



CHAPTER 3: CLINICAL PRESENTATIONS & INVESTIGATIONS

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Summary

1. The spectrum of ACS presentations in year 2011-2013 were almost similar compared to the registry in the year 2006-2010; commonest being STEMI (50.8% vs. 48.2%), followed by NSTEMI (26.0% vs. 29.4%) and unstable angina (23.2% vs. 22.4%).
2. The STEMI cohort had higher mean total cholesterol and LDL-C compared to those with NSTEMI/unstable angina.
3. Almost 70% of the STEMI and 41.4% of the NSTEMI/UA cohort were in the intermediate to high TIMI risk score group.
4. There was an increasing trend observed in STEMI patients presenting with Killip IV compared to past registry (13.4% vs. 6.0%).
5. Median pain to needle time was slightly better than the previous cohort (185 minutes vs. 240 minutes in the year 2006-2010).

This chapter presents the results of clinical presentation and investigations of patients who were notified and registered in the ACS Registry in the year 2011-2013. The outlines of discussion for this chapter are:

- 1) Epidemiology & Clinical Presentation
- 2) Diagnosis
- 3) Pre-Morbid Risk Factors: Diabetes, Dyslipidaemia and Hypertension
- 4) Timeliness to Treatment
- 5) Discussion

Epidemiology & Clinical Presentation

A total of 14,763 patients were notified and registered in the NCVD-ACS Registry in the year 2011-2013. Approximately half of the entire ACS cohort for the year 2011-2013 presented with STEMI (50.8%), followed by NSTEMI (26.0%) and unstable angina (23.2%).

Majority of the patients were male (78.8%), while females accounted for 21.2%. As observed in the past registry for the year 2006-2010, more male patients had STEMI compared to female patients (55.0% vs. 35.3%). However, compared to male patients, female patients had relatively higher percentage for NSTEMI (30.7% vs. 24.8%) and unstable angina (34.0% vs. 20.3%). [Table 3.3]

Female patients presented with higher SBP (median 140 mmHg vs. 133 mmHg), pulse pressure (median 61 mmHg vs. 52 mmHg), heart rate (median 84 per min vs. 80 per min) and HbA1c (median 7.5 mmol/L vs. 6.5 mmol/L). Meanwhile, male patients had higher LDL-C (median 3.2 mmol/L vs. 3.0 mmol/L), poorer left ventricular ejection fraction (median 46% vs. 50%) with higher percentage of ECG changes involving anterior, inferior, true posterior, and right ventricular leads compared to female patient who had higher percentage involving lateral leads. Female patients had longer pain to needle time (median 227 min vs. 180 min) and door to needle time (median 50 min vs. 42 min). [Table 3.3]

Younger patients (20-<40 year old) had the highest percentage with STEMI (68.3%) followed by middle-age (56.4%) and elderly (42.2%). More than half (57.8%) of the elderly group presented with NSTEMI and unstable angina. Elderly patients presented with higher systolic blood pressure (median 137 mmHg vs. 135 mmHg vs. 129 mmHg) and wider pulse pressure (59 mmHg vs. 51 mmHg vs. 48 mmHg, respectively). The young and



middle-age groups tend to have higher median total cholesterol, LDL-C and triglyceride, while the middle-age group had higher HbA1c level (median 6.9 mmol/L). Younger patients usually present with Killip class I, whereas more elderly patient presented with higher Killip class. Over the 3-year period, there had been a progressive increase in percentage of patients presenting with Killip class III-IV across all age group (5.0 vs. 8.2, 10.0 vs.12.0 and 11.4 vs. 15.8 for young, middle-age and elderly cohort, respectively). [Table 3.2]

Majority of the patients in the STEMI cohort presented with Killip class I (55.4%), while the remainders presented with class II (18.3%), III (4.5%) and IV (13.4%). There was a drastic increase in the percentage of STEMI patients presenting with Killip IV compared to the past registry (2006-2010), from 6.0% to 13.4%. [Table 3.1]

As for TIMI risk score, almost 70% of the STEMI cohort had intermediate (score of 3-4) to high score (score of \geq 5). There was slight increase in the high TIMI risk score group from 35% (year 2006-2010) to 39.4% (year 2011-2013). [Table 3.1]

Diagnosis

Majority of patients with STEMI presented with anterior infarct (53.4%) followed by inferior (46.2%), lateral (19.6%), true posterior (7.6%) and right ventricle (6%) infarct. These trends were observed across gender and all age groups. [Table 3.1]

The median percentage of left ventricular ejection fraction (LVEF) were lower in STEMI group (45.0%) compared to NSTEMI (48.0%), and unstable angina (54.2%). There were no obvious difference seen according to gender, age, and pre-morbid conditions. [Table 3.1]

Pre-Morbid Risk Factors

Diabetes Mellitus

About 43% of the patients had diabetes mellitus and this has remained the same across the 3-year period. The highest incidence were seen in STEMI (42.4%) followed by NSTEMI (30.8%) and unstable angina (26.8%). ACS patients with diabetes mellitus had higher SBP (median 138 mmHg vs. 133 mmHg), wider pulse pressure (median 57 mmHg vs. 52 mmHg), higher heart rate (median 85/min vs. 79/min), HbA1c (median 8.2 mmol/L vs. 5.8 mmol/L), higher Killip class III & IV at presentation (15.0% vs. 10.8%). There was no difference in lipid profile between diabetic and non-diabetic patients. [Table 3.4]

STEMI diabetic patients took longer time to treatment compared to non diabetic patients (median pain to needle time of 210 mins vs. 170 mins). [Table 3.4]

Hypertension

Over the 3-year period, there seemed to be a decreasing trend in percentage of ACS patients with hypertension (67.0 %, 65.6% and 63.2%, respectively) [Table 2.1]. More patients with STEMI had hypertension followed by NSTEMI and UA (42.2%, 29.4% and 28.4%, respectively). Hypertensive patient had wider pulse pressure (median 57 mmHg vs. 49 mmHg), higher heart rate at presentation (median 82/min vs. 80/min), higher Killip class III and IV (13.8% vs. 11.1%) and higher HbA1c (median 7.2 mmol/L vs. 6.4 mmol/L). [Table 3.5]

Dyslipidaemia

Dyslipidaemia was higher in STEMI (36.0%) as compared to unstable angina (34.2%) and NSTEMI (29.8%). Patients with dyslipidaemia had higher SBP (median 139 mmHg vs. 135 mmHg), wider pulse pressure (median 56 mmHg vs. 53 mmHg) and higher HbA1C (median 7.0 mmol/L vs. 6.9 mmol/L). [Table 3.6]

***Timeliness to Treatment***

Compared to the past registry, patients tended to present one hour earlier with median pain to needle time of three hours (185 minutes) vs. four hours (240 minutes) in the year 2006-2010. [Table 3.1]

Discussion

The findings may not reflect the level of care and management of ACS in Malaysia, as majority of the notifications were obtained from the coronary care units (CCUs) in the tertiary centres and hospitals, with cardiac care units. This may explain higher percentage of STEMI compared to NSTEMI/UA.

NSTEMI ACS patients may be under diagnosed as newer bio-markers (Troponin T and Troponin I) were not available in some centres. There was a slight improvement in the pain to needle time.



Table 3.1 Cardiac presentation of patients with ACS by ACS stratum, NCVD-ACS Registry, 2011-2013

Year	2011				2012				2013				2011-2013			
	STEMI	NSTEMI	UA	Total	STEMI	NSTEMI	UA	Total	STEMI	NSTEMI	UA	Total	STEMI	NSTEMI	UA	Total
ACS Stratum	STEMI	NSTEMI	UA	Total	STEMI	NSTEMI	UA	Total	STEMI	NSTEMI	UA	Total	STEMI	NSTEMI	UA	Total
Total	2,055	1,094	898		2,386	1,146	1,057		3,061	1,602	1,464		7,502	3,842	3,419	
Systolic blood pressure, mmHg																
N	1,877	1,031	877		2,292	1,089	988		2,992	1,421	1,407		7,161	3,541	3,272	
Mean (SD)	133.9 (28.6)	139.0 (28.2)	144.4 (26.3)		131.6 (29.2)	140.5 (31.0)	143.7 (26.2)		132.0 (29.4)	140.0 (29.9)	145.4 (27.7)		132.4 (29.1)	139.9 (29.7)	144.6 (26.9)	
Median (min, max)	132.0 (50.0, 250.0)	137.0 (59.0, 270.0)	142.0 (85.0, 267.0)		130.0 (53.0, 261.0)	138.0 (56.0, 270.0)	141.0 (54.0, 240.0)		130.0 (52.0, 259.0)	138.0 (56.0, 264.0)	143.0 (63.0, 268.0)		130.0 (50.0, 261.0)	137.0 (56.0, 270.0)	142.0 (54.0, 268.0)	
IQR	37.0	36.0	36.0		37.0	39.0	34.0		36.0	39.0	35.0		37.0	38.0	35.0	
Missing	178	63	21		94	57	69		69	181	57		341	301	147	
Diastolic blood pressure, mmHg																
N	1,872	1,031	877		2,285	1,081	983		2,990	1,419	1,405		7,147	3,531	3,265	
Mean (SD)	80.6 (18.7)	80.4 (17.3)	81.8 (16.0)		79.3 (19.1)	81.1 (18.2)	81.2 (16.2)		79.8 (19.2)	81.4 (18.5)	81.9 (16.6)		79.8 (19.0)	81.0 (18.1)	81.6 (16.3)	
Median (min, max)	80.0 (11.0, 166.0)	80.0 (10.0, 170.0)	81.0 (31.0, 165.0)		79.0 (21.0, 170.0)	80.0 (11.0, 158.0)	80.0 (11.0, 162.0)		79.0 (10.0, 170.0)	80.0 (34.0, 160.0)	80.0 (16.0, 170.0)		79.0 (10.0, 170.0)	80.0 (10.0, 170.0)	80.0 (11.0, 170.0)	
IQR	24.0	21.0	20.0		23.0	23.0	19.0		23.0	23.0	20.0		24.0	23.0	20.0	
Missing	183	63	21		101	65	74		71	183	59		355	311	154	
Pulse pressure, mmHg																
N	1,869	1,029	874		2,279	1,080	982		2,979	1,418	1,403		7,127	3,527	3,259	
Mean (SD)	53.4 (18.8)	58.5 (20.4)	62.9 (20.7)		52.4 (18.4)	59.2 (22.2)	62.5 (21.3)		52.4 (18.6)	58.7 (21.1)	63.6 (21.2)		52.6 (18.6)	58.8 (21.3)	63.1 (21.1)	
Median (min, max)	51.0 (1.0, 149.0)	56.0 (11.0, 160.0)	60.0 (12.0, 158.0)		50.0 (3.0, 178.0)	55.0 (15.0, 198.0)	60.0 (5.0, 167.0)		50.0 (1.0, 140.0)	56.0 (1.0, 147.0)	61.0 (16.0, 169.0)		50.0 (1.0, 178.0)	55.0 (1.0, 198.0)	60.0 (5.0, 169.0)	
IQR	23.0	26.0	27.0		22.0	29.0	26.0		22.0	27.0	27.0		23.0	27.0	27.0	
Missing	186	65	24		107	66	75		82	184	61		375	315	160	



Year	2011				2012				2013				2011-2013			
	STEMI	NSTEMI	UA		STEMI	NSTEMI	UA		STEMI	NSTEMI	UA		STEMI	NSTEMI	UA	
ACS Stratum																
Total	2,055	1,094	898		2,386	1,146	1,057		3,061	1,602	1,464		7,502	3,842	3,419	
Heart rate at presentation, beats/min																
N	1,877	1,028	875		2,272	1,078	984		2,964	1,409	1,403		7,113	3,515	3,262	
Mean (SD)	83.2 (20.6)	84.7 (20.6)	80.8 (19.8)		83.3 (21.8)	86.3 (22.1)	79.9 (18.2)		84.0 (22.5)	86.0 (21.2)	80.5 (18.1)		83.6 (21.8)	85.7 (21.3)	80.4 (18.6)	
Median (min, max)	82.0 (25.0, 166.0)	83.0 (30.0, 194.0)	79.0 (36.0, 188.0)		81.0 (20.0, 200.0)	83.0 (28.0, 198.0)	78.0 (40.0, 185.0)		81.0 (30.0, 198.0)	84.0 (30.0, 197.0)	79.0 (35.0, 195.0)		81.0 (20.0, 200.0)	83.0 (28.0, 198.0)	78.0 (35.0, 195.0)	
IQR	28.0	27.0	25.0		28.0	28.0	25.0		30.0	27.0	22.0		29.0	28.0	23.0	
Missing	178	66	23		114	68	73		97	193	61		389	327	157	
Episodes of angina in past 24 hours, No. (%)																
0-2	801 (44.8)	335 (33.8)	289 (34.4)		1,111 (50.4)	370 (35.8)	403 (40.6)		1,318 (46.2)	531 (40.6)	623 (49.0)		3,230 (47.2)	1,236 (37.0)	1,315 (42.4)	
>2	50 (2.8)	34 (3.4)	51 (6.0)		60 (2.8)	18 (1.8)	52 (5.2)		54 (1.8)	40 (3.0)	73 (5.8)		164 (2.4)	92 (2.8)	176 (5.6)	
Not Available	937 (52.4)	623 (62.8)	500 (59.6)		1,031 (46.8)	645 (62.4)	540 (54.2)		1,485 (52.0)	738 (56.4)	573 (45.2)		3,453 (50.4)	2,006 (60.2)	1,613 (52.0)	
Missing	267	102	58		184	113	62		204	293	195		655	508	315	
Killip classification code, No. (%)																
I	1,049 (54.8)	372 (45.7)	351 (49.8)		1,140 (51.2)	360 (37.4)	330 (39.4)		1,662 (59.3)	834 (68.7)	586 (79.2)		3,851 (55.4)	1,566 (52.5)	1,267 (55.6)	
II	340 (17.8)	120 (14.7)	66 (9.4)		402 (18.0)	156 (16.2)	101 (12.0)		530 (18.8)	191 (15.7)	94 (12.7)		1,272 (18.3)	467 (15.6)	261 (11.4)	
III	91 (4.9)	28 (3.4)	7 (1.0)		99 (4.5)	39 (4.0)	11 (1.4)		124 (4.4)	84 (7.0)	26 (3.5)		314 (4.5)	151 (5.0)	44 (2.0)	
IV	181 (9.5)	40 (5.0)	5 (0.8)		292 (13.3)	50 (5.2)	12 (1.4)		454 (16.3)	73 (6.0)	12 (1.6)		927 (13.4)	163 (5.5)	29 (1.2)	
Not stated/ inadequately described	250 (13.0)	254 (31.2)	275 (39.0)		291 (13.0)	357 (37.2)	384 (45.8)		36 (1.2)	31 (2.6)	22 (3.0)		577 (8.4)	642 (21.4)	681 (29.8)	
Not Available	23	33	34		17	23	87		226	380	718		266	436	839	
Missing	121	247	160		145	161	132		29	9	6		295	417	298	



