CHAPTER 3: CLINICAL PRESENTATIONS & INVESTIGATIONS

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Summary

1. STEMI was more common among the male patients while NSTEMI/UA were more common among female patients.

2. Patients who were elderly, had diabetes or were female had higher systolic blood pressure on presentation.

3. Patients in the younger age group (age 20 to less than 40 years) had higher levels of total cholesterol, triglyceride and LDL-C.

4. Patients who represented with STEMI had higher levels of LDL-C compared to those with NSTEMI and UA.

5. Majority of patients with ACS presented with low TIMI score.

This chapter presents the results of clinical presentation and investigations patients with ACS who wereregistered in the ACS registry in year 2006, 2007 and 2008.

As discussed in Chapter 2, the past 3 years revealed that ACS was more common in male than female patients. Male patients more commonly presented with STEMI (48-60%), followed by NSTEMI (21-30%) and UA (19-23%). On the other hand, female patients more commonly presented with NSTEMI (29-41%) and UA (33-36%) compared to STEMI (25-36%). Overall, there was higher percentage of male compared to female who presented with STEMI. The similar trend was observed over the 3 years (2006-2008). [Table 3.3]

For STEMI, the mean (SD) systolic blood pressure was 135 (29) mmHg and diastolic blood pressure was 80 (17) mmHg. Mean (SD) pulse pressure was 53 (18) mmHg. Mean (SD) heart rate at presentation was 83 (22) beats per minute. [Table 3.1] Among the age groups and across the ACS spectrum, elderly patients had higher systolic blood pressure on presentation compared to patients in the young and middle age groups. Diastolic blood pressure was similar in all age groups. [Table 3.2]

Female patients had higher systolic blood pressure compared to male patients. Diastolic blood pressure was similar among male and female patients. [Table 3.3] Similarly, diabetic patients had higher systolic blood pressure compared to non-diabetic patients. Diastolic blood pressure was similar among diabetic and non-diabetic patients. [Table 3.4]

For STEMI, 51-56% of patients presented with Killip class I, Killip class II (18-21%), Killip class III (4%) and Killip class IV (5-6%). For NSTEMI, 28-43% of patients presented with Killip class I, Killip class II (16-22%), Killip class III (5-7%) and Killip class IV (3%). For UA, 45-52% of patients presented with Killip class I, Killip class II (10-13%), Killip class III (0-2%) and Killip class IV (around one percent). [Table 3.1]

Approximately 90% of patients had biomarkers CK-MB, CK, Troponin T and Troponin I checked at presentation in each year. [Table 3.1] Across the ACS spectrum, mean (SD) total cholesterol was approximately 5.4 (1.3) mmol/L, mean (SD) HDL-C was 1.1 (0.4) mmol/L and mean (SD) triglyceride was 2.1 (1.3) mmol/L. However, mean (SD) LDL-cholesterol was approximately 3.5 (1.2) mmol/L for STEMI, and 3.1 (1.2) mmol/L for NSTEMI and UA. [Table 3.1]

A similar trend was observed for the lipid profile among different age groups. [Table 3.2] As total cholesterol, triglyceride and LDL-C were higher among the younger age group compared to the older age group, it is important that we look into the relevant contributing factors. On the other hand, male and female patients had similar lipid profiles. [Table 3.3]

Mean (SD) left ventricular ejection fraction (LVEF) was around 45% - 50%. The LVEF was slightly lower among patients presented with STEMI and NSTEMI than patients presented with UA. [Table 3.1] With regards to TIMI risk score, the majority of patients with ACS presented with low TIMI score. [Table 3.5] The most frequent location of ECG abnormality for STEMI was anterior leads (58-60%) followed by inferior leads (44-45%). [Table 3.1]

Table 3.1 Cardiac presentation of patients with ACS by ACS stratum, NCVD-ACS Registry, 2006-2008

Year	2006			2007			2008			Overall		
ACS stratum	STEMI	NSTEMI	UA	STEMI	NSTEMI	UA	STEMI	NSTEMI	UA	STEMI	NSTEMI	UA
Total	1445	1132	845	1687	1001	958	1534	662	655	4666	2795	2458
Systolic blood pressure, mmHg												
N	1428	1116	836	1653	975	937	1497	644	651	4578	2735	2424
Mean (SD)	134 (28)	145 (30)	146 (28)	136 (29)	143 (30)	145 (27)	135 (28)	140 (30)	143 (26)	135 (29)	143 (30)	145 (27)
Median (min, max)	130 (60, 230)	142 (66, 230)	142 (60, 224)	133 (60, 230)	140 (66, 230)	142 (65, 230)	132 (60, 228)	137 (64, 226)	141 (70, 229)	132 (60, 230)	140 (64, 230)	142 (60, 230)
IQR	36	40	36	38	41	39	37	40	36	38	41	37
Diastolic blood pressure, mmHg												
N	1402	1087	823	1597	958	930	1444	637	642	4443	2682	2395
Mean (SD)	80 (17)	82 (17)	82 (15)	81 (17)	82 (17)	82 (15)	80 (17)	80 (16)	82 (14)	80 (17)	82 (17)	82 (15)
Median (min, max)	80 (26, 120)	82 (19, 120)	82 (34, 120)	81 (22, 120)	81 (20, 120)	81 (36, 120)	80 (22, 120)	80 (32, 120)	80 (32, 120)	80 (22, 120)	81 (19, 120)	81 (32, 120)
IQR	24	23	20	23	23	20	23	20	19	23	23	20
Pulse pressure, mmHg												
N	1392	1080	817	1589	945	925	1438	629	640	4419	2654	2382
Mean (SD)	52 (17)	61 (22)	62 (21)	53 (18)	60 (21)	63 (21)	53 (17)	59 (22)	61 (20)	53 (18)	60 (22)	62 (21)
Median (min, max)	50 (6, 119)	59 (8, 154)	60 (18, 140)	50 (2, 126)	58 (11, 142)	60 (12, 144)	50 (6, 133)	56 (13, 133)	58 (2, 139)	50 (2, 133)	58 (8, 154)	60 (2, 144)
IQR	22	27	27	22	28	28	22	29	27	22	28	28

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Year	2006			2007			2008			Overall		
ACS stratum	STEMI	NSTEMI	UA	STEMI	NSTEMI	UA	STEMI	NSTEMI	UA	STEMI	NSTEMI	UA
Total	1445	1132	845	1687	1001	958	1534	662	655	4666	2795	2458
Heart rate at presentation, beats/min												
N	1434	1122	838	1656	976	945	1471	650	644	4561	2748	2427
Mean (SD)	82 (21)	86 (23)	81 (19)	83 (22)	87 (22)	83 (20)	84 (23)	86 (22)	81 (18)	83 (22)	87 (22)	81 (19)
Median (min, max)	80 (30, 180)	84 (29, 180)	79 (40, 166)	80 (30, 184)	85 (37, 191)	80 (35, 170)	80 (34, 200)	83 (37, 182)	80 (30, 176)	80 (30, 200)	84 (29, 191)	80 (30, 176)
IQR	27	30	24	27	29	24	29	28	22	28	30	24
Number of distinct episodes of angina in past 24 hours, No. (%)												
0-2	933 (65)	626 (55)	459 (54)	875 (52)	361 (36)	377 (39)	801 (52)	257 (39)	205 (31)	2609 (56)	1244 (45)	1041 (42)
>2	68 (5)	74 (7)	93 (11)	33 (2)	29 (3)	57 (6)	38 (2)	19 (3)	28 (4)	139 (3)	122 (4)	178 (7)
Missing	444 (31)	432 (38)	293 (35)	779 (46)	611 (61)	524 (55)	695 (45)	386 (58)	422 (64)	1918 (41)	1429 (51)	1239 (50)
Killip classification code, No. (%)												
I	802 (56)	489 (43)	377 (45)	903 (54)	386 (39)	498 (52)	785 (51)	186 (28)	315 (48)	2490 (53)	1061 (38)	1190 (48)
II	288 (20)	206 (18)	98 (12)	307 (18)	156 (16)	124 (13)	320 (21)	143 (22)	65 (10)	915 (20)	505 (18)	287 (12)
III	62 (4)	76 (7)	15 (2)	66 (4)	50 (5)	15 (2)	56 (4)	47 (7)	3 (0)	184 (4)	173 (6)	33 (1)
IV	66 (5)	30 (3)	4 (0)	95 (6)	27 (3)	4 (0)	90 (6)	20 (3)	5 (1)	251 (5)	77 (3)	13 (1)
Not stated/inadequately described	227 (16)	331 (29)	351 (42)	316 (19)	382 (38)	317 (33)	283 (18)	266 (40)	267 (41)	826 (18)	979 (35)	935 (38)

