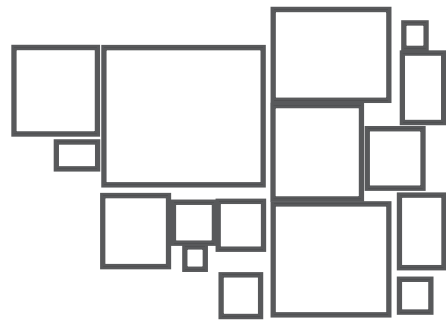


**CLINICAL PRESENTATIONS
&
INVESTIGATIONS**





CLINICAL PRESENTATIONS & INVESTIGATIONS

Lee Chuey Yan¹ and Johan Rizwal Ismail²

1 Hospital Sultanah Aminah, Johor; 2 Faculty of Medicine, Universiti Teknologi MARA, Selangor

Summary

1. Majority of patients (90.3%) had a low thrombolysis in myocardial infarction (TIMI) risk index.
2. 1.2% of patients undergoing PCI had concomitant atrial fibrillation.
3. The percentage of procedures among patients with New York Heart Association (NYHA) classes III and IV had decreased from 15.2% for the year 2013–2014 to 9.0% in 2015–2016.
4. Thirty-nine percent of PCIs were performed in patients with ACS of which 58.4%, 26.5% and 15.0% were performed in ST-elevation myocardial infarction (STEMI), non ST-elevation myocardial infarction (NSTEMI) and unstable angina (UA) respectively. Anterior STEMI (56.6%) remains the predominant presentation in the STEMI cohort.
5. The percentage of STEMI patients with Killip III and IV undergoing PCI had decreased from 19.7% to 14.8% between the 2013–2014 cohort and 2015–2016 cohort; this could be due to the increased number of NSTEMI PCI of 24.0% vs 26.5% respectively.
6. There was an improvement in transfer time (TT) for STEMI PCI for the 2015–2016 cohort compared to the 2013–2014 cohort.

This chapter discusses the clinical presentation and relevant investigations performed at the time of PCI for patients enrolled in the registry between 2015–2016. Overall, there was an increment of 38.8% total number of procedures performed in 2015–2016 (21,538 procedures) compared to 2013–2014 (15,514 procedures).

Clinical status at the time of PCI

Heart rate and blood pressure were recorded prior to the start of each procedure. The TIMI risk index (TRI) was calculated for each patient and categorised into low, intermediate, and high (<30, 30–70 and >70) risk, respectively. This index is predictive of 30-day and long-term mortality. For elective patients, assessment of functional ischaemia by either treadmill test or myocardial perfusion scan were noted. Time to treatment was documented and analysed.

The mean heart rate at presentation were 75.1 beats/min (SD 16.7 beats/min) with only 16.4% having a heart rate of ≥ 90 beats/min. This was similar to the 2013–2014 cohort. The mean systolic blood pressure was 138.3 mmHg (SD 26.2 mmHg) and mean diastolic pressure was 77.5 mmHg (SD 14.0 mmHg). The mean TIMI risk index was 19.1. Ninety-point three percent of this cohort had a TRI <30, almost similar to the 2013–2014 cohort (89.3%). [Table 2.1]

Majority of patients (83.0%) were in sinus rhythm. Only 1.2% were in atrial fibrillation, higher than reported in other Malaysian cardiovascular registry (REDISCOVER), which was 0.54%, but lower than the 6.2–7.9% seen in the GRACE registry and 5.3% in the KAMIR registry.^{1-2, 7} [Table 2.1] With the increase of the PCI rate in atrial fibrillation, the choice of antiplatelet and anticoagulation would be an important consideration. With recent publication of PIONEER-AF (2016) and RE-DUAL PCI (2017), non-vitamin K anticoagulation (NOAC) agents are reasonable alternative to be used in combination with clopidogrel post-PCI compared to warfarin to reduce patients' bleeding risk.³⁻⁵



Majority of patients had a GFR ≥ 60 mls/min/1.73m² (78.1%) with only 5.5% having GFR of < 30 mls/min/1.73m², almost similar to the 2013–2014 cohort (76.9%). Mean HbA1c was 7.4 % (similar for both cohorts).

There were fewer patients in NYHA classes III and IV who received coronary revascularisation (9.0%) compared to the 2013–2014 cohort (15.2%) and the NCDR 2014 report (13.9%).⁶ This could be explained by the increase in awareness, improvement of MYSTEMI network system of referral, as well as the improvement in heart failure treatment and device therapy. In addition, more patients received early revascularisation from early referral by other health care providers. [Table 2.1]

Majority of patients were in Canadian Cardiovascular Score (CCS) class I (35.0%) and class II (28.8%) with only 11.6% in classes III and IV. Of note, was the number of asymptomatic patients who underwent PCI which increased from 18.3% (2013–2014) to 24.6% (2015–2016). This also could be due to the increase in the number of functional ischaemic testing. Even though data for ischaemic testing prior to elective PCI were available for only 6.2% of patients, almost 90% of them had a positive functional ischaemic test. [Table 2.1]

The percentage of PCIs performed for patients who presented with acute coronary syndrome (ACS) increased by 4.2% from 34.9% in 2013–2014 to 39.1% in the 2015–2016 cohort. [Table 2.1] This is in contrast to the KAMIR registry, in which the PCI rates in acute MI were 96.7% for STEMI and 82.9% for NSTEMI.⁷ Of the ACS subtypes in the 2015–2016 cohort, STEMI (58.4%) PCI predominates followed by NSTEMI (26.5%) and unstable angina (15.0%), compared to the 2013–2014 cohort: STEMI (58.3%), NSTEMI (24.0%) and unstable angina (17.7%). Of all the STEMI patients, 56.6% were anterior STEMIs and this was comparable with other registries. [Table 2.1]

The percentage of STEMI patients in Killip classes III and IV decreased from 19.9% to 14.8% between the 2013–2014 and 2015–2016 cohorts and was comparable to the Korean acute MI registry (KAMIR) which was 12.9%.⁷ This could be due to earlier intervention when patient is presented with NSTEMI. The decrease of percentage of STEMI patients in Killip classes III and IV also explains the decrease in the use of intra-aortic balloon pump (IABP) from 1.7% to 1.0%, respectively. [Table 2.1]

STEMI: Time to treatment analysis

The symptom-to-door time was shorter for patients presenting at the PCI capable centre compared to transferred patients (162 minutes vs 204 minutes). When we compare the data for STEMI PCI between the 2013–2014 and 2015–2016 cohorts, the median symptom-to-door time were similar (215 minutes vs 204 minutes) when presenting to a non-PCI capable centre, and 168 minutes vs 162 minutes when presenting to a PCI capable centre, respectively. [Table 2.2.1 & Table 2.2.2] As this could be due to the lack of public awareness, there is room for more health promotional exercises.

However, door-to-balloon (DTB) time when presenting to a non-PCI capable centre had improved (120 minutes vs 109 minutes) and were similar to the DTB time when presenting to a PCI capable centre (at 81.5 minutes vs 80 minutes). [Table 2.2.1 & Table 2.2.2] The shorter DTB time for patients from non-PCI capable centre could be attributed to diagnosis being already made at the referring hospital and patients being sent as soon as possible to the ICL upon arrival.

Transfer time had also improved from 95.0 minutes to 73.0 minutes respectively. This improvement could largely be attributed to the MYSTEMI network in the Klang Valley and the ACS referral network summits that were carried out by the various Ministry of Health heart centres in Johor, Penang, Ipoh, Kuching, Kota Kinabalu and Kuantan. With improvements in the critical care pathway, DTB time and TT had been shortened. This is very encouraging, although there is still room for improvement.