Year	2011			2012			2013			2011-2013		
	STEMI	NSTEMI	UA	STEMI	NSTEMI	UA	STEMI	NSTEMI	UA	STEMI	NSTEMI	UA
ACS Stratum												
Total	2,055	1,094	898	2,386	1,146	1,057	3,061	1,602	1,464	7,502	3,842	3,419
Total cholesterol, mmol/L												
N	1,668	808	577	1,882	726	631	2,372	1,023	921	5,922	2,557	2,129
Mean (SD)	5.3 (1.4)	5.0 (1.6)	4.8 (1.3)	5.4 (1.5)	5.0 (1.5)	4.8 (1.4)	5.3 (1.4)	4.9 (1.4)	4.7 (1.3)	5.4 (1.4)	5.0 (1.5)	4.8 (1.3)
Median (min, max)	5.2 (2.0, 13.7)	4.8 (2.0, 17.0)	4.6 (2.0, 11.0)	5.3 (2.0, 14.0)	4.8 (2.0, 12.5)	4.5 (2.0, 12.3)	5.3 (2.1, 14.5)	4.7 (2.0, 14.1)	4.6 (2.0, 16.9)	5.3 (2.0, 14.5)	4.8 (2.0, 17.0)	4.6 (2.0, 16.9)
IQR	1.7	1.8	1.7	1.9	2.0	1.8	1.7	1.8	1.7	1.8	1.9	1.7
Not Done	299 (15.2)	225 (21.8)	274 (32.2)	372 (16.6)	357 (33.0)	364 (36.6)	382 (13.8)	349 (25.4)	450 (32.8)	1,053 (15.0)	931 (26.6)	1,088 (33.8)
Missing	88	61	47	132	63	62	307	230	93	527	354	202
HDL-C, mmol/L												
N	1,588	796	562	1,787	712	625	2,293	1,012	904	5,668	2,520	2,091
Mean (SD)	1.1 (0.3)	1.1 (0.4)	1.1 (0.4)	1.1 (0.3)	1.1 (0.4)	1.1 (0.3)	1.1 (0.3)	1.1 (0.4)	1.1 (0.4)	1.1 (0.3)	1.1 (0.4)	1.1 (0.4)
Median (min, max)	1.1 (0.5, 4.9)	1.0 (0.5, 4.6)	1.1 (0.5, 4.0)	1.0 (0.5, 3.9)	1.0 (0.5, 4.4)	1.0 (0.5, 3.9)	1.0 (0.5, 4.6)	1.0 (0.5, 4.6)	1.0 (0.5, 4.5)	1.0 (0.5, 4.9)	1.0 (0.5, 4.6)	1.0 (0.5, 4.5)
IQR	0.3	0.4	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Not Done	365 (18.6)	229 (22.4)	272 (32.6)	428 (19.4)	360 (33.6)	358 (36.4)	453 (16.4)	358 (26.2)	461 (33.8)	1,246 (18.0)	947 (27.4)	1,091 (34.2)
Missing	102	69	64	171	74	74	315	232	99	588	375	237
LDL-C, mmol/L												
N	1,604	813	579	1,822	729	627	2,289	995	867	5,715	2,537	2,073
Mean (SD)	3.5 (1.3)	3.2 (1.4)	2.9 (1.1)	3.6 (1.4)	3.2 (1.3)	2.9 (1.2)	3.5 (1.2)	3.0 (1.2)	2.9 (1.1)	3.5 (1.3)	3.1 (1.3)	2.9 (1.2)
Median (min, max)	3.3 (0.5, 12.0)	3.0 (0.6, 10.9)	2.7 (0.5, 9.1)	3.5 (0.6, 12.2)	3.0 (0.6, 9.4)	2.7 (0.6, 9.2)	3.4 (0.5, 12.3)	2.9 (0.5, 10.2)	2.7 (0.5, 9.5)	3.4 (0.5, 12.3)	2.9 (0.5, 10.9)	2.7 (0.5, 9.5)
IQR	1.6	1.8	1.4	1.8	1.7	1.4	1.6	1.7	1.5	1.7	1.7	1.4
Not Done	366 (18.6)	230 (22.0)	272 (32.0)	435 (19.2)	364 (33.4)	366 (36.8)	480 (17.4)	380 (27.6)	498 (36.4)	1,281 (18.4)	974 (27.8)	1,136 (35.4)
Missing	85	51	47	129	53	64	292	227	99	506	331	210



Year	2011			2012			2013			2011-2013		
	STEMI	NSTEMI	UA	STEMI	NSTEMI	UA	STEMI	NSTEMI	UA	STEMI	NSTEMI	UA
ACS Stratum												
Total	2,055	1,094	898	2,386	1,146	1057	3,061	1,602	1,464	7,502	3,842	3,419
Triglycerides, mmol/L												
N	1671	804	578	1877	732	629	2353	999	886	5,901	2,535	2,093
Mean (SD)	1.7 (1.1)	1.7 (1.0)	1.7 (1.0)	1.7 (1.1)	1.7 (1.1)	1.8 (1.1)	1.8 (1.1)	1.7 (1.1)	1.8 (1.2)	1.7 (1.1)	1.7 (1.1)	1.7 (1.1)
Median (min, max)	1.4 (0.5, 15.0)	1.4 (0.5, 11.8)	1.5 (0.5, 8.6)	1.5 (0.5, 13.0)	1.4 (0.5, 13.9)	1.5 (0.5, 13.1)	1.5 (0.5, 15.0)	1.4 (0.5, 13.1)	1.4 (0.5, 14.6)	1.5 (0.5, 15.0)	1.4 (0.5, 13.9)	1.5 (0.5, 14.6)
IQR	0.9	0.9	0.9	0.9	1.0	1.0	1.0	0.9	1.0	0.9	1.0	1.0
Not Done	302 (15.4)	226 (22.0)	269 (31.8)	372 (16.6)	357 (32.8)	361 (36.4)	405 (14.6)	368 (27.0)	476 (35.0)	1,079 (15.4)	951 (27.2)	1,106 (34.6)
Missing	82	64	51	137	57	67	303	235	102	522	356	220
*HbA1c, mmol/L												
N							560	260	189	560	260	189
Mean (SD)							7.6 (2.8)	7.6 (2.1)	7.7 (2.8)	7.6 (2.8)	7.6 (2.1)	7.7 (2.8)
Median (min, max)							6.6 (4.2, 32.0)	7.2 (4.2, 16.5)	6.5 (4.8, 29.0)	6.6 (4.2, 32.0)	7.2 (4.2, 16.5)	6.5 (4.8, 29.0)
IQR							3.1	2.6	2.8	3.1	2.6	2.8
Not Done							1,445 (72.0)	807 (75.6)	970 (83.6)	1,445 (72.0)	807 (75.6)	970 (83.6)
Missing							1056	535	305	1056	535	305
Left ventricular ejection fraction, %												
N	1,173	518	258	1,376	502	271	1,592	647	378	4,141	1,667	907
Mean (SD)	45.2 (11.9)	46.7 (15.6)	50.1 (16.4)	45.9 (12.0)	46.8 (13.6)	49.6 (15.5)	46.2 (11.7)	46.4 (13.6)	52.0 (14.1)	45.8 (11.9)	46.6 (14.3)	50.7 (15.2)
Median (min, max)	45.0 (6.3, 88.0)	48.0 (6.4, 83.0)	52.0 (10.0, 84.0)	45.0 (7.2, 85.0)	48.0 (14.3, 85.0)	50.0 (5.3, 81.0)	45.0 (6.6, 87.0)	48.0 (10.0, 89.0)	55.0 (6.8, 83.0)	45.0 (6.3, 88.0)	48.0 (6.4, 89.0)	54.2 (5.3, 84.0)
IQR	14.0	25.0	26.0	17.0	22.0	22.0	14.0	18.0	17.0	16.0	22.0	22.0
Not Done	648 (35.6)	387 (42.8)	505 (66.2)	688 (33.4)	505 (50.2)	695 (72.0)	1,017 (39.0)	603 (48.2)	887 (70.2)	2,353 (36.2)	1,495 (47.2)	2,087 (69.8)
Missing	234	189	135	322	139	91	452	352	199	1008	680	425



Year	2011			2012			2013			2011-2013		
	STEMI	NSTEMI	UA	STEMI	NSTEMI	UA	STEMI	NSTEMI	UA	STEMI	NSTEMI	UA
ACS Stratum												
Total	2,055	1,094	898	2,386	1,146	1,057	3,061	1,602	1,464	7,502	3,842	3,419
ECG, No. (%)												
Inferior leads	915 (44.6)	264 (24.2)	142 (15.8)	1,083 (45.4)	250 (21.8)	183 (17.4)	1,473 (48.2)	373 (23.2)	253 (17.2)	3,471 (46.2)	887 (23.0)	578 (17.0)
Anterior leads	1,101 (53.6)	350 (32.0)	237 (26.4)	1,292 (54.2)	376 (32.8)	288 (27.2)	1,618 (52.8)	501 (31.2)	420 (28.6)	4,011 (53.4)	1,227 (32.0)	945 (27.6)
Lateral leads	413 (20.0)	396 (36.2)	220 (24.4)	456 (19.2)	388 (33.8)	288 (27.2)	602 (19.6)	535 (33.4)	476 (32.6)	1,471 (19.6)	1,319 (34.4)	984 (28.8)
True posterior	170 (8.2)	22 (2.0)	12 (1.4)	159 (6.6)	12 (1.0)	13 (1.2)	235 (7.6)	17 (1.0)	17 (1.2)	564 (7.6)	51 (1.4)	42 (1.2)
Right ventricle	108 (5.2)	4 (0.4)	1 (0.2)	129 (5.4)	4 (0.4)	2 (0.2)	211 (6.8)	8 (0.4)	1 (0.0)	448 (6.0)	16 (0.4)	4 (0.2)
None	22 (1.0)	146 (13.4)	273 (30.4)	18 (0.8)	173 (15.0)	287 (27.2)	22 (0.8)	434 (27.0)	443 (30.2)	62 (0.8)	753 (19.6)	1,003 (29.4)
Not stated/ inadequately described	76 (3.6)	105 (9.6)	118 (13.2)	24 (1.0)	107 (9.4)	117 (11.0)	33 (1.0)	99 (6.2)	148 (10.2)	133 (1.8)	311 (8.0)	383 (11.2)
Total number of STEMI patients who were given fibrinolytic therapy at this centre	1,131			1,109			1,477			3,717		
Pain to needle time, min (** symptom to treatment)												
N	809			744			1,062			2,615		
Mean (SD)	219.4 (175.8)			265.0 (215.9)			256.4 (210.4)			247.4 (202.8)		
Median (min, max)	160.0 (10.0, 1,315.0)			210.0 (4.0, 1,439.0)			195.0 (10.0, 1,375.0)			185.0 (4.0, 1,439.0)		
IQR	170.0			200.5			185.0			180.0		
Missing	322			365			415			1,102		

* Definition is different in CRF version 2013

** Symptom to treatment is time difference between time ACS symptom onset and time patient were given fibrinolytic therapy



Table 3.2 Cardiac presentation of patients with ACS by age group (years), NCVD-ACS Registry, 2011-2013

Year	2011			2012			2013			2011-2013		
	Young	Middle-age	Elderly	Young	Middle-age	Elderly	Young	Middle-age	Elderly	Young	Middle-age	Elderly
ACS Stratum												
Total	244	1,999	1,804	307	2,211	2,071	407	3,044	2,676	958	7,254	6,551
ACS stratum, No. (%)												
STEMI	171 (70.0)	1,134 (56.8)	750 (41.6)	205 (66.8)	1,270 (57.5)	911 (44.0)	279 (68.5)	1,685 (55.4)	1,097 (41.0)	655 (68.3)	4,089 (56.4)	2,758 (42.2)
NSTEMI	34 (14.0)	480 (24.0)	580 (32.2)	57 (18.6)	479 (21.7)	610 (29.4)	73 (18.0)	708 (23.2)	821 (30.6)	164 (17.2)	1,667 (23.0)	2,011 (30.6)
UA	39 (16.0)	385 (19.2)	474 (26.2)	45 (14.6)	462 (20.8)	550 (26.6)	55 (13.5)	651 (21.4)	758 (28.4)	139 (14.5)	1,498 (20.6)	1,782 (27.2)
Systolic blood pressure, mmHg												
N	221	1,872	1,692	287	2,116	1,966	393	2,895	2,532	901	6,883	6,190
Mean (SD)	129.8 (23.7)	136.5 (27.2)	140.0 (29.7)	133.8 (27.2)	135.2 (27.6)	138.4 (31.6)	130.7 (25.0)	135.9 (28.6)	139.7 (31.3)	131.5 (25.5)	135.9 (27.9)	139.4 (31.0)
Median (min, max)	127.0 (72.0, 196.0)	134.0 (50.0, 270.0)	139.0 (52.0, 267.0)	131.0 (77.0, 240.0)	133.0 (53.0, 258.0)	136.0 (58.0, 270.0)	130.0 (70.0, 233.0)	134.0 (54.0, 268.0)	137.0 (52.0, 264.0)	129.0 (70.0, 233.0)	134.0 (50.0, 270.0)	137.0 (52.0, 270.0)
IQR	32.0	35.5	38.0	35.0	34.0	39.0	31.0	35.0	40.0	33.0	35.0	39.0
Missing	23	127	112	20	95	105	14	149	144	57	371	361
Diastolic blood pressure, mmHg												
N	220	1,869	1,691	284	2,105	1,960	392	2,895	2,527	896	6,869	6,178
Mean (SD)	80.2 (17.1)	82.9 (17.5)	78.6 (17.8)	81.8 (19.0)	82.0 (18.2)	78.0 (18.0)	81.4 (18.1)	82.5 (18.3)	78.5 (18.4)	81.2 (18.1)	82.5 (18.1)	78.3 (18.1)
Median (min, max)	77.0 (47.0, 166.0)	82.0 (25.0, 170.0)	78.0 (10.0, 165.0)	80.0 (37.0, 145.0)	81.0 (11.0, 170.0)	77.0 (17.0, 162.0)	80.0 (38.0, 168.0)	82.0 (10.0, 170.0)	77.0 (16.0, 170.0)	80.0 (37.0, 168.0)	81.0 (10.0, 170.0)	77.0 (10.0, 170.0)
IQR	22.5	22.0	24.0	24.5	22.0	23.0	21.5	23.0	23.0	23.0	23.0	23.0
Missing	24	130	113	23	106	111	15	149	149	62	385	373
Pulse pressure, mmHg												
N	219	1,865	1,688	284	2,101	1,956	392	2,885	2,523	895	6,851	6,167
Mean (SD)	50.0 (15.6)	53.8 (17.7)	61.4 (22.0)	51.9 (19.9)	53.2 (18.1)	60.4 (22.3)	49.4 (15.5)	53.6 (18.5)	61.2 (22.2)	50.3 (17.0)	53.5 (18.2)	61.0 (22.2)
Median (min, max)	48.0 (5.0, 97.0)	52.0 (4.0, 147.0)	59.0 (1.0, 160.0)	49.0 (5.0, 178.0)	50.0 (3.0, 198.0)	58.0 (8.0, 167.0)	48.0 (1.0, 121.0)	51.0 (5.0, 147.0)	59.0 (1.0, 169.0)	48.0 (1.0, 178.0)	51.0 (3.0, 198.0)	59.0 (1.0, 169.0)
IQR	20.0	23.0	29.0	20.5	22.0	30.0	17.0	24.0	30.0	19.0	23.0	29.0
Missing	25	134	116	23	110	115	15	159	153	63	403	384