Table 3.1 Cardiac presentation of patients with ACS by ACS stratum, NCVD-ACS Registry, 2006-2008

Year	2006			2007			2008			Overall		
ACS stratum	STEMI	NSTEMI	UA	STEMI	NSTEMI	UA	STEMI	NSTEMI	UA	STEMI	NSTEMI	UA
Total	1445	1132	845	1687	1001	958	1534	662	655	4666	2795	2458
Patients with any cardiac marker measurement done, No. (%)	1402 (97)	1114 (98)	762 (90)	1582 (94)	960 (96)	902 (94)	1341 (87)	586 (89)	518 (79)	4325 (93)	2660 (95)	2182 (89)
Peak CK-MB, Unit/L, No. (%)	801	874	397	811	713	421	679	435	257	2291	2022	1075
>25	681 (85)	457 (52)	0 (0)	658 (81)	382 (54)	0 (0)	537 (79)	250 (57)	0 (0)	1876 (82)	1089 (54)	0 (0)
Peak CK, Unit/L, No. (%)	1325	970	722	1500	818	829	1245	503	429	4070	2291	1980
>2x reference upper limits	999 (75)	364 (38)	0 (0)	983 (66)	299 (37)	39 (5)	765 (61)	200 (40)	13 (3)	2747 (67)	863 (38)	52 (3)
Peak TnT, No. (%)	183	446	27	185	371	32	189	234	6	557	1051	65
Positive or >0.01	181 (99)	436 (98)	0 (0)	161 (87)	329 (89)	0 (0)	176 (93)	222 (95)	0 (0)	518 (93)	987 (94)	0 (0)
Peak TnI, No. (%)	58	167	55	52	84	47	36	44	73	146	295	175
Positive or > reference upper limit/0.04	54 (93)	157 (94)	0 (0)	51 (98)	84 (100)	0 (0)	34 (94)	43 (98)	0 (0)	139 (95)	284 (96)	0 (0)
Total cholesterol, mmol/L												
N	1175	788	508	1333	676	669	1173	395	378	3681	1859	1555
Mean (SD)	5.42 (1.32)	5.18 (1.32)	5.12 (1.33)	5.45 (1.32)	5.14 (1.27)	5.08 (1.39)	5.44 (1.34)	5.16 (1.32)	5.07 (1.21)	5.44 (1.33)	5.16 (1.3)	5.09 (1.33)
Median (min, max)	5.3 (3, 14.3)	5.06 (3, 11)	5 (3, 10.8)	5.32 (3, 14.7)	5 (3, 10.38)	4.83 (3, 16.1)	5.3 (3, 11.11)	5 (3, 11.96)	4.99 (3, 9.5)	5.3 (3, 14.7)	5 (3, 11.96)	4.9 (3, 16.1)
IQR	1.7	1.82	1.8	1.7	1.78	1.78	1.71	1.7	1.5	1.7	1.78	1.78

Table 3.1 Cardiac presentation of patients with ACS by ACS stratum, NCVD-ACS Registry, 2006-2008

Year	2006			2007			2008			Overall		
ACS stratum	STEMI	NSTEMI	UA	STEMI	NSTEMI	UA	STEMI	NSTEMI	UA	STEMI	NSTEMI	UA
Total	1445	1132	845	1687	1001	958	1534	662	655	4666	2795	2458
HDL-C, mmol/L												
N	1155	807	514	1310	695	693	1112	408	382	3577	1910	1589
Mean (SD)	1.13 (.38)	1.13 (.37)	1.12 (.38)	1.12 (.37)	1.13 (.4)	1.09 (.36)	1.11 (.33)	1.11 (.35)	1.06 (.32)	1.12 (.36)	1.13 (.38)	1.09 (.36)
Median (min, max)	1.1 (.5, 4.94)	1.1 (.5, 4.24)	1.07 (.5, 4.5)	1.1 (.5, 4.5)	1.06 (.5, 4.4)	1.03 (.5, 4.2)	1.06 (.5, 4.22)	1.04 (.5, 3.3)	1 (.5, 3.18)	1.1 (.5, 4.94)	1.09 (.5, 4.4)	1.03 (.5, 4.5)
IQR	0.4	0.4	0.44	0.38	0.4	0.32	0.39	0.4	0.35	0.4	0.4	0.37
LDL-C, mmol/L												
N	1144	793	491	1282	680	668	1098	407	382	3524	1880	1541
Mean (SD)	3.45 (1.22)	3.16 (1.2)	3.09 (1.19)	3.48 (1.26)	3.14 (1.18)	3.02 (1.14)	3.51 (1.27)	3.21 (1.21)	3.17 (1.1)	3.48 (1.25)	3.16 (1.19)	3.08 (1.15)
Median (min, max)	3.4 (1.1, 10.1)	3.03 (1, 8.87)	2.99 (1, 8.9)	3.4 (1, 14.6)	3.01 (1, 9.8)	2.81 (1, 10.08)	3.4 (1, 9.3)	3.1 (1, 9.29)	3.1 (1.1, 7.3)	3.4 (1, 14.6)	3.06 (1, 9.8)	2.94 (1, 10.08)
IQR	1.54	1.72	1.65	1.6	1.67	1.43	1.7	1.6	1.56	1.6	1.64	1.53
Triglycerides, mmol/L												
N	1025	687	439	1125	586	587	1010	331	330	3160	1604	1356
Mean (SD)	2.05 (1.26)	2.06 (1.18)	2.25 (1.54)	2.06 (1.32)	2.05 (1.21)	2.27 (1.46)	2.04 (1.17)	1.97 (1.11)	2.09 (1.28)	2.05 (1.25)	2.04 (1.18)	2.22 (1.45)
Median (min, max)	1.7 (1, 13.5)	1.7 (1, 11.1)	1.8 (1, 14)	1.7 (1, 15)	1.7 (1, 10.6)	1.83 (1, 11.7)	1.7 (1, 11.2)	1.66 (1, 12.9)	1.61 (1, 10.43)	1.7 (1, 15)	1.7 (1, 12.9)	1.8 (1, 14)
IQR	1	1	1.3	1	1	1.18	1	1	1	1	1	1.11
Left ventricular ejection fraction, %												
N	948	569	199	1094	522	256	977	387	164	3019	1478	619
Mean (SD)	47 (11)	47 (14)	50 (17)	45 (11)	48 (14)	50 (15)	45 (11)	46 (13)	49 (14)	46 (11)	47 (14)	50 (15)
Median (min, max)	47 (10, 79)	48 (9, 79)	52 (8, 80)	45 (7, 79)	49 (10, 79)	51 (14, 80)	45 (5, 80)	46 (12, 79)	52 (9, 79)	45 (5, 80)	48 (9, 79)	52 (8, 80)
IQR	15	23	27	13	22	20	15	19	20	13	21	21

