, max)	74 (5.0, 963.0)	59.0 (15.0, 160.0)	65.5 (11.0, 178.0)	61.5 (11.0, 178.0)
N for negative/zero time	31	28	62	90
Transfer-to-PCI centre time (minutes)				
N	200	37	61	98
Mean (SD)	257 (203.5)	84.2 (39.9)	63.9 (33.4)	71.6 (37.1)
Median (min, max)	201.5 (15.0, 1260.0)	80.0 (14.0, 171.0)	63.0 (12.0, 165.0)	65.5 (12.0, 171.0)
N for negative/zero time	121	85	177	262
Symptom-to-balloon time (minutes)				
N	236	16	35	51
Mean (SD)	406.4 (262.2)	117.4 (43.6)	117.3 (39.9)	117.4 (40.7)
Median (min, max)	353.0 (41.0, 1412.0)	120.0 (24.0, 178.0)	127 (20.0, 169.0)	122.0 (20.0, 178.0)
N for negative/zero time	59	100	198	298

<sup>^</sup>Results were presented differently in 2007 – 2012 and 2013 – 2014

In 2007 – 2012, it was presented for ACS STEMI patients

In 2013 – 2014, it was presented for PCI STEMI patients with primary PCI

**Table 2.2.2 Time to treatment for STEMI, without transfer, NCVI-PCI Registry, 2007 – 2014<sup>^</sup>**

Year	Without transfer			
	2007 – 2012	2013	2014	2013 – 2014
	<b>Total no. of procedures = 26483</b>	<b>Total no. of procedures = 6928</b>	<b>Total no. of procedures = 8586</b>	<b>Total no. of procedures = 15514</b>
Symptom-to-door time (minutes)				
N	357	41	35	76
Mean (SD)	243.1 (207.6)	91.7 (43.9)	98.1 (45.4)	94.7 (44.4)
Median (min, max)	175.0 (10.0, 1070.0)	80.0 (28.0, 175.0)	95.0 (23.0, 173.0)	87.5 (23.0, 175.0)
N for negative/zero time	52	55	41	96
Door-to-balloon time (minutes)				
N	349	79	64	143
Mean (SD)	144.2 (127.0)	81.9 (35.6)	80.1 (31.9)	81.1 (33.9)
Median (min, max)	104.0 (3.0, 870.0)	74 (15.0, 171.0)	72.0 (28.0, 172.0)	73.0 (15.0, 172.0)
N for negative/zero time	39	15	9	24
Symptom-to-balloon time (minutes)				
N	319	27	19	46
Mean (SD)	358.2 (218.4)	109.1 (41.9)	121.8 (36.7)	114.3 (40.0)
Median (min, max)	300.0 (2.0, 1175.0)	113 (11.0, 178.0)	130.0 (37.0, 166.0)	118.5 (11.0, 178.0)
N for negative/zero time	63	64	58	122

<sup>^</sup>Results were presented differently in 2007 – 2012 and 2013 – 2014

In 2007 – 2012, it was presented for ACS STEMI patients

In 2013 – 2014, it was presented for PCI STEMI patients with primary PCI

Table 2.3 Comparison of heart rate according to PCI status, NCVD-PCI Registry, 2007 – 2014

Year	Heart rate (beats/min)	Elective		NSTEMI/UA		STEMI		Not available		Missing	
		No.	%	No.	%	No.	%	No.	%	No.	%
2007 – 2012 Total no. of procedures = 26483	< 60	4629	20.0	186	13.4	156	7.8	7	28.0	2	11.8
	60 – 80	12582	54.6	692	49.6	681	34.0	12	48.0	8	47.0
	> 80 – 100	3216	14.0	297	21.2	543	27.0	5	20.0	1	5.9
	> 100	646	2.8	82	5.8	369	18.4	0	0	1	5.9
	Missing	1966	8.6	140	10.0	256	12.8	1	4.0	5	29.4
	<b>Total</b>	<b>23039</b>	<b>100.0</b>	<b>1397</b>	<b>100.0</b>	<b>2005</b>	<b>100.0</b>	<b>25</b>	<b>100.0</b>	<b>17</b>	<b>100.0</b>
2013 Total no. of procedures = 6928	< 60	841	16.5	84	13.4	76	6.2	0	0	0	0
	60 – 80	2555	50.3	297	47.6	422	34.2	0	0	0	0
	> 80 – 100	808	16.0	133	21.2	375	30.4	0	0	0	0
	> 100	159	3.2	36	5.8	189	15.4	0	0	0	0
	Missing	709	14.0	75	12.0	169	13.8	0	0	0	0
	<b>Total</b>	<b>5072</b>	<b>100.0</b>	<b>625</b>	<b>100.0</b>	<b>1231</b>	<b>100.0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
2014 Total no. of procedures = 8586	< 60	981	15.2	66	8.9	122	8.6	0	0	0	0
	60 – 80	3324	51.8	380	50.9	502	35.2	0	0	0	0
	> 80 – 100	1139	17.8	193	25.8	419	29.4	0	0	0	0
	> 100	225	3.6	53	7.0	238	16.8	0	0	0	0
	Missing	747	11.6	55	7.4	142	10.0	0	0	0	0
	<b>Total</b>	<b>6416</b>	<b>100.0</b>	<b>747</b>	<b>100.0</b>	<b>1423</b>	<b>100.0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
2013 – 2014 Total no. of procedures = 15514	< 60	1822	15.8	150	11.0	198	7.4	0	0	0	0
	60 – 80	5879	51.2	677	49.4	924	34.8	0	0	0	0
	> 80 – 100	1947	17.0	326	23.8	794	30.0	0	0	0	0
	> 100	384	3.4	89	6.4	427	16.0	0	0	0	0
	Missing	1456	12.6	130	9.4	311	11.8	0	0	0	0
	<b>Total</b>	<b>11488</b>	<b>100.0</b>	<b>1372</b>	<b>100.0</b>	<b>2654</b>	<b>100.0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Table 2.4 Comparison of heart rate according to ACS subtypes, NCVD-PCI Registry, 2007 – 2014