References

1. Lim CW, Kasim S, Ismail JR, *et al.* Prevalence of atrial fibrillation in the Malaysian communities. *Heart Asia* 2016;8:62–6.
2. Lin GA, Dudley RA, Lucas FL, Malenka DJ, Vittinghoff E, Redberg RF. Frequency of stress testing to document ischemia prior to elective percutaneous coronary intervention. *JAMA* 2009;300(15):1765–73.
3. Gibson CM, Pinto DS, Chi G, *et al.* Recurrent hospitalisation among patients with atrial fibrillation undergoing intracoronary stenting treated with 2 treatment strategies of rivaroxaban or a dose-adjusted oral vitamin K antagonist treatment strategy. *Circulation* 2016;135(4):323–33.
4. Gibson CM, Mehran R, Bode C, *et al.* Prevention of bleeding in patients with atrial fibrillation undergoing PCI. *N Engl J Med* 2016;375(25):2423–34.
5. Cannon CP, Bhatt DL, Oldgren J, *et al.* Dual antithrombotic therapy with dabigatran after PCI in atrial fibrillation. *N Engl J Med* 2017;377:1513–24.
6. Masoudi FA, Ponirakis A, de Lemos JA, *et al.* Trends in U.S. Cardiovascular Care: 2016 Report from 4 ACC National Cardiovascular Data Registries. *J Am Coll Cardiol* 2017;69(11):1427–50.
7. Kim JH, Chae SC, Oh DJ, *et al.*; Korea Acute Myocardial Infarction-National Institutes of Health Registry Investigators. Multicenter Cohort Study of Acute Myocardial Infarction in Korea-Interim Analysis of the Korea Acute Myocardial Infarction Registry-National Institutes of Health Registry. *Circ J* 2016 25;80(6):1427–36.

**Table 2.1 Patient clinical status at the time of PCI procedure, NCD-PCI Registry, 2013–2016**

Year	2013 – 2014	2015	2016	2015 – 2016
Total no. of procedures	15,514	10,397	11,141	21,538
Clinical examination				
Heart rate at presentation, beats/minute				
N	13,617	9,106	10,210	19,316
Mean (SD)	74.8 (17.9)	75.4 (17.2)	74.7 (16.2)	75.1 (16.7)
Median (Min – Max)	72.0 (25.0 – 194.0)	73.0 (30.0 – 200.0)	72.0 (26.0 – 199.0)	73.0 (26.0 – 200.0)
Missing	1,897 (12.2)	1,291 (12.4)	931 (8.4)	2,222 (10.3)
Heart rate at presentation, beats/minute, No. (%)				
<90	11,434 (84.0)	7,560 (83.0)	8,588 (84.1)	16,148 (83.6)
≥90	2,183 (16.0)	1,546 (17.0)	1,622 (15.9)	3,168 (16.4)
Missing	1,897	1,291	931	2,222
Systolic blood pressure, mmHg				
N	13,402	8,922	9,898	18,820
Mean (SD)	136.7 (25.9)	138.1 (26.3)	138.5 (26.0)	138.3 (26.2)
Median (Min – Max)	135.0 (60.0 – 230.0)	137.0 (60.0 – 230.0)	137.0 (62.0 – 228.0)	137.0 (60.0 – 230.0)
Missing, No. (%)	2,112 (13.6)	1,475 (14.2)	1,243 (11.2)	2,718 (12.6)
Systolic blood pressure, mmHg, No. (%)				
<90	289 (2.2)	158 (1.8)	141 (1.4)	299 (1.6)
≥90	13,113 (97.8)	8,764 (98.2)	9,757 (98.6)	18,521 (98.4)
Missing	2,112	1,475	1,243	2,718
Diastolic blood pressure, mmHg				
N	13,378	8,906	9,876	18,782
Mean (SD)	76.5 (13.6)	77.6 (14.2)	77.3 (13.8)	77.5 (14.0)
Median (Min – Max)	77.0 (10.0 – 120.0)	78.0 (10.0 – 120.0)	77.0 (11.0 – 120.0)	78.0 (10.0 – 120.0)
Missing, No. (%)	2,136 (13.8)	1,491 (14.3)	1,265 (11.4)	2,756 (12.8)
TIMI risk index (TRI)				
N	13,223	8,827	9,843	18,670
Mean (SD)	19.4 (9.3)	19.3 (9.2)	18.9 (8.7)	19.1 (9.0)
Median (Min – Max)	17.5 (2.7 – 142.7)	17.8 (2.3 – 141.8)	17.4 (2.0 – 115.8)	17.6 (2.0 – 141.8)
Missing, No. (%)	2,291 (14.8)	1,570 (15.1)	1,298 (11.7)	2,868 (13.3)
TRI classification, No. (%)				
Low <30	11,802 (89.3)	7,904 (89.5)	8,954 (91.0)	16,858 (90.3)
Intermediate 30–70	1,391 (10.5)	902 (10.2)	875 (8.9)	1,777 (9.5)
High >70	30 (0.2)	21 (0.2)	14 (0.1)	35 (0.2)
Missing	2,291	1,570	1,298	2,868



Year	2013 – 2014	2015	2016	2015 – 2016
Total no. of procedures	15,514	10,397	11,141	21,538
Baseline ECG, No. (%)				
Sinus rhythm	13,088 (84.4)	8,572 (82.4)	9,307 (83.5)	17,879 (83.0)
Atrial fibrillation	176 (1.1)	144 (1.4)	110 (1.0)	254 (1.2)
2 nd /3 rd AVB	43 (0.3)	27 (0.3)	32 (0.3)	59 (0.3)
LBBB	59 (0.4)	26 (0.3)	26 (0.2)	52 (0.2)
RBBB	39 (0.3)	28 (0.3)	25 (0.2)	53 (0.2)
HbA1c, %				
N	2,876	3,986	4,140	8,126
Mean (SD)	7.4 (2.5)	7.3 (2.1)	7.2 (2.0)	7.3 (2.0)
Median (Min – Max)	6.7 (4.0 – 32.0)	6.6 (4.0 – 18.2)	6.5 (4.1 – 29.6)	6.6 (4.0 – 29.6)
Not available, No. (%)	7,344 (47.3)	4,260 (41.0)	4,887 (43.9)	9,147 (42.5)
Missing, No. (%)	5,294 (34.1)	2,151 (20.7)	2,114 (19.0)	4,265 (19.8)
NYHA, No. (%)				
Total no. of procedures among patients with history heart failure	N = 653	N = 409	N = 508	N = 917
NYHA I	307 (50.2)	193 (48.1)	242 (48.7)	435 (48.4)
NYHA II	212 (34.6)	173 (43.1)	209 (42.1)	382 (42.5)
NYHA III	59 (9.6)	23 (5.7)	30 (6.0)	53 (5.9)
NYHA IV	34 (5.6)	12 (3.0)	16 (3.2)	28 (3.1)
Not available	31	5	8	13
Missing	10	3	3	6
Functional ischaemia, No. (%)				
Positive	1,165 (83.0)	562 (88.5)	635 (91.4)	1,197 (90.0)
Negative	95 (6.8)	20 (3.1)	18 (2.6)	38 (2.9)
Equivocal	143 (10.2)	53 (8.3)	42 (6.0)	95 (7.1)
Not applicable	6,481	2,971	2,941	5,912
Missing	7,630	6,791	7,505	14,296
Canadian Cardiovascular Score (CCS), No. (%)				
CCS 1	5,129 (39.5)	2,955 (33.5)	3,461 (36.4)	6,416 (35.0)
CCS 2	3,756 (28.9)	2,778 (31.5)	2,494 (26.2)	5,272 (28.8)
CCS 3	726 (5.6)	688 (7.8)	565 (5.9)	1,253 (6.8)
CCS 4	1,001 (7.7)	424 (4.8)	464 (4.9)	888 (4.8)
Asymptomatic	2,381 (18.3)	1,985 (22.5)	2,518 (26.5)	4,503 (24.6)
Not available	1,136	446	376	822
Missing	1,385	1,121	1,263	2,384
*Intra-aortic balloon pump (IABP), No. (%)				
Yes	251 (1.7)	130 (1.3)	89 (0.8)	219 (1.0)
No	14,919 (98.3)	10,172 (98.7)	11,021 (99.2)	21,193 (99.0)
Not applicable	344	95	31	126