Year	2011			2012			2013			2011-2013		
	Young	Middle-age	Elderly	Young	Middle-age	Elderly	Young	Middle-age	Elderly	Young	Middle-age	Elderly
ACS Stratum												
Total	244	1,999	1,804	307	2,211	2,071	407	3,044	2,676	958	7,254	6,551
Heart rate at presentation, beats/min												
N	219	1861	1700	285	2100	1949	388	2871	2517	892	6832	6166
Mean (SD)	82.4 (18.4)	83.0 (19.7)	83.1 (21.5)	84.3 (19.7)	82.8 (20.6)	83.7 (22.1)	84.7 (18.4)	83.6 (20.6)	83.5 (22.4)	84.0 (18.8)	83.2 (20.3)	83.5 (22.1)
Median (min, max)	80.0 (44.0, 135.0)	81.0 (30.0, 188.0)	81.0 (25.0, 194.0)	82.0 (20.0, 162.0)	80.0 (30.0, 200.0)	82.0 (28.0, 193.0)	84.0 (40.0, 158.0)	81.0 (30.0, 198.0)	81.0 (30.0, 195.0)	82.0 (20.0, 162.0)	81.0 (30.0, 200.0)	81.0 (25.0, 195.0)
IQR	24.0	24.0	28.0	27.0	25.0	31.0	25.0	27.0	28.0	26.0	26.0	28.0
Missing	25	138	104	22	111	122	19	173	159	66	422	385
Episodes of angina in past 24 hours, No. (%)												
0-2	96 (45.0)	713 (40.4)	616 (37.6)	136 (47.8)	965 (47.0)	783 (41.2)	168 (46.4)	1,264 (47.2)	1,040 (43.5)	400 (46.5)	2,942 (45.3)	2,439 (41.2)
>2	8 (3.8)	71 (4.0)	56 (3.4)	7 (2.5)	67 (3.3)	56 (3.0)	10 (2.8)	74 (2.8)	83 (3.5)	25 (3.0)	212 (3.3)	195 (3.2)
Not Available	109 (51.2)	982 (55.6)	969 (59.0)	141 (49.7)	1,018 (49.7)	1,057 (55.8)	184 (50.8)	1,343 (50.0)	1,269 (53.0)	434 (50.5)	3,343 (51.4)	3,295 (55.6)
Missing	31	233	163	23	161	175	45	363	284	99	757	622
Killip classification code, No. (%)												
I	130 (63.7)	955 (56.2)	687 (45.0)	163 (59.3)	959 (49.0)	708 (39.4)	272 (79.4)	1,671 (69.2)	1,139 (57.0)	565 (68.7)	3,585 (59.0)	2,534 (47.6)
II	17 (8.3)	224 (13.2)	285 (18.6)	31 (11.3)	304 (15.6)	324 (18.0)	26 (7.5)	351 (14.5)	438 (21.8)	74 (9.0)	879 (14.4)	1,047 (19.6)
III	4 (2.0)	51 (3.0)	71 (4.7)	4 (1.4)	66 (3.4)	79 (4.4)	10 (3.0)	87 (3.6)	137 (6.8)	18 (2.2)	204 (3.4)	287 (5.4)
IV	6 (3.0)	119 (7.0)	101 (6.7)	16 (5.8)	142 (7.2)	196 (11.0)	27 (7.7)	259 (10.7)	253 (12.7)	49 (6.0)	520 (8.6)	550 (10.4)
Not stated/ inadequately described	47 (23.0)	351 (20.6)	381 (25.0)	61 (22.2)	484 (24.8)	487 (27.2)	8 (2.4)	48 (2.0)	33 (1.7)	116 (14.1)	883 (14.6)	901 (17.0)
Not Available	3	36	51	5	54	68	64	604	656	72	694	775
Missing	37	263	228	27	202	209	0	24	20	64	489	457



Year	2011			2012			2013			2011-2013		
	Young	Middle-age	Elderly	Young	Middle-age	Elderly	Young	Middle-age	Elderly	Young	Middle-age	Elderly
ACS Stratum												
Total	244	1,999	1,804	307	2,211	2,071	407	3,044	2,676	958	7,254	6,551
Total cholesterol, mmol/L												
N	194	1,574	1,285	221	1,620	1,398	322	2,173	1,821	737	5,367	4,504
Mean (SD)	5.4 (1.5)	5.4 (1.5)	4.8 (1.4)	5.5 (1.3)	5.4 (1.5)	4.9 (1.4)	5.4 (1.5)	5.3 (1.4)	4.8 (1.3)	5.4 (1.4)	5.4 (1.5)	4.8 (1.4)
Median (min, max)	5.3 (2.7, 13.7)	5.2 (2.0, 14.6)	4.6 (2.0, 17.0)	5.4 (2.6, 10.1)	5.3 (2.0, 14.0)	4.7 (2.0, 12.5)	5.1 (2.2, 16.9)	5.2 (2.1, 14.5)	4.7 (2.0, 10.8)	5.3 (2.2, 16.9)	5.2 (2.0, 14.6)	4.7 (2.0, 17.0)
IQR	1.6	1.8	1.8	1.5	1.9	2.0	1.8	1.8	1.7	1.7	1.9	1.9
Not Done	40 (17.0)	329 (17.2)	429 (25.0)	58 (20.8)	484 (23.0)	551 (28.2)	44 (12.0)	529 (19.6)	608 (25.0)	142 (16.2)	1,342 (20.0)	1,588 (26.0)
Missing	10	96	90	28	107	122	41	342	247	79	545	459
HDL-C, mmol/L												
N	187	1,526	1,233	220	1,559	1,345	310	2,125	1,774	717	5,210	4,352
Mean (SD)	1.0 (0.4)	1.1 (0.4)	1.2 (0.4)	1.0 (0.2)	1.0 (0.3)	1.1 (0.4)	1.0 (0.4)	1.1 (0.3)	1.1 (0.4)	1.0 (0.3)	1.1 (0.3)	1.1 (0.4)
Median (min, max)	1.0 (0.5, 4.1)	1.0 (0.5, 4.9)	1.1 (0.5, 4.1)	0.9 (0.5, 1.8)	1.0 (0.5, 4.4)	1.1 (0.5, 3.9)	1.0 (0.5, 4.3)	1.0 (0.5, 4.5)	1.1 (0.5, 4.6)	1.0 (0.5, 4.3)	1.0 (0.5, 4.9)	1.1 (0.5, 4.6)
IQR	0.4	0.3	0.4	0.3	0.3	0.4	0.4	0.3	0.4	0.4	0.3	0.4
Not Done	42 (18.4)	360 (19.0)	464 (27.4)	58 (20.8)	508 (24.6)	580 (30.2)	53 (14.6)	574 (21.2)	645 (26.6)	153 (17.6)	1,442 (21.6)	1,689 (28.0)
Missing	15	113	107	29	144	146	44	345	257	88	602	510
LDL-C, mmol/L												
N	191	1,546	1,259	223	1,578	1,377	307	2,086	1,758	721	5,210	4,394
Mean (SD)	3.6 (1.4)	3.5 (1.3)	3.0 (1.2)	3.5 (1.2)	3.6 (1.4)	3.1 (1.3)	3.4 (1.2)	3.4 (1.3)	3.0 (1.2)	3.5 (1.3)	3.5 (1.3)	3.0 (1.2)
Median (min, max)	3.4 (0.7, 12.0)	3.4 (0.5, 9.1)	2.8 (0.5, 10.9)	3.5 (0.6, 8.0)	3.4 (0.6, 12.2)	2.9 (0.6, 9.4)	3.3 (0.7, 8.9)	3.3 (0.6, 12.3)	2.9 (0.5, 8.1)	3.4 (0.6, 12.0)	3.4 (0.5, 12.3)	2.9 (0.5, 10.9)
IQR	1.6	1.7	1.5	1.5	1.8	1.7	1.6	1.7	1.6	1.5	1.7	1.6
Not Done	45 (19.0)	361 (19.0)	462 (26.8)	62 (21.8)	521 (24.8)	582 (29.8)	61 (16.6)	618 (22.8)	679 (27.8)	168 (18.8)	1,500 (22.4)	1,723 (28.2)
Missing	8	92	83	22	112	112	39	340	239	69	544	434



Year	2011			2012			2013			2011-2013		
	Young	Middle-age	Elderly	Young	Middle-age	Elderly	Young	Middle-age	Elderly	Young	Middle-age	Elderly
ACS Stratum												
Total	244	1,999	1,804	307	2,211	2,071	407	3,044	2,676	958	7,254	6,551
Triglycerides, mmol/L												
N	193	1,573	1,287	222	1,608	1,408	320	2,133	1,785	735	5,314	4,480
Mean (SD)	1.9 (1.2)	1.9 (1.2)	1.5 (0.9)	2.0 (1.2)	1.9 (1.2)	1.5 (0.9)	1.9 (1.3)	1.9 (1.3)	1.5 (0.8)	1.9 (1.2)	1.9 (1.2)	1.5 (0.9)
Median (min, max)	1.6 (0.5, 7.4)	1.6 (0.5, 15.0)	1.3 (0.5, 11.8)	1.6 (0.6, 8.0)	1.6 (0.5, 13.9)	1.3 (0.5, 10.9)	1.6 (0.5, 11.8)	1.6 (0.5, 15.0)	1.3 (0.5, 7.9)	1.6 (0.5, 11.8)	1.6 (0.5, 15.0)	1.3 (0.5, 11.8)
IQR	1.0	1.1	0.8	1.2	1.1	0.8	1.1	1.0	0.8	1.1	1.0	0.8
Not Done	42 (17.8)	333 (17.4)	422 (24.6)	59 (21.0)	484 (23.2)	547 (28.0)	49 (13.2)	565 (21.0)	635 (26.2)	150 (17.0)	1,382 (20.6)	1,604 (26.4)
Missing	9	93	95	26	119	116	38	346	256	73	558	467
* HbA1c, mmol/L												
N							60	508	441	60	508	441
Mean (SD)							7.7 (2.7)	7.8 (2.6)	7.5 (2.7)	7.7 (2.7)	7.8 (2.6)	7.5 (2.7)
Median (min, max)							6.4 (4.5, 15.0)	6.9 (4.4, 32.0)	6.6 (4.2, 30.0)	6.4 (4.5, 15.0)	6.9 (4.4, 32.0)	6.6 (4.2, 30.0)
IQR							4.7	3.1	2.5	4.7	3.1	2.5
Not done							207 (77.6)	1,513 (74.8)	1,502 (77.4)	207 (77.6)	1,513 (74.8)	1,502 (77.4)
Missing							140	1023	733	140	1023	733
Left ventricular ejection fraction, %												
N	132	975	842	156	1,055	938	188	1,344	1,085	476	3,374	2,865
Mean (SD)	48.7 (12.3)	46.7 (13.0)	45.3 (14.5)	47.2 (12.3)	47.0 (12.5)	46.0 (13.4)	49.0 (12.2)	47.5 (12.5)	46.3 (13.0)	48.3 (12.3)	47.1 (12.7)	45.9 (13.6)
Median (min, max)	50.0 (15.2, 88.0)	47.0 (6.3, 81.0)	45.0 (6.4, 84.0)	50.0 (7.2, 75.0)	48.0 (7.0, 85.0)	46.0 (5.3, 85.0)	50.0 (20.0, 88.0)	48.0 (6.6, 83.9)	45.0 (6.8, 89.0)	50.0 (7.2, 88.0)	47.0 (6.3, 85.0)	45.0 (5.3, 89.0)
IQR	15.0	16.5	21.0	15.5	15.0	20.0	13.0	15.0	17.0	15.0	15.0	20.0
Not Done	81 (38.0)	747 (43.4)	712 (45.8)	109 (41.2)	877 (45.4)	902 (49.0)	151 (44.6)	1,160 (46.4)	1,196 (52.4)	341 (41.8)	2,784 (45.2)	2,810 (49.6)
Missing	31	277	250	42	279	231	68	540	395	141	1096	876



Year	2011			2012			2013			2011-2013		
	Young	Middle-age	Elderly	Young	Middle-age	Elderly	Young	Middle-age	Elderly	Young	Middle-age	Elderly
ACS Stratum												
Total	244	1,999	1,804	307	2,211	2,071	407	3,044	2,676	958	7,254	6,551
EKG, No. (%)												
Inferior leads	95 (39.0)	678 (34.0)	548 (30.4)	113 (36.8)	759 (34.4)	644 (31.0)	170 (41.8)	1,068 (35.0)	861 (32.2)	378 (39.4)	2,505 (34.6)	2,053 (31.4)
Anterior leads	119 (48.8)	847 (42.4)	722 (40.0)	127 (41.4)	985 (44.6)	844 (40.8)	182 (44.8)	1,279 (42.0)	1,078 (40.2)	428 (44.6)	3,111 (42.8)	2,644 (40.4)
Lateral leads	53 (21.8)	467 (23.4)	509 (28.2)	70 (22.8)	488 (22.0)	574 (27.8)	86 (21.2)	708 (23.2)	819 (30.6)	209 (21.8)	1,663 (23.0)	1,902 (29.0)
True posterior	16 (6.6)	108 (5.4)	80 (4.4)	13 (4.2)	99 (4.4)	72 (3.4)	28 (6.8)	134 (4.4)	107 (4.0)	57 (6.0)	341 (4.8)	259 (4.0)
Right ventricle	6 (2.4)	58 (3.0)	49 (2.8)	8 (2.6)	65 (3.0)	62 (3.0)	24 (5.8)	114 (3.8)	82 (3.0)	38 (4.0)	237 (3.2)	193 (3.0)
None	17 (7.0)	198 (10.0)	226 (12.6)	25 (8.2)	212 (9.6)	241 (11.6)	38 (9.4)	429 (14.0)	432 (16.2)	80 (8.4)	839 (11.6)	899 (13.8)
Not stated/ inadequately described	11 (4.6)	147 (7.4)	141 (7.8)	11 (3.6)	116 (5.2)	121 (5.8)	15 (3.6)	124 (4.0)	141 (5.2)	37 (3.8)	387 (5.4)	403 (6.2)
Total number of STEMI patients who were given fibrinolytic therapy at this centre	89	658	384	94	596	419	146	817	514	329	2,071	1,317
Pain to needle time, min (** symptom to treatment)												
N	69	485	255	61	417	266	110	592	360	240	1,494	881
Mean (SD)	201.4 (196.0)	218.3 (174.1)	226.3 (173.6)	263.4 (223.7)	237.4 (192.5)	308.6 (240.9)	302.7 (246.6)	256.5 (215.4)	242.1 (187.4)	263.6 (230.3)	238.8 (196.9)	257.6 (204.1)
Median (min, max)	135.0 (30.0, 1,315.0)	160.0 (10.0, 1,080.0)	165.0 (16.0, 960.0)	170.0 (30.0, 940.0)	180.0 (4.0, 1,185.0)	240.0 (20.0, 1,439.0)	222.5 (40.0, 1,185.0)	191.0 (10.0, 1,375.0)	195.0 (10.0, 1,222.0)	180.0 (30.0, 1,315.0)	180.0 (4.0, 1,375.0)	200.0 (10.0, 1,439.0)
IQR	140.0	160.0	205.0	210.0	175.0	240.0	205.0	180.0	182.5	197.5	170.0	210.0
Missing	20	173	129	33	179	153	36	225	154	89	577	436

*Young is defined as age from 20 to less than 40 years, middle-age is defined as age between 40 to less than 60 years and elderly is defined as 60 years and above

* Definition is different in CRF version 2013

** Symptom to treatment is time difference between time ACS symptom onset and time patient were given fibrinolytic therapy

Note: Not all participating centre performed Troponin I or Troponin T tests

Note: Percentage is to the nearest decimal point



Table 3.3 Cardiac presentation of patients with ACS by gender, NCVD-ACS Registry, 2011-2013