Table 3.1 Cardiac presentation of patients with ACS by ACS stratum, NCVD-ACS Registry, 2006-2008

Year	2006			2007			2008			Overall		
ACS stratum	STEMI	NSTEMI	UA	STEMI	NSTEMI	UA	STEMI	NSTEMI	UA	STEMI	NSTEMI	UA
Total	1445	1132	845	1687	1001	958	1534	662	655	4666	2795	2458
ECG, No. (%)												
• Inferior leads	687 (48)			757 (45)			679 (44)			2123 (45)		
• Anterior leads	798 (55)			1011 (60)			887 (58)			2696 (58)		
• Lateral leads	301 (21)			407 (24)			380 (25)			1088 (23)		
• True posterior	145 (10)			152 (9)			144 (9)			441 (9)		
• Right ventricle	131 (9)			128 (8)			130 (8)			389 (8)		
• None	4 (0)			13 (1)			7 (0)			24 (1)		
• Not stated/ inadequately described	12 (1)			11 (1)			8 (1)			31 (1)		
Pain to needle time, min (* symptom to treatment)												
N	1184			1311			1155			3650		
Mean (SD)	415.9 (388.8)			401.3 (355.5)			389.3 (366.8)			402.2 (370.2)		
Median (min, max)	300 (0, 2200)			300 (0, 2330)			258 (0, 2100)			300 (0, 2330)		
IQR	438			386			385			396		

*Cardiac marker is defined as any of the following baseline investigations: 1) Peak CK-MB, 2) Peak CK, 3) Peak TnT, 4) Peak TnI whereby status Not Done="False" for all investigations
Note: Not all participating centre performed Troponin T of I tests
Note: Percentage is to the nearest decimal point

Table 3.2 Cardiac presentation of patients with ACS by age group (years), NCVD-ACS Registry, 2006-2008

Year	2006			2007			2008			Overall		
Age group*	Young	Middle-age	Elderly	Young	Middle-age	Elderly	Young	Middle-age	Elderly	Young	Middle-age	Elderly
Total	166	1675	1581	181	1800	1665	168	1343	1340	515	4818	4586
Acute coronary syndrome stratum, No. (%)												
STEMI	113 (68)	803 (48)	529 (33)	112 (62)	954 (53)	621 (37)	118 (70)	812 (60)	604 (45)	343 (67)	2569 (53)	1754 (38)
NSTEMI	28 (17)	469 (28)	635 (40)	36 (20)	423 (24)	542 (33)	17 (10)	259 (19)	386 (29)	81 (16)	1151 (24)	1563 (34)
UA	25 (15)	403 (24)	417 (26)	33 (18)	423 (24)	502 (30)	33 (20)	272 (20)	350 (26)	91 (18)	1098 (23)	1269 (28)
Systolic blood pressure, mmHg												
N	165	1657	1558	177	1759	1629	163	1320	1309	505	4736	4496
Mean (SD)	133 (25)	139 (28)	143 (31)	139 (28)	137 (28)	144 (30)	129 (26)	137 (28)	140 (29)	134 (27)	138 (28)	142 (30)
Median (min, max)	130 (77, 220)	137 (60, 230)	140 (60, 230)	135 (77, 219)	135 (60, 230)	141 (60, 230)	125 (71, 225)	134 (60, 229)	139 (64, 226)	130 (71, 225)	135 (60, 230)	140 (60, 230)
IQR	33	37	40	42	38	41	30	35	39	35	37	41
Diastolic blood pressure, mmHg												
N	158	1620	1534	163	1716	1606	158	1276	1289	479	4612	4429
Mean (SD)	81 (17)	83 (16)	80 (17)	84 (17)	83 (16)	80 (17)	79 (16)	83 (16)	79 (16)	81 (17)	83 (16)	79 (17)
Median (min, max)	80 (38, 118)	82 (35, 120)	80 (19, 120)	84 (42, 120)	83 (20, 120)	80 (29, 120)	78 (38, 116)	82 (22, 120)	78 (32, 120)	80 (38, 120)	82 (20, 120)	80 (19, 120)
IQR	22	24	21	27	23	20	22	22	22	22	23	21

Table 3.2 Cardiac presentation of patients with ACS by age group (years), NCVD-ACS Registry, 2006-2008

Year	2006			2007			2008			Overall		
Age group*	Young	Middle-age	Elderly	Young	Middle-age	Elderly	Young	Middle-age	Elderly	Young	Middle-age	Elderly
Total	166	1675	1581	181	1800	1665	168	1343	1340	515	4818	4586
Pulse pressure, mmHg												
N	158	1611	1520	163	1703	1593	156	1271	1280	477	4585	4393
Mean (SD)	49 (15)	55 (18)	62 (22)	51 (16)	53 (19)	63 (21)	48 (14)	53 (18)	60 (21)	49 (15)	54 (18)	62 (22)
Median (min, max)	48 (11, 119)	52 (6, 135)	60 (6, 154)	48 (21, 115)	50 (10, 144)	60 (2, 142)	47 (2, 112)	50 (11, 133)	58 (6, 139)	48 (2, 119)	50 (6, 144)	60 (2, 154)
IQR	22	23	29	19	23	28	17	21	27	19	23	29
Heart rate at presentation, beats/min												
N	165	1663	1566	178	1773	1626	162	1304	1299	505	4740	4491
Mean (SD)	83 (19)	82 (20)	84 (23)	84 (18)	83 (20)	85 (23)	82 (19)	83 (22)	84 (22)	83 (19)	83 (21)	85 (22)
Median (min, max)	82 (44, 153)	80 (30, 171)	82 (29, 180)	82 (46, 161)	80 (30, 191)	82 (32, 184)	80 (34, 147)	80 (34, 200)	82 (30, 182)	81 (34, 161)	80 (30, 200)	82 (29, 184)
IQR	24	27	31	24	25	29	20	26	30	23	26	30
Number of distinct episodes of angina in past 24 hours, No. (%)												
0-2	116 (70)	1021 (61)	881 (56)	93 (51)	858 (48)	662 (40)	85 (51)	627 (47)	551 (41)	294 (57)	2506 (52)	2094 (46)
>2	9 (5)	118 (7)	108 (7)	3 (2)	56 (3)	60 (4)	5 (3)	43 (3)	37 (3)	17 (3)	217 (5)	205 (4)
Missing	41 (25)	536 (32)	592 (37)	85 (47)	886 (49)	943 (57)	78 (46)	673 (50)	752 (56)	204 (40)	2095 (43)	2287 (50)

Table 3.2 Cardiac presentation of patients with ACS by age group (years), NCVD-ACS Registry, 2006-2008