Year	2013 – 2014	2015	2016	2015 – 2016
Total no. of procedures	15,514	10,397	11,141	21,538
Acute coronary syndrome, No. (%)				
Yes	5,418 (34.9)	4,168 (40.1)	4,258 (38.2)	8,426 (39.1)
No	10,096 (65.1)	6,229 (59.9)	6,883 (61.8)	13,112 (60.9)
ACS type, No. (%)				
Total no. of procedures among patients with ACS	N = 5,418	N = 4,168	N = 4,258	N = 8,426
STEMI	3,115 (58.3)	2,351 (56.9)	2,537 (60.0)	4,888 (58.4)
NSTEMI	1,279 (24.0)	1,064 (25.7)	1,155 (27.3)	2,219 (26.5)
UA	946 (17.7)	719 (17.4)	538 (12.7)	1,257 (15.0)
Not available	78	34	28	62
STEMI, No. (%)				
Total no. of procedures among patients with ACS-STEMI	N = 3,115	N = 2,351	N = 2,537	N = 4,888
Anterior	1,749 (60.0)	1,297 (56.0)	1,423 (57.2)	2,720 (56.6)
Non-anterior	1,166 (40.0)	1,021 (44.0)	1,066 (42.8)	2,087 (43.4)
Not available	150	32	48	80
Missing	50	1	0	1
Ejection fraction (EF) status				
N	5,470	3,987	4,336	8,323
Mean (SD)	50.8 (12.6)	50.4 (12.8)	49.7 (12.5)	50.0 (12.6)
Median (Min – Max)	52.0 (10.0 – 80.0)	50.0 (10.0 – 80.0)	50.0 (10.0 – 80.0)	50.0 (10.0 – 80.0)
Not available, No. (%)	8,188 (52.8)	4,951 (47.6)	5,152 (46.2)	10,103 (46.9)
Missing, No. (%)	1,856 (12.0)	1,459 (14.0)	1,653 (14.8)	3,112 (14.4)
Ejection fraction (EF) status, No. (%)				
<30	279 (5.1)	220 (5.5)	245 (5.7)	465 (5.6)
30 – <45	1,320 (24.1)	956 (24.0)	1,140 (26.3)	2,096 (25.2)
45 – <55	1,379 (25.2)	1,130 (28.3)	1,239 (28.6)	2,369 (28.5)
≥55	2,492 (45.6)	1,681 (42.2)	1,712 (39.5)	3,393 (40.8)
Not available	8,188	4,951	5,152	10,103
Missing	1,856	1,459	1,653	3,112
Killip class, No. (%)				
Total no. of procedures among patients with PCI-STEMI	N = 2,654	N = 1,986	N = 2,107	N = 4,093
I	1,579 (66.6)	1,405 (74.3)	1,583 (78.1)	2,988 (76.3)
II	322 (13.6)	183 (9.7)	165 (8.1)	348 (8.9)
III	76 (3.2)	36 (1.9)	40 (2.0)	76 (1.9)
IV	395 (16.7)	266 (14.1)	239 (11.8)	505 (12.9)
Not applicable/Not available	207	86	54	140
Missing	75	10	26	36



Year	2013 – 2014	2015	2016	2015 – 2016
Total no. of procedures	15,514	10,397	11,141	21,538
^STEMI: Time-to-treatment analysis				
Total no. of procedures among patients with primary PCI	N = 884	N = 793	N = 845	N = 1,638
Symptom-to-door time, minutes				
N	517	509	590	1,099
Mean (SD)	278.0 (249.3)	275.8 (237.2)	250.2 (216.4)	262.0 (226.5)
Median (Min – Max)	200.0 (10.0 – 1440.0)	196.0 (10.0 – 1375.0)	190.0 (10.0 – 1350.0)	194.0 (10.0 – 1375.0)
Not available, No. (%)	115 (13.0)	118 (14.9)	101 (12.0)	219 (13.4)
Missing, No. (%)	252 (28.5)	166 (20.9)	154 (18.2)	320 (19.5)
Door-to-balloon time, minutes				
N	441	465	558	1,023
Mean (SD)	146.4 (133.5)	140.1 (117.4)	131.7 (103.2)	135.5 (109.9)
Median (Min – Max)	100.0 (15.0 – 705.0)	104.0 (10.0 – 720.0)	98.5 (14.0 – 679.0)	101.0 (10.0 – 720.0)
Not available, No. (%)	74 (8.4)	54 (6.8)	61 (7.2)	115 (7.0)
Missing, No. (%)	369 (41.7)	274 (34.6)	226 (26.7)	500 (30.5)
Door-to-balloon time, minutes, No. (%)				
<90	180 (40.8)	205 (44.1)	233 (41.8)	438 (42.8)
≥90	261 (59.2)	260 (55.9)	325 (58.2)	585 (57.2)
Not available, No.	74	54	61	115
Missing, No.	369	274	226	500
Transfer time				
N	155	255	312	567
Mean (SD)	177.0 (181.9)	125.3 (131.7)	103.9 (114.5)	113.5 (122.9)
Median (Min – Max)	95.0 (10.0 – 720.0)	78.0 (10.0 – 705.0)	65.0 (10.0 – 715.0)	73.0 (10.0 – 715.0)
Not available, No. (%)	261 (29.5)	250 (31.5)	238 (28.2)	488 (29.8)
Missing, No. (%)	468 (52.9)	288 (36.3)	295 (34.9)	583 (35.6)
Glomerular filtration rate (GFR), MDRD, No. (%)				
<15	419 (3.2)	306 (3.4)	391 (4.0)	697 (3.7)
15 – <30	279 (2.1)	167 (1.9)	178 (1.8)	345 (1.8)
30 – <45	681 (5.2)	433 (4.9)	479 (4.9)	912 (4.9)
45 – <60	1,674 (12.7)	1,063 (11.9)	1,098 (11.1)	2,161 (11.5)
≥60	10,141 (76.9)	6,931 (77.9)	7,720 (78.2)	14,651 (78.1)
Missing	2,320	1,497	1,275	2,772

*LABP 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).

^New acceptable range has been used for the analysis.