Year	2011		2012		2013		2011-2013	
	Male	Female	Male	Female	Male	Female	Male	Female
ACS Stratum								
Total	3,145	902	3,628	961	4,865	1,262	11,638	3,125
ACS stratum, No. (%)								
STEMI	1,738 (55.2)	317 (35.2)	2,048 (56.4)	338 (35.2)	2,611 (53.7)	450 (35.7)	6,397 (55.0)	1,105 (35.3)
NSTEMI	787 (25.0)	307 (34.0)	855 (23.6)	291 (30.2)	1,240 (25.5)	362 (28.7)	2,882 (24.8)	960 (30.7)
UA	620 (19.8)	278 (30.8)	725 (20.0)	332 (34.6)	1,014 (20.8)	450 (35.6)	2,359 (20.2)	1,060 (34.0)
Systolic blood pressure, mmHg								
N	2,934	851	3,483	886	4,648	1,172	11,065	2,909
Mean (SD)	135.9 (27.4)	144.0 (30.3)	135.1 (28.3)	142.2 (33.1)	135.7 (28.9)	143.0 (32.1)	135.6 (28.3)	143.1 (31.9)
Median (min, max)	134.0 (50.0, 263.0)	140.0 (59.0, 270.0)	133.0 (53.0, 261.0)	140.0 (58.0, 270.0)	133.0 (52.0, 268.0)	141.0 (57.0, 259.0)	133.0 (50.0, 268.0)	140.0 (57.0, 270.0)
IQR	36.0	38.0	35.0	42.0	36.0	40.0	36.0	41.0
Missing	211	51	145	75	217	90	573	216
Diastolic blood pressure, mmHg								
N	2,929	851	3,467	882	4,643	1,171	11,039	2,904
Mean (SD)	81.1 (17.6)	79.9 (18.0)	80.5 (18.1)	78.7 (18.6)	81.0 (18.4)	79.3 (18.6)	80.9 (18.1)	79.3 (18.4)
Median (min, max)	80.0 (10.0, 166.0)	79.0 (24.0, 170.0)	80.0 (11.0, 170.0)	78.0 (11.0, 166.0)	80.0 (10.0, 170.0)	78.0 (28.0, 170.0)	80.0 (10.0, 170.0)	78.0 (11.0, 170.0)
IQR	22.0	22.0	22.0	23.0	23.0	23.0	22.0	22.0
Missing	216	51	161	79	222	91	599	221
Pulse pressure, mmHg								
N	2,923	849	3,461	880	4,629	1,171	11,013	2,900
Mean (SD)	54.9 (18.7)	64.1 (22.7)	54.5 (19.2)	63.6 (23.9)	54.9 (19.1)	63.7 (23.8)	54.8 (19.0)	63.8 (23.5)
Median (min, max)	52.0 (1.0, 160.0)	62.0 (11.0, 158.0)	51.0 (3.0, 178.0)	62.0 (8.0, 198.0)	52.0 (1.0, 147.0)	61.0 (13.0, 169.0)	52.0 (1.0, 178.0)	61.0 (8.0, 198.0)
IQR	23.0	29.0	24.0	33.0	25.0	32.0	24.0	31.0
Missing	222	53	167	81	236	91	625	225



Year	2011		2012		2013		2011-2013	
	Male	Female	Male	Female	Male	Female	Male	Female
ACS Stratum								
Total	3,145	902	3,628	961	4,865	1,262	11,638	3,125
Heart rate at presentation, beats/min								
N	2,926	854	3,453	881	4,618	1,158	10,997	2,893
Mean (SD)	82.2 (20.0)	86.0 (21.6)	82.7 (21.1)	85.8 (21.6)	83.0 (21.1)	86.2 (21.6)	82.7 (20.8)	86.0 (21.6)
Median (min, max)	80.0 (25.0, 180.0)	84.0 (30.0, 194.0)	80.0 (20.0, 195.0)	84.0 (38.0, 200.0)	80.0 (30.0, 198.0)	84.0 (30.0, 197.0)	80.0 (20.0, 198.0)	84.0 (30.0, 200.0)
IQR	26.0	30.0	27.0	29.0	27.0	28.0	27.0	29.0
Missing	219	48	175	80				
Episodes of angina in past 24 hours, No. (%)								
0-2	1,153 (41.2)	272 (33.0)	1,562 (46.4)	322 (37.3)	1,999 (46.0)	473 (43.4)	4,714 (44.8)	1,067 (38.5)
>2	105 (3.8)	30 (3.7)	103 (3.0)	27 (3.2)	133 (3.0)	34 (3.2)	341 (3.2)	91 (3.3)
Not Available	1,540 (55.0)	520 (63.3)	1,702 (50.6)	514 (59.5)	2,214 (51.0)	582 (53.4)	5,456 (52.0)	1,616 (58.2)
Missing	347	80	261	98	519	173	1127	351
Killip classification code, No. (%)								
I	1,400 (52.2)	372 (49.7)	1,503 (46.6)	327 (41.2)	2,499 (65.2)	583 (63.0)	5,402 (55.4)	1,282 (52.0)
II	407 (15.2)	119 (15.8)	529 (16.4)	130 (16.4)	660 (17.2)	155 (16.8)	1,596 (16.4)	404 (16.3)
III	100 (3.8)	26 (3.5)	112 (3.4)	37 (4.6)	176 (4.6)	58 (6.3)	388 (4.0)	121 (5.0)
IV	190 (7.0)	36 (4.8)	286 (8.8)	68 (8.6)	422 (11.0)	117 (12.6)	898 (9.2)	221 (9.0)
Not stated/ inadequately described	582 (21.8)	197 (26.2)	801 (24.8)	231 (29.2)	78 (2.0)	11 (1.3)	1,461 (15.0)	439 (17.7)
Not Available	64	26	86	41	991	333	1141	400
Missing	402	126	311	127	39	5	752	258
Total cholesterol, mmol/L								
N	2,414	639	2,625	614	3,477	839	8,516	2,092
Mean (SD)	5.1 (1.4)	5.1 (1.6)	5.2 (1.5)	5.1 (1.6)	5.1 (1.4)	5.0 (1.5)	5.1 (1.4)	5.1 (1.6)
Median (min, max)	5.0 (2.0, 13.3)	4.9 (2.0, 17.0)	5.1 (2.0, 14.0)	5.0 (2.0, 12.5)	5.0 (2.0, 14.1)	4.8 (2.1, 16.9)	5.0 (2.0, 14.1)	4.9 (2.0, 17.0)
IQR	1.8	2.0	1.9	2.0	1.9	1.8	1.8	1.9
Not Done	580 (19.4)	218 (25.4)	814 (23.6)	279 (31.2)	895 (20.4)	286 (25.4)	2,289 (21.2)	783 (27.2)
Missing	151	45	189	68	493	137	833	250



Year	2011		2012		2013		2011-2013	
	Male	Female	Male	Female	Male	Female	Male	Female
ACS Stratum								
Total	3,145	902	3,628	961	4,865	1,262	11,638	3,125
HDL-C, mmol/L								
N	2,324	622	2,535	589	3,396	813	8,255	2,024
Mean (SD)	1.1 (0.4)	1.2 (0.4)	1.1 (0.3)	1.2 (0.4)	1.1 (0.3)	1.2 (0.4)	1.1 (0.3)	1.2 (0.4)
Median (min, max)	1.0 (0.5, 4.9)	1.2 (0.5, 4.0)	1.0 (0.5, 3.9)	1.1 (0.5, 4.4)	1.0 (0.5, 4.6)	1.1 (0.5, 4.6)	1.0 (0.5, 4.9)	1.1 (0.5, 4.6)
IQR	0.3	0.5	0.3	0.4	0.3	0.5	0.3	0.5
Not Done	641 (21.6)	225 (26.6)	855 (25.2)	291 (33.0)	972 (22.2)	300 (27.0)	2468 (23.0)	816 (28.8)
Missing	180	55	238	81	497	149	915	285
LDL-C, mmol/L								
N	2,360	636	2,576	602	3,357	794	8,293	2,032
Mean (SD)	3.3 (1.3)	3.1 (1.4)	3.4 (1.3)	3.2 (1.4)	3.3 (1.2)	3.1 (1.3)	3.3 (1.3)	3.1 (1.4)
Median (min, max)	3.2 (0.5, 10.1)	2.9 (0.8, 12.0)	3.2 (0.6, 12.2)	3.1 (0.6, 9.4)	3.2 (0.5, 10.2)	2.9 (0.6, 12.3)	3.2 (0.5, 12.2)	3.0 (0.6, 12.3)
IQR	1.7	1.7	1.8	1.9	1.6	1.5	1.7	1.7
Not Done	642 (21.4)	226 (26.2)	872 (25.2)	293 (32.8)	1,028 (23.4)	330 (29.4)	2,542 (23.4)	849 (29.4)
Missing	143	40	180	66	480	138	803	244
Triglycerides, mmol/L								
N	2,420	633	2,624	614	3,431	807	8,475	2,054
Mean (SD)	1.7 (1.1)	1.7 (1.1)	1.7 (1.1)	1.7 (1.1)	1.8 (1.2)	1.6 (0.9)	1.7 (1.1)	1.7 (1.0)
Median (min, max)	1.4 (0.5, 15.0)	1.4 (0.5, 12.0)	1.5 (0.5, 13.9)	1.4 (0.5, 10.9)	1.5 (0.5, 15.0)	1.4 (0.5, 7.7)	1.5 (0.5, 15.0)	1.4 (0.5, 12.0)
IQR	0.9	0.9	1.0	0.8	1.0	0.8	1.0	0.8
Not Done	583 (19.4)	214 (25.2)	810 (23.6)	280 (31.4)	941 (21.6)	308 (27.6)	2,334 (21.6)	802 (28.0)
Missing	142	55	194	67	493	147	829	269



Year	2011		2012		2013		2011-2013	
	Male	Female	Male	Female	Male	Female	Male	Female
ACS Stratum								
Total	3,145	902	3,628	961	4,865	1,262	11,638	3,125
* HbA1c, mmol/L								
N					794	215	794	215
Mean (SD)					7.5 (2.7)	8.0 (2.4)	7.5 (2.7)	8.0 (2.4)
Median (min, max)					6.5 (4.2, 32.0)	7.5 (4.5, 15.3)	6.5 (4.2, 32.0)	7.5 (4.5, 15.3)
IQR					2.9	3.3	2.9	3.3
Not done					2,543 (76.2)	679 (76.0)	2,543 (76.2)	679 (76.0)
Missing					1,528	368	1,528	368
Left ventricular ejection fraction, %								
N	1,561	388	1,757	392	2,133	484	5,451	1,264
Mean (SD)	45.8 (13.5)	48.1 (14.3)	46.0 (12.8)	48.9 (13.2)	46.6 (12.6)	49.3 (13.3)	46.2 (12.9)	48.8 (13.6)
Median (min, max)	45.7 (6.3, 88.0)	48.0 (6.6, 84.0)	46.0 (5.3, 85.0)	50.0 (15.0, 81.0)	46.0 (6.6, 89.0)	50.0 (14.0, 87.0)	46.0 (5.3, 89.0)	50.0 (6.6, 87.0)
IQR	19.0	20.5	18.0	18.0	15.0	18.0	17.0	18.0
Not Done	1,161 (42.6)	379 (49.4)	1,439 (45.0)	449 (53.4)	1,937 (47.6)	570 (54.0)	4,537 (45.4)	1,398 (52.6)
Missing	423	135	432	120	795	208	1,650	463
ECG, No. (%)								
Inferior leads	1,056 (33.6)	265 (29.4)	1,235 (34.0)	281 (29.2)	1,713 (35.2)	386 (30.6)	4,004 (34.4)	932 (29.8)
Anterior leads	1,324 (42.0)	364 (40.4)	1,576 (43.4)	380 (39.6)	2,053 (42.2)	486 (38.6)	4,953 (42.6)	1,230 (39.4)
Lateral leads	774 (24.6)	255 (28.2)	871 (24.0)	261 (27.2)	1,219 (25.0)	394 (31.2)	2,864 (24.6)	910 (29.2)
True posterior	166 (5.2)	38 (4.2)	159 (4.4)	25 (2.6)	229 (4.8)	40 (3.2)	554 (4.8)	103 (3.2)
Right ventricle	92 (3.0)	21 (2.4)	113 (3.2)	22 (2.2)	188 (3.8)	32 (2.6)	393 (3.4)	75 (2.4)
None	339 (10.8)	102 (11.4)	349 (9.6)	129 (13.4)	665 (13.6)	234 (18.6)	1,353 (11.6)	465 (14.8)
Not stated/ inadequately described	215 (6.8)	84 (9.4)	188 (5.2)	60 (6.2)	203 (4.2)	77 (6.2)	606 (5.2)	221 (7.0)



Year	2011		2012		2013		2011-2013	
	Male	Female	Male	Female	Male	Female	Male	Female
ACS Stratum								
Total	3,145	902	3,628	961	4,865	1,262	11,638	3,125
Total number of STEMI patients who were given fibrinolytic therapy at this centre	966	165	954	155	1267	210	3187	530
Pain to needle time, min (** symptom to treatment)								
N	701	108	650	94	918	144	2,269	346
Mean (SD)	213.7 (174.1)	256.1 (182.7)	260.6 (218.8)	295.5 (192.8)	250.3 (209.5)	295.0 (212.7)	242.0 (202.9)	283.0 (198.6)
Median (min, max)	156.0 (10.0, 1315.0)	177.5 (30.0, 930.0)	205.0 (4.0, 1,439.0)	232.5 (55.0, 940.0)	190.0 (10.0, 1,375.0)	247.5 (15.0, 1,165.0)	180.0 (4.0, 1,439.0)	227.5 (15.0, 1,165.0)
IQR	161.0	232.5	195.0	240.0	175.0	237.5	185.0	233.0
Missing	265	57	304	61	349	66	918	184

* Definition is different in CRF version 2013

** Symptom to treatment is time difference between time ACS symptom onset and time patient were given fibrinolytic therapy

Note: Not all participating centre performed Troponin T or Troponin I tests

Note: Percentage is to the nearest decimal point



Table 3.4 Cardiac presentation of patients with ACS by pre-morbid diabetes, NCVD-ACS Registry, 2011-2013

Year	2011			2012			2013			2011-2013		
	Diabetic	Non-diabetic	Unknown	Diabetic	Non-diabetic	Unknown	Diabetic	Non-diabetic	Unknown	Diabetic	Non-diabetic	Unknown
Total	1,742	1,821	200	1,974	2,023	246	2,568	2,794	346	6,284	6,638	792
ACS stratum, No. (%)												
STEMI	713 (41.0)	1027 (56.4)	136 (68.0)	844 (42.8)	1,138 (56.2)	166 (67.4)	1,111 (43.2)	1,413 (50.6)	234 (67.6)	2,668 (42.4)	3,578 (54.0)	536 (67.7)
NSTEMI	558 (32.0)	430 (23.6)	30 (15.0)	598 (30.2)	439 (21.8)	47 (19.2)	774 (30.2)	727 (26.0)	50 (14.4)	1,930 (30.8)	1,596 (24.0)	127 (16.1)
UA	471 (27.0)	364 (20.0)	34 (17.0)	532 (27.0)	446 (22.0)	33 (13.4)	683 (26.6)	654 (23.4)	62 (18.0)	1,686 (26.8)	1,464 (22.0)	129 (16.2)
Systolic blood pressure, mmHg												
N	1657	1656	195	1908	1899	243	2438	2644	342	6003	6199	780
Mean (SD)	139.5 (28.1)	136.8 (28.2)	135.1 (30.3)	140.0 (29.8)	134.3 (28.9)	135.4 (32.2)	139.9 (30.1)	135.9 (29.1)	135.6 (31.5)	139.8 (29.5)	135.6 (28.8)	135.4 (31.4)
Median (min, max)	138.0 (55.0, 263.0)	135.0 (50.0, 270.0)	132.0 (62.0, 245.0)	137.0 (58.0, 270.0)	131.0 (53.0, 261.0)	130.0 (65.0, 237.0)	138.0 (52.0, 264.0)	133.0 (53.0, 268.0)	134.0 (61.0, 239.0)	138.0 (52.0, 270.0)	133.0 (50.0, 270.0)	132.5 (61.0, 245.0)
IQR	36.0	38.0	34.0	37.0	37.0	41.0	39.0	36.0	40.0	38.0	37.0	38.0
Missing	85	165	5	66	124	3	130	150	4	281	439	12
Diastolic blood pressure, mmHg												
N	1,658	1,651	195	1,895	1,894	242	2,438	2,637	343	5,991	6,182	780
Mean (SD)	80.3 (17.0)	81.4 (18.3)	80.7 (19.5)	80.0 (18.0)	80.1 (18.4)	81.1 (19.9)	80.5 (18.2)	81.1 (18.6)	80.4 (19.7)	80.3 (17.8)	80.9 (18.5)	80.7 (19.7)
Median (min, max)	80.0 (22.0, 165.0)	80.0 (10.0, 170.0)	80.0 (42.0, 145.0)	79.0 (11.0, 166.0)	79.0 (27.0, 170.0)	80.0 (31.0, 158.0)	80.0 (10.0, 170.0)	80.0 (30.0, 170.0)	78.0 (10.0, 160.0)	80.0 (10.0, 170.0)	80.0 (10.0, 170.0)	80.0 (10.0, 160.0)
IQR	21.0	23.0	25.0	23.0	23.0	24.0	23.0	23.0	23.0	21.0	23.0	24.0
Missing	84	170	5	79	129	4	130	157	3	293	456	12

