

CHAPTER 2: PATIENT CHARACTERISTICS

Alan Fong Yean Yip¹, Paras Doshi², Ong Tiong Kiam¹

1 Pusat Jantung Hospital Umum Sarawak, 2 Hospital Kuala Lumpur

CHAPTER 2: PATIENT CHARACTERISTICS

Alan Fong Yean Yip¹, Paras Doshi², Ong Tiong Kiam¹
 1 Pusat Jantung Hospital Umum Sarawak, 2 Hospital Kuala Lumpur

Summary

The baseline characteristics of patients in this report were generally similar to that of the previous report. There are two notable points from this report:

1. Patients who presented with ACS remained young, with a significant proportion under the age of 50 years. Of the three major ethnic groups, over a quarter of Malay and Indian patients presenting with ACS were below the age of 50 years.
2. There was a high prevalence of hypertension, dyslipidaemia and diabetes in this report, comparable with previous reports of the NCDV-ACS Registry.

Introduction

Baseline characteristics from 17,771 patients admitted with acute coronary syndrome (ACS) between 2014 and 2015 were obtained from 23 source data providers (SDP). Comparisons were made with data published from the previous NCDV-ACS annual report¹.

Of all the patients admitted with ACS in 2014 – 2015, 46.1% were ST-elevation myocardial infarction (STEMI), 25.2% were non-STEMI (NSTEMI) and 28.7% were unstable angina (UA). Compared to the previous report, there was a small decrease in the proportion of patients presenting with STEMI (50.8% in the previous report), while there was an increase in the proportion of patients with UA (29.4% in the previous report). The proportion of patients presenting with NSTEMI was similar (26.0% in the previous report).

In the previous report, patients presenting with ACS were primarily young and male (mean age of 58.5 years, 24.2% under the age of 50 years, and 78.8% were male).

Age and gender

The mean (SD) age at admission was 58.6 (12.2) years, with 23.8% of patients under the age of 50 years and 79.3% of the male gender. Among the males, 27.1% were under the age of 50 years; among the female patients, 11.8% were under the age of 50 years.

In the STEMI subgroup of 8,274 patients, the mean (SD) age at presentation was 56.0 (12.0) years, 86.9% were male, and 30.7% were under the age of 50 years. In the NSTEMI subgroup of 4,614 patients, the mean age (SD) at presentation was 61.1 (12.1) years, 75.7% were male, and 17.6% were under the age of 50 years. In the UA subgroup of 5,365 patients, the mean (SD) age of patients at presentation was 60.2 (12.1) years, 69.3% were male, and 19.4% were under the age of 50 years.

Compared to the previous report, the mean age at presentation for ACS and its subgroups, the gender distribution and proportion of young patients (under the age of 50 years), were similar. Malaysians tend to have ACS at a younger age compared to patients from the well-established GRACE registry and Euro Heart Survey^{1,2}.

In the even younger age group (those under the age of 40 years who presented with ACS), there was a small increase in the number of patients compared to the previous report (7.1% versus 6.1%).

Cardiovascular risk factors

Between 2014 and 2015, 95.0% of patients presenting with ACS had at least one of the common cardiovascular risk factors (CVRF), with 20.2% having one, 28.6% having two, 26.9% having three, and 19.4% having four or more risk factors. Of these CVRF, 46.2% had diabetes, 64.7% had hypertension, 38.6% had dyslipidaemia, 36.9% were current smokers, 13.2% had a positive family history of premature coronary artery disease, 16.5%

had a previous history of myocardial infarction, 25.4% had a previously documented coronary artery disease (> 50% stenosis), 9.2% had a history of chronic stable angina, 62.1% had new onset angina (within 2 weeks to index presentation with ACS), 5.8% had a known history of heart failure, 3.9% had chronic lung disease, 8.3% had a history of renal disease, 4.3% a history of cerebrovascular disease and 0.6% a history of peripheral vascular disease.

Compared to the previous report, the profile of patients presenting with ACS were similar, except that there were more patients with a previous documented history of coronary artery disease and more patients with new onset angina. However, there were now proportionately fewer patients who were current smokers, had previous history of myocardial infarction and had a known history of heart failure.

Ethnic differences

The NCVD Registries provide insight into the baseline characteristics of the different ethnic groups presenting with ACS, and the subsequent management and outcome. The three major ethnic groups (Malay, Chinese and Indian) form the majority of the Malaysian population who present to the SDPs that contribute information into this ACS report.

Between 2014 and 2015, the Malays formed 49.2%, Chinese formed 20.6% and Indians 18.4% of the patients who presented with ACS. In the STEMI subgroup, the proportion was 54.6% Malay, 16.4% Chinese and 15.7% Indian. In the NSTEMI subgroup, the proportion was 45.0% Malay, 23% Chinese and 20.5% Indian. In the UA subgroup, the proportion was 44.4% Malay, 25.0% Chinese and 21.0% Indian. These proportions in the different ACS subgroups were similar to that of the previous report and consistent in that the Malays were more likely to present with STEMI.

For Malay males who presented with ACS between 2014 and 2015, 27.2% were under the age of 50, compared to 14.4% of Malay females. For Chinese males who presented with ACS between 2014 and 2015, 17.0% were under the age of 50, compared to 4.1% of Chinese females. For Indian males who presented with ACS between 2014 and 2015, 28.0% were under the age of 50, compared to 13.8% of Indian females.

Within each major ethnic group, the proportions of young patients from each gender presenting with ACS were similar to that of the previous report. Therefore, while the Malays formed the majority of patients presenting with ACS, the proportion of those who were under the age of 50 at presentation were similar to the Indians and both substantially higher than the Chinese patients. This could be due to a variety of factors, for example, the location of the SDPs, which were mainly in urban areas where a larger proportion of the local population were Malays.

References

1. WA Wan Ahmad, KH Sim. (Eds). Annual report of the NCVD-ACS Registry, 2011 – 2013. Kuala Lumpur, Malaysia: National Cardiovascular Disease Database, 2015.
2. Mandelzweig L, Battler A, Boyko V, Bueno H, Danchin N, Filippatos G, et al. on behalf of the Euro Heart Survey Investigators. The second Euro Heart Survey on acute coronary syndromes: characteristics, treatment, and outcome of patients with ACS in Europe and the Mediterranean Basin in 2004. *Eur Heart J.* 2006; 19 (27): 2285–2293.