**Table 2.2.1 Time to treatment for STEMI, with transfer, NCD-PCI Registry, 2013–2016**

Year	2013 – 2014	2015	2016	2015 – 2016
Total no. of procedures	15,514	10,397	11,141	21,538
Total no. of procedures with primary PCI (with transfer)	N = 630	N = 563	N = 627	N = 1,190
Symptom-to-door time (minutes)				
N	364	351	453	804
Mean (SD)	300.8 (263.5)	271.8 (218.3)	255.1 (204.2)	262.4 (210.5)
Median (Min – Max)	215.0 (10.0 – 1440.0)	210.0 (10.0 – 1345.0)	203.0 (20.0 – 1350.0)	204.0 (10.0 – 1350.0)
Not available, No. (%)	34 (5.4)	51 (9.1)	30 (4.8)	81 (6.8)
Missing, No. (%)	232 (36.8)	161 (28.6)	144 (23.0)	305 (25.6)
Door-to-balloon time (minutes)				
N	279	306	413	719
Mean (SD)	173.5 (152.3)	161.4 (127.4)	133.8 (103.5)	145.5 (115.0)
Median (Min – Max)	120.0 (20.0 – 705.0)	120.0 (26.0 – 720.0)	103.0 (17.0 – 679.0)	109.0 (17.0 – 720.0)
Not available, No. (%)	1 (0.2)	2 (0.4)	4 (0.6)	6 (0.5)
Missing, No. (%)	350 (55.6)	255 (45.3)	210 (33.5)	465 (39.1)
Transfer-to-PCI centre time, (minutes)				
N	155	255	312	567
Mean (SD)	177.0 (181.9)	125.3 (131.7)	103.9 (114.5)	113.5 (122.9)
Median (Min – Max)	95.0 (10.0 – 720.0)	78.0 (10.0 – 705.0)	65.0 (10.0 – 715.0)	73.0 (10.0 – 715.0)
Not available, No. (%)	7 (1.1)	20 (3.6)	20 (3.2)	40 (3.4)
Missing, No. (%)	468 (74.3)	288 (51.2)	295 (47.0)	583 (49.0)
Symptom-to-balloon time (minutes)				
N	399	363	456	819
Mean (SD)	380.3 (269.1)	328.6 (218.2)	318.6 (210.5)	323.0 (213.9)
Median (Min – Max)	286.0 (20.0 – 1440.0)	271.0 (53.0 – 1375.0)	264.0 (47.0 – 1403.0)	269.0 (47.0 – 1403.0)
Not available, No. (%)	42 (6.7)	41 (7.3)	20 (3.2)	61 (5.1)
Missing, No. (%)	189 (30.0)	159 (28.2)	151 (24.1)	310 (26.1)

**Table 2.2.2 Time to treatment for STEMI, without transfer, NCVD-PCI Registry, 2013–2016**

Year	2013 – 2014	2015	2016	2015 – 2016
Total no. of procedures	15,514	10,397	11,141	21,538
Total no. of procedures with primary PCI (without transfer)	N = 254	N = 230	N = 218	N = 448
Symptom-to-door time (minutes)				
N	153	158	137	295
Mean (SD)	223.7 (202.5)	284.6 (275.1)	233.7 (252.9)	261.0 (265.8)
Median (Min – Max)	168.0 (10.0 – 1311.0)	180.0 (15.0 – 1375.0)	148.0 (10.0 – 1224.0)	162.0 (10.0 – 1375.0)
Not available, No. (%)	81 (31.9)	67 (29.1)	71 (32.6)	138 (30.8)
Missing, No. (%)	20 (7.9)	5 (2.2)	10 (4.6)	15 (3.3)
Door-to-balloon time (minutes)				
N	162	159	145	304
Mean (SD)	99.6 (72.1)	99.0 (81.0)	125.7 (102.5)	111.7 (92.7)
Median (Min – Max)	81.5 (15.0 – 578.0)	73.0 (10.0 – 508.0)	92.0 (14.0 – 639.0)	80.0 (10.0 – 639.0)
Not available, No. (%)	73 (28.7)	52 (22.6)	57 (26.1)	109 (24.3)
Missing, No. (%)	19 (7.5)	19 (8.3)	16 (7.3)	35 (7.8)
Symptom-to-balloon time (minutes)				
N	159	149	142	291
Mean (SD)	303.6 (216.4)	381.1 (277.2)	333.4 (258.9)	357.8 (269.1)
Median (Min – Max)	249.0 (11.0 – 1362.0)	280.0 (26.0 – 1350.0)	247.0 (16.0 – 1400.0)	257.0 (16.0 – 1400.0)
Not available, No. (%)	83 (32.7)	75 (32.6)	69 (31.7)	144 (32.1)
Missing, No. (%)	12 (4.7)	6 (2.6)	7 (3.2)	13 (2.9)



Table 2.3 Comparison of heart rate according to PCI status, NCVD-PCI Registry, 2013–2016

Year	Heart rate (beats/minute)	Elective	NSTEMI/UA	STEMI
		No. (%)	No. (%)	No. (%)
2013-2014	<60	1,822 (18.2)	150 (12.1)	198 (8.5)
	60 – 80	5,879 (58.6)	677 (54.5)	924 (39.4)
	>80 – 100	1,947 (19.4)	326 (26.2)	794 (33.9)
	>100	384 (3.8)	89 (7.2)	427 (18.2)
	Missing	1,456	130	311
	Total	11,488	1,372	2,654
2015	<60	1,027 (16.0)	117 (11.7)	161 (9.4)
	60 – 80	3,761 (58.7)	537 (53.8)	699 (41.0)
	>80 – 100	1,355 (21.2)	277 (27.7)	537 (31.5)
	>100	259 (4.0)	68 (6.8)	308 (18.1)
	Missing	873	137	281
	Total	7,275	1,136	1,986
2016	<60	1,168 (16.0)	141 (13.5)	167 (8.9)
	60 – 80	4,260 (58.5)	578 (55.2)	811 (43.1)
	>80 – 100	1,572 (21.6)	267 (25.5)	621 (33.0)
	>100	280 (3.8)	61 (5.8)	284 (15.1)
	Missing	585	122	224
	Total	7,865	1,169	2,107
2015-2016	<60	2,195 (16.0)	258 (12.6)	328 (9.1)
	60 – 80	8,021 (58.6)	1,115 (54.5)	1,510 (42.1)
	>80 – 100	2,927 (21.4)	544 (26.6)	1,158 (32.3)
	>100	539 (3.9)	129 (6.3)	592 (16.5)
	Missing	1,458	259	505
	Total	15,140	2,305	4,093



Table 2.4 Comparison of heart rate according to ACS subtypes, NCVD-PCI Registry, 2013–2016

Year	Heart rate (beats/min)	STEMI	NSTEMI	UA	Not available
		No (%)	No (%)	No (%)	No (%)
2013-2014	<60	267 (9.7)	145 (12.6)	131 (15.8)	9 (13.8)
	60-80	1,155 (42.1)	647 (56.2)	471 (56.9)	33 (50.8)
	>80-100	877 (32.0)	283 (24.6)	195 (23.6)	19 (29.2)
	>100	444 (16.2)	77 (6.7)	31 (3.7)	4 (6.2)
	Missing	372	127	118	13
	Total	3,115	1,279	946	78
2015	<60	219 (10.8)	111 (11.7)	90 (14.0)	3 (12.0)
	60-80	918 (45.1)	534 (56.3)	381 (59.2)	11 (44.0)
	>80-100	586 (28.8)	250 (26.3)	148 (23.0)	9 (36.0)
	>100	311 (15.3)	54 (5.7)	25 (3.9)	2 (8.0)
	Missing	317	115	75	9
	Total	2,351	1,064	719	34
2016	<60	225 (9.9)	144 (13.8)	62 (13.2)	5 (23.8)
	60-80	1,058 (46.6)	598 (57.3)	274 (58.2)	12 (57.1)
	>80-100	692 (30.5)	246 (23.6)	119 (25.3)	4 (19.0)
	>100	294 (13.0)	55 (5.3)	16 (3.4)	0 (0.0)
	Missing	268	112	67	7
	Total	2,537	1,155	538	28
2015-2016	<60	444 (10.3)	255 (12.8)	152 (13.6)	8 (17.4)
	60-80	1,976 (45.9)	1,132 (56.8)	655 (58.7)	23 (50.0)
	>80-100	1,278 (29.7)	496 (24.9)	267 (23.9)	13 (28.3)
	>100	605 (14.1)	109 (5.5)	41 (3.7)	2 (4.3)
	Missing	585	227	142	16
	Total	4,888	2,219	1,257	62