Year	2006			2007			2008			Overall		
Age group*	Young	Middle-age	Elderly	Young	Middle-age	Elderly	Young	Middle-age	Elderly	Young	Middle-age	Elderly
Total	166	1675	1581	181	1800	1665	168	1343	1340	515	4818	4586
Killip classification code, No. (%)												
I	121 (73)	900 (54)	647 (41)	107 (59)	969 (54)	711 (43)	92 (55)	672 (50)	522 (39)	320 (62)	2541 (53)	1880 (41)
II	11 (7)	249 (15)	332 (21)	22 (12)	246 (14)	319 (19)	20 (12)	214 (16)	294 (22)	53 (10)	709 (15)	945 (21)
III	2 (1)	59 (4)	92 (6)	0 (0)	44 (2)	87 (5)	2 (1)	48 (4)	56 (4)	4 (1)	151 (3)	235 (5)
IV	4 (2)	47 (3)	49 (3)	2 (1)	59 (3)	65 (4)	4 (2)	51 (4)	60 (4)	10 (2)	157 (3)	174 (4)
Not stated/inadequately described	28 (17)	420 (25)	461 (29)	50 (28)	482 (27)	483 (29)	50 (30)	358 (27)	408 (30)	128 (25)	1260 (26)	1352 (29)
Patients with any cardiac marker measurement done**, No (%)	159 (96)	1615 (96)	1504 (95)	172 (95)	1708 (95)	1564 (94)	131 (78)	1168 (87)	1146 (86)	462 (90)	4491 (93)	4214 (92)
Peak CK-MB, Unit/L, No. (%)	101	994	977	93	956	896	61	646	664	255	2596	2537
>25	70 (69)	563 (57)	505 (52)	65 (70)	536 (56)	439 (49)	36 (59)	399 (62)	352 (53)	171 (67)	1498 (58)	1296 (51)
Peak CK, Unit/L, No. (%)	144	1511	1362	156	1569	1422	116	1043	1018	416	4123	3802
>2x reference upper limits	95 (66)	742 (49)	526 (39)	85 (54)	753 (48)	483 (34)	60 (52)	528 (51)	390 (38)	240 (58)	2023 (49)	1399 (37)
Peak TnT, No. (%)	23	307	326	22	281	285	16	184	229	61	772	840
Positive or >0.01	22 (96)	285 (93)	310 (95)	20 (91)	240 (85)	230 (81)	14 (88)	170 (92)	214 (93)	56 (92)	695 (90)	754 (90)
Peak TnI, No. (%)	17	112	151	10	79	94	11	60	82	38	251	327
Positive or > reference upper limit/0.04	13 (76)	77 (69)	121 (80)	4 (40)	54 (68)	77 (82)	6 (55)	30 (50)	41 (50)	23 (61)	161 (64)	239 (73)

Table 3.2 Cardiac presentation of patients with ACS by age group (years), NCVD-ACS Registry, 2006-2008

Year	2006			2007			2008			Overall		
Age group*	Young	Middle-age	Elderly	Young	Middle-age	Elderly	Young	Middle-age	Elderly	Young	Middle-age	Elderly
Total	166	1675	1581	181	1800	1665	168	1343	1340	515	4818	4586
Total cholesterol, mmol/L												
N	143	1257	1071	148	1389	1141	117	973	856	408	3619	3068
Mean (SD)	5.7 (1.7)	5.5 (1.3)	5 (1.2)	5.6 (1.7)	5.5 (1.3)	5 (1.2)	5.6 (1.4)	5.5 (1.3)	5.1 (1.3)	5.6 (1.6)	5.5 (1.3)	5 (1.2)
Median (min, max)	5.4 (3.1, 14.3)	5.4 (3, 10.8)	4.9 (3, 11)	5.4 (3, 14.7)	5.4 (3, 16.1)	4.9 (3, 12.9)	5.4 (3, 10.2)	5.4 (3, 11.1)	4.9 (3, 12)	5.4 (3, 14.7)	5.4 (3, 16.1)	4.9 (3, 12.9)
IQR	2	1.8	1.7	2.1	1.7	1.6	1.5	1.7	1.6	1.9	1.8	1.7
HDL–C, mmol/L												
N	141	1268	1067	145	1393	1160	115	952	835	401	3613	3062
Mean (SD)	1.08 (.4)	1.08 (.35)	1.19 (.4)	.99 (.26)	1.08 (.37)	1.17 (.38)	1.02 (.28)	1.07 (.3)	1.15 (.36)	1.03 (.33)	1.08 (.35)	1.17 (.38)
Median (min, max)	1 (.6, 3.5)	1 (.5, 4.94)	1.13 (.5, 4.5)	.97 (.5, 2.23)	1 (.5, 4.5)	1.1 (.5, 4.2)	.98 (.57, 1.9)	1 (.5, 3.3)	1.1 (.5, 4.22)	1 (.5, 3.5)	1 (.5, 4.94)	1.1 (.5, 4.5)
IQR	0.33	0.33	0.48	0.3	0.33	0.39	0.4	0.3	0.42	0.39	0.32	0.44
LDL–C, mmol/L												
N	141	1218	1069	140	1345	1145	116	938	833	397	3501	3047
Mean (SD)	3.67 (1.5)	3.41 (1.22)	3.08 (1.14)	3.5 (1.4)	3.43 (1.25)	3.07 (1.14)	3.64 (1.33)	3.53 (1.25)	3.16 (1.18)	3.6 (1.42)	3.45 (1.24)	3.1 (1.15)
Median (min, max)	3.46 (1.5, 10.1)	3.4 (1, 9.3)	3 (1, 8.87)	3.35 (1, 8.22)	3.36 (1, 14.6)	2.9 (1, 10.08)	3.4 (1.25, 8.2)	3.42 (1.04, 9.3)	3 (1, 9.29)	3.4 (1, 10.1)	3.4 (1, 14.6)	2.98 (1, 10.08)
IQR	1.54	1.67	1.59	1.79	1.6	1.47	1.7	1.7	1.6	1.7	1.63	1.56

Table 3.2 Cardiac presentation of patients with ACS by age group (years), NCVD-ACS Registry, 2006-2008

Year	2006			2007			2008			Overall		
Age group*	Young	Middle-age	Elderly	Young	Middle-age	Elderly	Young	Middle-age	Elderly	Young	Middle-age	Elderly
Total	166	1675	1581	181	1800	1665	168	1343	1340	515	4818	4586
Triglycerides, mmol/L												
N	132	1154	865	133	1259	906	109	866	696	374	3279	2467
Mean (SD)	2.39 (1.47)	2.24 (1.36)	1.85 (1.14)	2.56 (1.73)	2.25 (1.48)	1.85 (.97)	2.39 (1.12)	2.18 (1.34)	1.81 (.91)	2.45 (1.48)	2.23 (1.4)	1.84 (1.02)
Median (min, max)	2.1 (1, 13.5)	1.9 (1, 13)	1.56 (1, 14)	2.05 (1, 11.7)	1.8 (1, 15)	1.6 (1, 11)	2.2 (1, 7.9)	1.8 (1, 12.9)	1.53 (1, 8.8)	2.1 (1, 13.5)	1.8 (1, 15)	1.59 (1, 14)
IQR	1.06	1.2	0.9	1.6	1.15	0.86	1.31	1.1	0.8	1.39	1.14	0.85
Left ventricular ejection fraction, %												
N	96	863	757	100	974	798	105	746	677	301	2583	2232
Mean (SD)	51 (12)	48 (13)	46 (13)	47 (11)	47 (12)	46 (13)	47 (10)	46 (12)	45 (12)	48 (11)	47 (12)	46 (13)
Median (min, max)	50 (12, 75)	50 (8, 80)	45 (10, 80)	48 (24, 72)	47 (7, 80)	45 (10, 79)	45 (19, 69)	47 (5, 76)	45 (9, 80)	49 (12, 75)	47 (5, 80)	45 (9, 80)
IQR	16	18	17	15	15	19	13	17	18	15	15	18
ECG, No. (%) [STEMI only]												
• Inferior leads	50 (30)	380 (23)	257 (16)	44 (24)	435 (24)	278 (17)	43 (26)	366 (27)	270 (20)	137 (27)	1181 (25)	805 (18)
• Anterior leads	68 (41)	453 (27)	277 (18)	67 (37)	572 (32)	372 (22)	65 (39)	477 (36)	345 (26)	200 (39)	1502 (31)	994 (22)
• Lateral leads	29 (17)	156 (9)	116 (7)	25 (14)	227 (13)	155 (9)	33 (20)	206 (15)	141 (11)	87 (17)	589 (12)	412 (9)
• True posterior	12 (7)	78 (5)	55 (3)	7 (4)	90 (5)	55 (3)	10 (6)	72 (5)	62 (5)	29 (6)	240 (5)	172 (4)
• Right ventricle	10 (6)	75 (4)	46 (3)	6 (3)	79 (4)	43 (3)	6 (4)	74 (6)	50 (4)	22 (4)	228 (5)	139 (3)
• None	0 (0)	1 (0)	3 (0)	0 (0)	9 (1)	4 (0)	1 (1)	1 (0)	5 (0)	1 (0)	11 (0)	12 (0)
• Not stated/ inadequately described	1 (1)	5 (0)	6 (0)	1 (1)	6 (0)	4 (0)	0 (0)	3 (0)	5 (0)	2 (0)	14 (0)	15 (0)