Table 2.1 Characteristics of patients with ACS, NCVD-ACS Registry, 2014 – 2015

Year	2011 – 2013	2014	2015	2014 – 2015
Total	14,763	8,458	9,313	17,771
DEMOGRAPHICS				
Age, years				
N	14,763	8,458	9,313	17,771
Mean (SD)	58.5 (12.2)	58.6 (12.2)	58.5 (12.3)	58.6 (12.2)
Median (min, max)	58.2 (20.0, 101.9)	58.5 (20.0, 101.1)	58.5 (20.5, 100.1)	58.5 (20.0, 101.1)
IQR	16.6	16.2	16.6	16.4
Missing (%)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Age group, No. (%)				
20 – < 30	141 (1.0)	78 (0.9)	73 (0.8)	151 (0.8)
30 – < 40	817 (5.5)	480 (5.7)	594 (6.4)	1,074 (6.0)
40 – < 50	2,606 (17.7)	1,444 (17.1)	1,585 (17.0)	3,029 (17.0)
50 – < 60	4,648 (31.5)	2,640 (31.2)	2,893 (31.1)	5,533 (31.1)
60 – < 70	3,764 (25.5)	2,259 (26.7)	2,461 (26.4)	4,720 (26.6)
70 – < 80	2,260 (15.3)	1,211 (14.3)	1,364 (14.6)	2,575 (14.5)
≥ 80	527 (3.6)	346 (4.1)	343 (3.7)	689 (3.9)
Missing	0	0	0	0
Gender, No. (%)				
Male	11,638 (78.8)	6,705 (79.3)	7,384 (79.3)	14,089 (79.3)
Female	3,125 (21.2)	1,753 (20.7)	1,929 (20.7)	3,682 (20.7)
Missing	0	0	0	0
Ethnic group, No. (%)				
Malay	7,459 (50.5)	4,190 (49.5)	4,568 (49.0)	8,758 (49.3)
Chinese	3,174 (21.5)	1,767 (20.9)	1,888 (20.3)	3,655 (20.6)
Indian	2,904 (19.7)	1,580 (18.7)	1,716 (18.4)	3,296 (18.5)
Orang Asli	8 (0.1)	11 (0.1)	5 (0.1)	16 (0.1)
Kadazan Dusun	135 (0.9)	134 (1.6)	193 (2.1)	327 (1.8)
Melanau	10 (0.1)	3 (0.0)	1 (0.0)	4 (0.0)
Murut	11 (0.1)	8 (0.1)	12 (0.1)	20 (0.1)
Bajau	113 (0.8)	102 (1.2)	131 (1.4)	233 (1.3)
Bidayuh	80 (0.5)	32 (0.4)	67 (0.7)	99 (0.6)
Iban	184 (1.2)	111 (1.3)	131 (1.4)	242 (1.4)
Punjabi	49 (0.3)	34 (0.4)	35 (0.4)	69 (0.4)
Other Malaysian	255 (1.7)	206 (2.4)	246 (2.6)	452 (2.5)
Foreigner	381 (2.6)	280 (3.3)	320 (3.4)	600 (3.4)
Not available	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Missing	0	0	0	0

Year	2011 – 2013	2014	2015	2014 – 2015
Total	14,763	8,458	9,313	17,771
OTHER CORONARY RISK FACTORS				
Smoking, No. (%)				
Never	5,391 (37.6)	3,259 (39.0)	3,668 (39.9)	6,927 (39.5)
Former (quit > 30 days)	3,059 (21.3)	1,624 (19.5)	1,748 (19.0)	3,372 (19.2)
Current (any tobacco use within last 30 days)	5,443 (38.0)	3,110 (37.3)	3,423 (37.3)	6,533 (37.3)
Not available	445 (3.1)	353 (4.2)	344 (3.7)	697 (4.0)
Missing	425	112	130	242
Family history of premature cardiovascular disease, No. (%)				
Yes	1,775 (13.2)	1,006 (13.0)	1,139 (13.3)	2,145 (13.2)
No	9,328 (69.2)	5,764 (74.3)	6,333 (74.1)	12,097 (74.2)
Unknown	2,384 (17.7)	983 (12.7)	1,072 (12.5)	2,055 (12.6)
Missing	1276	705	769	1474
BMI, kg/m2, No. (%)				
N	5,170	3,761	3,983	7,744
Mean (SD)	26.1 (4.3)	25.8 (4.3)	26.2 (4.4)	26.0 (4.3)
Median (min, max)	25.7 (14.6, 49.8)	25.4 (14.7, 49.5)	25.9 (14.2, 49.9)	25.6 (14.2, 49.9)
IQR	5.2	5.0	5.2	5.1
Not available (%)	7,758 (60.0)	4,197 (52.7)	4,468 (52.9)	8,665 (52.8)
Missing (%)	1,835 (12.4)	500 (5.9)	862 (9.3)	1,362 (7.7)
BMI, kg/m2, No. (%)				
< 18.5	129 (1.0)	96 (1.2)	96 (1.1)	192 (1.2)
18.5 – 22.9	1,086 (8.4)	836 (10.5)	782 (9.3)	1,618 (9.9)
23.0 – 27.4	2,227 (17.2)	1,702 (21.4)	1,737 (20.6)	3,439 (21.0)
> 27.4	1,728 (13.4)	1,127 (14.2)	1,368 (16.2)	2,495 (15.2)
Not available (%)	7,758 (60.0)	4,197 (52.7)	4,468 (52.9)	8,665 (52.8)
Missing	1835	500	862	1362
WHR				
N	2,732	2,001	1,954	3,955
Mean (SD)	1.0 (0.2)	1.0 (0.1)	1.0 (0.1)	1.0 (0.1)
Median (min, max)	1.0 (0.7, 2.9)	1.0 (0.7, 2.5)	1.0 (0.7, 2.5)	1.0 (0.7, 2.5)
IQR	0.1	0.1	0.1	0.1
Not available (%)	9,822 (78.2)	5,841 (74.5)	6,366 (76.5)	12,207 (75.5)
Missing (%)	2,209 (15.0)	616 (7.3)	993 (10.7)	1,609 (9.1)

Year	2011 – 2013	2014	2015	2014 – 2015
Total	14,763	8,458	9,313	17,771
WHR, No. (%)				
Men	2,291	1,630	1,530	3,160
≤ 1.0	1,665 (72.7)	1,092 (67.0)	1,026 (67.1)	2,118 (67.0)
> 1.0	626 (27.3)	538 (33.0)	504 (32.9)	1,042 (33.0)
Not available (%)	7,655	4,573	5,093	9,666
Missing	1,692	502	761	1,263
Women	441	371	424	795
≤ 0.85	55 (12.5)	30 (8.1)	30 (7.1)	60 (7.5)
> 0.85	386 (87.5)	341 (91.9)	394 (92.9)	735 (92.5)
Not available (%)	2,167	1,268	1,273	2,541
Missing	517	114	232	346
Waist circumference, cm				
N	2,468	1,833	1,815	3,648
Mean (SD)	92.7 (10.6)	92.6 (10.8)	92.5 (10.5)	92.6 (10.7)
Median (min, max)	92.0 (70.0, 130.0)	92.0 (70.0, 129.0)	92.0 (70.0, 130.0)	92.0 (70.0, 130.0)
IQR	14.0	15.0	13.0	13.0
Not available (%)	9,781 (79.9)	5,821 (76.1)	6,355 (77.8)	12,176 (76.9)
Missing (%)	2,514 (17.0)	804 (9.5)	1,143 (12.3)	1,947 (11.0)
Waist circumference, cm, No. (%)				
Men	9,704	6,056	6,517	12,573
≤ 90	927 (9.6)	721 (11.9)	646 (9.9)	1,367 (10.9)
> 90	1,152 (11.9)	781 (12.9)	788 (12.1)	1,569 (12.5)
Not available (%)	7,625 (78.6)	4,554 (75.2)	5,083 (78.0)	9,637 (76.6)
Missing	1,934	649	867	1,516
Women	2,545	1,598	1,653	3,251
≤ 80	71 (2.8)	67 (4.2)	73 (4.4)	140 (4.3)
> 80	318 (12.5)	264 (16.5)	308 (18.6)	572 (17.6)
Not available (%)	2,156 (84.7)	1,267 (79.3)	1,272 (77.0)	2,539 (78.1)
Missing	580	155	276	431
CO-MORBIDITY				
Dyslipidaemia, No. (%)				
Yes	5,100 (37.5)	2,965 (38.0)	3,410 (39.2)	6,375 (38.7)
No	6,920 (50.8)	3,997 (51.2)	4,494 (51.7)	8,491 (51.5)
Unknown	1,593 (11.7)	838 (10.7)	788 (9.1)	1,626 (9.9)
Missing	1,150	658	621	1,279