Table 2.5 Comparison of systolic blood pressure according to PCI status, NCVD-PCI Registry, 2013–2016

Year	Systolic BP (mmHg)	Elective	NSTEMI	STEMI
		No. (%)	No. (%)	No. (%)
2013-2014	<90	88 (0.9)	31 (2.5)	170 (7.4)
	≥90	9,775 (99.1)	1,200 (97.5)	2,138 (92.6)
	Missing	1,625	141	346
	Total	11,488	1,372	2,654
2015	<90	52 (0.8)	14 (1.5)	92 (5.5)
	≥90	6,233 (99.2)	948 (98.5)	1,583 (94.5)
	Missing	990	174	311
	Total	7,275	1,136	1,986
2016	<90	50 (0.7)	18 (1.8)	73 (4.0)
	≥90	7,004 (99.3)	1,007 (98.2)	1,746 (96.0)
	Missing	811	144	288
	Total	7,865	1,169	2,107
2015-2016	<90	102 (0.8)	32 (1.6)	165 (4.7)
	≥90	13,237 (99.2)	1,955 (98.4)	3,329 (95.3)
	Missing	1,801	318	599
	Total	15,140	2,305	4,093


Table 2.6 Comparison of arterial blood pressure according to PCI status, NCD-PCI Registry, 2013–2016

Year	Arterial blood pressure, mmHg	Elective	NSTEMI	STEMI
2013-2014	N	9,829	1,228	2,294
	Mean (SD)	97.8 (14.6)	95.3 (15.5)	91.9 (17.6)
	Median (Min – Max)	97.0 (36.0 – 152.7)	95.2 (35.7 – 150.0)	91.7 (33.3 – 150.0)
	Missing, No. (%)	1,659 (14.4)	144 (10.5)	360 (13.6)
2015	N	6,274	958	1,663
	Mean (SD)	99.0 (15.1)	97.4 (16.2)	93.4 (17.3)
	Median (Min – Max)	98.3 (34.7 – 153.3)	96.7 (44.7 – 143.3)	92.3 (42.3 – 151.3)
	Missing, No. (%)	1,001 (13.8)	178 (15.7)	323 (16.3)
2016	N	7,025	1,019	1,806
	Mean (SD)	98.5 (14.8)	97.2 (16.0)	94.7 (17.1)
	Median (Min – Max)	98.0 (40.0 – 154.3)	97.3 (48.3 – 147.0)	93.8 (47.0 – 154.3)
	Missing, No. (%)	840 (10.7)	150 (12.8)	301 (14.3)
2015-2016	N	13,299	1,977	3,469
	Mean (SD)	98.7 (14.9)	97.3 (16.1)	94.1 (17.2)
	Median (Min – Max)	98.3 (34.7 – 154.3)	97.0 (44.7 – 147.0)	93.3 (42.3 – 154.3)
	Missing, No. (%)	1,841 (12.2)	328 (14.2)	624 (15.2)

Table 2.7 Comparison of TIMI risk index according to PCI status, NCD-PCI Registry, 2013–2016

Year	TIMI Risk Index	Elective	NSTEMI	STEMI
		No. (%)	No. (%)	No. (%)
2013-2014	Low (<30)	8,948 (91.9)	1,027 (84.7)	1,827 (80.2)
	Intermediate (30 – 70)	783 (8.0)	178 (14.7)	430 (18.9)
	High (>70)	3 (0.0)	7 (0.6)	20 (0.9)
	Missing	1,754	160	377
	Total	11,488	1,372	2,654
2015	Low (<30)	5,732 (92.2)	810 (84.5)	1,362 (82.5)
	Intermediate (30 – 70)	476 (7.7)	148 (15.4)	278 (16.8)
	High (>70)	10 (0.2)	1 (0.1)	10 (0.6)
	Missing	1,057	177	336
	Total	7,275	1,136	1,986
2016	Low (<30)	6,536 (93.0)	893 (87.6)	1,525 (84.9)
	Intermediate (30 – 70)	488 (6.9)	124 (12.2)	263 (14.6)
	High (>70)	3 (0.0)	2 (0.2)	9 (0.5)
	Missing	838	150	310
	Total	7,865	1,169	2,107
2015-2016	Low (<30)	12,268 (92.6)	1,703 (86.1)	2,887 (83.8)
	Intermediate (30 – 70)	964 (7.3)	272 (13.8)	541 (15.7)
	High (>70)	13 (0.1)	3 (0.2)	19 (0.6)
	Missing	1,895	327	646
	Total	15,140	2,305	4,093



Table 2.8 Comparison of ejection fraction according to PCI status, NCVD-PCI Registry, 2013–2016

Year	Ejection fraction (EF)	Elective	NSTEMI	STEMI
		No. (%)	No. (%)	No. (%)
2013-2014	<30	221 (5.0)	26 (5.7)	32 (5.4)
	30 – <45	964 (21.8)	115 (25.3)	241 (40.6)
	45 – <55	1,058 (23.9)	112 (24.6)	209 (35.2)
	≥55	2,178 (49.3)	202 (44.4)	112 (18.9)
	Not available	5,669	763	1,756
	Missing	1,398	154	304
	Total	11,488	1,372	2,654
2015	<30	166 (5.3)	26 (7.2)	28 (5.6)
	30 – <45	674 (21.5)	83 (23.1)	199 (39.9)
	45 – <55	852 (27.2)	99 (27.6)	179 (35.9)
	≥55	1,437 (45.9)	151 (42.1)	93 (18.6)
	Not available	3,194	593	1,164
	Missing	952	184	323
	Total	7,275	1,136	1,986
2016	<30	196 (5.7)	17 (4.7)	32 (5.7)
	30 – <45	832 (24.4)	92 (25.5)	216 (38.6)
	45 – <55	928 (27.2)	104 (28.8)	207 (37.0)
	≥55	1,460 (42.7)	148 (41.0)	104 (18.6)
	Not available	3,419	604	1,129
	Missing	1,030	204	419
	Total	7,865	1,169	2,107
2015-2016	<30	362 (5.5)	43 (6.0)	60 (5.7)
	30 – <45	1,506 (23.0)	175 (24.3)	415 (39.2)
	45 – <55	1,780 (27.2)	203 (28.2)	386 (36.5)
	≥55	2,897 (44.3)	299 (41.5)	197 (18.6)
	Not available	6,613	1,197	2,293
	Missing	1,982	388	742
	Total	15,140	2,305	4,093



Table 2.9 Comparison of NYHA according to PCI status among patients with heart failure, NCVD-PCI Registry, 2013–2016