Table 3.2 Cardiac presentation of patients with ACS by age group (years), NCVD-ACS Registry, 2006-2008

Year	2006			2007			2008			Overall		
Age group*	Young	Middle-age	Elderly	Young	Middle-age	Elderly	Young	Middle-age	Elderly	Young	Middle-age	Elderly
Total	166	1675	1581	181	1800	1665	168	1343	1340	515	4818	4586
Pain to needle time, min (* symptom to treatment) (STEMI only)												
N	95	674	415	90	770	451	95	630	430	280	2074	1296
Mean (SD)	436.9 (452.3)	394.6 (378.4)	445.7 (388.6)	389.4 (384.2)	383.6 (339)	433.8 (375.2)	358.9 (282.1)	385.4 (376)	401.8 (369.8)	395.2 (379.3)	387.7 (363.4)	427 (377.9)
Median (min, max)	300 (7, 1950)	270 (0, 2100)	320 (0, 2200)	210.5 (0, 1630)	287.5 (0, 1855)	319 (0, 2330)	300 (22, 1750)	241 (0, 2040)	300 (0, 2100)	264 (0, 1950)	255 (0, 2100)	310 (0, 2330)
IQR	365	386	460	426	370	419	349	400	355	380	385	430

*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 above and elderly is defined as 60 years and above

**Cardiac marker is defined as any of the following baseline investigations: 1) Peak CK-MB, 2) Peak CK, 3) Peak TnT, 4) Peak TnI whereby status Not Done="False" for all investigations

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

Note: Percentage is to the nearest decimal point

Table 3.3 Cardiac presentation of patients with ACS by gender, NCVD-ACS Registry, 2006-2008

Year	2006		2007		2008		Overall	
Gender	Male	Female	Male	Female	Male	Female	Male	Female
Total	2569	853	2797	849	2147	704	7513	2406
Acute coronary syndrome stratum, No. (%)								
STEMI	1230 (48)	215 (25)	1447 (52)	240 (28)	1281 (60)	253 (36)	3958 (53)	708 (29)
NSTEMI	779 (30)	353 (41)	700 (25)	301 (35)	457 (21)	205 (29)	1936 (26)	859 (36)
UA	560 (22)	285 (33)	650 (23)	308 (36)	409 (19)	246 (35)	1619 (22)	839 (35)
Systolic blood pressure, mmHg								
N	2542	838	2726	839	2099	693	7367	2370
Mean (SD)	138 (28)	147 (31)	138 (29)	147 (31)	137 (28)	142 (29)	138 (28)	146 (31)
Median (min, max)	136 (60, 230)	144 (60, 229)	136 (60, 230)	145 (60, 230)	134 (60, 229)	140 (65, 226)	135 (60, 230)	143 (60, 230)
IQR	37	40	39	42	36	43	38	42
Diastolic blood pressure, mmHg								
N	2484	828	2659	826	2042	681	7185	2335
Mean (SD)	82 (17)	80 (17)	82 (16)	80 (17)	81 (17)	79 (16)	82 (16)	80 (16)
Median (min, max)	80 (30, 120)	80 (19, 120)	81 (22, 120)	80 (20, 120)	80 (22, 120)	79 (32, 120)	81 (22, 120)	80 (19, 120)
IQR	23	20	23	22	22	20	23	20
Pulse Pressure, mmHg								
N	2471	818	2639	820	2032	675	7142	2313
Mean (SD)	55 (18)	66 (23)	55 (19)	65 (23)	54 (18)	62 (22)	55 (18)	65 (23)
Median (min, max)	52 (6, 154)	64 (12, 145)	53 (2, 142)	63 (10, 144)	51 (2, 133)	60 (12, 139)	52 (2, 154)	62 (10, 145)
IQR	24	30	25	31	23	30	24	31

Table 3.3 Cardiac presentation of patients with ACS by gender, NCVD-ACS Registry, 2006-2008

Year	2006		2007		2008		Overall	
Gender	Male	Female	Male	Female	Male	Female	Male	Female
Total	2569	853	2797	849	2147	704	7513	2406
Heart rate at presentation, beats/min								
N	2548	846	2744	833	2079	686	7371	2365
Mean (SD)	82 (21)	88 (22)	83 (21)	89 (22)	82 (22)	87 (21)	82 (21)	88 (21)
Median (min, max)	80 (30, 180)	86 (29, 166)	80 (30, 191)	86 (33, 184)	80 (30, 200)	84 (37, 176)	80 (30, 200)	85 (29, 184)
IQR	27	28	27	29	28	28	27	29
Number of distinct episodes of angina in past 24 hours, No. (%)								
0-2	1564 (61)	454 (53)	1292 (46)	321 (38)	995 (46)	268 (38)	3851 (51)	1043 (43)
>2	176 (7)	59 (7)	93 (3)	26 (3)	62 (3)	23 (3)	331 (4)	108 (4)
Missing	829 (32)	340 (40)	1412 (50)	502 (59)	1090 (51)	413 (59)	3331 (44)	1255 (52)
Killip classification code, No. (%)								
I	1319 (51)	349 (41)	1436 (51)	351 (41)	998 (46)	288 (41)	3753 (50)	988 (41)
II	429 (17)	163 (19)	424 (15)	163 (19)	397 (18)	131 (19)	1250 (17)	457 (19)
III	107 (4)	46 (5)	87 (3)	44 (5)	77 (4)	29 (4)	271 (4)	119 (5)
IV	79 (3)	21 (2)	95 (3)	31 (4)	89 (4)	26 (4)	263 (4)	78 (3)
Not stated/inadequately described	635 (25)	274 (32)	755 (27)	260 (31)	586 (27)	230 (33)	1976 (26)	764 (32)
Patients with any cardiac marker measurement done*, No (%)	2473 (96)	805 (94)	2643 (94)	801 (94)	1846 (86)	599 (85)	6962 (93)	2205 (92)
Peak CK-MB, Unit/L, No. (%)	1541	531	1457	488	1010	361	4008	1380
>25	908 (59)	230 (43)	859 (59)	181 (37)	636 (63)	151 (42)	2403 (60)	562 (41)
Peak CK, Unit/L, No. (%)	2311	706	2432	715	1697	480	6440	1901
>2x reference upper limits	1147 (50)	216 (31)	1146 (47)	175 (24)	804 (47)	174 (36)	3097 (48)	565 (30)