Year	Heart rate (beats/min)	STEMI		NSTEMI		UA		Not available		Missing	
		No.	%	No.	%	No.	%	No.	%	No.	%
2007 – 2012 Total no. of procedures = 26483	< 60	827	14.4	636	19.2	207	18.1	8	10.6	2	20.0
	60 – 80	2793	48.8	1778	53.7	581	51.0	26	34.2	5	50.0
	> 80 – 100	1167	20.4	586	17.7	170	15.0	9	11.8	3	30.0
	> 100	496	8.7	151	4.6	40	3.6	2	2.6	0	0
	Missing	439	7.7	157	4.8	142	12.3	31	40.8	0	0
	<b>Total</b>	<b>5722</b>	<b>100.0</b>	<b>3308</b>	<b>100.0</b>	<b>1140</b>	<b>100.0</b>	<b>76</b>	<b>100.0</b>	<b>10</b>	<b>100.0</b>
2013 Total no. of procedures = 6928	< 60	97	7.0	66	12.9	66	14.5	5	20.8	0	0
	60 – 80	486	35.4	244	48.1	217	48.1	11	45.8	0	0
	> 80 – 100	404	29.4	97	19.2	97	21.6	4	16.6	0	0
	> 100	200	14.6	33	6.6	15	3.4	2	8.4	0	0
	Missing	187	13.6	67	13.2	56	12.4	2	8.4	0	0
	<b>Total</b>	<b>1374</b>	<b>100.0</b>	<b>507</b>	<b>100.0</b>	<b>451</b>	<b>100.0</b>	<b>24</b>	<b>100.0</b>	<b>0</b>	<b>0</b>
2014 Total no. of procedures = 8586	< 60	170	9.8	79	10.3	65	13.1	4	7.3	0	0
	60 – 80	669	38.4	403	52.3	254	51.3	22	40.7	0	0
	> 80 – 100	473	27.2	186	24.0	98	19.8	15	27.8	0	0
	> 100	244	14.0	44	5.6	16	3.2	2	3.8	0	0
	Missing	185	10.6	60	7.8	62	12.6	11	20.4	0	0
	<b>Total</b>	<b>1741</b>	<b>100.0</b>	<b>772</b>	<b>100.0</b>	<b>495</b>	<b>100.0</b>	<b>54</b>	<b>100.0</b>	<b>0</b>	<b>0</b>
2013 – 2014 Total no. of procedures = 15514	< 60	267	8.6	145	11.3	131	13.9	9	11.5	0	0
	60 – 80	1155	37.0	647	50.5	471	49.9	33	42.3	0	0
	> 80 – 100	877	28.2	283	22.2	195	20.6	19	24.4	0	0
	> 100	444	14.2	77	6.0	31	3.2	4	5.2	0	0
	Missing	372	12.0	127	10.0	118	12.4	13	16.6	0	0
	<b>Total</b>	<b>3115</b>	<b>100.0</b>	<b>1279</b>	<b>100.0</b>	<b>946</b>	<b>100.0</b>	<b>78</b>	<b>100.0</b>	<b>0</b>	<b>0</b>

**Table 2.5 Comparison of systolic blood pressure according to PCI status, NCVD-PCI Registry, 2007 – 2014**

Year	Systolic BP (mmHg)	Elective		NSTEMI		STEMI		Not available		Missing	
		No.	%	No.	%	No.	%	No.	%	No.	%
2007 – 2012 Total no. of procedures = 26483	< 90	121	0.5	30	2.2	110	5.4	0	0	0	0
	≥ 90	20737	90.0	1203	86.1	1599	79.8	25	100	12	70.6
	Missing	2181	9.5	164	11.7	296	14.8	0	0	5	29.4
	<b>Total</b>	<b>23039</b>	<b>100.0</b>	<b>1397</b>	<b>100.0</b>	<b>2005</b>	<b>100.0</b>	<b>25</b>	<b>100.0</b>	<b>17</b>	<b>100.0</b>
2013 Total no. of procedures = 6928	< 90	41	0.8	12	1.9	77	6.3	0	0	0	0
	≥ 90	4245	83.7	535	85.6	963	78.2	0	0	0	0
	Missing	786	15.5	78	12.5	191	15.5	0	0	0	0
	<b>Total</b>	<b>5072</b>	<b>100.0</b>	<b>625</b>	<b>100.0</b>	<b>1231</b>	<b>100.0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
2014 Total no. of procedures = 8586	< 90	47	0.7	19	2.6	93	6.5	0	0	0	0
	≥ 90	5530	86.2	665	89.0	1175	82.6	0	0	0	0
	Missing	839	13.1	63	8.4	155	10.9	0	0	0	0
	<b>Total</b>	<b>6416</b>	<b>100.0</b>	<b>747</b>	<b>100.0</b>	<b>1423</b>	<b>100.0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
2013 – 2014 Total no. of procedures = 15514	< 90	88	0.8	31	2.2	170	6.4	0	0	0	0
	≥ 90	9775	85.1	1200	87.5	2138	80.6	0	0	0	0
	Missing	1625	14.1	141	10.3	346	13.0	0	0	0	0
	<b>Total</b>	<b>11488</b>	<b>100.0</b>	<b>1372</b>	<b>100.0</b>	<b>2654</b>	<b>100.0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