Year	Ejection fraction (EF)	Elective	NSTEMI	STEMI
		No. (%)	No. (%)	No. (%)
2013-2014	NYHA I	259 (54.4)	28 (34.6)	20 (36.4)
	NYHA II	173 (36.3)	31 (38.3)	8 (14.5)
	NYHA III	38 (8.0)	14 (17.3)	7 (12.7)
	NYHA IV	6 (1.3)	8 (9.9)	20 (36.4)
	Not available	24	1	6
	Missing	6	1	3
	Total	506	83	64
2015	NYHA I	146 (49.8)	26 (37.7)	21 (53.8)
	NYHA II	133 (45.4)	30 (43.5)	10 (25.6)
	NYHA III	10 (3.4)	11 (15.9)	2 (5.1)
	NYHA IV	4 (1.4)	2 (2.9)	6 (15.4)
	Not available	3	2	0
	Missing	3	0	0
	Total	299	71	39
2016	NYHA I	198 (51.2)	25 (38.5)	19 (42.2)
	NYHA II	170 (43.9)	30 (46.2)	9 (20.0)
	NYHA III	16 (4.1)	6 (9.2)	8 (17.8)
	NYHA IV	3 (0.8)	4 (6.2)	9 (20.0)
	Not available	5	3	0
	Missing	3	0	0
	Total	395	68	45
2015-2016	NYHA I	344 (50.6)	51 (38.1)	40 (47.6)
	NYHA II	303 (44.6)	60 (44.8)	19 (22.6)
	NYHA III	26 (3.8)	17 (12.7)	10 (11.9)
	NYHA IV	7 (1.0)	6 (4.5)	15 (17.9)
	Not available	8	5	0
	Missing	6	0	0
	Total	694	139	84

**Table 2.10 Comparison of previous PCI according to PCI status, NCVD-PCI Registry, 2013–2016**

Year	Previous PCI	Elective	NSTEMI	STEMI
		No. (%)	No. (%)	No. (%)
2013-2014	Yes	3,005 (26.2)	285 (20.8)	197 (7.4)
	No	8,483 (73.8)	1,087 (79.2)	2,457 (92.6)
	Total	11,488	1,372	2,654
2015	Yes	2,071 (28.5)	270 (23.8)	135 (6.8)
	No	5,204 (71.5)	866 (76.2)	1,851 (93.2)
	Total	7,275	1,136	1,986
2016	Yes	2,340 (29.8)	293 (25.1)	132 (6.3)
	No	5,525 (70.2)	876 (74.9)	1,975 (93.7)
	Total	7,865	1,169	2,107
2015-2016	Yes	4,411 (29.1)	563 (24.4)	267 (6.5)
	No	10,729 (70.9)	1,742 (75.6)	3,826 (93.5)
	Total	15,140	2,305	4,093

Table 2.10.1 Comparison of previous PCI according to elective PCI status, NCVD-PCI Registry, 2013–2016

Year	Previous PCI	Staged PCI	Ad hoc	Not available
		No. (%)	No. (%)	No. (%)
2013-2014	Yes	1,586 (46.0)	1,415 (17.8)	4 (4.9)
	No	1,865 (54.0)	6,541 (82.2)	77 (95.1)
	Total	3,451	7,956	81
2015	Yes	1,238 (50.5)	816 (17.3)	17 (16.5)
	No	1,214 (49.5)	3,904 (82.7)	86 (83.5)
	Total	2,452	4,720	103
2016	Yes	1,374 (54.2)	958 (18.2)	8 (14.3)
	No	1,163 (45.8)	4,314 (81.8)	48 (85.7)
	Total	2,537	5,272	56
2015-2016	Yes	2,612 (52.4)	1,774 (17.8)	25 (15.7)
	No	2,377 (47.6)	8,218 (82.2)	134 (84.3)
	Total	4,989	9,992	159



Table 2.10.2 Comparison of previous PCI according to NSTEMI/UA PCI status, NCD-PCI Registry, 2013–2016

Year	Previous PCI	Urgent	Non-urgent	Not available
		No. (%)	No. (%)	No. (%)
2013-2014	Yes	72 (16.1)	212 (23.2)	1 (7.1)
	No	374 (83.9)	700 (76.8)	13 (92.9)
	Total	446	912	14
2015	Yes	50 (17.5)	216 (25.9)	4 (25.0)
	No	236 (82.5)	618 (74.1)	12 (75.0)
	Total	286	834	16
2016	Yes	60 (22.1)	231 (26.0)	2 (22.2)
	No	212 (77.9)	657 (74.0)	7 (77.8)
	Total	272	888	9
2015-2016	Yes	110 (19.7)	447 (26.0)	6 (24.0)
	No	448 (80.3)	1,275 (74.0)	19 (76.0)
	Total	558	1,722	25

Table 2.10.3 Comparison of previous PCI according to STEMI PCI status, NCD-PCI Registry, 2013–2016

Year	Previous PCI	Rescue	Primary	Facilitated	Delayed routine PCI	Delayed selective PCI	Pharmaco-invasive	Not available	Missing
		No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
2013-2014	Yes	41 (4.9)	93 (10.5)	5 (7.4)	29 (6.5)	21 (8.5)	4 (3.1)	3 (12.0)	1 (11.1)
	No	803 (95.1)	791 (89.5)	63 (92.6)	418 (93.5)	225 (91.5)	127 (96.9)	22 (88.0)	8 (88.9)
	Total	844 (100.0)	884 (100.0)	68 (100.0)	447 (100.0)	246 (100.0)	131 (100.0)	25 (100.0)	9 (100.0)
2015	Yes	23 (5.3)	69 (8.7)	2 (3.1)	15 (5.5)	15 (6.3)	11 (6.6)	0 (0.0)	0 (0.0)
	No	410 (94.7)	724 (91.3)	63 (96.9)	259 (94.5)	223 (93.7)	156 (93.4)	14 (100.0)	2 (100.0)
	Total	433 (100.0)	793 (100.0)	65 (100.0)	274 (100.0)	238 (100.0)	167 (100.0)	14 (100.0)	2 (100.0)
2016	Yes	26 (7.1)	62 (7.3)	4 (3.1)	14 (4.4)	17 (7.2)	9 (4.6)	0 (0.0)	0 (0.0)
	No	341 (92.9)	783 (92.7)	123 (96.9)	305 (95.6)	220 (92.8)	185 (95.4)	18 (100.0)	0 (0.0)
	Total	367 (100.0)	845 (100.0)	127 (100.0)	319 (100.0)	237 (100.0)	194 (100.0)	18 (100.0)	0 (100.0)
2015-2016	Yes	49 (6.1)	131 (8.0)	6 (3.1)	29 (4.9)	32 (6.7)	20 (5.5)	0 (0.0)	0 (0.0)
	No	751 (93.9)	1,507 (92.0)	186 (96.9)	564 (95.1)	443 (93.3)	341 (94.5)	32 (100.0)	2 (100.0)
	Total	800 (100.0)	1,638 (100.0)	192 (100.0)	593 (100.0)	475 (100.0)	361 (100.0)	32 (100.0)	2 (100.0)



Table 2.11 Comparison of HbA1c according to PCI status, NCD-PCI Registry, 2013–2016