Table 3.3 Cardiac presentation of patients with ACS by gender, NCVD-ACS Registry, 2006–2008

Year	2006		2007		2008		Overall	
Gender	Male	Female	Male	Female	Male	Female	Male	Female
Total	2569	853	2797	849	2147	704	7513	2406
Peak TnT, No. (%)								
Positive or >0.01	464 (95)	153 (93)	365 (84)	125 (81)	298 (93)	100 (93)	1127 (91)	378 (88)
Peak TnI, No. (%)	180	100	124	59	70	83	374	242
Positive or > reference upper limit/0.04	134 (74)	77 (77)	87 (70)	48 (81)	40 (57)	37 (45)	261 (70)	162 (67)
Total cholesterol, mmol/L								
N	1907	564	2075	603	1524	422	5506	1589
Mean (SD)	5.3 (1.3)	5.3 (1.4)	5.3 (1.3)	5.3 (1.4)	5.3 (1.3)	5.4 (1.4)	5.3 (1.3)	5.3 (1.4)
Median (min, max)	5.1 (3, 14.3)	5.2 (3, 11)	5.2 (3, 16.1)	5.1 (3, 12.9)	5.2 (3, 11.1)	5.2 (3, 12)	5.2 (3, 16.1)	5.2 (3, 12.9)
IQR	1.7	1.9	1.7	1.8	1.6	1.7	1.7	1.8
HDL–C, mmol/L								
N	1907	564	2093	605	1483	419	5480	1596
Mean (SD)	5.3 (1.3)	5.3 (1.4)	1.1 (.37)	1.18 (.38)	1.08 (.32)	1.2 (.36)	1.09 (.36)	1.2 (.38)
Median (min, max)	5.1 (3, 14.3)	5.2 (3, 11)	1.02 (.5, 4.5)	1.1 (.5, 4.2)	1 (.5, 3.3)	1.17 (.5, 4.22)	1.02 (.5, 4.94)	1.15 (.5, 4.24)
IQR	1.7	1.9	0.32	0.38	0.32	0.41	0.33	0.44
LDL–C, mmol/L								
N	1904	572	2039	591	1470	417	5366	1579
Mean (SD)	1.1 (.37)	1.22 (.4)	3.28 (1.21)	3.27 (1.26)	3.38 (1.22)	3.36 (1.29)	3.31 (1.21)	3.27 (1.28)
Median (min, max)	1.06 (.5, 4.94)	1.2 (.5, 4.24)	3.2 (1, 14.6)	3.08 (1, 10.08)	3.3 (1, 9.3)	3.2 (1, 9.29)	3.2 (1, 14.6)	3.1 (1, 10.08)
IQR	0.36	0.44	1.6	1.55	1.6	1.7	1.62	1.63

Table 3.3 Cardiac presentation of patients with ACS by gender, NCVD-ACS Registry, 2006-2008

Year	2006		2007		2008		Overall	
Gender	Male	Female	Male	Female	Male	Female	Male	Female
Total	2569	853	2797	849	2147	704	7513	2406
Triglycerides, mmol/L								
N	1857	571	1786	512	1303	368	4750	1370
Mean (SD)	3.3 (1.2)	3.21 (1.28)	2.12 (1.37)	2.08 (1.2)	2.05 (1.21)	1.99 (1.09)	2.1 (1.31)	2.03 (1.19)
Median (min, max)	3.24 (1, 10.1)	3.04 (1, 8.9)	1.7 (1, 15)	1.7 (1, 9.8)	1.7 (1, 12.9)	1.6 (1, 8.9)	1.7 (1, 15)	1.7 (1, 14)
IQR	1.59	1.71	1.08	1	1	0.91	1.1	1
Left ventricular ejection fraction, %								
N	1661	490	1499	373	1207	321	4044	1072
Mean (SD)	2.12 (1.31)	1.99 (1.24)	46 (12)	48 (14)	45 (12)	47 (12)	46 (12)	48 (13)
Median (min, max)	1.75 (1, 13.5)	1.61 (1, 14)	45 (7, 79)	49 (10, 80)	45 (5, 80)	47 (15, 79)	46 (5, 80)	48 (10, 80)
IQR	1.1	0.9	17	19	16	18	16	18
Pain to needle time, min (* symptom to treatment) (STEMI only)								
N	1020	164	1132	179	983	172	3135	515
Mean (SD)	409.7 (384.1)	454 (415.8)	392.7 (350.9)	455.6 (379.7)	376.9 (363.1)	460.4 (380.4)	393.3 (365.9)	456.7 (391)
Median (min, max)	300 (0, 2100)	321.5 (0, 2200)	300 (0, 2330)	349 (0, 2200)	242 (0, 2100)	323 (0, 1750)	284 (0, 2330)	330 (0, 2200)
IQR	411	491.5	384	430	374	414	388	420

*Cardiac marker is defined as any of the following baseline investigations: 1) Peak CK-MB, 2) Peak CK, 3) Peak TnT, 4) Peak TnI whereby status Not Done="False" for all investigations

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

Table 3.4 Cardiac presentation of patients with ACS by pre-morbid diabetes, NCVD-ACS Registry, 2006-2008

Year	2006			2007			2008			Overall		
Pre-morbid diabetes	Diabetic	Non-diabetic	Unknown	Diabetic	Non-diabetic	Unknown	Diabetic	Non-diabetic	Unknown	Diabetic	Non-diabetic	Unknown
Total	1497	1226	699	1599	1526	521	1098	1207	546	4194	3959	1766
Acute coronary syndrome stratum, No. (%)												
STEMI	525 (35)	538 (44)	382 (55)	612 (38)	734 (48)	341 (65)	515 (47)	705 (58)	314 (58)	1652 (39)	1977 (50)	1037 (59)
NSTEMI	579 (39)	364 (30)	189 (27)	491 (31)	407 (27)	103 (20)	301 (27)	257 (21)	104 (19)	1371 (33)	1028 (26)	396 (22)
UA	393 (26)	324 (26)	128 (18)	496 (31)	385 (25)	77 (15)	282 (26)	245 (20)	128 (23)	1171 (28)	954 (24)	333 (19)
Systolic blood pressure, mmHg												
N	1475	1215	690	1568	1495	502	1077	1194	521	4120	3904	1713
Mean (SD)	142 (30)	140 (29)	136 (28)	143 (30)	139 (28)	136 (29)	141 (30)	137 (28)	134 (26)	142 (30)	139 (29)	136 (27)
Median (min, max)	140 (66, 229)	137 (60, 230)	134 (64, 219)	140 (60, 230)	136 (60, 229)	134 (69, 228)	139 (68, 228)	136 (60, 229)	132 (68, 226)	140 (60, 230)	136 (60, 230)	133 (64, 228)
IQR	40	39	36	41	38	38	40	34	34	41	38	36
Diastolic blood pressure, mmHg												
N	1457	1180	675	1538	1457	490	1059	1151	513	4054	3788	1678
Mean (SD)	81 (16)	81 (17)	81 (17)	81 (16)	82 (17)	81 (17)	81 (16)	81 (17)	79 (16)	81 (16)	81 (17)	80 (17)
Median (min, max)	80 (19, 120)	81 (26, 120)	80 (30, 120)	81 (24, 120)	81 (22, 120)	80 (20, 120)	80 (30, 120)	80 (22, 120)	78 (32, 120)	80 (19, 120)	81 (22, 120)	80 (20, 120)
IQR	22	22	23	22	23	24	21	22	21	22	22	22