Year	2011 – 2013	2014	2015	2014 – 2015
Total	14,763	8,458	9,313	17,771
Hypertension, No. (%)				
Yes	8,974 (65.0)	5,141 (64.5)	5,671 (64.7)	10,812 (64.6)
No	4,222 (30.6)	2,449 (30.7)	2,658 (30.3)	5,107 (30.5)
Unknown	605 (4.4)	380 (4.8)	439 (5.0)	819 (4.9)
Missing	962	488	545	1,033
Diabetes, No. (%)				
Yes	6,284 (45.8)	3,687 (46.8)	3,991 (45.9)	7,678 (46.3)
No	6,638 (48.4)	3,736 (47.4)	4,202 (48.4)	7,938 (47.9)
Unknown	792 (5.8)	457 (5.8)	497 (5.7)	954 (5.8)
Missing	1,049	578	623	1,201
Type of diabetes treatment, No. (%)				
	<i>*only for 2013</i>			
OHA	1,213 (64.1)	1,983 (61.7)	2,275 (63.1)	4,258 (62.5)
Insulin	302 (16.0)	594 (18.5)	639 (17.7)	1,233 (18.1)
OHA + Insulin	126 (6.7)	253 (7.9)	286 (7.9)	539 (7.9)
Non-pharmacology therapy	252 (13.3)	383 (11.9)	403 (11.2)	786 (11.5)
Missing (all false)	675	474	388	862
Fasting blood glucose, mmol/L				
N	10,273	6,262	7,188	13,450
Mean (SD)	8.3 (4.2)	8.3 (4.1)	8.2 (4.1)	8.2 (4.1)
Median (min, max)	6.9 (3.0, 49.9)	6.9 (3.0, 48.0)	6.8 (3.0, 47.0)	6.8 (3.0, 48.0)
IQR	3.9	3.9	4.0	4.0
Test not done	3,307 (24.4)	1,739 (21.7)	1,712 (19.2)	3,451 (20.4)
Missing	1,183 (8.0)	457 (5.4)	413 (4.4)	870 (4.9)
Myocardial infarction history, No. (%)				
Yes	2,600 (19.2)	1,314 (16.9)	1,385 (16.2)	2,699 (16.5)
No	9,655 (71.5)	6,016 (77.3)	6,766 (79.1)	12,782 (78.2)
Unknown	1,254 (9.3)	455 (5.8)	408 (4.8)	863 (5.3)
Missing	1,254	673	754	1,427
Documented CAD > 50% stenosis, No. (%)				
Yes	2,852 (21.2)	2,080 (26.6)	2,091 (24.3)	4,171 (25.4)
No	9,011 (66.9)	5,237 (67.1)	6,048 (70.4)	11,285 (68.8)
Unknown	1,614 (12.0)	488 (6.3)	451 (5.3)	939 (5.7)
Missing	1,286	653	723	1,376

Year	2011 – 2013	2014	2015	2014 – 2015
Total	14,763	8,458	9,313	17,771
Chronic angina (onset more than 2 weeks ago), No. (%)				
Yes	1,343 (10.0)	762 (9.9)	737 (8.7)	1,499 (9.3)
No	11,169 (82.9)	6,618 (85.7)	7,458 (88.1)	14,076 (87.0)
Unknown	957 (7.1)	341 (4.4)	269 (3.2)	610 (3.8)
Missing	1,294	737	849	1,586
New onset angina (less than 2 weeks ago), No. (%)				
Yes	7,900 (58.1)	4,492 (57.2)	5,813 (66.6)	10,305 (62.1)
No	5,101 (37.5)	3,106 (39.5)	2,702 (31.0)	5,808 (35.0)
Unknown	589 (4.3)	256 (3.3)	213 (2.4)	469 (2.8)
Missing	1,173	604	585	1,189
Heart failure, No. (%)				
Yes	970 (7.2)	486 (6.3)	452 (5.3)	938 (5.8)
No	11,754 (87.3)	6,926 (89.4)	7,750 (91.6)	14,676 (90.5)
Unknown	746 (5.5)	335 (4.3)	260 (3.1)	595 (3.7)
Missing	1,293	711	851	1,562
Chronic lung disease, No. (%)				
Yes	425 (3.2)	297 (3.8)	293 (3.5)	590 (3.6)
No	12,275 (91.2)	7,112 (92.0)	7,908 (93.5)	15,020 (92.8)
Unknown	761 (5.7)	324 (4.2)	256 (3.0)	580 (3.6)
Missing	1,302	725	856	1,581
Renal disease, No. (%)				
Yes	1,043 (7.7)	624 (8.0)	698 (8.2)	1,322 (8.1)
No	11,725 (86.9)	6,819 (87.8)	7,547 (89.0)	14,366 (88.4)
Unknown	726 (5.4)	320 (4.1)	239 (2.8)	559 (3.4)
Missing	1,269	695	829	1,524
Cerebrovascular disease, No. (%)				
Yes	509 (3.8)	339 (4.4)	352 (4.2)	691 (4.3)
No	12,219 (90.9)	7,111 (91.9)	7,848 (93.1)	14,959 (92.5)
Unknown	716 (5.3)	291 (3.8)	232 (2.8)	523 (3.2)
Missing	1,319	717	881	1,598
Peripheral vascular disease, No. (%)				
Yes	104 (0.8)	27 (0.4)	58 (0.7)	85 (0.5)
No	12,526 (93.5)	7,329 (95.5)	8,074 (96.4)	15,403 (95.9)
Unknown	764 (5.7)	321 (4.2)	247 (2.9)	568 (3.5)
Missing	1,369	781	934	1,715

Year	2011 – 2013	2014	2015	2014 – 2015
Total	14,763	8,458	9,313	17,771
No co-morbidity (none of the above), No. (%)				
Yes	765 (5.2)	376 (4.4)	382 (4.1)	758 (4.3)
No	13,998 (94.8)	8,082 (95.6)	8,931 (95.9)	17,013 (95.7)
**Coronary artery disease, No. (%)				
Yes	10,017 (77.5)	6,068 (78.9)	7,101 (82.7)	13,169 (80.9)
No	2,907 (22.5)	1,674 (21.2)	1,519 (17.2)	3,193 (19.1)

** Coronary artery disease is defined as “Yes” to any of the following co-morbidities: 1) History of myocardial infarction, 2) Documented CAD, 3) Chronic angina (onset more than 2 weeks ago), 4) New onset angina (less than 2 weeks)
 Note: ‘Unknown’ includes patients who do not know their co-morbidities status

Table 2.2 Distribution of patients with ACS by Source Data Providers, NCVD-ACS Registry, 2014 – 2015

Year	2011 – 2013		2014		2015		2014 – 2015	
N	14,763		8,458		9,313		17,771	
SDP Name	No.	%	No.	%	No.	%	No.	%
Hospital Pulau Pinang	2,574	17.4	1,287	15.2	1,247	13.4	2,534	14.3
Hospital Serdang	1,843	12.5	527	6.2	1,130	12.1	1,657	9.3
Hospital Sultanah Aminah	1,472	10.0	633	7.5	646	6.9	1,279	7.2
Institut Jantung Negara	1,171	7.9	523	6.2	672	7.2	1,195	6.7
Hospital Tengku Ampuan Afzan	1,151	7.8	643	7.6	552	5.9	1,195	6.7
Pusat Jantung Hospital Umum Sarawak	1,052	7.1	579	6.8	737	7.9	1,316	7.4
Hospital Kuala Lumpur	990	6.7	666	7.9	583	6.3	1,249	7.0
Pusat Perubatan Universiti Malaya	846	5.7	1,258	14.9	1,081	11.6	2,339	13.2
Hospital Queen Elizabeth II	703	4.8	623	7.4	741	8.0	1,364	7.7
Hospital Sultanah Bahiyah	695	4.7	386	4.6	345	3.7	731	4.1
Hospital Raja Permaisuri Bainun	626	4.2	387	4.6	373	4.0	760	4.3
Hospital Sultanah Nur Zahirah	367	2.5	306	3.6	293	3.1	599	3.4
Hospital Tengku Ampuan Rahimah	305	2.1	21	0.2	8	0.1	29	0.2
Hospital Melaka	295	2.0	189	2.2	157	1.7	346	1.9
Hospital Tuanku Fauziah	275	1.9	81	1.0	114	1.2	195	1.1
Hospital Ampang	199	1.3	0	0.0	127	1.4	127	0.7
Hospital Raja Perempuan Zainab II	122	0.8	107	1.3	84	0.9	191	1.1
Hospital Tuanku Ja'afar	51	0.3	48	0.6	76	0.8	124	0.7
Hospital Queen Elizabeth I	26	0.2	25	0.3	55	0.6	80	0.5
UKM Medical Centre	0	0.0	0	0.0	53	0.6	53	0.3
CTC UiTM	0	0.0	157	1.9	165	1.8	322	1.8
Hospital Lahad Datu	0	0.0	12	0.1	67	0.7	79	0.4
Oriental Melaka	0	0.0	0	0.0	7	0.1	7	0.0