* Definition is different in CRF version 2013

** Symptom to treatment is time difference between time ACS symptom onset and time patient were given fibrinolytic therapy

Note: Not all participating centre performed Troponin T or Troponin I tests

Note: Percentage is to the nearest decimal point



Year	2011			2012			2013			2011-2013		
	Diabetic	Non-diabetic	Unknown	Diabetic	Non-diabetic	Unknown	Diabetic	Non-diabetic	Unknown	Diabetic	Non-diabetic	Unknown
Diabetes status												
Total	1,742	1,821	200	1,974	2,023	246	2,568	2,794	346	6,284	6,638	792
Pulse pressure, mmHg												
N	1,655	1,646	195	1,894	1,887	242	2,434	2,632	338	5,983	6,165	775
Mean (SD)	59.3 (20.7)	55.6 (19.4)	54.4 (19.9)	59.8 (21.5)	54.2 (19.4)	54.3 (20.2)	59.4 (21.5)	54.9 (19.3)	55.9 (21.3)	59.5 (21.3)	54.9 (19.3)	55.0 (20.6)
Median (min, max)	56.0 (6.0, 160.0)	53.0 (4.0, 154.0)	50.0 (13.0, 125.0)	56.0 (5.0, 198.0)	51.0 (3.0, 154.0)	50.0 (19.0, 133.0)	57.0 (6.0, 169.0)	52.0 (1.0, 142.0)	52.0 (1.0, 137.0)	57.0 (5.0, 198.0)	52.0 (1.0, 154.0)	51.0 (1.0, 137.0)
IQR	27.0	26.0	24.0	27.0	25.0	25.0	28.0	25.0	28.0	28.0	25.0	27.0
Missing	87	175	5	80	136	4	134	162	8	301	473	17
Heart rate at presentation, beats/min												
N	1,658	1,656	192	1,896	1,881	241	2,428	2,617	339	5,982	6,154	772
Mean (SD)	85.9 (20.5)	80.6 (19.8)	82.8 (21.4)	86.3 (20.7)	80.8 (21.7)	82.9 (21.4)	86.3 (21.1)	81.4 (20.5)	83.5 (25.0)	86.2 (20.8)	81.0 (20.7)	83.1 (23.0)
Median (min, max)	85.0 (25.0, 194.0)	78.5 (30.0, 180.0)	81.0 (36.0, 167.0)	85.0 (28.0, 181.0)	80.0 (20.0, 200.0)	81.0 (40.0, 182.0)	84.0 (30.0, 195.0)	79.0 (30.0, 192.0)	80.0 (34.0, 198.0)	85.0 (25.0, 195.0)	79.0 (20.0, 200.0)	80.0 (34.0, 198.0)
IQR	27.0	26.0	27.0	27.0	27.0	23.0	27.0	26.0	29.0	27.0	26.0	26.5
Missing	84	165	8	78	142	5	140	177	7	302	484	20
Episodes of angina in past 24 hours, No. (%)												
0-2	564 (36.8)	680 (40.3)	76 (40.4)	720 (39.1)	908 (48.4)	78 (33.5)	969 (43.2)	1,221 (48.8)	107 (32.6)	2,253 (40.0)	2,809 (46.4)	261 (34.8)
>2	68 (4.4)	55 (3.2)	6 (3.2)	55 (3.0)	55 (3.0)	9 (3.8)	79 (3.5)	74 (3.0)	8 (2.4)	202 (3.6)	184 (3.0)	23 (3.0)
Not Available	903 (58.8)	953 (56.5)	106 (56.4)	1,066 (57.9)	911 (48.6)	146 (62.7)	1,200 (53.3)	1,207 (48.2)	214 (65.0)	3,169 (56.4)	3,071 (50.6)	466 (62.2)
Missing	207	133	12	133	149	13	320	292	17	660	574	42

* Definition is different in CRF version 2013

** Symptom to treatment is time difference between time ACS symptom onset and time patient were given fibrinolytic therapy

Note: Not all participating centre performed Troponin T or Troponin I tests

Note: Percentage is to the nearest decimal point



Year	2011			2012			2013			2011-2013		
	Diabetic	Non-diabetic	Unknown	Diabetic	Non-diabetic	Unknown	Diabetic	Non-diabetic	Unknown	Diabetic	Non-diabetic	Unknown
Total	1,742	1,821	200	1,974	2,023	246	2,568	2,794	346	6,284	6,638	792
Killip classification code, No. (%)												
I	697 (47.5)	889 (56.0)	82 (48.6)	671 (39.2)	875 (49.0)	107 (48.0)	1,135 (60.2)	1,566 (70.0)	158 (54.8)	2,503 (49.4)	3,330 (59.4)	347 (51.0)
II	248 (17.0)	216 (13.5)	28 (16.6)	320 (18.6)	268 (15.0)	33 (14.8)	355 (18.8)	347 (15.5)	51 (17.8)	923 (18.2)	831 (14.8)	112 (16.5)
III	64 (4.4)	50 (3.2)	5 (3.0)	72 (4.2)	57 (3.2)	9 (4.0)	136 (7.2)	77 (3.3)	11 (3.8)	272 (5.4)	184 (3.2)	25 (3.7)
IV	115 (7.7)	78 (5.0)	14 (8.2)	142 (8.2)	147 (8.2)	31 (14.0)	234 (12.4)	201 (9.0)	57 (19.8)	491 (9.6)	426 (7.6)	102 (15.0)
Not stated/ inadequately described	342 (23.4)	356 (22.3)	40 (23.6)	511 (29.8)	440 (24.6)	43 (19.2)	28 (1.4)	47 (2.2)	11 (3.8)	881 (17.4)	843 (15.0)	94 (13.8)
Not Available	37	43	7	63	60	1	665	540	56	765	643	64
Missing	239	189	24	195	176	22	15	16	2	449	381	48
Total cholesterol, mmol/L												
N	1,270	1,393	150	1,340	1,454	183	1,712	2,015	267	4,322	4,862	600
Mean (SD)	4.9 (1.5)	5.3 (1.4)	5.3 (1.5)	5.0 (1.5)	5.3 (1.4)	5.5 (1.5)	4.9 (1.5)	5.2 (1.4)	5.3 (1.3)	4.9 (1.5)	5.2 (1.4)	5.4 (1.4)
Median (min, max)	4.7 (2.0, 17.0)	5.2 (2.0, 14.5)	5.3 (2.5, 12.1)	4.8 (2.0, 14.0)	5.1 (2.0, 11.3)	5.6 (2.3, 9.7)	4.8 (2.0, 14.5)	5.1 (2.0, 16.9)	5.3 (2.3, 10.5)	4.8 (2.0, 17.0)	5.1 (2.0, 16.9)	5.4 (2.3, 12.1)
IQR	1.8	1.8	1.9	1.9	1.9	2.0	1.8	1.7	1.8	1.9	1.8	1.9
Not Done	381 (23.0)	344 (19.8)	41 (21.4)	534 (28.4)	461 (24.0)	40 (18.0)	587 (25.6)	494 (19.6)	45 (14.4)	1,502 (25.8)	1,299 (21.0)	126 (17.4)
Missing	91	84	9	100	108	23	269	285	34	460	477	66
HDL-C, mmol/L												
N	1,221	1,356	133	1,288	1,418	173	1,671	1,970	262	4,180	4,744	568
Mean (SD)	1.1 (0.4)	1.1 (0.4)	1.1 (0.3)	1.1 (0.3)	1.1 (0.3)	1.1 (0.3)	1.1 (0.3)	1.1 (0.4)	1.1 (0.3)	1.1 (0.4)	1.1 (0.4)	1.1 (0.3)
Median (min, max)	1.0 (0.5, 4.3)	1.1 (0.5, 4.9)	1.0 (0.5, 3.3)	1.0 (0.5, 3.9)	1.0 (0.5, 4.4)	1.0 (0.5, 2.5)	1.0 (0.5, 4.6)	1.1 (0.5, 4.6)	1.0 (0.5, 4.1)	1.0 (0.5, 4.6)	1.1 (0.5, 4.9)	1.0 (0.5, 4.1)
IQR	0.3	0.4	0.3	0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3
Not Done	404 (24.8)	370 (21.4)	56 (29.6)	549 (29.8)	478 (25.2)	49 (22.0)	625 (27.2)	530 (21.2)	48 (15.4)	1,578 (27.4)	1,378 (22.6)	153 (21.2)
Missing	117	95	11	137	127	24	272	294	36	526	516	71



Year	2011			2012			2013			2011-2013		
	Diabetic	Non-diabetic	Unknown	Diabetic	Non-diabetic	Unknown	Diabetic	Non-diabetic	Unknown	Diabetic	Non-diabetic	Unknown
Diabetes status												
Total	1,742	1,821	200	1,974	2,023	246	2,568	2,794	346	6,284	6,638	792
LDL-C, mmol/L												
N	1,247	1,376	135	1,315	1,443	176	1,649	1,939	255	4,211	4,758	566
Mean (SD)	3.0 (1.3)	3.4 (1.3)	3.6 (1.4)	3.1 (1.3)	3.4 (1.3)	3.8 (1.4)	3.0 (1.3)	3.3 (1.2)	3.5 (1.2)	3.1 (1.3)	3.4 (1.3)	3.6 (1.3)
Median (min, max)	2.9 (0.5, 10.9)	3.3 (0.5, 12.0)	3.4 (0.7, 10.1)	3.0 (0.6, 12.2)	3.3 (0.6, 11.9)	3.8 (1.0, 9.1)	2.8 (0.5, 12.3)	3.3 (0.6, 10.2)	3.5 (1.0, 9.0)	2.9 (0.5, 12.3)	3.3 (0.5, 12.0)	3.5 (0.7, 10.1)
IQR	1.6	1.7	1.8	1.7	1.7	1.8	1.6	1.5	1.7	1.7	1.6	1.8
Not Done	409 (24.6)	368 (21.2)	56 (29.4)	557 (29.8)	484 (25.2)	50 (22.2)	659 (28.6)	565 (22.6)	58 (18.6)	1,625 (27.8)	1,417 (23.0)	164 (22.4)
Missing	86	77	9	102	96	20	260	290	33	448	463	62
Triglycerides, mmol/L												
N	1,268	1,394	152	1,347	1,450	179	1,684	1,974	258	4,299	4,818	589
Mean (SD)	1.8 (1.2)	1.7 (1.0)	1.7 (0.8)	1.8 (1.1)	1.7 (1.0)	1.7 (1.0)	1.9 (1.3)	1.7 (1.0)	1.7 (1.0)	1.8 (1.2)	1.7 (1.0)	1.7 (1.0)
Median (min, max)	1.5 (0.5, 15.0)	1.4 (0.5, 11.8)	1.4 (0.6, 5.7)	1.5 (0.5, 13.9)	1.4 (0.5, 13.0)	1.4 (0.6, 6.9)	1.5 (0.5, 14.6)	1.4 (0.5, 15.0)	1.4 (0.5, 10.5)	1.5 (0.5, 15.0)	1.4 (0.5, 15.0)	1.4 (0.5, 10.5)
IQR	1.0	0.8	0.9	1.0	1.0	0.9	0.9	0.9	0.9	1.0	0.9	0.9
Not Done	381 (23.2)	344 (19.8)	40 (20.8)	532 (28.4)	457 (24.0)	42 (19.0)	612 (26.6)	525 (21.0)	53 (17.0)	1,525 (26.2)	1,326 (21.6)	135 (18.6)
Missing	93	83	8	95	116	25	272	295	35	460	494	68
* HbA1c, mmol/L												
N							570	308	52	570	308	52
Mean (SD)							8.6 (2.3)	6.4 (2.5)	6.7 (3.6)	8.6 (2.3)	6.4 (2.5)	6.7 (3.6)
Median (min, max)							8.2 (4.8, 16.5)	5.8 (4.2, 32.0)	5.8 (4.9, 30.0)	8.2 (4.8, 16.5)	5.8 (4.2, 32.0)	5.8 (4.9, 30.0)
IQR							3.3	0.9	0.9	3.3	0.9	0.9
Not done							1,245 (68.6)	1,595 (83.8)	176 (77.2)	1,245 (68.6)	1,595 (83.8)	176 (77.2)
Missing							753	891	118	753	891	118