Table 3.4 Cardiac presentation of patients with ACS by pre-morbid diabetes, NCVD-ACS Registry, 2006-2008

Year	2006			2007			2008			Overall		
Pre-morbid diabetes	Diabetic	Non-diabetic	Unknown	Diabetic	Non-diabetic	Unknown	Diabetic	Non-diabetic	Unknown	Diabetic	Non-diabetic	Unknown
Total	**1497**	**1226**	**699**	**1599**	**1526**	**521**	**1098**	**1207**	**546**	**4194**	**3959**	**1766**
Pulse Pressure, mmHg												
N	1445	1173	671	1521	1450	488	1048	1148	511	4014	3771	1670
Mean (SD)	60 (21)	57 (20)	53 (18)	60 (21)	56 (19)	54 (19)	59 (21)	54 (18)	55 (18)	60 (21)	56 (19)	54 (18)
Median (min, max)	58 (8, 145)	54 (6, 154)	50 (6, 135)	58 (2, 144)	53 (10, 142)	51 (11, 137)	57 (6, 139)	50 (2, 133)	51 (11, 124)	58 (2, 145)	52 (2, 154)	51 (6, 137)
IQR	28	26	23	28	24	27	29	22	22	29	24	23
Heart rate at presentation, beats/min												
N	1486	1216	692	1573	1503	501	1067	1188	510	4126	3907	1703
Mean (SD)	86 (21)	80 (21)	81 (22)	87 (21)	81 (21)	82 (21)	87 (21)	81 (22)	82 (22)	87 (21)	81 (21)	82 (22)
Median (min, max)	85 (29, 180)	78 (35, 171)	79 (39, 171)	86 (33, 191)	79 (30, 177)	80 (30, 180)	86 (34, 162)	78 (30, 200)	79 (39, 170)	85 (29, 191)	78 (30, 200)	80 (30, 180)
IQR	29	26	28	28	26	26	28	25	26	28	26	27
Number of distinct episodes of angina in past 24 hours, No. (%)												
0-2	862 (58)	669 (55)	487 (70)	694 (43)	711 (47)	208 (40)	481 (44)	642 (53)	140 (26)	2037 (49)	2022 (51)	835 (47)
>2	109 (7)	69 (6)	57 (8)	53 (3)	55 (4)	11 (2)	38 (3)	42 (3)	5 (1)	200 (5)	166 (4)	73 (4)
Missing	526 (35)	488 (40)	155 (22)	852 (53)	760 (50)	302 (58)	579 (53)	523 (43)	401 (73)	1957 (47)	1771 (45)	858 (49)

Table 3.4 Cardiac presentation of patients with ACS by pre-morbid diabetes, NCVD-ACS Registry, 2006-2008

Year	2006			2007			2008			Overall		
Pre-morbid diabetes	Diabetic	Non-diabetic	Unknown	Diabetic	Non-diabetic	Unknown	Diabetic	Non-diabetic	Unknown	Diabetic	Non-diabetic	Unknown
Total	1497	1226	699	1599	1526	521	1098	1207	546	4194	3959	1766
Killip classification code, No. (%)												
I	700 (47)	619 (50)	349 (50)	732 (46)	798 (52)	257 (49)	482 (44)	625 (52)	179 (33)	1914 (46)	2042 (52)	785 (44)
II	290 (19)	193 (16)	109 (16)	287 (18)	219 (14)	81 (16)	211 (19)	238 (20)	79 (14)	788 (19)	650 (16)	269 (15)
III	84 (6)	39 (3)	30 (4)	76 (5)	38 (2)	17 (3)	55 (5)	36 (3)	15 (3)	215 (5)	113 (3)	62 (4)
IV	51 (3)	22 (2)	27 (4)	53 (3)	47 (3)	26 (5)	54 (5)	38 (3)	23 (4)	158 (4)	107 (3)	76 (4)
Not stated/Inadequately described	372 (25)	353 (29)	184 (26)	451 (28)	424 (28)	140 (27)	296 (27)	270 (22)	250 (46)	1119 (27)	1047 (26)	574 (33)
Patients with any cardiac marker measurement done*, No (%)	1446 (97)	1159 (95)	673 (96)	1528 (96)	1444 (95)	472 (91)	991 (90)	1127 (93)	327 (60)	3965 (95)	3730 (94)	1472 (83)
Peak CK-MB, Unit/L, No. (%)	966	740	366	902	801	242	563	643	165	2431	2184	773
>25	469 (49)	421 (57)	248 (68)	426 (47)	458 (57)	156 (64)	278 (49)	402 (63)	107 (65)	1173 (48)	1281 (59)	511 (66)
Peak CK, Unit/L, No. (%)	1354	1035	628	1403	1320	424	868	1018	291	3625	3373	1343
>2x reference upper limits	526 (39)	489 (47)	348 (55)	482 (34)	619 (47)	220 (52)	338 (39)	502 (49)	138 (47)	1346 (37)	1610 (48)	706 (53)
Peak TnT, No. (%)	333	207	116	287	250	51	201	185	43	821	642	210
Positive or >0.01	312 (94)	193 (93)	112 (97)	242 (84)	207 (83)	41 (80)	189 (94)	170 (92)	39 (91)	743 (90)	570 (89)	192 (91)
Peak TnI, No. (%)	130	92	58	89	64	30	71	58	24	290	214	112
Positive or > reference upper limit/0.04	104 (80)	67 (73)	40 (69)	66 (74)	43 (67)	26 (87)	33 (46)	26 (45)	18 (75)	203 (70)	136 (64)	84 (75)

Table 3.4 Cardiac presentation of patients with ACS by pre-morbid diabetes, NCVD-ACS Registry, 2006-2008

Year	2006			2007			2008			Overall		
Pre-morbid diabetes	Diabetic	Non-diabetic	Unknown	Diabetic	Non-diabetic	Unknown	Diabetic	Non-diabetic	Unknown	Diabetic	Non-diabetic	Unknown
Total	1497	1226	699	1599	1526	521	1098	1207	546	4194	3959	1766
Total cholesterol, mmol/L												
N	1067	884	520	1160	1137	381	749	925	272	2976	2946	1173
Mean (SD)	5.2 (1.3)	5.3 (1.3)	5.4 (1.3)	5.2 (1.4)	5.3 (1.3)	5.6 (1.4)	5.2 (1.3)	5.4 (1.4)	5.5 (1.3)	5.2 (1.3)	5.3 (1.3)	5.5 (1.3)
Median (min, max)	5 (3, 10.8)	5.3 (3, 14.3)	5.3 (3, 10.4)	5 (3, 16.1)	5.2 (3, 12.9)	5.4 (3, 14.7)	5 (3, 9.8)	5.2 (3, 12)	5.4 (3, 11.1)	5 (3, 16.1)	5.2 (3, 14.3)	5.4 (3, 14.7)
IQR	1.9	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.3	1.8	1.7	1.7
HDL-C, mmol/L												
N	1076	886	514	1193	1121	384	752	880	270	3021	2887	1168
Mean (SD)	1.1 (.39)	1.16 (.39)	1.14 (.34)	1.1 (.39)	1.13 (.36)	1.12 (.35)	1.09 (.34)	1.11 (.33)	1.13 (.32)	1.1 (.38)	1.13 (.36)	1.13 (.34)
Median (min, max)	1.04 (.5, 4.9)	1.1 (.5, 4.94)	1.1 (.5, 4.2)	1.03 (.5, 4.5)	1.1 (.5, 4.2)	1.09 (.5, 4.1)	1 (.5, 4.22)	1.06 (.5, 3.3)	1.1 (.52, 2.4)	1.03 (.5, 4.9)	1.1 (.5, 4.94)	1.1 (.5, 4.2)
IQR	0.42	0.4	0.4	0.32	0.39	0.38	0.39	0.38	0.4	0.37	0.4	0.4
LDL-C, mmol/L												
N	1039	880	509	1147	1102	381	744	874	269	2930	2856	1159
Mean (SD)	3.1 (1.22)	3.37 (1.21)	3.48 (1.18)	3.13 (1.26)	3.31 (1.18)	3.6 (1.19)	3.2 (1.19)	3.46 (1.25)	3.57 (1.25)	3.14 (1.23)	3.38 (1.21)	3.54 (1.2)
Median (min, max)	2.95 (1, 9.3)	3.31 (1, 10.1)	3.37 (1.02, 8.2)	3 (1, 14.6)	3.19 (1, 10.08)	3.53 (1.07, 7.22)	3.1 (1, 7.3)	3.34 (1.07, 9.3)	3.5 (1.19, 8.18)	3 (1, 14.6)	3.3 (1, 10.1)	3.44 (1.02, 8.2)
IQR	1.71	1.54	1.42	1.52	1.54	1.72	1.7	1.66	1.47	1.66	1.6	1.51