Note: Each SDP started contributing data at different time periods

Table 2.3 Age-gender distribution of patients with ACS, NCVd-ACS Registry, 2014 – 2015

Age group	2011 – 2013		2014		2015		2014 – 2015	
	Total no. of patients = 14,763		Total no. of patients = 8,458		Total no. of patients = 9,313		Total no. of patients = 17,771	
	Male	Female	Male	Female	Male	Female	Male	Female
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
20 – < 30	132 (1.2)	9 (0.2)	74 (1.1)	4 (0.2)	69 (0.9)	4 (0.2)	143 (1.0)	8 (0.2)
30 – < 40	760 (6.6)	57 (1.8)	447 (6.7)	33 (1.9)	550 (7.4)	44 (2.3)	997 (7.1)	77 (2.1)
40 – < 50	2,307 (19.7)	299 (9.6)	1,288 (19.2)	156 (8.9)	1,390 (18.8)	195 (10.1)	2,678 (19.0)	351 (9.5)
50 – < 60	3,924 (33.7)	724 (23.2)	2,185 (32.6)	455 (26.0)	2,434 (33.0)	459 (23.8)	4,619 (32.8)	914 (24.8)
60 – < 70	2,827 (24.2)	937 (30.0)	1,740 (26.0)	519 (29.6)	1,869 (25.3)	592 (30.7)	3,609 (25.6)	1,111 (30.2)
70 – < 80	1,409 (12.2)	851 (27.2)	787 (11.7)	424 (24.2)	900 (12.2)	464 (24.1)	1,687 (12.0)	888 (24.1)
≥ 80	279 (2.4)	248 (8.0)	184 (2.7)	162 (9.2)	172 (2.3)	171 (8.9)	356 (2.5)	333 (9.0)
Total	11,638 (100.0)	3,125 (100.0)	6,705 (100.0)	1,753 (100.0)	7,384 (100.0)	1,929 (100.0)	14,089 (100.0)	3,682 (100.0)

Table 2.4.1 Age-gender distribution of patients with ACS by ethnic group, NCD-ACS Registry, 2014 – 2015

Gender	Age group	Ethnic group															
		2011 – 2013				2014				2015				2014 – 2015			
		Malay	Chinese	Indian	*Others	Malay	Chinese	Indian	*Others	Malay	Chinese	Indian	*Others	Malay	Chinese	Indian	*Others
	20 – < 30	68 (1.2)	5 (0.2)	29 (1.4)	30 (2.8)	36 (1.1)	7 (0.5)	14 (1.2)	17 (2.2)	31 (0.8)	6 (0.4)	12 (0.9)	20 (2.2)	67 (0.9)	13 (0.5)	26 (1.1)	37 (2.1)
	30 – < 40	385 (6.4)	86 (3.6)	138 (6.4)	151 (14.6)	226 (6.6)	34 (2.5)	80 (6.8)	107 (14.1)	266 (7.2)	49 (3.4)	94 (7.4)	141 (14.5)	492 (6.9)	83 (3.0)	174 (7.1)	248 (14.3)
	40 – < 50	1225 (20.1)	353 (14.8)	457 (21.4)	272 (26.2)	653 (19.2)	118 (13.8)	230 (19.5)	217 (28.6)	711 (19.3)	193 (13.3)	257 (20.2)	229 (23.6)	1,364 (19.2)	381 (13.6)	487 (19.9)	446 (25.8)
	50 – < 60	2130 (35.0)	701 (29.6)	782 (36.5)	311 (29.8)	1,167 (34.2)	378 (27.8)	424 (36.0)	216 (28.4)	1,289 (35.0)	398 (27.4)	452 (35.5)	295 (30.4)	2,456 (34.6)	776 (27.6)	876 (35.7)	511 (29.5)
	60 – < 70	1487 (24.4)	682 (28.8)	480 (22.4)	178 (17.0)	912 (26.8)	412 (30.3)	281 (23.8)	135 (17.8)	934 (25.3)	452 (31.1)	327 (25.7)	156 (16.1)	1,846 (26.0)	864 (30.7)	608 (24.8)	291 (16.8)
	70 – < 80	691 (11.3)	434 (18.2)	205 (9.5)	79 (7.6)	357 (10.5)	254 (18.7)	118 (10.0)	58 (7.6)	400 (10.9)	282 (19.4)	109 (8.6)	109 (11.2)	757 (10.7)	536 (19.1)	227 (9.3)	167 (9.6)
	≥ 80	94 (1.6)	114 (4.8)	51 (2.4)	20 (2.0)	57 (1.7)	85 (6.3)	32 (2.7)	10 (1.3)	55 (1.5)	73 (5.0)	23 (1.8)	21 (2.2)	112 (1.6)	158 (5.6)	55 (2.3)	31 (1.8)
	Total	6,080 (100.0)	2,375 (100.0)	2,142 (100.0)	1,041 (100.0)	3,408 (100.0)	1,358 (100.0)	1,179 (100.0)	760 (100.0)	3,686 (100.0)	1,453 (100.0)	1,274 (100.0)	444 (100.0)	7,094 (100.0)	2,811 (100.0)	2,453 (100.0)	1,731 (100.0)
	20 – < 30	6 (0.4)	0 (0.0)	1 (0.2)	2 (1.0)	4 (0.5)	0 (0.0)	0 (0.0)	0 (0.0)	2 (0.2)	0 (0.0)	1 (0.2)	1 (0.6)	6 (0.4)	0 (0.0)	1 (0.1)	1 (0.3)
	30 – < 40	32 (2.4)	3 (0.4)	16 (2.0)	6 (3.3)	13 (1.7)	4 (1.0)	13 (3.2)	3 (1.9)	24 (2.7)	6 (1.4)	9 (2.0)	5 (2.9)	37 (2.2)	10 (1.2)	22 (2.6)	8 (2.4)
	40 – < 50	148 (10.8)	44 (5.5)	78 (10.2)	29 (15.6)	83 (10.6)	12 (2.9)	36 (9.0)	25 (15.5)	103 (11.7)	10 (2.3)	56 (12.7)	26 (15.3)	186 (11.2)	22 (2.6)	92 (10.9)	51 (15.4)
	50 – < 60	347 (25.2)	107 (13.4)	216 (28.4)	54 (29.3)	229 (29.3)	62 (15.2)	113 (28.2)	51 (31.7)	230 (26.1)	69 (15.9)	111 (25.1)	49 (28.8)	459 (27.6)	131 (15.5)	224 (26.6)	100 (30.2)
	60 – < 70	434 (31.4)	228 (28.5)	222 (29.2)	53 (28.6)	249 (31.8)	99 (24.2)	129 (32.2)	42 (26.1)	292 (33.1)	120 (27.6)	137 (31.0)	43 (25.3)	541 (32.5)	219 (25.9)	266 (31.6)	85 (25.7)
	70 – < 80	334 (24.2)	296 (37.0)	189 (24.8)	32 (17.3)	163 (20.8)	155 (37.9)	77 (19.2)	29 (18.0)	187 (21.2)	151 (34.7)	92 (20.8)	34 (20.0)	350 (21.0)	306 (36.3)	169 (20.0)	63 (19.0)
	≥ 80	78 (5.6)	121 (15.2)	40 (5.2)	9 (4.9)	41 (5.2)	77 (18.8)	33 (8.2)	11 (6.8)	44 (5.0)	79 (18.2)	36 (8.1)	12 (7.1)	85 (5.1)	156 (18.5)	69 (8.2)	23 (6.9)
	Total	1,379 (100.0)	799 (100.0)	762 (100.0)	185 (100.0)	782 (100.0)	409 (100.0)	401 (100.0)	161 (100.0)	882 (100.0)	435 (100.0)	442 (100.0)	170 (100.0)	1,664 (100.0)	844 (100.0)	843 (100.0)	331 (100.0)