**Table 2.6 Comparison of arterial blood pressure according to PCI status, NCVd-PCI Registry, 2007 – 2014**

Year	Arterial blood pressure, mmHg	Elective	NSSTEMI	STEMI	Not available	Missing
2007 – 2012 Total no. of procedures = 26483	N	20789	1230	1695	25	12
	Mean (SD)	96.8 (14.3)	94.1 (15.4)	91.7 (18.0)	97.6 (15.7)	103.5 (14.2)
	Median (min, max)	96.3 (44.0, 155.0)	93.3 (48.7, 148.7)	91.7 (39.0, 150.0)	101.0 (71.3, 124.7)	104.3 (77.3, 127.3)
	Missing, No. (%)	2250 (9.8)	167 (12.0)	310 (15.5)	0 (0)	5 (29.4)
2013 Total no. of procedures = 6928	N	4275	544	1035	0	0
	Mean (SD)	96.9 (14.4)	94.3 (14.6)	90.4 (17.4)	N/A	N/A
	Median (min, max)	96.7 (36.0, 146.7)	94.3 (53.7, 142.3)	90.3 (33.3, 150.0)	N/A	N/A
	Missing, No. (%)	797 (15.7)	81 (13.0)	196 (15.9)	0 (0)	0 (0)
2014 Total no. of procedures = 8586	N	5554	684	1259	0	0
	Mean (SD)	98.5 (14.7)	96.2 (16.1)	93.2 (17.7)	N/A	N/A
	Median (min, max)	97.7 (44.0, 152.7)	95.5 (35.7, 150.0)	93.0 (34.0, 143.3)	N/A	N/A
	Missing, No. (%)	862 (13.4)	63 (8.4)	164 (11.5)	0 (0)	0 (0)
2013 – 2014 Total no. of procedures = 15514	N	9829	1228	2294	0	0
	Mean (SD)	97.8 (14.6)	95.3 (15.5)	91.9 (17.6)	N/A	N/A
	Median (min, max)	97.0 (36.0, 152.7)	95.2 (35.7, 150.0)	91.7 (33.3, 150.0)	N/A	N/A
	Missing, No. (%)	1659 (14.4)	144 (10.5)	360 (13.6)	0 (0)	0 (0)

**Table 2.7 Comparison of TIMI risk index according to PCI status, NCVD-PCI Registry, 2007 – 2014**

Year	TIMI Risk Index	Elective		NSTEMI		STEMI		Not available		Missing	
		No.	%	No.	%	No.	%	No.	%	No.	%
2007 – 2012 Total no. of procedures = 26483	Low (< 30)	19370	84.1	1063	76.1	1313	65.5	21	84.0	12	70.6
	Intermediate (30 – 70)	1229	5.3	150	10.7	360	18.0	3	12.0	0	0
	High (> 70)	2	0.0	7	0.5	12	0.5	0	0	0	0
	Missing	2438	10.6	177	12.7	320	16.0	1	4.0	5	29.4
	<b>Total</b>	<b>23039</b>	<b>100.0</b>	<b>1397</b>	<b>100.0</b>	<b>2005</b>	<b>100.0</b>	<b>25</b>	<b>100.0</b>	<b>17</b>	<b>100.0</b>
2013 Total no. of procedures = 6928	Low (< 30)	3913	77.2	460	73.6	814	66.2	0	0	0	0
	Intermediate (30 – 70)	328	6.5	78	12.5	208	16.9	0	0	0	0
	High (> 70)	2	0	2	0.3	8	0.6	0	0	0	0
	Missing	829	16.3	85	13.6	201	16.3	0	0	0	0
	<b>Total</b>	<b>5072</b>	<b>100.0</b>	<b>625</b>	<b>100.0</b>	<b>1231</b>	<b>100.0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
2014 Total no. of procedures = 8586	Low (< 30)	5035	78.5	567	75.9	1013	71.2	0	0	0	0
	Intermediate (30 – 70)	455	7.1	100	13.4	222	15.6	0	0	0	0
	High (> 70)	1	0	5	0.7	12	0.8	0	0	0	0
	Missing	925	14.4	75	10.0	176	12.4	0	0	0	0
	<b>Total</b>	<b>6416</b>	<b>100.0</b>	<b>747</b>	<b>100.0</b>	<b>1423</b>	<b>100.0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
2013 – 2014 Total no. of procedures = 15514	Low (< 30)	8948	77.9	1027	74.8	1827	68.8	0	0	0	0
	Intermediate (30 – 70)	783	6.8	178	13.0	430	16.2	0	0	0	0
	High (> 70)	3	0	7	0.5	20	0.8	0	0	0	0
	Missing	1754	15.3	160	11.7	377	14.2	0	0	0	0
	<b>Total</b>	<b>11488</b>	<b>100.0</b>	<b>1372</b>	<b>100.0</b>	<b>2654</b>	<b>100.0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