Year	2011			2012			2013			2011-2013		
	Diabetic	Non-diabetic	Unknown	Diabetic	Non-diabetic	Unknown	Diabetic	Non-diabetic	Unknown	Diabetic	Non-diabetic	Unknown
Diabetes status												
Total	1,742	1,821	200	1,974	2,023	246	2,568	2,794	346	6,284	6,638	792
Left ventricular ejection fraction, %												
N	846	838	98	879	959	115	1,083	1,178	150	2,808	2,975	363
Mean (SD)	45.6 (14.2)	46.7 (13.4)	46.3 (14.0)	45.1 (13.3)	47.5 (12.7)	48.1 (13.4)	46.3 (13.1)	47.7 (12.5)	47.8 (13.8)	45.7 (13.5)	47.4 (12.8)	47.5 (13.7)
Median (min, max)	45.0 (6.4, 88.0)	47.0 (6.3, 83.0)	47.0 (15.0, 76.0)	45.0 (5.3, 85.0)	49.0 (6.7, 85.0)	50.0 (7.2, 79.0)	46.0 (10.0, 89.0)	49.0 (6.6, 87.0)	50.0 (13.0, 75.0)	45.0 (5.3, 89.0)	48.0 (6.3, 87.0)	49.0 (7.2, 79.0)
IQR	20.0	17.0	20.0	20.0	15.0	18.0	17.0	15.0	17.0	20.0	15.0	19.0
Not Done	639 (43.0)	749 (47.2)	76 (43.6)	868 (49.6)	824 (46.2)	89 (43.6)	1,072 (49.8)	1,135 (49.0)	156 (51.0)	2,579 (47.8)	2,708 (47.6)	321 (47.0)
Missing	257	234	26	227	240	42	413	481	40	897	955	108
EKG, No. (%)												
Inferior leads	480 (27.6)	658 (36.2)	71 (35.6)	574 (29.0)	724 (35.8)	91 (37.0)	806 (31.4)	993 (35.6)	141 (40.8)	1,860 (29.6)	2,375 (35.8)	303 (38.2)
Anterior leads	701 (40.2)	757 (41.6)	105 (52.6)	786 (39.8)	892 (44.0)	115 (46.8)	1,017 (39.6)	1,178 (42.2)	157 (45.4)	2,504 (39.8)	2,827 (42.6)	377 (47.6)
Lateral leads	496 (28.4)	417 (22.8)	52 (26.0)	563 (28.6)	460 (22.8)	50 (20.4)	758 (29.6)	684 (24.4)	83 (24.0)	1,817 (29.0)	1,561 (23.6)	185 (23.4)
True posterior	68 (4.0)	108 (6.0)	12 (6.0)	62 (3.2)	80 (4.0)	14 (5.6)	98 (3.8)	121 (4.4)	27 (7.8)	228 (3.6)	309 (4.6)	53 (6.6)
Right ventricle	40 (2.2)	50 (2.8)	7 (3.6)	52 (2.6)	66 (3.2)	10 (4.0)	77 (3.0)	104 (3.8)	24 (7.0)	169 (2.6)	220 (3.4)	41 (5.2)
None	216 (12.4)	195 (10.8)	11 (5.6)	251 (12.8)	188 (9.2)	23 (9.4)	411 (16.0)	421 (15.0)	22 (6.4)	878 (14.0)	804 (12.2)	56 (7.0)
Not stated/ inadequately described	139 (8.0)	143 (7.8)	9 (4.6)	119 (6.0)	106 (5.2)	16 (6.6)	136 (5.2)	115 (4.2)	8 (2.4)	394 (6.2)	364 (5.4)	33 (4.2)
Total number of STEMI patients who were given fibrinolytic therapy at this centre	400	562	81	410	501	92	517	686	110	1,327	1,749	283
Pain to needle time, min (** symptom to treatment)												
N	275	411	59	279	326	62	360	498	83	914	1,235	204
Mean (SD)	250.3 (200.3)	201.5 (164.6)	228.9 (149.2)	278.7 (207.3)	256.2 (226.0)	239.9 (176.3)	271.0 (221.3)	253.9 (210.6)	271.3 (236.2)	267.1 (211.0)	237.1 (202.3)	249.5 (196.4)
Median (min, max)	185.0 (10.0, 1,315.0)	140.0 (30.0, 915.0)	180.0 (60.0, 760.0)	225.0 (15.0, 1,439.0)	180.0 (4.0, 1,314.0)	187.5 (90.0, 940.0)	207.5 (10.0, 1,165.0)	195.0 (10.0, 1,375.0)	210.0 (20.0, 1,222.0)	210.0 (10.0, 1,439.0)	170.0 (4.0, 1,375.0)	182.5 (20.0, 1,222.0)
IQR	210.0	145.0	165.0	210.0	185.0	180.0	227.5	178.0	185.0	215.0	180.0	180.0
Missing	125	151	22	131	175	30	157	188	27	413	514	79



Table 3.5 Cardiac presentation of patients with ACS by pre-morbid hypertension, NCVD-ACS Registry, 2011-2013

Year	2011			2012			2013			2011-2013		
	Hypertensive	Non-Hypertensive	Unknown	Hypertensive	Non-Hypertensive	Unknown	Hypertensive	Non-Hypertensive	Unknown	Hypertensive	Non-Hypertensive	Unknown
Total	2,547	1,106	145	2,797	1,259	202	3,630	1,857	258	8,974	4,222	605
ACS stratum, No. (%)												
STEMI	1,061 (41.6)	710 (64.2)	109 (75.2)	1,209 (43.2)	807 (64.0)	140 (69.3)	1,518 (41.8)	1,065 (57.4)	191 (74.0)	3,788 (42.2)	2,582 (61.2)	440 (72.7)
NSTEMI	782 (30.8)	236 (21.4)	22 (15.2)	806 (28.8)	246 (19.6)	35 (17.3)	1,054 (29.0)	473 (25.4)	31 (12.0)	2,642 (29.4)	955 (22.6)	88 (14.6)
UA	704 (27.6)	160 (14.4)	14 (9.6)	782 (28.0)	206 (16.4)	27 (13.4)	1,058 (29.2)	319 (17.2)	36 (14.0)	2,544 (28.4)	685 (16.2)	77 (12.7)
Systolic blood pressure, mmHg												
N	2,385	1,019	141	2,676	1,188	200	3,480	1,728	255	8,541	3,935	596
Mean (SD)	141.7 (28.6)	131.0 (26.2)	129.6 (26.0)	141.1 (30.5)	128.5 (26.0)	133.8 (28.5)	142.2 (30.7)	129.7 (25.8)	131.0 (29.1)	141.7 (30.1)	129.7 (26.0)	131.6 (28.2)
Median (min, max)	140.0 (50.0, 270.0)	129.0 (52.0, 234.0)	128.0 (62.0, 214.0)	139.0 (54.0, 270.0)	127.0 (53.0, 240.0)	131.0 (70.0, 214.0)	140.0 (52.0, 264.0)	128.0 (56.0, 268.0)	129.0 (61.0, 233.0)	140.0 (50.0, 270.0)	128.0 (52.0, 268.0)	129.0 (61.0, 233.0)
IQR	37.0	34.0	35.0	39.0	31.5	34.0	38.0	33.5	34.0	39.0	33.0	35.0
Missing	162	87	4	121	71	2	150	129	3	433	287	9
Diastolic blood pressure, mmHg												
N	2,382	1,017	141	2,664	1,183	199	3,475	1,727	255	8,521	3,927	595
Mean (SD)	82.0 (18.1)	78.7 (16.8)	78.4 (17.8)	81.3 (18.8)	77.6 (16.8)	80.7 (18.7)	82.2 (19.2)	78.5 (16.8)	78.2 (18.5)	81.8 (18.8)	78.3 (16.8)	79.1 (18.4)
Median (min, max)	81.0 (10.0, 170.0)	78.0 (25.0, 162.0)	77.0 (35.0, 126.0)	80.0 (11.0, 170.0)	77.0 (21.0, 159.0)	80.0 (31.0, 148.0)	80.0 (10.0, 170.0)	78.0 (30.0, 153.0)	78.0 (10.0, 138.0)	80.0 (10.0, 170.0)	78.0 (21.0, 162.0)	78.0 (10.0, 148.0)
IQR	22.0	22.0	20.0	23.0	20.0	24.0	23.0	22.0	24.0	22.0	22.0	22.0
Missing	165	89	4	133	76	3	155	130	3	453	295	10



Year	2011			2012			2013			2011-2013		
	Hypertensive	Non-Hypertensive	Unknown	Hypertensive	Non-Hypertensive	Unknown	Hypertensive	Non-Hypertensive	Unknown	Hypertensive	Non-Hypertensive	Unknown
Hypertension status												
Total	2,547	1,106	145	2,797	1,259	202	3,630	1,857	258	8,974	4,222	605
Pulse pressure, mmHg												
N	2,378	1,013	141	2,661	1,178	199	3,467	1,723	253	85,06	3,914	593
Mean (SD)	59.7 (20.7)	52.5 (18.0)	51.2 (16.7)	59.7 (21.6)	51.1 (17.4)	53.1 (18.1)	60.2 (21.3)	51.2 (17.5)	53.4 (19.6)	59.9 (21.2)	51.5 (17.6)	52.8 (18.5)
Median (min, max)	57.0 (5.0, 160.0)	50.0 (4.0, 147.0)	50.0 (19.0, 115.0)	56.0 (5.0, 198.0)	49.0 (3.0, 154.0)	50.0 (11.0, 108.0)	58.0 (1.0, 169.0)	49.0 (1.0, 147.0)	50.0 (20.0, 137.0)	57.0 (1.0, 198.0)	49.0 (1.0, 154.0)	50.0 (11.0, 137.0)
IQR	26.0	22.0	22.0	28.0	22.0	25.0	28.0	20.0	23.0	27.0	21.0	23.0
Missing	169	93	4	136	81	3	163	134	5	468	308	12
Heart rate at presentation, beats/min												
N	2,384	1,019	139	2,655	1,181	197	3,457	1,711	255	8,496	3,911	591
Mean (SD)	83.8 (20.5)	81.8 (19.9)	81.2 (20.8)	84.3 (21.3)	81.6 (21.0)	83.2 (22.8)	84.4 (21.3)	82.2 (19.9)	85.2 (26.2)	84.2 (21.1)	81.9 (20.2)	83.6 (23.9)
Median (min, max)	82.0 (25.0, 194.0)	80.0 (31.0, 160.0)	81.0 (36.0, 134.0)	83.0 (28.0, 200.0)	80.0 (20.0, 198.0)	81.0 (40.0, 182.0)	82.0 (30.0, 197.0)	80.0 (30.0, 171.0)	81.0 (34.0, 198.0)	82.0 (25.0, 200.0)	80.0 (20.0, 198.0)	81.0 (34.0, 198.0)
IQR	27.0	25.0	28.0	29.0	26.0	24.0	27.0	27.0	30.0	28.0	26.0	28.0
Missing	163	87	6	142	78	5	173	146	3	478	311	14
Episodes of angina in past 24 hours, No. (%)												
0-2	828 (36.6)	436 (42.3)	63 (45.3)	1,085 (41.6)	551 (47.5)	72 (37.2)	1,402 (43.7)	825 (50.0)	80 (33.2)	3,315 (41.0)	1,812 (47.2)	215 (37.4)
>2	89 (4.0)	38 (3.7)	3 (2.2)	83 (3.2)	30 (2.5)	8 (4.1)	120 (3.7)	37 (2.2)	3 (1.2)	292 (3.6)	105 (2.7)	14 (2.4)
Not Available	1,345 (59.4)	558 (54.0)	73 (52.5)	1,434 (55.2)	579 (50.0)	114 (58.7)	1,686 (52.6)	791 (47.8)	158 (65.6)	4,465 (55.4)	1,928 (50.1)	345 (60.2)
Missing	285	74	6	195	99	8	422	204	17	902	377	31



Year	2011			2012			2013			2011-2013		
	Hypertensive	Non-Hypertensive	Unknown	Hypertensive	Non-Hypertensive	Unknown	Hypertensive	Non-Hypertensive	Unknown	Hypertensive	Non-Hypertensive	Unknown
Total	2,547	1,106	145	2,797	1,259	202	3,630	1,857	258	8,974	4,222	605
Killip classification code, No. (%)												
I	1,052 (49.3)	552 (57.2)	67 (52.7)	1,008 (41.2)	567 (51.0)	88 (48.0)	1,655 (62.2)	1,102 (70.6)	121 (55.2)	3,715 (51.2)	2,221 (61.0)	276 (52.2)
II	330 (15.4)	147 (15.3)	20 (15.7)	426 (17.4)	163 (14.6)	32 (17.4)	497 (18.6)	224 (14.4)	39 (17.8)	1,253 (17.4)	534 (14.6)	91 (17.2)
III	93 (4.4)	20 (2.0)	6 (4.8)	102 (4.2)	28 (2.6)	8 (4.4)	170 (6.4)	49 (3.2)	6 (2.8)	365 (5.0)	97 (2.6)	20 (3.8)
IV	143 (6.6)	49 (5.0)	11 (8.6)	200 (8.2)	102 (9.2)	20 (11.0)	290 (10.8)	156 (10.0)	46 (21.0)	633 (8.8)	307 (8.5)	77 (14.6)
Not stated/ inadequately described	517 (24.3)	198 (20.5)	23 (18.2)	708 (29.0)	251 (22.6)	35 (19.2)	51 (2.0)	28 (1.8)	7 (3.2)	1,276 (17.6)	477 (13.3)	65 (12.2)
Not Available	59	26	2	94	30	1	943	288	37	1096	344	40
Missing	353	114	16	259	118	18	24	10	2	636	242	36
T total cholesterol, mmol/L												
N	1,859	875	111	1,898	941	154	2,454	1,364	203	6,211	3,180	468
Mean (SD)	5.0 (1.5)	5.3 (1.5)	5.5 (1.5)	5.0 (1.5)	5.4 (1.4)	5.7 (1.6)	4.9 (1.4)	5.3 (1.4)	5.4 (1.3)	5.0 (1.4)	5.4 (1.4)	5.5 (1.5)
Median (min, max)	4.8 (2.0, 14.6)	5.2 (2.0, 17.0)	5.3 (2.6, 12.1)	4.8 (2.0, 12.5)	5.4 (2.0, 12.2)	5.7 (2.3, 14.0)	4.8 (2.0, 16.9)	5.3 (2.1, 12.2)	5.4 (2.2, 10.5)	4.8 (2.0, 16.9)	5.3 (2.0, 17.0)	5.4 (2.2, 14.0)
IQR	1.8	1.8	1.7	1.8	1.9	2.2	1.9	1.8	1.9	1.8	1.8	1.9
Not Done	556 (23.0)	185 (17.4)	27 (19.6)	761 (28.6)	245 (20.6)	29 (15.8)	817 (25.0)	279 (17.0)	34 (14.4)	2,134 (25.6)	709 (18.2)	90 (16.2)
Missing	132	46	7	138	73	19	359	214	21	629	333	47
HDL-C, mmol/L												
N	1,790	850	101	1,836	914	145	2,406	1,328	197	6,032	3,092	443
Mean (SD)	1.1 (0.4)	1.1 (0.4)	1.1 (0.3)	1.1 (0.4)	1.1 (0.3)	1.1 (0.3)	1.1 (0.4)	1.1 (0.3)	1.0 (0.3)	1.1 (0.4)	1.1 (0.3)	1.1 (0.3)
Median (min, max)	1.1 (0.5, 4.6)	1.0 (0.5, 4.9)	1.0 (0.5, 2.1)	1.0 (0.5, 4.4)	1.0 (0.5, 3.6)	1.0 (0.5, 3.3)	1.0 (0.5, 4.6)	1.0 (0.5, 4.6)	1.0 (0.5, 4.1)	1.0 (0.5, 4.6)	1.0 (0.5, 4.9)	1.0 (0.5, 4.1)
IQR	0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.4
Not Done	589 (24.8)	205 (19.4)	38 (27.4)	783 (29.8)	253 (21.6)	40 (21.6)	865 (26.4)	306 (18.8)	37 (15.8)	2,237 (27.0)	764 (19.8)	115 (20.6)
Missing	168	51	6	178	92	17	359	223	24	705	366	47