* 'Others' includes Orang Asli, Kadazan, Melanau, Murut, Bajau, Bidayuh, Iban, other Malaysian and Foreigner

Table 2.4.2 Age-gender distribution of patients with ACS by pre-morbid diabetes, NCVd-ACS Registry, 2014 – 2015

Gender	Age group	Diabetes															
		2011 – 2013				2014				2015				2014 – 2015			
		Diabetic	Non-diabetic	Unknown		Diabetic	Non-diabetic	Unknown		Diabetic	Non-diabetic	Unknown		Diabetic	Non-diabetic	Unknown	
No. (%)	No. (%)	No. (%)		No. (%)	No. (%)	No. (%)		No. (%)	No. (%)	No. (%)		No. (%)	No. (%)	No. (%)		No. (%)	
Male	20 – < 30	8 (0.2)	93 (1.6)	16 (2.5)	7 (0.3)	48 (1.5)	5 (1.2)	4 (0.1)	50 (1.4)	7 (1.6)	11 (0.2)	98 (1.5)	12 (1.4)				
	30 – < 40	168 (3.8)	426 (7.6)	66 (9.8)	93 (3.5)	255 (8.1)	39 (9.7)	92 (3.2)	331 (9.3)	66 (15.0)	185 (3.4)	586 (8.7)	105 (12.4)				
	40 – < 50	672 (15.0)	1,231 (22.2)	166 (24.6)	408 (15.4)	684 (21.7)	90 (22.3)	434 (15.2)	746 (21.0)	91 (20.6)	842 (15.3)	1,430 (21.3)	181 (21.4)				
	50 – < 60	1627 (36.2)	1,822 (32.8)	198 (29.2)	920 (34.8)	968 (30.7)	138 (34.2)	1,045 (36.7)	1,076 (30.2)	144 (32.7)	1,965 (35.8)	2,044 (30.5)	282 (33.4)				
	60 – < 70	1332 (29.6)	1,180 (21.2)	137 (20.3)	805 (30.4)	745 (23.6)	86 (21.3)	831 (29.2)	841 (23.6)	80 (18.1)	1,636 (29.8)	1,586 (23.6)	166 (19.6)				
	70 – < 80	575 (12.8)	671 (12.0)	79 (11.6)	344 (13.0)	356 (11.3)	37 (9.2)	378 (13.3)	425 (11.9)	46 (10.4)	722 (13.1)	781 (11.6)	83 (9.8)				
	≥ 80	106 (2.4)	141 (2.6)	14 (2.0)	70 (2.6)	95 (3.0)	9 (2.2)	64 (2.2)	90 (2.5)	7 (1.6)	134 (2.4)	185 (2.8)	16 (1.9)				
	Total	4,488 (100.0)	5,564 (100.0)	676 (100.0)	2,647 (100.0)	3,151 (100.0)	404 (100.0)	2,848 (100.0)	3,559 (100.0)	441 (100.0)	5,495 (100.0)	6,710 (100.0)	845 (100.0)				
	Female	20 – < 30	0 (0)	8 (0.8)	1 (0.8)	1 (0.1)	3 (0.5)	0 (0.0)	0 (0.0)	3 (0.5)	0 (0.0)	1 (0.0)	6 (0.5)	0 (0.0)			
		30 – < 40	22 (1.2)	23 (2.2)	3 (2.6)	18 (1.7)	10 (1.7)	2 (3.8)	15 (1.3)	18 (2.8)	3 (5.4)	33 (1.5)	28 (2.3)	5 (4.6)			
40 – < 50		146 (8.2)	114 (10.6)	16 (13.8)	85 (8.2)	59 (10.1)	7 (13.2)	106 (9.3)	73 (11.4)	4 (7.1)	191 (8.7)	132 (10.7)	11 (10.1)				
50 – < 60		444 (24.7)	224 (20.8)	27 (23.3)	281 (27.0)	142 (24.3)	15 (28.3)	292 (25.5)	142 (22.1)	9 (16.1)	573 (26.2)	284 (23.1)	24 (22.0)				
60 – < 70		599 (33.3)	265 (24.6)	32 (27.6)	337 (32.4)	155 (26.5)	11 (20.8)	369 (32.3)	176 (27.4)	17 (30.4)	706 (32.3)	331 (27.0)	28 (25.7)				
70 – < 80		480 (26.8)	319 (29.8)	26 (22.5)	240 (23.1)	145 (24.8)	15 (28.3)	277 (24.2)	157 (24.4)	18 (32.1)	517 (23.7)	302 (24.6)	33 (30.3)				
≥ 80		105 (5.8)	121 (11.2)	11 (9.4)	78 (7.5)	71 (12.1)	3 (5.7)	84 (7.3)	74 (11.5)	5 (8.9)	162 (7.4)	145 (11.8)	8 (7.3)				
Total		1,796 (100.0)	1,074 (100.0)	116 (100.0)	1,040 (100.0)	585 (100.0)	53 (100.0)	1,143 (100.0)	643 (100.0)	56 (100.0)	2,183 (100.0)	1,228 (100.0)	109 (100.0)				

Table 2.4.3 Age-gender distribution of patients with ACS by pre-morbid hypertension, NCVD-ACS Registry, 2014 – 2015