**Table 2.8 Comparison of ejection fraction according to PCI status, NCVD-PCI Registry, 2007 – 2014**

Year	Ejection fraction (EF)	Elective		NSTEMI		STEMI		Not available		Missing	
		No.	%	No.	%	No.	%	No.	%	No.	%
2007 – 2012 Total no. of procedures = 26483	< 30	360	1.6	25	1.8	38	1.9	0	0	0	0
	30 – < 45	1906	8.3	120	8.6	232	11.6	0	0	0	0
	45 – < 55	2139	9.3	132	9.4	226	11.3	4	16.0	1	5.9
	≥ 55	4174	18.1	158	11.3	111	5.5	3	12.0	1	5.9
	Not available	13449	58.3	869	62.2	1265	63.1	18	72.0	3	17.6
	Missing	1011	4.4	93	6.7	133	6.6	0	0	12	70.6
	<b>Total</b>	<b>23039</b>	<b>100.0</b>	<b>1397</b>	<b>100.0</b>	<b>2005</b>	<b>100.0</b>	<b>25</b>	<b>100.0</b>	<b>17</b>	<b>100.0</b>
2013 Total no. of procedures = 6928	< 30	94	1.8	15	2.4	10	0.9	0	0	0	0
	30 – < 45	368	7.3	56	9.0	108	8.8	0	0	0	0
	45 – < 55	437	8.6	52	8.3	94	7.6	0	0	0	0
	≥ 55	963	19.0	94	15.0	52	4.2	0	0	0	0
	Not available	2516	49.6	331	53.0	819	66.5	0	0	0	0
	Missing	694	13.7	77	12.3	148	12.0	0	0	0	0
	<b>Total</b>	<b>5072</b>	<b>100.0</b>	<b>625</b>	<b>100.0</b>	<b>1231</b>	<b>100.0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
2014 Total no. of procedures = 8586	< 30	127	2.0	11	1.5	22	1.6	0	0	0	0
	30 – < 45	596	9.3	59	7.9	133	9.3	0	0	0	0
	45 – < 55	621	9.7	60	8.0	115	8.1	0	0	0	0
	≥ 55	1215	18.9	108	14.5	60	4.2	0	0	0	0
	Not available	3153	49.1	432	57.8	937	65.8	0	0	0	0
	Missing	704	11.0	77	10.3	156	11.0	0	0	0	0
	<b>Total</b>	<b>6416</b>	<b>100.0</b>	<b>747</b>	<b>100.0</b>	<b>1423</b>	<b>100.0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
2013 – 2014 Total no. of procedures = 15514	< 30	221	1.9	26	1.9	32	1.2	0	0	0	0
	30 – < 45	964	8.4	115	8.4	241	9.1	0	0	0	0
	45 – < 55	1058	9.2	112	8.2	209	7.8	0	0	0	0
	≥ 55	2178	19.0	202	14.7	112	4.2	0	0	0	0
	Not available	5669	49.3	763	55.6	1756	66.2	0	0	0	0
	Missing	1398	12.2	154	11.2	304	11.5	0	0	0	0
	<b>Total</b>	<b>11488</b>	<b>100.0</b>	<b>1372</b>	<b>100.0</b>	<b>2654</b>	<b>100.0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>



**Table 2.9 Comparison of NYHA according to PCI status among patients with heart failure, NCVD-PCI Registry, 2007 – 2014**

Year	NYHA classification	Elective		NSTEMI		STEMI		Not available		Missing	
		No.	%	No.	%	No.	%	No.	%	No.	%
2007 – 2012 Total no. of procedures = 26483	NYHA I	277	33.3	14	17.5	14	24.6	1	100	0	0
	NYHA II	413	49.7	35	43.8	15	26.2	0	0	0	0
	NYHA III	100	12.0	18	22.5	12	21.2	0	0	0	0
	NYHA IV	11	1.3	9	11.3	15	26.2	0	0	0	0
	Not available	29	3.5	3	3.8	1	1.8	0	0	0	0
	Missing	1	0.2	1	1.1	0	0	0	0	0	0
	<b>Total</b>	<b>831</b>	<b>100.0</b>	<b>80</b>	<b>100.0</b>	<b>57</b>	<b>100.0</b>	<b>1</b>	<b>100.0</b>	<b>0</b>	<b>0</b>
2013 Total no. of procedures = 6928	NYHA I	86	45.0	14	35.0	6	30.0	0	0	0	0
	NYHA II	64	33.5	15	37.5	2	10.0	0	0	0	0
	NYHA III	16	8.4	6	15.0	2	10.0	0	0	0	0
	NYHA IV	4	2.1	3	7.5	6	30.0	0	0	0	0
	Not available	17	8.9	1	2.5	4	20.0	0	0	0	0
	Missing	4	2.1	1	2.5	0	0	0	0	0	0
	<b>Total</b>	<b>191</b>	<b>100.0</b>	<b>40</b>	<b>100.0</b>	<b>20</b>	<b>100.0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
2014 Total no. of procedures = 8586	NYHA I	173	54.9	14	32.6	14	31.9	0	0	0	0
	NYHA II	109	34.7	16	37.2	6	13.6	0	0	0	0
	NYHA III	22	7.0	8	18.6	5	11.4	0	0	0	0
	NYHA IV	2	0.6	5	11.6	14	31.8	0	0	0	0
	Not available	7	2.2	0	0	2	4.5	0	0	0	0
	Missing	2	0.6	0	0	3	6.8	0	0	0	0
	<b>Total</b>	<b>315</b>	<b>100.0</b>	<b>43</b>	<b>100.0</b>	<b>44</b>	<b>100.0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
2013 – 2014 Total no. of procedures = 15514	NYHA I	259	51.2	28	33.8	20	31.2	0	0	0	0
	NYHA II	173	34.2	31	37.3	8	12.5	0	0	0	0
	NYHA III	38	7.5	14	16.9	7	10.9	0	0	0	0
	NYHA IV	6	1.2	8	9.6	20	31.3	0	0	0	0
	Not available	24	4.7	1	1.2	6	9.4	0	0	0	0
	Missing	6	1.2	1	1.2	3	4.7	0	0	0	0
	<b>Total</b>	<b>506</b>	<b>100.0</b>	<b>83</b>	<b>100.0</b>	<b>64</b>	<b>100.0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