Year	HbA1c (mmol/L)	Elective	NSTEMI/UA	STEMI
		No. (%)	No. (%)	No. (%)
2013-2014	N	2,490	157	229
	Mean (SD)	7.4 (2.4)	7.6 (3.0)	7.8 (3.3)
	Median (Min – Max)	6.7 (4.0 – 32.0)	6.9 (4.2 – 31.0)	6.5 (4.4 – 32.0)
	Not available, No. (%)	5,258 (45.8)	711 (51.8)	1,375 (51.8)
	Missing, No. (%)	3,740 (32.6)	504 (36.7)	1,050 (39.6)
2015	N	3,033	419	534
	Mean (SD)	7.2 (2.0)	7.5 (2.2)	7.4 (2.4)
	Median (Min – Max)	6.6 (4.0 – 16.8)	6.9 (4.3 – 18.2)	6.4 (4.5 – 16.9)
	Not available, No. (%)	2,830 (38.9)	465 (40.9)	965 (48.6)
	Missing, No. (%)	1,412 (19.4)	252 (22.2)	487 (24.5)
2016	N	3,394	317	429
	Mean (SD)	7.2 (1.9)	7.3 (2.1)	7.7 (2.4)
	Median (Min – Max)	6.5 (4.1 – 29.6)	6.5 (4.1 – 17.0)	6.6 (4.3 – 15.6)
	Not available, No. (%)	3,187 (40.5)	566 (48.4)	1,134 (53.8)
	Missing, No. (%)	1,284 (16.3)	286 (24.5)	544 (25.8)
2015-2016	N	6,427	736	963
	Mean (SD)	7.2 (2.0)	7.4 (2.2)	7.5 (2.4)
	Median (Min – Max)	6.5 (4.0 – 29.6)	6.7 (4.1 – 18.2)	6.5 (4.3 – 16.9)
	Not available, No. (%)	6,017 (39.7)	1,031 (44.7)	2,099 (51.3)
	Missing, No. (%)	2,696 (17.8)	538 (23.3)	1,031 (25.2)

Table 2.12 Comparison of baseline creatinine according to PCI status, NCD-PCI Registry, 2013–2016

Year	Baseline creatinine (mmol/L)	Elective	NSTEMI/UA	STEMI
		No. (%)	No. (%)	No. (%)
2013-2014	N	10,067	1,181	1,970
	Mean (SD)	116.2 (117.3)	127.6 (144.1)	108.9 (92.7)
	Median (Min – Max)	92.0 (44.0 – 1632.0)	92.0 (44.0 – 1606.0)	92.0 (44.0 – 1615.0)
	Not available, No. (%)	666 (5.8)	88 (6.4)	368 (13.9)
	Missing, No. (%)	755 (6.6)	103 (7.5)	316 (11.9)
2015	N	6,378	971	1,540
	Mean (SD)	116.0 (121.6)	134.0 (166.3)	103.6 (80.9)
	Median (Min – Max)	91.0 (44.0 – 1434.0)	89.0 (45.0 – 1688.0)	89.0 (44.0 – 1322.0)
	Not available, No. (%)	341 (4.7)	59 (5.2)	229 (11.5)
	Missing, No. (%)	556 (7.6)	106 (9.3)	217 (10.9)
2016	N	7,183	1,006	1,651
	Mean (SD)	120.9 (133.5)	126.9 (148.3)	104.5 (75.8)
	Median (Min – Max)	91.0 (44.0 – 1911.0)	88.0 (44.0 – 1572.0)	88.0 (44.0 – 1084.1)
	Not available, No. (%)	252 (3.2)	51 (4.4)	239 (11.3)
	Missing, No. (%)	430 (5.5)	112 (9.6)	217 (10.3)
2015-2016	N	13,561	1,977	3,191
	Mean (SD)	118.6 (128.0)	130.4 (157.4)	104.1 (78.3)
	Median (Min – Max)	91.0 (44.0 – 1911.0)	89.0 (44.0 – 1688.0)	88.0 (44.0 – 1322.0)
	Not available, No. (%)	593 (3.9)	110 (4.8)	468 (11.4)
	Missing, No. (%)	986 (6.5)	218 (9.5)	434 (10.6)



Table 2.13 Comparison of GFR according to PCI status, NCVD-PCI Registry, 2013–2016

Year	GFR	Elective	NSTEMI/UA	STEMI
		No. (%)	No. (%)	No. (%)
2013-2014	N	10,093	1,183	1,918
	Mean (SD)	75.3 (25.7)	74.2 (29.5)	78.4 (26.9)
	Median (Min – Max)	75.8 (2.7 – 198.6)	75.0 (3.1 – 185.2)	77.8 (2.8 – 200.5)
	Missing, No. (%)	1,395 (12.1)	189 (13.8)	736 (27.7)
2015	N	6,393	976	1,531
	Mean (SD)	76.4 (26.1)	75.4 (30.6)	81.2 (27.4)
	Median (Min – Max)	77.1 (3.4 – 175.0)	77.5 (2.6 – 186.5)	80.9 (3.7 – 189.1)
	Missing, No. (%)	882 (12.1)	160 (14.1)	455 (22.9)
2016	N	7,206	1,009	1,651
	Mean (SD)	75.8 (26.4)	75.6 (29.2)	80.2 (27.6)
	Median (Min – Max)	77.2 (2.3 – 193.8)	78.8 (3.2 – 170.0)	80.4 (4.3 – 194.1)
	Missing, No. (%)	659 (8.4)	160 (13.7)	456 (21.6)
2015-2016	N	13,599	1,985	3,182
	Mean (SD)	76.1 (26.2)	75.5 (29.9)	80.7 (27.5)
	Median (Min – Max)	77.2 (2.3 – 193.8)	78.0 (2.6 – 186.5)	80.7 (3.7 – 194.1)
	Missing, No. (%)	1,541 (10.2)	320 (13.9)	911 (22.3)

Table 2.14 Comparison of TC according to PCI status, NCVD-PCI Registry, 2013–2016

Year	Total cholesterol (mmol/L)	Elective	NSTEMI/UA	STEMI
		No. (%)	No. (%)	No. (%)
2013-2014	N	6,287	650	1,087
	Mean (SD)	4.4 (1.3)	4.7 (1.5)	5.2 (1.5)
	Median (Min – Max)	4.1 (2.0 – 25.0)	4.4 (2.0 – 25.0)	5.1 (2.0 – 15.0)
	Not available, No. (%)	3,524 (30.7)	489 (35.6)	1,015 (38.2)
	Missing, No. (%)	1,677 (14.6)	233 (17.0)	552 (20.8)
2015	N	4,288	623	840
	Mean (SD)	4.4 (1.3)	4.7 (1.3)	5.4 (1.5)
	Median (Min – Max)	4.1 (2.0 – 24.0)	4.5 (2.0 – 12.9)	5.3 (2.0 – 13.8)
	Not available, No. (%)	1,988 (27.3)	320 (28.2)	786 (39.6)
	Missing, No. (%)	999 (13.7)	193 (17.0)	360 (18.1)
2016	N	4,656	512	761
	Mean (SD)	4.3 (1.2)	4.8 (1.5)	5.4 (1.4)
	Median (Min – Max)	4.1 (2.0 – 14.2)	4.5 (2.1 – 13.7)	5.4 (2.0 – 12.1)
	Not available, No. (%)	2,335 (29.7)	437 (37.4)	951 (45.1)
	Missing, No. (%)	874 (11.1)	220 (18.8)	395 (18.7)
2015-2016	N	8,944	1,135	1,601
	Mean (SD)	4.3 (1.3)	4.7 (1.4)	5.4 (1.4)
	Median (Min – Max)	4.1 (2.0 – 24.0)	4.5 (2.0 – 13.7)	5.4 (2.0 – 13.8)
	Not available, No. (%)	4,323 (28.6)	757 (32.8)	1,737 (42.4)
	Missing, No. (%)	1,873 (12.4)	413 (17.9)	755 (18.4)