Year	2011			2012			2013			2011-2013		
	Hypertensive	Non-Hypertensive	Unknown	Hypertensive	Non-Hypertensive	Unknown	Hypertensive	Non-Hypertensive	Unknown	Hypertensive	Non-Hypertensive	Unknown
Total	2,547	1,106	145	2,797	1,259	202	3,630	1,857	258	8,974	4,222	605
LDL-C, mmol/L												
N	1828	860	101	1869	934	147	2,367	1,308	194	6,064	3,102	442
Mean (SD)	3.1 (1.3)	3.5 (1.3)	3.7 (1.5)	3.1 (1.3)	3.6 (1.3)	3.8 (1.5)	3.1 (1.2)	3.4 (1.2)	3.6 (1.2)	3.1 (1.3)	3.5 (1.3)	3.7 (1.4)
Median (min, max)	3.0 (0.5, 10.0)	3.4 (0.6, 12.0)	3.4 (0.7, 10.1)	3.0 (0.6, 11.9)	3.5 (0.6, 8.7)	3.9 (0.9, 12.2)	2.9 (0.5, 12.3)	3.4 (0.6, 10.2)	3.6 (1.0, 9.0)	2.9 (0.5, 12.3)	3.4 (0.6, 12.0)	3.6 (0.7, 12.2)
IQR	1.6	1.6	1.6	1.7	1.7	2.0	1.6	1.5	1.6	1.6	1.7	1.7
Not Done	590 (24.4)	208 (19.4)	37 (26.8)	790 (29.8)	260 (21.8)	41 (21.8)	914 (27.8)	331 (20.2)	43 (18.2)	2,294 (27.4)	799 (20.4)	121 (21.4)
Missing	129	38	7	138	65	14	349	218	21	616	321	42
Triglycerides, mmol/L												
N	1,863	870	113	1,897	942	153	2,411	1,335	195	6,171	3,147	461
Mean (SD)	1.7 (1.1)	1.7 (1.1)	1.7 (0.8)	1.7 (1.1)	1.7 (1.0)	1.8 (1.1)	1.7 (1.0)	1.8 (1.3)	1.8 (1.4)	1.7 (1.1)	1.8 (1.2)	1.8 (1.2)
Median (min, max)	1.5 (0.5, 15.0)	1.4 (0.5, 12.0)	1.5 (0.6, 5.7)	1.4 (0.5, 13.9)	1.5 (0.6, 13.0)	1.6 (0.6, 7.6)	1.5 (0.5, 13.1)	1.5 (0.5, 14.6)	1.5 (0.5, 15.0)	1.5 (0.5, 15.0)	1.5 (0.5, 14.6)	1.5 (0.5, 15.0)
IQR	0.9	0.9	0.9	0.9	0.9	1.0	0.9	1.0	0.9	0.9	1.0	0.9
Not Done	551 (22.8)	190 (18.0)	26 (18.8)	759 (28.6)	241 (20.4)	31 (16.8)	853 (26.2)	303 (18.4)	39 (16.6)	2,163 (26.0)	734 (19.0)	96 (17.2)
Missing	133	46	6	141	76	18	366	219	24	640	341	48
* HbA1c, mmol/L												
N							660	240	30	660	240	30
Mean (SD)							7.7 (2.3)	7.7 (3.3)	7.9 (4.6)	7.7 (2.3)	7.7 (3.3)	7.9 (4.6)
Median (min, max)							7.2 (4.2, 16.5)	6.4 (4.3, 32.0)	6.1 (5.4, 30.0)	7.2 (4.2, 16.5)	6.4 (4.3, 32.0)	6.1 (5.4, 30.0)
IQR							2.9	3.1	2.9	2.9	3.1	2.9
Not done							1,904 (74.2)	991 (80.6)	134 (81.8)	1,904 (74.2)	991 (80.6)	134 (81.8)
Missing							1066	626	94	1066	626	94



Year	2011			2012			2013			2011-2013		
	Hypertensive	Non-Hypertensive	Unknown	Hypertensive	Non-Hypertensive	Unknown	Hypertensive	Non-Hypertensive	Unknown	Hypertensive	Non-Hypertensive	Unknown
Hypertension status												
Total	2,547	1,106	145	2,797	1,259	202	3,630	1,857	2,58	8,974	4,222	605
Left ventricular ejection fraction, %												
N	1,195	538	74	1,282	588	94	1,515	795	123	3,992	1,921	291
Mean (SD)	46.0 (14.2)	46.8 (13.0)	45.4 (14.1)	46.4 (13.3)	46.4 (12.5)	47.7 (13.9)	47.0 (13.1)	47.1 (12.5)	47.3 (14.0)	46.5 (13.5)	46.8 (12.6)	47.0 (14.0)
Median (min, max)	46.0 (6.4, 88.0)	46.0 (6.3, 80.0)	45.5 (15.0, 79.0)	47.0 (5.3, 85.0)	46.0 (15.0, 85.0)	47.0 (7.2, 79.0)	47.0 (6.8, 87.0)	47.0 (6.6, 89.0)	50.0 (13.0, 76.0)	47.0 (5.3, 88.0)	46.0 (6.3, 89.0)	48.0 (7.2, 79.0)
IQR	20.0	16.0	20.0	19.0	17.0	17.0	15.3	15.0	21.0	18.0	15.0	20.0
Not Done	982 (45.2)	430 (44.4)	57 (43.6)	1,217 (48.6)	494 (45.6)	76 (44.8)	1,547 (50.6)	718 (47.4)	102 (45.4)	3,746 (48.4)	1,642 (46.0)	235 (44.6)
Missing	370	138	14	298	177	32	568	344	33	1236	659	79
ECG, No. (%)												
Inferior leads	766 (30.0)	397 (35.8)	55 (38.0)	865 (31.0)	460 (36.6)	73 (36.2)	1,148 (31.6)	697 (37.6)	106 (41.0)	2,779 (31.0)	1,554 (36.8)	234 (38.6)
Anterior leads	994 (39.0)	498 (45.0)	80 (55.2)	1,115 (39.8)	583 (46.4)	95 (47.0)	1,433 (39.4)	810 (43.6)	121 (46.8)	3,542 (39.4)	1,891 (44.8)	296 (49.0)
Lateral leads	678 (26.6)	260 (23.6)	34 (23.4)	759 (27.2)	274 (21.8)	42 (20.8)	1,085 (29.8)	397 (21.4)	57 (22.0)	2,522 (28.2)	931 (22.0)	133 (22.0)
True posterior	107 (4.2)	74 (6.6)	7 (4.8)	82 (3.0)	61 (4.8)	14 (7.0)	145 (4.0)	85 (4.6)	17 (6.6)	334 (3.8)	220 (5.2)	38 (6.2)
Right ventricle	61 (2.4)	30 (2.8)	7 (4.8)	75 (2.6)	45 (3.6)	8 (4.0)	94 (2.6)	89 (4.8)	20 (7.8)	230 (2.6)	164 (3.8)	35 (5.8)
None	327 (12.8)	95 (8.6)	5 (3.4)	341 (12.2)	103 (8.2)	17 (8.4)	580 (16.0)	267 (14.4)	15 (5.8)	1,248 (14.0)	465 (11.0)	37 (6.2)
Not stated/ inadequately described	218 (8.6)	71 (6.4)	4 (2.8)	181 (6.4)	46 (3.6)	14 (7.0)	201 (5.6)	55 (3.0)	3 (1.2)	600 (6.6)	172 (4.0)	21 (3.4)



Year	2011			2012			2013			2011-2013		
	Hypertensive	Non-Hypertensive	Unknown	Hypertensive	Non-Hypertensive	Unknown	Hypertensive	Non-Hypertensive	Unknown	Hypertensive	Non-Hypertensive	Unknown
Total	2,547	1,106	145	2,797	1,259	202	3,630	1,857	258	8,974	4,222	605
Total number of STEMI patients who were given fibrinolytic therapy at this centre	586	398	62	542	393	74	703	524	93	1,831	1,315	229
Pain to needle time, min (** symptom to treatment)												
N	418	280	48	369	256	47	483	392	68	1,270	928	163
Mean (SD)	221.0 (173.5)	215.2 (183.3)	251.6 (191.6)	270.7 (216.7)	260.0 (220.4)	232.3 (149.2)	259.4 (215.0)	259.9 (210.9)	290.6 (267.0)	250.1 (203.7)	246.4 (206.6)	262.3 (217.0)
Median (min, max)	160.0 (10.0, 1,080.0)	150.0 (30.0, 1,315.0)	172.5 (60.0, 1,055.0)	210.0 (15.0, 1,439.0)	195.0 (4.0, 1,140.0)	200.0 (70.0, 800.0)	195.0 (10.0, 1,290.0)	195.0 (10.0, 1,375.0)	197.5 (20.0, 1,222.0)	190.0 (10.0, 1,439.0)	180.0 (4.0, 1,375.0)	195.0 (20.0, 1,222.0)
IQR	190.0	167.5	207.5	200.0	192.5	160.0	200.0	170.0	212.5	200.0	180.0	195.0
Missing	168	118	14	173	137	27	220	132	25	561	387	66

* Definition is different in CRF version 2013
 ** Symptom to treatment is time difference between time ACS symptom onset and time patient were given fibrinolytic therapy
 Note: Not all participating centre performed Troponin T or Troponin I tests
 Note: Percentage is to the nearest decimal point



Table 3.6 Cardiac presentation of patients with ACS by pre-morbid dyslipidaemia, NCVD-ACS Registry, 2011-2013

Year	2011			2012			2013			2011-2013		
	Dyslipidaemia	Non-Dyslipidaemia	Unknown	Dyslipidaemia	Non-Dyslipidaemia	Unknown	Dyslipidaemia	Non-Dyslipidaemia	Unknown	Dyslipidaemia	Non-Dyslipidaemia	Unknown
Total	1,459	1,785	472	1,538	2,165	513	2,103	2,970	608	5,100	6,920	1,593
ACS stratum, No. (%)												
STEMI	587 (40.2)	965 (54.0)	293 (62.0)	585 (38.0)	1,210 (55.8)	340 (66.3)	755 (36.0)	1,559 (52.4)	420 (69.0)	1,927 (37.8)	3,734 (54.0)	1,053 (66.1)
NSTEMI	469 (32.2)	443 (24.8)	98 (20.8)	455 (29.6)	508 (23.5)	109 (21.3)	628 (29.8)	818 (27.6)	92 (15.2)	1,552 (30.4)	1,769 (25.6)	299 (18.7)
UA	403 (27.6)	377 (21.2)	81 (17.2)	498 (32.4)	447 (20.7)	64 (12.4)	720 (34.2)	593 (20.0)	96 (15.8)	1,621 (31.8)	1,417 (20.4)	241 (15.2)
Systolic blood pressure, mmHg												
N	1311	1685	465	1447	2072	504	1989	2812	600	4747	6569	1569
Mean (SD)	139.6 (27.4)	137.3 (28.3)	135.8 (29.8)	138.3 (29.1)	136.7 (29.9)	135.0 (30.7)	140.5 (29.3)	136.4 (29.8)	134.3 (30.5)	139.6 (28.7)	136.7 (29.5)	134.9 (30.3)
Median (min, max)	137.0 (60.0, 270.0)	136.0 (50.0, 267.0)	133.0 (59.0, 245.0)	135.0 (54.0, 270.0)	134.0 (53.0, 261.0)	132.0 (56.0, 240.0)	139.0 (52.0, 260.0)	134.0 (53.0, 268.0)	133.0 (55.0, 239.0)	137.0 (52.0, 270.0)	135.0 (50.0, 268.0)	133.0 (55.0, 245.0)
IQR	36.0	37.0	38.0	37.0	37.0	39.0	37.0	36.0	36.0	37.0	37.0	38.0
Missing	148	100	7	91	93	9	114	158	8	353	351	24
Diastolic blood pressure, mmHg												
N	1309	1682	465	1439	2065	501	1987	2809	599	4735	6556	1565
Mean (SD)	81.3 (17.1)	80.8 (17.9)	80.3 (19.0)	79.5 (17.0)	80.7 (19.2)	80.0 (18.5)	81.5 (17.7)	80.5 (18.9)	79.9 (18.9)	80.8 (17.4)	80.6 (18.7)	80.1 (18.8)
Median (min, max)	80.0 (10.0, 170.0)	80.0 (22.0, 162.0)	80.0 (25.0, 148.0)	78.0 (17.0, 158.0)	80.0 (11.0, 170.0)	80.0 (31.0, 148.0)	80.0 (23.0, 170.0)	79.0 (10.0, 160.0)	78.0 (10.0, 160.0)	80.0 (10.0, 170.0)	80.0 (10.0, 170.0)	79.0 (10.0, 160.0)
IQR	21.0	22.0	25.0	21.0	24.0	23.0	22.0	23.0	22.0	21.0	23.5	23.0
Missing	150	103	7	99	100	12	116	161	9	365	364	28



Year	2011			2012			2013			2011-2013		
	Dyslipidaemia	Non-Dyslipidaemia	Unknown	Dyslipidaemia	Non-Dyslipidaemia	Unknown	Dyslipidaemia	Non-Dyslipidaemia	Unknown	Dyslipidaemia	Non-Dyslipidaemia	Unknown
Total	1,459	1,785	472	1,538	2,165	513	2,103	2,970	608	5,100	6,920	1,593
Pulse pressure, mmHg												
N	1,308	1,675	465	1,438	2,059	500	1,980	2,806	596	4,726	6,540	1,561
Mean (SD)	58.3 (20.3)	56.7 (19.6)	55.6 (20.0)	58.6 (21.0)	56.1 (20.3)	54.9 (20.7)	59.1 (21.1)	56.0 (20.1)	54.5 (20.0)	58.8 (20.9)	56.2 (20.0)	55.0 (20.2)
Median (min, max)	56.0 (5.0, 154.0)	54.0 (4.0, 156.0)	52.0 (11.0, 140.0)	55.0 (5.0, 165.0)	53.0 (3.0, 198.0)	51.0 (11.0, 167.0)	57.0 (7.0, 169.0)	53.0 (1.0, 159.0)	52.0 (1.0, 137.0)	56.0 (5.0, 169.0)	53.0 (1.0, 198.0)	51.0 (1.0, 167.0)
IQR	27.0	25.0	25.0	28.0	26.0	25.0	27.0	25.0	25.0	27.0	26.0	25.0
Missing	151	110	7	100	106	13	123	164	12	374	380	32
Heart rate at presentation, beats/min												
N	1,306	1,691	464	1,436	2,054	502	1,975	2,789	597	4,717	6,534	1,563
Mean (SD)	83.1 (19.6)	83.3 (20.7)	82.4 (21.3)	82.6 (20.6)	83.8 (21.7)	84.3 (22.0)	82.9 (20.2)	83.8 (20.9)	85.2 (24.7)	82.9 (20.1)	83.7 (21.1)	84.1 (22.9)
Median (min, max)	81.0 (36.0, 194.0)	82.0 (25.0, 188.0)	80.0 (30.0, 166.0)	80.0 (30.0, 195.0)	82.0 (20.0, 200.0)	84.0 (28.0, 190.0)	80.0 (30.0, 195.0)	81.0 (30.0, 192.0)	83.0 (30.0, 198.0)	80.0 (30.0, 195.0)	82.0 (20.0, 200.0)	82.0 (28.0, 198.0)
IQR	25.0	27.0	28.0	26.0	28.0	28.0	26.0	28.0	29.0	26.0	27.0	29.0
Missing	153	94	8	102	111	11	128	181	11	383	386	30
Episodes of angina in past 24 hours, No. (%)												
0-2	434 (33.2)	694 (42.8)	183 (40.6)	592 (41.4)	916 (45.7)	193 (40.0)	872 (47.4)	1,233 (46.8)	188 (33.0)	1,898 (41.5)	2,843 (45.4)	564 (37.5)
>2	57 (4.4)	59 (3.6)	12 (2.6)	54 (3.8)	50 (2.5)	15 (3.1)	75 (4.0)	73 (2.8)	13 (2.2)	186 (4.0)	182 (3.0)	40 (2.7)
Not Available	818 (62.4)	867 (53.6)	256 (56.8)	785 (54.8)	1,042 (51.8)	275 (56.9)	892 (48.6)	1,327 (50.4)	370 (64.8)	2,495 (54.5)	3,236 (51.6)	901 (59.8)
Missing	150	165	21	107	157	30	264	337	37	521	659	88