**Table 2.10 Comparison of previous PCI according to PCI status, NCVd-PCI Registry, 2007 – 2014**

Year	Previous PCI	Elective		NSTEMI		STEMI		Not available		Missing	
		No.	%	No.	%	No.	%	No.	%	No.	%
2007 – 2012 Total no. of procedures = 26483	Yes	5561	24.1	284	20.3	169	8.4	5	20.0	2	11.8
	No	17466	75.8	1112	79.6	1836	91.6	20	80.0	9	52.9
	Missing	12	0.1	1	0.1	0	0	0	0	6	35.3
	<b>Total</b>	<b>23039</b>	<b>100.0</b>	<b>1397</b>	<b>100.0</b>	<b>2005</b>	<b>100.0</b>	<b>25</b>	<b>100.0</b>	<b>17</b>	<b>100.0</b>
2013 Total no. of procedures = 6928	Yes	1285	25.3	131	21.0	93	7.6	0	0	0	0
	No	3787	74.7	494	79.0	1138	92.4	0	0	0	0
	Missing	0	0	0	0	0	0	0	0	0	0
	<b>Total</b>	<b>5072</b>	<b>100.0</b>	<b>625</b>	<b>100.0</b>	<b>1231</b>	<b>100.0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
2014 Total no. of procedures = 8586	Yes	1720	26.8	154	20.6	104	7.3	0	0	0	0
	No	4696	73.2	593	79.4	1319	92.7	0	0	0	0
	Missing	0	0	0	0	0	0	0	0	0	0
	<b>Total</b>	<b>6416</b>	<b>100.0</b>	<b>747</b>	<b>100.0</b>	<b>1423</b>	<b>100.0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
2013 – 2014 Total no. of procedures = 15514	Yes	3005	26.2	285	20.8	197	7.4	0	0	0	0
	No	8483	73.8	1087	79.2	2457	92.6	0	0	0	0
	Missing	0	0	0	0	0	0	0	0	0	0
	<b>Total</b>	<b>11488</b>	<b>100.0</b>	<b>1372</b>	<b>100.0</b>	<b>2654</b>	<b>100.0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

**Table 2.11 Comparison of HbA1c according to PCI status, NCVd-PCI Registry, 2007 – 2014**

Year	HbA1c, mmol/L	Elective		NSTEMI		STEMI		Not available		Missing	
		No.	%	No.	%	No.	%	No.	%	No.	%
2007 – 2012 Total no. of procedures = 26483	N	3492		142		139		0		0	
	Mean (SD)	8.2 (16.8)		7.6 (2.1)		10.9 (19.4)		N/A		N/A	
	Median (min, max)	7.0 (0.9, 908.0)		7.2 (4.0, 15.8)		7.3 (2.3, 165.0)		N/A		N/A	
	Missing, No. (%)	19547	84.8	1255	89.8	1866	93.1	25	100.0	17	100.0
2013 Total no. of procedures = 6928	N	434		37		56		0		0	
	Mean (SD)	7.7 (2.8)		7.3 (1.9)		9.0 (3.7)		N/A		N/A	
	Median (min, max)	6.9 (4.0, 32.0)		7.1 (4.2, 12.9)		8.6 (4.4, 27.9)		N/A		N/A	
	Missing, No. (%)	4638	91.4	588	94.1	1175	95.5	0	0	0	0
2014 Total no. of procedures = 8586	N	2056		120		173		0		0	
	Mean (SD)	7.3 (2.3)		7.7 (3.3)		7.4 (3.1)		N/A		N/A	
	Median (min, max)	6.7 (4.0, 30.0)		6.8 (4.7, 31.0)		6.3 (4.5, 32.0)		N/A		N/A	
	Missing, No. (%)	4360	68.0	627	83.9	1250	87.8	0	0	0	0
2013 – 2014 Total no. of procedures = 15514	N	2490		157		229		0		0	
	Mean (SD)	7.4 (2.4)		7.6 (3.0)		7.8 (3.3)		N/A		N/A	
	Median (min, max)	6.7 (4.0, 32.0)		6.9 (4.2, 31.0)		6.5 (4.4, 32.0)		N/A		N/A	
	Missing, No. (%)	8998	78.3	1215	88.6	2425	91.4	0	0	0	0