Table 2.15 Comparison of LDL according to PCI status, NCVD-PCI Registry, 2013–2016

Year	LDL cholesterol (mmol/L)	Elective	NSTEMI/UA	STEMI
		No. (%)	No. (%)	No. (%)
2013-2014	N	6,109	619	1,029
	Mean (SD)	2.5 (1.1)	2.8 (1.4)	3.4 (1.3)
	Median (Min – Max)	2.3 (0.8 – 20.0)	2.6 (0.8 – 18.0)	3.2 (0.8 – 13.8)
	Not available, No. (%)	3,661 (31.9)	522 (38.0)	1,061 (40.0)
	Missing, No. (%)	1,718 (15.0)	231 (16.8)	564 (21.3)
2015	N	4,096	604	778
	Mean (SD)	2.5 (1.1)	2.8 (1.2)	3.5 (1.3)
	Median (Min – Max)	2.3 (0.7 – 20.0)	2.7 (0.7 – 10.1)	3.4 (0.8 – 9.8)
	Not available, No. (%)	2,186 (30.0)	346 (30.5)	852 (42.9)
	Missing, No. (%)	993 (13.6)	186 (16.4)	356 (17.9)
2016	N	4,484	475	715
	Mean (SD)	2.5 (1.1)	2.9 (1.3)	3.5 (1.3)
	Median (Min – Max)	2.2 (0.8 – 12.1)	2.7 (0.8 – 9.9)	3.4 (0.8 – 10.8)
	Not available, No. (%)	2,474 (31.5)	473 (40.5)	1,008 (47.8)
	Missing, No. (%)	907 (11.5)	221 (18.9)	384 (18.2)
2015-2016	N	8,580	1,079	1,493
	Mean (SD)	2.5 (1.1)	2.9 (1.2)	3.5 (1.3)
	Median (Min – Max)	2.3 (0.7 – 20.0)	2.7 (0.7 – 10.1)	3.4 (0.8 – 10.8)
	Not available, No. (%)	4,660 (30.8)	819 (35.5)	1,860 (45.4)
	Missing, No. (%)	1,900 (12.5)	407 (17.7)	740 (18.1)



Table 2.16 Comparison of functional ischaemia according to PCI status, NCVD-PCI Registry, 2013–2016

Year	Functional ischaemia	Elective	NSTEMI/UA	STEMI
		No. (%)	No. (%)	No. (%)
2013-2014	Positive	1,050 (85.1)	63 (68.5)	52 (67.5)
	Negative	75 (6.1)	10 (10.9)	10 (13.0)
	Equivocal	109 (8.8)	19 (20.7)	15 (19.5)
	Not available	4,710	564	1,207
	Missing	5,544	716	1,370
	Total	11,488	1,372	2,654
2015	Positive	508 (90.4)	35 (79.5)	19 (65.5)
	Negative	16 (2.8)	2 (4.5)	2 (6.9)
	Equivocal	38 (6.8)	7 (15.9)	8 (27.6)
	Not available	2,034	333	604
	Missing	4,679	759	1,353
	Total	7,275	1,136	1,986
2016	Positive	532 (91.7)	53 (88.3)	50 (90.9)
	Negative	16 (2.8)	1 (1.7)	1 (1.8)
	Equivocal	32 (5.5)	6 (10.0)	4 (7.3)
	Not available	2,179	246	516
	Missing	5,106	863	1,536
	Total	7,865	1,169	2,107
2015-2016	Positive	1,040 (91.1)	88 (84.6)	69 (82.1)
	Negative	32 (2.8)	3 (2.9)	3 (3.6)
	Equivocal	70 (6.1)	13 (12.5)	12 (14.3)
	Not available	4,213	579	1,120
	Missing	9,785	1,622	2,889
	Total	15,140	2,305	4,093



Table 2.17 Comparison of ECG according to ACS subtypes, NCVD-PCI Registry, 2013–2016

Year	Heart rate (beats/minute)	STEMI	NSTEMI	UA	Not available
		No. (%)	No. (%)	No. (%)	No. (%)
2013-2014	Total	3,115	1,279	946	78
	Sinus rhythm	2,519 (46.5)	1,043 (19.3)	787 (14.5)	65 (1.2)
	Atrial fibrillation	37 (0.7)	17 (0.3)	7 (0.1)	0 (0.0)
	2nd/3rd 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)
	RBBB	10 (0.2)	5 (0.1)	4 (0.1)	0 (0.0)
2015	Total	2,351	1,064	719	34
	Sinus rhythm	1,866 (44.8)	856 (20.5)	572 (13.7)	28 (0.7)
	Atrial fibrillation	32 (0.8)	13 (0.3)	5 (0.1)	0 (0.0)
	2nd/3rd AVB	18 (0.4)	5 (0.1)	2 (0.0)	0 (0.0)
	LBBB	6 (0.1)	6 (0.1)	2 (0.0)	0 (0.0)
	RBBB	5 (0.1)	8 (0.2)	2 (0.0)	0 (0.0)
2016	Total	2,537	1,155	538	28
	Sinus rhythm	1,990 (46.7)	927 (21.8)	399 (9.4)	22 (0.5)
	Atrial fibrillation	18 (0.4)	14 (0.3)	4 (0.1)	0 (0.0)
	2nd/3rd AVB	24 (0.6)	3 (0.1)	0 (0.0)	0 (0.0)
	LBBB	8 (0.2)	3 (0.1)	3 (0.1)	1 (0.0)
	RBBB	8 (0.2)	5 (0.1)	2 (0.0)	0 (0.0)
2015-2016	Total	4,888	2,219	1,257	62
	Sinus rhythm	3,856 (45.8)	1,783 (21.2)	971 (11.5)	50 (0.6)
	Atrial fibrillation	50 (0.6)	27 (0.3)	9 (0.1)	0 (0.0)
	2nd/3rd AVB	42 (0.5)	8 (0.1)	2 (0.0)	0 (0.0)
	LBBB	14 (0.2)	9 (0.1)	5 (0.1)	1 (0.0)
	RBBB	13 (0.2)	13 (0.2)	4 (0.0)	0 (0.0)

Table 2.18 Comparison of IABP use according to ACS subtypes, NCVD-PCI Registry, 2013–2016

Year	IABP	STEMI	NSTEMI	UA	Not available
		No. (%)	No. (%)	No. (%)	No. (%)
2013-2014	Yes	161 (5.3)	31 (2.5)	7 (0.8)	0 (0.0)
	No	2,853 (94.7)	1,207 (97.5)	864 (99.2)	76 (100.0)
	Not applicable	101	41	75	2
	Total	3,115	1,279	946	78
2015	Yes	86 (3.7)	20 (1.9)	4 (0.6)	0 (0.0)
	No	2,243 (96.3)	1,025 (98.1)	701 (99.4)	31 (100.0)
	Not applicable	22	19	14	3
	Total	2,351	1,064	719	34
2016	Yes	53 (2.1)	12 (1.0)	3 (0.6)	0 (0.0)
	No	2,473 (97.9)	1,140 (99.0)	530 (99.4)	28 (100.0)
	Not applicable	11	3	5	0
	Total	2,537	1,155	538	28
2015-2016	Yes	139 (2.9)	32 (1.5)	7 (0.6)	0 (0.0)
	No	4,716 (97.1)	2,165 (98.5)	1,231 (99.4)	59 (100.0)
	Not applicable	33	22	19	3
	Total	4,888	2,219	1,257	62

*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).