Year	2011			2012			2013			2011-2013		
	Dyslipidaemia	Non-Dyslipidaemia	Unknown	Dyslipidaemia	Non-Dyslipidaemia	Unknown	Dyslipidaemia	Non-Dyslipidaemia	Unknown	Dyslipidaemia	Non-Dyslipidaemia	Unknown
Total	1,459	1,785	472	1,538	2,165	513	2,103	2,970	608	5,100	6,920	1,593
Killip classification code, No. (%)												
I	605 (50.2)	844 (54.2)	196 (48.0)	527 (39.6)	922 (48.0)	200 (43.5)	1,022 (68.0)	1,523 (64.6)	300 (56.8)	2,154 (53.3)	3,289 (56.5)	696 (49.8)
II	162 (13.4)	262 (16.8)	59 (14.4)	212 (15.8)	335 (17.4)	73 (16.0)	259 (17.2)	400 (17.0)	91 (17.2)	633 (15.6)	997 (17.0)	223 (16.0)
III	53 (4.4)	49 (3.2)	16 (4.0)	61 (4.6)	58 (3.0)	19 (4.2)	81 (5.4)	119 (5.0)	22 (4.2)	195 (4.8)	226 (3.8)	57 (4.0)
IV	70 (5.8)	85 (5.4)	40 (9.8)	94 (7.0)	168 (8.8)	54 (11.8)	118 (7.8)	273 (11.6)	94 (17.8)	282 (7.0)	526 (9.0)	188 (13.5)
Not stated/ inadequately described	317 (26.2)	318 (20.4)	97 (23.8)	440 (33.0)	439 (22.8)	113 (24.5)	23 (1.6)	42 (1.8)	21 (4.0)	780 (19.3)	799 (13.7)	231 (16.7)
Not Available	36	39	10	61	58	6	581	603	75	678	700	91
Missing	216	188	54	143	185	48	19	10	5	378	383	107
Total cholesterol, mmol/L												
N	1,094	1,347	338	1,015	1,574	372	1,451	2,078	447	3,560	4,999	1,157
Mean (SD)	5.0 (1.5)	5.1 (1.4)	5.3 (1.6)	5.1 (1.5)	5.2 (1.4)	5.5 (1.6)	5.0 (1.5)	5.1 (1.4)	5.4 (1.4)	5.0 (1.5)	5.1 (1.4)	5.4 (1.5)
Median (min, max)	4.9 (2.0, 14.6)	5.0 (2.0, 17.0)	5.2 (2.3, 12.1)	4.9 (2.0, 12.3)	5.0 (2.0, 12.2)	5.4 (2.3, 14.0)	4.9 (2.0, 16.9)	5.0 (2.0, 12.9)	5.3 (2.2, 10.0)	4.9 (2.0, 16.9)	5.0 (2.0, 17.0)	5.3 (2.2, 14.0)
IQR	1.9	1.7	1.9	2.0	1.9	2.1	2.0	1.8	1.8	1.9	1.8	2.0
Not Done	296 (21.2)	361 (21.2)	101 (23.0)	450 (30.8)	493 (23.8)	90 (19.4)	457 (24.0)	570 (21.6)	100 (18.2)	1203 (25.2)	1424 (22.2)	291 (20.0)
Missing	69	77	33	73	98	51	195	322	61	337	497	145
HDL-C, mmol/L												
N	1,063	1,309	304	990	1,531	344	1,417	2,036	430	3,470	4,876	1,078
Mean (SD)	1.1 (0.4)	1.1 (0.4)	1.1 (0.3)	1.1 (0.3)	1.1 (0.3)	1.1 (0.3)	1.1 (0.4)	1.1 (0.4)	1.1 (0.3)	1.1 (0.4)	1.1 (0.4)	1.1 (0.3)
Median (min, max)	1.1 (0.5, 4.3)	1.0 (0.5, 4.9)	1.0 (0.5, 3.3)	1.0 (0.5, 4.4)	1.0 (0.5, 3.9)	1.0 (0.5, 3.3)	1.0 (0.5, 4.6)	1.0 (0.5, 4.6)	1.0 (0.5, 3.0)	1.0 (0.5, 4.6)	1.0 (0.5, 4.9)	1.0 (0.5, 3.3)
IQR	0.4	0.4	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3
Not Done	306 (22.4)	382 (22.6)	135 (30.8)	459 (31.6)	502 (24.6)	112 (24.6)	480 (25.4)	613 (23.2)	112 (20.6)	1,245 (26.4)	1,497 (23.4)	359 (25.0)
Missing	90	94	33	89	132	57	206	321	66	385	547	156



Year	2011			2012			2013			2011-2013		
	Dyslipidaemia	Non-Dyslipidaemia	Unknown	Dyslipidaemia	Non-Dyslipidaemia	Unknown	Dyslipidaemia	Non-Dyslipidaemia	Unknown	Dyslipidaemia	Non-Dyslipidaemia	Unknown
Total	1,459	1,785	472	1,538	2,165	513	2,103	2,970	608	5,100	6,920	1,593
LDL-C, mmol/L												
N	1,088	1,331	306	1,003	1,568	349	1,394	2,002	430	3,485	4,901	1,085
Mean (SD)	3.1 (1.3)	3.3 (1.3)	3.5 (1.4)	3.2 (1.4)	3.3 (1.3)	3.7 (1.4)	3.1 (1.3)	3.2 (1.2)	3.5 (1.2)	3.2 (1.3)	3.3 (1.3)	3.5 (1.3)
Median (min, max)	3.0 (0.6, 10.0)	3.2 (0.5, 12.0)	3.3 (0.7, 10.1)	3.1 (0.6, 11.9)	3.2 (0.6, 9.2)	3.5 (0.9, 12.2)	3.0 (0.5, 12.3)	3.1 (0.5, 9.2)	3.5 (0.8, 7.2)	3.0 (0.5, 12.3)	3.2 (0.5, 12.0)	3.4 (0.7, 12.2)
IQR	1.7	1.6	1.7	1.8	1.8	2	1.7	1.6	1.7	1.7	1.6	1.8
Not Done	306 (22.0)	383 (22.4)	136 (30.8)	465 (31.6)	509 (24.6)	114 (24.6)	513 (27.0)	653 (24.6)	118 (21.6)	1,284 (27.0)	1,545 (24.0)	368 (25.4)
Missing	65	71	30	70	88	50	196	315	60	331	474	140
Triglycerides, mmol/L												
N	1,094	1,345	342	1,017	1,575	368	1,422	2,036	437	3,533	4,956	1,147
Mean (SD)	1.7 (1.1)	1.7 (1.1)	1.7 (1.0)	1.8 (1.2)	1.7 (1.0)	1.7 (1.0)	1.8 (1.1)	1.7 (1.1)	1.8 (1.1)	1.8 (1.1)	1.7 (1.1)	1.7 (1.1)
Median (min, max)	1.5 (0.5, 15.0)	1.4 (0.5, 12.0)	1.5 (0.5, 9.6)	1.5 (0.5, 13.9)	1.4 (0.5, 13.0)	1.5 (0.5, 8.0)	1.5 (0.5, 15.0)	1.4 (0.5, 14.5)	1.5 (0.5, 14.6)	1.5 (0.5, 15.0)	1.4 (0.5, 14.5)	1.5 (0.5, 14.6)
IQR	0.9	1.0	0.9	1.0	0.9	0.9	1.0	0.9	0.9	1.0	0.9	0.9
Not Done	295 (21.2)	361 (21.2)	101 (22.8)	447 (30.6)	490 (23.8)	92 (20.0)	480 (25.2)	604 (22.8)	107 (19.6)	1,222 (25.6)	1,455 (22.6)	300 (20.8)
Missing	70	79	29	74	100	53	201	330	64	345	509	146
* HbA1c, mmol/L												
N							406	428	81	406	428	81
Mean (SD)							7.6 (2.2)	7.9 (2.9)	7.6 (3.4)	7.6 (2.2)	7.9 (2.9)	7.6 (3.4)
Median (min, max)							7.0 (4.3, 16.5)	6.9 (4.2, 32.0)	6.6 (4.2, 30.0)	7.0 (4.3, 16.5)	6.9 (4.2, 32.0)	6.6 (4.2, 30.0)
IQR							2.7	3.5	2.9	2.7	3.5	2.9
Not done							1,096 (73.0)	1,615 (79.0)	300 (78.8)	1,096 (73.0)	1,615 (79.0)	300 (78.8)
Missing							601	927	227	601	927	227



Year	2011			2012			2013			2011-2013		
	Dyslipidaemia	Non-Dyslipidaemia	Unknown	Dyslipidaemia	Non-Dyslipidaemia	Unknown	Dyslipidaemia	Non-Dyslipidaemia	Unknown	Dyslipidaemia	Non-Dyslipidaemia	Unknown
Total	1,459	1,785	472	1,538	2,165	513	2,103	2,970	608	5,100	6,920	1,593
Left ventricular ejection fraction, %												
N	651	870	237	712	992	241	872	1,223	302	2,235	3,085	780
Mean (SD)	46.6 (14.1)	45.9 (13.5)	45.9 (14.5)	47.1 (13.3)	45.9 (12.6)	46.9 (13.9)	47.0 (13.2)	46.9 (12.4)	47.6 (13.9)	46.9 (13.5)	46.3 (12.8)	46.9 (14.1)
Median (min, max)	47.0 (10.0, 88.0)	46.0 (6.3, 83.0)	45.0 (10.0, 81.0)	49.0 (5.3, 83.0)	45.0 (7.2, 80.0)	47.0 (7.2, 85.0)	48.0 (8.2, 83.0)	46.0 (6.6, 89.0)	49.0 (13.0, 88.0)	48.0 (5.3, 88.0)	46.0 (6.3, 89.0)	48.0 (7.2, 88.0)
IQR	22.0	18.0	18.0	18.0	18.0	19.0	17.0	15.0	16.0	19.0	17.0	18.0
Not Done	613 (48.4)	661 (43.2)	182 (43.4)	680 (48.8)	912 (47.8)	190 (44.0)	890 (50.6)	1234 (50.2)	228 (43.0)	2,183 (49.4)	2,807 (47.6)	600 (43.4)
Missing	195	254	53	146	261	82	341	513	78	682	1028	213
ECG, No. (%)												
Inferior leads	417 (28.6)	619 (34.6)	161 (34.2)	458 (29.8)	738 (34.0)	190 (37.0)	646 (30.8)	1031 (34.8)	245 (40.2)	1,521 (29.8)	2,388 (34.6)	596 (37.4)
Anterior leads	533 (36.6)	774 (43.4)	230 (48.8)	607 (39.4)	945 (43.6)	232 (45.2)	780 (37.0)	1273 (42.8)	282 (46.4)	1,920 (37.6)	2,992 (43.2)	744 (46.8)
Lateral leads	360 (24.6)	476 (26.6)	116 (24.6)	404 (26.2)	543 (25.0)	121 (23.6)	576 (27.4)	784 (26.4)	157 (25.8)	1,340 (26.2)	1,803 (26.0)	394 (24.8)
True posterior	58 (4.0)	98 (5.4)	27 (5.8)	35 (2.2)	84 (3.8)	37 (7.2)	76 (3.6)	124 (4.2)	45 (7.4)	169 (3.4)	306 (4.4)	109 (6.8)
Right ventricle	20 (1.4)	53 (3.0)	22 (4.6)	30 (2.0)	72 (3.4)	26 (5.0)	49 (2.4)	114 (3.8)	37 (6.0)	99 (2.0)	239 (3.4)	85 (5.4)
None	186 (12.8)	204 (11.4)	29 (6.2)	210 (13.6)	211 (9.8)	34 (6.6)	413 (19.6)	415 (14.0)	37 (6.0)	809 (15.8)	830 (12.0)	100 (6.2)
Not stated/ inadequately described	158 (10.8)	93 (5.2)	35 (7.4)	109 (7.0)	100 (4.6)	30 (5.8)	125 (6.0)	116 (4.0)	16 (2.6)	392 (7.6)	309 (4.4)	81 (5.0)



Year	2011			2012			2013			2011-2013		
	Dyslipidaemia	Non-Dyslipidaemia	Unknown	Dyslipidaemia	Non-Dyslipidaemia	Unknown	Dyslipidaemia	Non-Dyslipidaemia	Unknown	Dyslipidaemia	Non-Dyslipidaemia	Unknown
Total	1,459	1,785	472	1,538	2,165	513	2,103	2,970	608	5,100	6,920	1,593
Total number of STEMI patients who were given fibrinolytic therapy at this centre	323	515	180	265	558	176	341	748	211	929	1,821	567
Pain to needle time, min (* symptom to treatment)												
N	251	347	128	176	366	123	243	549	142	670	1,262	393
Mean (SD)	193.0 (151.4)	229.1 (190.3)	249.3 (190.7)	273.9 (229.5)	261.0 (216.0)	262.2 (190.4)	269.7 (214.0)	257.4 (208.0)	259.2 (247.1)	242.0 (200.9)	250.6 (205.9)	256.9 (212.3)
Median (min, max)	135.0 (15.0, 915.0)	165.0 (10.0, 1,315.0)	182.5 (20.0, 1,055.0)	222.5 (20.0, 1,439.0)	205.0 (4.0, 1,140.0)	210.0 (40.0, 990.0)	195.0 (10.0, 973.0)	200.0 (10.0, 1,375.0)	170.0 (20.0, 1,290.0)	180.0 (10.0, 1,439.0)	190.0 (4.0, 1,375.0)	180.0 (20.0, 1,290.0)
IQR	145.0	180.0	197.5	207.5	205.0	162.0	220.0	175.0	190.0	195.0	188.0	190.0
Missing	72	168	52	89	192	53	98	199	69	259	559	174

* Definition is different in CRF version 2013
 ** Symptom to treatment is time difference between time ACS symptom onset and time patient were given fibrinolytic therapy
 Note: Not all participating centre performed Troponin T or Troponin I tests
 Note: Percentage is to the nearest decimal point



Table 3.7 TIMI risk score of patients with ACS by ACS Stratum, NCVDR-ACS Registry, 2011-2013

Year	2011		2012		2013		2011-2013	
	STEMI	NSTEMI/UA	STEMI	NSTEMI/UA	STEMI	NSTEMI/UA	STEMI	NSTEMI/UA
ACS Stratum								
Total	2,055	1,992	2,386	2,203	3,061	3,066	7,502	7,261
TIMI Risk Score, No. (%)								
0	29 (1.4)	157 (7.9)	29 (1.2)	210 (9.6)	50 (1.6)	330 (10.8)	108 (1.4)	697 (9.6)
1	171 (8.4)	456 (22.8)	258 (10.8)	508 (23.0)	330 (10.7)	633 (20.6)	759 (10.3)	1,597 (22.0)
2	386 (18.8)	515 (25.8)	409 (17.3)	599 (27.2)	579 (19.0)	841 (27.4)	1,374 (18.4)	1,955 (27.0)
3	337 (16.4)	490 (24.7)	419 (17.6)	521 (23.6)	459 (15.0)	723 (23.6)	1,215 (16.3)	1,734 (23.8)
4	269 (13.0)	257 (13.0)	365 (15.3)	278 (12.6)	437 (14.2)	373 (12.2)	1,071 (14.2)	908 (12.6)
5	361 (17.6)	92 (4.6)	310 (13.0)	73 (3.4)	459 (15.0)	141 (4.6)	1,130 (15.0)	306 (4.2)
6	176 (8.6)	24 (1.2)	206 (8.6)	13 (0.6)	269 (8.8)	21 (0.6)	651 (8.6)	58 (0.8)
7	147 (7.2)	1 (0.0)	169 (7.0)	1 (0.0)	225 (7.4)	4 (0.2)	541 (7.3)	6 (0.0)
8	91 (4.4)		90 (3.8)		103 (3.4)		284 (3.8)	
9	54 (2.6)		60 (2.6)		72 (2.4)		186 (2.5)	
10	21 (1.0)		52 (2.2)		54 (1.7)		127 (1.6)	
11	10 (0.4)		11 (0.4)		13 (0.4)		34 (0.4)	
12	3 (0.2)		6 (0.2)		10 (0.4)		19 (0.2)	
13	0 (0)		2 (0.0)		1 (0.0)		3 (0.0)	