**Table 2.12 Comparison of baseline creatinine according to PCI status, NCVD-PCI Registry, 2007 – 2014**

Year	Baseline creatinine, mmol/L	Elective		NSTEMI		STEMI		Not available		Missing	
		No.	%	No.	%	No.	%	No.	%	No.	%
2007 – 2012 Total no. of procedures = 26483	N	21371		1211		1503		25		12	
	Mean (SD)	117.5 (125.5)		116.2 (110.5)		111.6 (89.6)		156.0 (169.1)		102.8 (31.1)	
	Median (min, max)	93.0 (44.0, 6500.0)		91.0 (45.0, 1533.0)		92.0 (44.0, 1222.0)		100.0 (60.0, 740.0)		100.0 (54.0, 182.0)	
	Not available, No. (%)	594	2.6	82	5.9	281	14.0	0	0	0	0
	Missing, No. (%)	1074	4.7	104	7.4	221	11.0	0	0	5	29.4
2013 Total no. of procedures = 6928	N	4436		528		902		0		0	
	Mean (SD)	116.2 (118.8)		133.3 (151.7)		105.9 (78.6)		N/A		N/A	
	Median (min, max)	92.0 (44.0, 1466.0)		94.0 (44.0, 1510.0)		93.0 (44.0, 1378.0)		N/A		N/A	
	Not available, No. (%)	246	4.9	36	5.8	147	11.9	0	0	0	0
	Missing, No. (%)	390	7.7	61	9.8	182	14.8	0	0	0	0
2014 Total no. of procedures = 8586	N	5631		653		1068		0		0	
	Mean (SD)	116.2 (116.2)		122.9 (137.6)		111.5 (103.1)		N/A		N/A	
	Median (min, max)	91.0 (44.0, 1632.0)		91.0 (45.0, 1606.0)		92.0 (44.0, 1615.0)		N/A		N/A	
	Not available, No. (%)	420	6.5	52	7	221	15.5	0	0	0	0
	Missing, No. (%)	365	5.7	42	5.6	134	9.4	0	0	0	0
2013 – 2014 Total no. of procedures = 15514	N	10067		1181		1970		0		0	
	Mean (SD)	116.2 (117.3)		127.6 (144.1)		108.9 (92.7)		N/A		N/A	
	Median (min, max)	92.0 (44.0, 1632.0)		92.0 (44.0, 1606.0)		92.0 (44.0, 1615.0)		N/A		N/A	
	Not available, No. (%)	666	5.8	88	6.4	368	13.9	0	0	0	0
	Missing, No. (%)	755	6.6	103	7.5	316	11.9	0	0	0	0

**Table 2.13 Comparison of GFR according to PCI status, NCVD-PCI Registry, 2007 – 2014**

Year	GFR	Elective		NSTEMI		STEMI		Not available		Missing	
		No.	%	No.	%	No.	%	No.	%	No.	%
2007 – 2012 Total no. of procedures = 26483	N	21371		1211		1503		25		12	
	Mean (SD)	73.8 (24.9)		74.0 (26.5)		76.0 (27.9)		65.7 (26.8)		73.2 (19.9)	
	Median (min, max)	74.8 (0.6, 207.4)		76.1 (2.8, 172.1)		76.9 (4.1, 212.5)		71.1 (6.9, 96.5)		70.4 (37.9, 111.1)	
	Missing, No. (%)	1668	7.2	186	13.3	502	25.0	0	0	5	29.4
2013 Total no. of procedures = 6928	N	4436		528		902		0		0	
	Mean (SD)	75.0 (25.2)		71.7 (28.5)		78.1 (26.6)		N/A		N/A	
	Median (min, max)	75.4 (2.9, 179.2)		73.1 (3.4, 177.5)		76.6 (3.6, 177.7)		N/A		N/A	
	Missing, No. (%)	636	12.5	97	15.5	329	26.7	0	0	0	0
2014 Total no. of procedures = 8586	N	5632		653		1068		0		0	
	Mean (SD)	75.1 (25.5)		75.5 (29.2)		77.7 (26.8)		N/A		N/A	
	Median (min, max)	76.1 (0.4, 198.6)		76.2 (3.1, 177.0)		77.9 (2.8, 200.5)		N/A		N/A	
	Missing, No. (%)	784	12.2	94	12.6	355	24.9	0	0	0	0
2013 – 2014 Total no. of procedures = 15514	N	10068		1181		1970		0		0	
	Mean (SD)	75.0 (25.4)		73.8 (29.0)		77.9 (26.7)		N/A		N/A	
	Median (min, max)	75.7 (0.4, 198.6)		74.8 (3.1, 177.5)		77.6 (2.8, 200.5)		N/A		N/A	
	Missing, No. (%)	1420	12.4	191	13.9	684	25.8	0	0	0	0

**Table 2.14 Comparison of TC according to PCI status, NCVD-PCI Registry, 2007 – 2014**

Year	Total cholesterol mmol/L	Elective		NSTEMI		STEMI		Not available		Missing	
		No.	%	No.	%	No.	%	No.	%	No.	%
2007 – 2012 Total no. of procedures = 26483	N	15094		733		867		12		7	
	Mean (SD)	4.5 (1.2)		4.8 (1.5)		5.3 (1.6)		4.8 (1.0)		6.4 (5.2)	
	Median (min, max)	4.3 (2.0, 24.2)		4.7 (2.0, 22.0)		5.2 (2.0, 23.0)		4.9 (3.1, 6.0)		4.9 (3.3, 18.0)	
	Not available, No. (%)	5887	25.6	484	34.6	823	41.0	6	24.0	5	29.4
	Missing, No. (%)	2058	8.9	180	12.9	315	15.7	7	28.0	5	29.4
2013 Total no. of procedures = 6928	N	2900		322		502		0		0	
	Mean (SD)	4.4 (1.2)		4.7 (1.7)		5.2 (1.6)		N/A		N/A	
	Median (min, max)	4.2 (2.0, 10.6)		4.5 (2.1, 25.0)		5.1(2.0, 14.5)		N/A		N/A	
	Not available, No. (%)	1403	27.7	189	30.2	446	36.2	0	0	0	0
	Missing, No. (%)	769	15.2	114	18.2	283	23.0	0	0	0	0
2014 Total no. of procedures = 8586	N	3387		328		585		0		0	
	Mean (SD)	4.4 (1.4)		4.6 (1.3)		5.2 (1.4)		N/A		N/A	
	Median (min, max)	4.1 (2.0, 25.0)		4.4 (2.0, 10.3)		5.1(2.0, 15.0)		N/A		N/A	
	Not available, No. (%)	2121	33.1	300	40.2	569	40.0	0	0	0	0
	Missing, No. (%)	908	14.2	119	15.9	269	18.9	0	0	0	0
2013 – 2014 Total no. of procedures = 15514	N	6287		650		1087		0		0	
	Mean (SD)	4.4 (1.3)		4.7 (1.5)		5.2 (1.5)		N/A		N/A	
	Median (min, max)	4.1 (2.0, 25.0)		4.4 (2.0, 25.0)		5.1 (2.0, 15.0)		N/A		N/A	
	Not available, No. (%)	3524	30.7	489	35.6	1015	38.2	0	0	0	0
	Missing, No. (%)	1677	14.6	233	17.0	552	20.8	0	0	0	0