Gender	Age group	Hypertension															
		2011 – 2013				2014				2015				2014 – 2015			
		Hypertensive	Non-hypertensive	Unknown	No. (%)	Hypertensive	Non-hypertensive	Unknown	No. (%)	Hypertensive	Non-hypertensive	Unknown	No. (%)	Hypertensive	Non-hypertensive	Unknown	No. (%)
Male	20 – < 30	19 (0.3)	81 (2.2)	17 (3.2)	15 (0.4)	42 (2.0)	4 (1.1)	15 (0.4)	41 (1.8)	6 (1.5)	30 (0.4)	83 (1.9)	10 (1.3)				
	30 – < 40	237 (3.7)	368 (10.0)	56 (10.3)	147 (3.9)	206 (9.6)	38 (10.9)	170 (4.0)	264 (11.4)	59 (14.8)	317 (4.0)	470 (10.5)	97 (13.0)				
	40 – < 50	991 (15.0)	953 (25.8)	140 (26.0)	546 (14.5)	549 (25.5)	91 (26.1)	635 (15.1)	567 (24.4)	81 (20.4)	1,181 (14.8)	1,116 (25.0)	172 (23.0)				
	50 – < 60	2232 (34.0)	1,267 (34.4)	179 (33.2)	1,230 (32.6)	708 (32.9)	115 (33.0)	1,371 (32.7)	770 (33.2)	142 (35.7)	2,601 (32.6)	1,478 (33.1)	257 (34.4)				
	60 – < 70	1907 (29.0)	674 (18.2)	89 (16.5)	1,151 (30.5)	441 (20.5)	66 (18.9)	1,235 (29.4)	460 (19.8)	70 (17.6)	2,386 (29.9)	901 (20.1)	136 (18.2)				
	70 – < 80	992 (15.0)	293 (8.0)	48 (9.0)	555 (14.7)	162 (7.5)	33 (9.5)	643 (15.3)	189 (8.1)	34 (8.5)	1,198 (15.0)	351 (7.8)	67 (9.0)				
	≥ 80	199 (3.0)	54 (1.4)	10 (1.8)	133 (3.5)	42 (2.0)	2 (0.6)	129 (3.1)	31 (1.3)	6 (1.5)	262 (3.3)	73 (1.6)	8 (1.1)				
	Total	6,577 (100.0)	3,690 (100.0)	539 (100.0)	3,777 (100.0)	2,150 (100.0)	349 (100.0)	4,198 (100.0)	2,322 (100.0)	398 (100.0)	7,975 (100.0)	4,472 (100.0)	747 (100.0)				
	Female	20 – < 30	3 (0.2)	6 (1.2)	0 (0)	1 (0.1)	3 (1.0)	0 (0.0)	1 (0.1)	2 (0.6)	0 (0.0)	2 (0.1)	5 (0.8)	0 (0.0)			
		30 – < 40	20 (0.8)	24 (4.6)	4 (6.0)	16 (1.2)	14 (4.7)	2 (6.5)	18 (1.2)	16 (4.8)	2 (4.9)	34 (1.2)	30 (4.7)	4 (5.6)			
40 – < 50		178 (7.4)	86 (16.2)	14 (21.3)	105 (7.7)	42 (14.0)	6 (19.4)	122 (8.3)	54 (16.1)	3 (7.3)	227 (8.0)	96 (15.1)	9 (12.5)				
50 – < 60		540 (22.5)	140 (26.3)	13 (19.6)	339 (24.9)	88 (29.4)	10 (32.3)	340 (23.1)	92 (27.4)	8 (19.5)	679 (23.9)	180 (28.3)	18 (25.0)				
60 – < 70		749 (31.1)	133 (25.0)	17 (25.8)	412 (30.2)	79 (26.4)	10 (32.3)	455 (30.9)	97 (28.9)	15 (36.6)	867 (30.6)	176 (27.7)	25 (34.7)				
70 – < 80		708 (29.6)	109 (20.3)	13 (19.7)	361 (26.5)	49 (16.4)	2 (6.5)	391 (26.5)	55 (16.4)	11 (26.8)	752 (26.5)	104 (16.4)	13 (18.1)				
≥ 80		199 (8.4)	34 (6.4)	5 (7.6)	130 (9.5)	24 (8.0)	1 (3.2)	146 (9.9)	20 (6.0)	2 (4.9)	276 (9.7)	44 (6.9)	3 (4.2)				
Total		2,397 (100.0)	532 (100.0)	66 (100.0)	1,364 (100.0)	299 (100.0)	31 (100.0)	1,473 (100.0)	336 (100.0)	41 (100.0)	2,837 (100.0)	635 (100.0)	72 (100.0)				

Table 2.4.4 Age-gender distribution of patients with ACS by pre-morbid dyslipidaemia, NCVd-ACS Registry, 2014 – 2015

Gender	Age group	Dyslipidaemia												
		2011 – 2013			2014			2015			2014 – 2015			
		Yes	No	Unknown	Yes	No	Unknown	Yes	No	Unknown	Yes	No	Unknown	
		No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
Male	20 – < 30	18 (0.4)	78 (1.4)	21 (1.6)	7 (0.3)	41 (1.3)	12 (1.7)	6 (0.2)	45 (1.2)	10 (1.5)	13 (0.3)	86 (1.3)	22 (1.6)	
	30 – < 40	162 (4.2)	405 (7.4)	90 (7.0)	87 (3.9)	235 (7.3)	59 (8.3)	99 (3.9)	316 (8.7)	75 (11.2)	186 (3.9)	551 (8.0)	134 (9.7)	
	40 – < 50	631 (16.4)	1,143 (20.6)	288 (22.2)	328 (14.9)	681 (21.1)	156 (21.8)	424 (16.5)	733 (20.2)	125 (18.7)	752 (15.8)	1,414 (20.6)	281 (20.3)	
	50 – < 60	1,323 (34.5)	1,877 (34.0)	428 (33.0)	777 (35.2)	1,004 (31.1)	235 (32.9)	843 (32.9)	1,194 (32.8)	235 (35.1)	1,620 (33.9)	2,198 (32.0)	470 (33.9)	
	60 – < 70	1,072 (27.8)	1,264 (22.8)	299 (23.2)	647 (29.3)	811 (25.2)	163 (22.8)	742 (28.9)	872 (24.0)	136 (20.3)	1,389 (29.1)	1,683 (24.5)	299 (21.6)	
	70 – < 80	554 (14.4)	620 (11.2)	144 (11.2)	298 (13.5)	357 (11.1)	76 (10.6)	391 (15.2)	387 (10.6)	75 (11.2)	689 (14.4)	744 (10.8)	151 (10.9)	
	≥ 80	86 (2.3)	146 (2.6)	24 (1.8)	64 (2.9)	95 (2.9)	14 (2.0)	61 (2.4)	88 (2.4)	14 (2.1)	125 (2.6)	183 (2.7)	28 (2.0)	
	Total	3,846 (100.0)	5,533 (100.0)	1,294 (100.0)	2,208 (100.0)	3,224 (100.0)	715 (100.0)	2,566 (100.0)	3,635 (100.0)	670 (100.0)	4,774 (100.0)	6,859 (100.0)	1,385 (100.0)	
	Female	20 – < 30	1 (0.0)	6 (0.4)	2 (0.6)	1 (0.1)	3 (0.4)	0 (0.0)	2 (0.2)	1 (0.1)	0 (0.0)	3 (0.2)	4 (0.2)	0 (0.0)
		30 – < 40	10 (0.8)	34 (2.5)	4 (1.5)	9 (1.2)	17 (2.2)	1 (0.8)	12 (1.4)	20 (2.3)	5 (4.2)	21 (1.3)	37 (2.3)	6 (2.5)
40 – < 50		109 (8.6)	145 (10.4)	23 (7.6)	56 (7.4)	76 (9.8)	13 (10.6)	74 (8.8)	100 (11.6)	7 (5.9)	130 (8.1)	176 (10.8)	20 (8.3)	
50 – < 60		295 (23.6)	323 (23.3)	61 (20.5)	188 (24.8)	200 (25.9)	35 (28.5)	200 (23.7)	215 (25.0)	25 (21.2)	388 (24.2)	415 (25.4)	60 (24.9)	
60 – < 70		386 (30.8)	395 (28.4)	97 (32.4)	252 (33.3)	210 (27.2)	33 (26.8)	278 (32.9)	235 (27.4)	39 (33.1)	530 (33.1)	445 (27.3)	72 (29.9)	
70 – < 80		355 (28.4)	371 (26.8)	86 (28.8)	187 (24.7)	185 (23.9)	34 (27.6)	195 (23.1)	215 (25.0)	31 (26.3)	382 (23.9)	400 (24.5)	65 (27.0)	
≥ 80		98 (7.8)	113 (8.2)	26 (8.6)	64 (8.5)	82 (10.6)	7 (5.7)	83 (9.8)	73 (8.5)	11 (9.3)	147 (9.2)	155 (9.5)	18 (7.5)	
Total		1,254 (100.0)	1,387 (100.0)	299 (100.0)	757 (100.0)	773 (100.0)	123 (100.0)	844 (100.0)	859 (100.0)	118 (100.0)	1,601 (100.0)	1,632 (100.0)	241 (100.0)	

Table 2.4.5 Age-gender distribution of patients with ACS by family history of premature cardiovascular disease, NCVD-ACS Registry, 2014 – 2015