Table 3.4 Cardiac presentation of patients with ACS by pre-morbid diabetes, NCVD-ACS Registry, 2006-2008

Year	2006			2007			2008			Overall		
Pre-morbid diabetes	Diabetic	Non-diabetic	Unknown	Diabetic	Non-diabetic	Unknown	Diabetic	Non-diabetic	Unknown	Diabetic	Non-diabetic	Unknown
Total	1497	1226	699	1599	1526	521	1098	1207	546	4194	3959	1766
Triglycerides, mmol/L												
N	952	745	454	1046	955	297	661	786	224	2659	2486	975
Mean (SD)	2.25 (1.44)	1.96 (1.11)	1.98 (1.23)	2.2 (1.39)	2.02 (1.23)	2.09 (1.43)	2.16 (1.29)	1.96 (1.05)	1.94 (1.25)	2.21 (1.38)	1.99 (1.14)	2.01 (1.3)
Median (min, max)	1.82 (1, 14)	1.67 (1, 12.9)	1.62 (1, 13)	1.8 (1, 11.77)	1.7 (1, 15)	1.7 (1, 13.68)	1.8 (1, 11.2)	1.66 (1, 10.43)	1.6 (1, 12.9)	1.8 (1, 14)	1.67 (1, 15)	1.65 (1, 13.68)
IQR	1.1	0.9	1	1.07	1	1.1	1.11	0.92	0.85	1.1	0.92	1
Left ventricular ejection fraction, %												
N	736	609	371	787	796	289	609	710	209	2132	2115	869
Mean (SD)	46 (13)	49 (13)	48 (13)	46 (13)	47 (13)	45 (12)	44 (12)	47 (12)	46 (13)	46 (13)	48 (12)	46 (13)
Median (min, max)	45 (8, 80)	50 (10, 80)	49 (10, 78)	45 (10, 80)	48 (7, 79)	45 (16, 73)	45 (9, 75)	47 (5, 80)	45 (15, 76)	45 (8, 80)	48 (5, 80)	46 (10, 78)
IQR	17	18	16	17	15	18	18	15	15	18	15	16
ECG, No. (%)												
• Inferior leads	240 (16)	263 (21)	184 (26)	267 (17)	341 (22)	149 (29)	225 (20)	343 (28)	111 (20)	732 (17)	947 (24)	444 (25)
• Anterior leads	304 (20)	287 (23)	207 (30)	362 (23)	435 (29)	214 (41)	301 (27)	419 (35)	167 (31)	967 (23)	1141 (29)	588 (33)
• Lateral leads	112 (7)	104 (8)	85 (12)	123 (8)	188 (12)	96 (18)	136 (12)	178 (15)	66 (12)	371 (9)	470 (12)	247 (14)
• True posterior	41 (3)	57 (5)	47 (7)	57 (4)	61 (4)	34 (7)	31 (3)	80 (7)	33 (6)	129 (3)	198 (5)	114 (6)
• Right ventricle	41 (3)	48 (4)	42 (6)	40 (3)	62 (4)	26 (5)	35 (3)	70 (6)	25 (5)	116 (3)	180 (5)	93 (5)
• None	0 (0)	2 (0)	2 (0)	5 (0)	5 (0)	3 (1)	2 (0)	1 (0)	4 (1)	7 (0)	8 (0)	9 (1)
• Not stated/ inadequately described	6 (0)	5 (0)	1 (0)	7 (0)	4 (0)	0 (0)	3 (0)	5 (0)	0 (0)	16 (0)	14 (0)	1 (0)

Table 3.4 Cardiac presentation of patients with ACS by pre-morbid diabetes, NCVD-ACS Registry, 2006-2008

Year	2006			2007			2008			Overall		
Pre-morbid diabetes	Diabetic	Non-diabetic	Unknown	Diabetic	Non-diabetic	Unknown	Diabetic	Non-diabetic	Unknown	Diabetic	Non-diabetic	Unknown
Total	1497	1226	699	1599	1526	521	1098	1207	546	4194	3959	1766
Pain to needle time, min (* symptom to treatment) (STEMI only)												
N	419	431	334	472	580	259	384	581	190	1275	1592	783
Mean (SD)	451 (409.9)	400.4 (387.7)	391.8 (360)	408.8 (365.2)	394.3 (351.2)	403.3 (348.1)	418.9 (390.3)	371.5 (353.8)	383.9 (354.7)	425.7 (388)	387.6 (362.4)	393.7 (354.4)
Median (min, max)	315 (0, 2200)	270 (0, 2100)	300 (7, 2055)	300 (0, 2200)	300 (0, 2330)	300 (0, 1510)	310 (0, 2040)	242 (0, 2100)	249 (0, 1835)	305 (0, 2200)	270 (0, 2330)	300 (0, 2055)
IQR	490	398	387	389	351	420	422	370	445	456	361.5	406

*Cardiac marker is defined as any of the following baseline investigations: 1) Peak CK-MB, 2) Peak CK, 3) Peak TnT, 4) Peak TnI whereby status Not Done="False" for all investigations

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

Note: Percentage is to the nearest decimal point

Table 3.5 TIMI risk score of patients with ACS by ACS Stratum, NCVD-ACS Registry, 2006-2008

ACS Stratum	2007				2008				Overall			
	STEMI		NSTEMI/UA		STEMI		NSTEMI/UA		STEMI		NSTEMI/UA	
Total	1687		1959		1534		1317		4666		5253	
TIMI Risk Score, No. (%)	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
0	27	2	119	6	29	2	171	13	261	6	683	13
1	173	10	381	19	150	10	302	23	481	10	976	19
2	334	20	550	28	297	19	320	24	911	20	1324	25
3	315	19	457	23	249	16	289	22	759	16	1189	23
4	245	15	300	15	216	14	166	13	643	14	712	14
5	232	14	126	6	225	15	61	5	620	13	304	6
6	124	7	23	1	118	8	8	1	327	7	56	1
7	110	7	3	0	128	8	0	0	327	7	9	0
8	69	4			48	3			167	4		
9	31	2			37	2			89	2		
10	21	1			31	2			66	1		
11	3	0			4	0			8	0		
12	3	0			1	0			5	0		
13	0	0			1	0			2	0		