**Table 2.15 Comparison of LDL according to PCI status, NCVD-PCI Registry, 2007 – 2014**

Year	LDL cholesterol, mmol/L	Elective		NSTEMI		STEMI		Not available		Missing	
		No.	%	No.	%	No.	%	No.	%	No.	%
2007 – 2012 Total no. of procedures = 26483	N	14906		734		826		15		6	
	Mean (SD)	2.6 (1.1)		3.0 (1.3)		3.4 (1.4)		3.9 (4.0)		2.6 (1.0)	
	Median (min, max)	2.4 (0.7, 20.0)		2.8 (0.8, 20.0)		3.3 (0.8, 16.0)		3.1 (1.2, 18.0)		2.8 (0.9, 3.6)	
	Not available, No. (%)	6061	26.3	501	35.9	845	42.1	9	36.0	5	29.4
	Missing, No. (%)	2072	9.0	162	11.6	334	16.7	1	4.0	6	35.3
2013 Total no. of procedures = 6928	N	2801		306		473		0		0	
	Mean (SD)	2.5 (1.1)		2.9 (1.5)		3.4 (1.4)		N/A		N/A	
	Median (min, max)	2.3 (0.8, 20.0)		2.6 (0.8, 18.0)		3.3 (0.9, 12.3)		N/A		N/A	
	Not available, No. (%)	1454	28.7	206	33.0	468	38.0	0	0	0	0
	Missing, No. (%)	817	16.1	113	18.1	290	23.6	0	0	0	0
2014 Total no. of procedures = 8586	N	3308		313		556		0		0	
	Mean (SD)	2.5 (1.1)		2.8 (1.2)		3.4 (1.3)		N/A		N/A	
	Median (min, max)	2.2 (0.8, 16.0)		2.6 (0.8, 8.3)		3.2 (0.8, 13.8)		N/A		N/A	
	Not available, No. (%)	2207	34.4	316	42.3	593	41.7	0	0	0	0
	Missing, No. (%)	901	14.0	118	15.8	274	19.3	0	0	0	0
2013 – 2014 Total no. of procedures = 15514	N	6109		619		1029		0		0	
	Mean (SD)	2.5 (1.1)		2.8 (1.4)		3.4 (1.3)		N/A		N/A	
	Median (min, max)	2.3 (0.8, 20.0)		2.6 (0.8, 18.0)		3.2 (0.8, 13.8)		N/A		N/A	
	Not available, No. (%)	3661	31.9	522	38.0	1061	40.0	0	0	0	0
	Missing, No. (%)	1718	15.0	231	16.8	564	21.3	0	0	0	0

**Table 2.16 Comparison of functional ischaemia according to PCI status, NCVD-PCI Registry, 2007 – 2014**

Year	Functional ischaemia	Elective		NSTEMI		STEMI		Not available		Missing	
		No.	%	No.	%	No.	%	No.	%	No.	%
2007 – 2012 Total no. of procedures = 26483	Positive	4402	19.1	140	10.0	135	6.7	6	24.0	1	5.9
	Negative	398	1.8	13	0.9	28	1.4	1	4.0	0	0
	Equivocal	251	1.1	11	0.8	13	0.6	0	0	1	5.9
	Not applicable	17705	76.8	1208	86.5	1780	88.9	18	72.0	5	29.4
	Missing	283	1.2	25	1.8	49	2.4	0	0	10	58.8
	<b>Total</b>	<b>23039</b>	<b>100.0</b>	<b>1397</b>	<b>100.0</b>	<b>2005</b>	<b>100.0</b>	<b>25</b>	<b>100.0</b>	<b>17</b>	<b>100.0</b>
2013 Total no. of procedures = 6928	Positive	566	11.2	38	6.1	41	3.3	0	0	0	0
	Negative	32	0.6	8	1.3	6	0.5	0	0	0	0
	Equivocal	77	1.5	15	2.4	13	1.1	0	0	0	0
	Not applicable	2592	51.1	317	50.7	681	55.3	0	0	0	0
	Missing	1805	35.6	247	39.5	490	39.8	0	0	0	0
	<b>Total</b>	<b>5072</b>	<b>100.0</b>	<b>625</b>	<b>100.0</b>	<b>1231</b>	<b>100.0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
2014 Total no. of procedures = 8586	Positive	484	7.5	25	3.3	11	0.8	0	0	0	0
	Negative	43	0.7	2	0.3	4	0.3	0	0	0	0
	Equivocal	32	0.5	4	0.5	2	0.1	0	0	0	0
	Not applicable	2118	33.0	247	33.1	526	37.0	0	0	0	0
	Missing	3739	58.3	469	62.8	880	61.8	0	0	0	0
	<b>Total</b>	<b>6416</b>	<b>100.0</b>	<b>747</b>	<b>100.0</b>	<b>1423</b>	<b>100.0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
2013 – 2014 Total no. of procedures = 15514	Positive	1050	9.1	63	4.6	52	1.9	0	0	0	0
	Negative	75	0.7	10	0.7	10	0.4	0	0	0	0
	Equivocal	109	0.9	19	1.4	15	0.6	0	0	0	0
	Not applicable	4710	41.0	564	41.1	1207	45.5	0	0	0	0
	Missing	5544	48.3	716	52.2	1370	51.6	0	0	0	0
	<b>Total</b>	<b>11488</b>	<b>100.0</b>	<b>1372</b>	<b>100.0</b>	<b>2654</b>	<b>100.0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