Gender	Age group	Family history of premature cardiovascular disease																
		2011 – 2013				2014				2015				2014 – 2015				
		Yes	No	Unknown		Yes	No	Unknown		Yes	No	Unknown		Yes	No	Unknown		
		No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
Male	20 – < 30	25 (1.8)	75 (1.0)	16 (0.8)	13 (1.6)	37 (0.8)	10 (1.3)	19 (2.0)	38 (0.8)	4 (0.5)	32 (1.8)	75 (0.8)	14 (0.9)					
	30 – < 40	138 (9.4)	403 (5.6)	112 (6.2)	78 (9.6)	256 (5.7)	54 (6.8)	98 (10.6)	339 (6.8)	53 (6.2)	176 (10.1)	595 (6.3)	107 (6.5)					
	40 – < 50	365 (24.7)	1,377 (19.0)	310 (17.0)	215 (26.4)	792 (17.6)	153 (19.4)	245 (26.4)	850 (17.1)	166 (19.4)	460 (26.4)	1,642 (17.3)	319 (19.4)					
	50 – < 60	550 (37.4)	2,476 (34.0)	569 (31.0)	298 (36.6)	1,439 (32.0)	261 (33.0)	332 (35.8)	1,627 (32.8)	270 (31.6)	630 (36.2)	3,066 (32.4)	531 (32.3)					
	60 – < 70	276 (18.8)	1,827 (25.2)	491 (26.8)	153 (18.8)	1,258 (27.9)	193 (24.4)	171 (18.4)	1,312 (26.4)	228 (26.7)	324 (18.6)	2,570 (27.1)	421 (25.6)					
	70 – < 80	99 (6.7)	930 (12.8)	275 (15.0)	48 (5.9)	580 (12.9)	93 (11.8)	56 (6.0)	667 (13.4)	113 (13.2)	104 (6.0)	1,247 (13.2)	206 (12.5)					
	≥ 80	17 (1.2)	179 (2.4)	58 (3.2)	9 (1.1)	139 (3.1)	26 (3.3)	7 (0.8)	132 (2.7)	21 (2.5)	16 (0.9)	271 (2.9)	47 (2.9)					
	Total	1,470 (100.0)	7,267 (100.0)	1,831 (100.0)	814 (100.0)	4,501 (100.0)	790 (100.0)	928 (100.0)	4,965 (100.0)	855 (100.0)	1,742 (100.0)	9,466 (100.0)	1,645 (100.0)					
	Female	20 – < 30	2 (0.6)	6 (0.2)	1 (0.2)	1 (0.5)	3 (0.2)	0 (0.0)	0 (0.0)	3 (0.2)	0 (0.0)	1 (0.2)	6 (0.2)	0 (0.0)				
		30 – < 40	7 (2.3)	35 (1.6)	7 (1.2)	8 (4.2)	18 (1.4)	4 (2.1)	11 (5.2)	22 (1.6)	4 (1.8)	19 (4.7)	40 (1.5)	8 (2.0)				
40 – < 50		47 (15.4)	190 (9.3)	37 (6.6)	27 (14.1)	99 (7.8)	18 (9.3)	37 (17.5)	133 (9.7)	10 (4.6)	64 (15.9)	232 (8.8)	28 (6.8)					
50 – < 60		94 (30.8)	476 (23.0)	103 (18.6)	63 (32.8)	322 (25.5)	44 (22.8)	65 (30.8)	311 (22.7)	54 (24.9)	128 (31.8)	633 (24.1)	98 (23.9)					
60 – < 70		92 (30.3)	609 (29.6)	168 (30.4)	44 (22.9)	379 (30.0)	67 (34.7)	67 (31.8)	410 (30.0)	70 (32.3)	111 (27.5)	789 (30.0)	137 (33.4)					
70 – < 80		47 (15.4)	580 (28.3)	181 (32.8)	38 (19.8)	313 (24.8)	47 (24.4)	26 (12.3)	359 (26.2)	54 (24.9)	64 (15.9)	672 (25.5)	101 (24.6)					
≥ 80		16 (5.2)	165 (8.0)	56 (10.2)	11 (5.7)	129 (10.2)	13 (6.7)	5 (2.4)	130 (9.5)	25 (11.5)	16 (4.0)	259 (9.8)	38 (9.3)					
Total		305 (100.0)	2,061 (100.0)	553 (100.0)	192 (100.0)	1,263 (100.0)	193 (100.0)	211 (100.0)	1,368 (100.0)	217 (100.0)	403 (100.0)	2,631 (100.0)	410 (100.0)					

Table 2.4.6 Age-gender distribution of patients with ACS by smoking status, NCVd-ACS Registry, 2014 – 2015

Gender	Age group	Smoking																
		2011 – 2013				2014				2015				2014 – 2015				
		Never	Former (quit > 30 days)	Current (any tobacco used within last 30 days)	Not available	Never	Former (quit > 30 days)	Current (any tobacco used within last 30 days)	Not available	Never	Former (quit > 30 days)	Current (any tobacco used within last 30 days)	Not available	Never	Former (quit > 30 days)	Current (any tobacco used within last 30 days)	Not available	
		No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
Male	20 – < 30	25 (1.0)	8 (0.2)	98 (1.8)	1 (0.2)	12 (0.7)	7 (0.4)	53 (1.7)	1 (0.4)	13 (0.7)	6 (0.4)	48 (1.4)	1 (0.4)	25 (0.7)	13 (0.4)	101 (1.6)	2 (0.4)	
	30 – < 40	90 (3.2)	99 (3.4)	532 (10.0)	11 (3.2)	59 (3.4)	65 (4.1)	308 (10.1)	10 (3.6)	96 (4.9)	56 (3.3)	388 (11.5)	7 (2.6)	155 (4.2)	121 (3.7)	696 (10.9)	17 (3.1)	
	40 – < 50	418 (15.2)	388 (13.3)	1,404 (26.4)	40 (11.4)	229 (13.3)	216 (13.7)	804 (26.4)	25 (8.9)	263 (13.4)	229 (13.6)	841 (25.0)	40 (14.6)	492 (13.4)	445 (13.6)	1,645 (25.7)	65 (11.7)	
	50 – < 60	905 (33.0)	923 (31.7)	1,888 (35.6)	109 (31.0)	541 (31.4)	497 (31.6)	1,040 (34.2)	78 (27.9)	598 (30.5)	523 (31.0)	1,205 (35.9)	70 (25.5)	1,139 (30.9)	1,020 (31.3)	2,245 (35.1)	148 (26.7)	
	60 – < 70	768 (28.0)	890 (30.5)	999 (18.8)	99 (28.2)	530 (30.8)	493 (31.3)	605 (19.9)	91 (32.5)	605 (30.9)	521 (30.9)	622 (18.5)	94 (34.3)	1,135 (30.8)	1,014 (31.1)	1,227 (19.2)	185 (33.4)	
	70 – < 80	438 (16.0)	505 (17.3)	344 (6.4)	76 (21.5)	266 (15.5)	240 (15.2)	213 (7.0)	54 (19.3)	325 (16.6)	299 (17.7)	217 (6.5)	48 (17.5)	591 (16.1)	539 (16.5)	430 (6.7)	102 (18.4)	
	≥ 80	99 (3.6)	108 (3.6)	48 (1.0)	16 (4.5)	84 (4.9)	57 (3.6)	21 (0.7)	21 (7.5)	60 (3.1)	54 (3.2)	39 (1.2)	14 (5.1)	144 (3.9)	111 (3.4)	60 (0.9)	35 (6.3)	
	Total	2,743 (100.0)	2,921 (100.0)	5,313 (100.0)	352 (100.0)	1,721 (100.0)	1,575 (100.0)	3,044 (100.0)	280 (100.0)	1,960 (100.0)	1,688 (100.0)	3,360 (100.0)	274 (100.0)	3,681 (100.0)	3,263 (100.0)	6,404 (100.0)	554 (100.0)	
	Female	20 – < 30	6 (0.2)	0 (0)	2 (1.6)	1 (1.0)	2 (0.1)	0 (0.0)	2 (3.0)	0 (0.0)	3 (0.2)	0 (0.0)	1 (1.6)	0 (0.0)	5 (0.2)	0 (0.0)	3 (2.3)	0 (0.0)
		30 – < 40	45 (1.6)	5 (3.6)	3 (2.4)	1 (1.0)	26 (1.7)	2 (4.1)	1 (1.5)	2 (2.7)	35 (2.0)	2 (3.3)	4 (6.3)	1 (1.4)	61 (1.9)	4 (3.7)	5 (3.9)	3 (2.1)
40 – < 50		245 (9.3)	9 (6.5)	22 (17.0)	6 (6.4)	138 (9.0)	4 (8.2)	11 (16.7)	3 (4.1)	173 (10.1)	5 (8.3)	7 (11.1)	5 (7.1)	311 (9.6)	9 (8.3)	18 (14.0)	8 (5.6)	
50 – < 60		617 (23.4)	33 (24.0)	34 (26.2)	20 (21.6)	403 (26.2)	8 (16.3)	14 (21.2)	21 (28.8)	411 (24.1)	13 (21.7)	22 (34.9)	8 (11.4)	814 (25.1)	21 (19.3)	36 (27.9)	29 (20.3)	
60 – < 70		796 (30.0)	39 (28.2)	37 (28.3)	27 (29.0)	464 (30.2)	16 (32.7)	14 (21.2)	17 (23.3)	526 (30.8)	13 (21.7)	19 (30.2)	27 (38.6)	990 (30.5)	29 (26.6)	33 (25.6)	44 (30.8)	
70 – < 80		727 (27.5)	41 (29.7)	24 (18.3)	31 (33.4)	368 (23.9)	10 (20.4)	16 (24.2)	24 (32.9)	409 (23.9)	20 (33.3)	6 (9.5)	22 (31.4)	777 (23.9)	30 (27.5)	22 (17.1)	46 (32.2)	
≥ 80		212 (8.0)	11 (8.0)	8 (6.2)	7 (7.6)	137 (8.9)	9 (18.4)	8 (12.1)	6 (8.2)	151 (8.8)	7 (11.7)	4 (6.3)	7 (10.0)	288 (8.9)	16 (14.7)	12 (9.3)	13 (9.1)	
Total		2,648 (100.0)	1,38 (100.0)	1,30 (100.0)	93 (100.0)	1,538 (100.0)	49 (100.0)	66 (100.0)	73 (100.0)	1,708 (100.0)	60 (100.0)	63 (100.0)	70 (100.0)	3,246 (100.0)	109 (100.0)	129 (100.0)	143 (100.0)	