**Table 2.17 Comparison of ECG according to ACS subtypes, NCVd-PCI Registry, 2007 – 2014**

Year	ECG	STEMI		NSTEMI		UA		Not available		Missing	
		No.	%	No.	%	No.	%	No.	%	No.	%
2007 – 2012 Total no. of procedures = 10256	Sinus rhythm	4469	43.6	2802	27.3	953	9.3	46	0.4	10	0.1
	Atrial fibrillation	49	0.5	36	0.4	13	0.1	1	0	0	0
	2 <sup>nd</sup> /3 <sup>rd</sup> AVB	65	0.6	7	0.1	5	0.0	0	0	0	0
	LBBB	20	0.2	13	0.1	5	0.0	0	0	0	0
	RBBB	25	0.2	34	0.3	10	0.1	0	0	0	0
2013 Total no. of procedures = 6928	Sinus rhythm	1036	44.0	393	16.7	378	16.0	19	0.8	0	0
	Atrial fibrillation	16	0.7	5	0.2	3	0.1	0	0	0	0
	2 <sup>nd</sup> /3 <sup>rd</sup> AVB	11	0.5	6	0.3	1	0	0	0	0	0
	LBBB	9	0.4	3	0.1	1	0	0	0	0	0
	RBBB	7	0.3	3	0.1	2	0.1	0	0	0	0
2014 Total no. of procedures = 8586	Sinus rhythm	1483	48.4	650	21.2	409	13.4	46	1.5	0	0
	Atrial fibrillation	21	0.7	12	0.4	4	0.1	0	0	0	0
	2 <sup>nd</sup> /3 <sup>rd</sup> AVB	20	0.7	0	0	1	0	0	0	0	0
	LBBB	14	0.5	3	0.1	3	0.1	0	0	0	0
	RBBB	3	0.1	2	0.1	2	0.1	0	0	0	0
2013 – 2014 Total no. of procedures = 15514	Sinus rhythm	2519	46.5	1043	19.3	787	14.5	65	1.2	0	0
	Atrial fibrillation	37	0.7	17	0.3	7	0.1	0	0	0	0
	2 <sup>nd</sup> /3 <sup>rd</sup> AVB	31	0.6	6	0.1	2	0	0	0	0	0
	LBBB	23	0.4	6	0.1	4	0.1	0	0	0	0
	RBBB	10	0.2	5	0.1	4	0.1	0	0	0	0



**Table 2.18 Comparison of IABP use according to ACS subtypes, NCVd-PCI Registry, 2007 – 2014**

Year	*IABP	STEMI		NSTEMI		UA		Not available		Missing	
		No.	%	No.	%	No.	%	No.	%	No.	%
2007 – 2012 Total no. of procedures = 10256	Yes	398	6.9	91	2.8	29	2.5	7	9.2	0	0
	No	5251	91.8	3179	96.1	1089	95.5	63	82.9	9	90.0
	Not applicable										
	Missing	73	1.3	38	1.1	22	2.0	6	7.9	1	10.0
	<b>Total</b>	<b>5722</b>	<b>100.0</b>	<b>3308</b>	<b>100.0</b>	<b>1140</b>	<b>100.0</b>	<b>76</b>	<b>100.0</b>	<b>10</b>	<b>100.0</b>
2013 Total no. of procedures = 6928	Yes	88	6.5	17	3.4	6	1.3	0	0	0	0
	No	1083	78.8	430	84.7	375	83.1	23	95.8	0	0
	Not applicable	54	3.9	17	3.4	17	3.8	0	0	0	0
	Missing	149	10.8	43	8.5	53	11.8	1	4.2	0	0
	<b>Total</b>	<b>1374</b>	<b>100.0</b>	<b>507</b>	<b>100.0</b>	<b>451</b>	<b>100.0</b>	<b>24</b>	<b>100.0</b>	<b>0</b>	<b>0</b>
2014 Total no. of procedures = 8586	Yes	88	5.1	17	2.2	2	0.4	1	1.9	0	0
	No	1580	90.7	719	93.2	469	94.8	35	64.8	0	0
	Not applicable	5	0.3	1	0.1	1	0.2	0	0	0	0
	Missing	68	3.9	35	4.5	23	4.6	18	33.3	0	0
	<b>Total</b>	<b>1741</b>	<b>100.0</b>	<b>772</b>	<b>100.0</b>	<b>495</b>	<b>100.0</b>	<b>54</b>	<b>100.0</b>	<b>0</b>	<b>0</b>
2013 – 2014 Total no. of procedures = 15514	Yes	176	5.7	34	2.7	8	0.8	1	1.3	0	0
	No	2663	85.5	1149	89.8	844	89.2	58	74.3	0	0
	Not applicable	59	1.9	18	1.4	18	1.9	0	0	0	0
	Missing	217	6.9	78	6.1	76	8.1	19	24.4	0	0
	<b>Total</b>	<b>3115</b>	<b>100.0</b>	<b>1279</b>	<b>100.0</b>	<b>946</b>	<b>100.0</b>	<b>78</b>	<b>100.0</b>	<b>0</b>	<b>0</b>

\*IABP was listed in separate sections in the previous and new CRFs. In the old CRF, it was reported in Section 6 (cath lab visit), and in the new CRF, it was reported in Section 7 (PCI procedure details)