Table 2.5 Presence of cumulative risk factors*, NCVD-ACS Registry, 2014 – 2015

Year	2011 – 2013		2014		2015		2014 – 2015	
Total	14,763		8,458		9,313		17,771	
Presence of cumulative risk factors*	No.	%	No.	%	No.	%	No.	%
None	822	5.6	405	4.8	465	5.0	870	4.9
1 risk factor	3,100	21.0	1,685	19.9	1,901	20.4	3,586	20.2
2 risk factors	4,321	29.2	2,463	29.1	2,593	27.8	5,056	28.5
3 risk factors	3,872	26.2	2,300	27.2	2,486	26.7	4,786	26.9
> 3 risk factors	2,648	18.0	1,605	19.0	1,868	20.1	3,473	19.5

* Risk factors are defined as presence of dyslipidaemia, hypertension, diabetes, family history of premature cardiovascular disease, smoking or obesity

Table 2.6 Summary of type of cardiac presentation for patients with ACS, NCVD-ACS Registry, 2014 – 2015

Year	2011 – 2013		2014		2015		2014 – 2015	
Total	14,763		8,458		9,313		17,771	
Acute coronary syndrome stratum	No.	%	No.	%	No.	%	No.	%
STEMI	7,502	50.8	3,886	45.9	4,304	46.2	8,190	46.1
NSTEMI	3,842	26.0	2,049	24.2	2,430	26.1	4,479	25.2
Unstable angina (UA)	3,419	23.2	2,523	29.8	2,579	27.7	5,102	28.7

Note: Percentage is to the nearest decimal point

Table 2.7 Characteristics of patients with ACS by ACS stratum, NCVD-ACS Registry, 2014 – 2015

Year	2011 – 2013			2014			2015			2014 – 2015		
	STEMI	NSTEMI	UA	STEMI	NSTEMI	UA	STEMI	NSTEMI	UA	STEMI	NSTEMI	UA
ACS stratum												
Total	7,502	3,842	3,419	3,886	2,049	2,523	4,304	2,430	2,579	8,190	4,479	5,102
DEMOGRAPHICS												
Age, years												
N	7,502	3,842	3,419	3,886	2,049	2,523	3,061	1,602	1,464	8,190	4,479	5,102
Mean (SD)	56.2 (12.0)	60.8 (11.8)	60.8 (12.0)	56.0 (11.9)	61.4 (12.1)	60.5 (11.9)	56.0 (11.8)	60.7 (11.8)	60.7 (11.8)	56.0 (12.0)	61.1 (12.1)	60.4 (11.9)
Median (min, max)	55.8 (20.3, 97.6)	60.7 (20.0, 96.0)	60.6 (21.1, 101.9)	55.9 (20.0, 96.0)	61.1 (20.6, 93.8)	60.7 (23.2, 101.1)	55.8 (20.9, 97.6)	60.4 (20.0, 96.0)	60.6 (21.1, 101.9)	55.9 (20.0, 100.1)	61.0 (20.5, 96.8)	60.7 (23.2, 101.1)
IQR	16.1	16.7	17	15.9	16.9	16.0	15.4	16.1	16.7	16.0	16.6	16.3
Age group, No. (%)												
20 – < 30	102 (1.4)	20 (0.6)	19 (0.6)	50 (1.3)	14 (0.7)	14 (0.6)	53 (1.2)	10 (0.4)	10 (0.4)	103 (1.3)	24 (0.5)	24 (0.5)
30 – < 40	553 (7.4)	144 (3.8)	120 (3.5)	303 (7.8)	69 (3.4)	108 (4.3)	375 (8.7)	92 (3.8)	127 (4.9)	678 (8.3)	161 (3.6)	235 (4.6)
40 – < 50	1,609 (21.4)	509 (13.2)	488 (14.2)	843 (21.7)	260 (12.7)	341 (13.5)	886 (20.6)	339 (14.0)	360 (14.0)	1,729 (21.1)	599 (13.4)	701 (13.7)
50 – < 60	2,480 (33.0)	1,158 (30.2)	1,010 (29.5)	1,279 (32.9)	610 (29.8)	751 (29.8)	1,442 (33.5)	706 (29.1)	745 (28.9)	2,721 (33.2)	1,316 (29.4)	1,496 (29.3)
60 – < 70	1,715 (22.8)	1,087 (28.2)	962 (28.2)	930 (23.9)	575 (28.1)	754 (29.9)	983 (22.8)	713 (29.3)	765 (29.7)	1,913 (23.4)	1,288 (28.8)	1,519 (29.8)
70 – < 80	868 (11.6)	741 (19.2)	651 (19.0)	390 (10.0)	394 (19.2)	427 (16.9)	458 (10.6)	450 (18.5)	456 (17.7)	848 (10.4)	844 (18.8)	883 (17.3)
≥ 80	175 (2.4)	183 (4.8)	169 (5.0)	91 (2.3)	127 (6.2)	128 (5.1)	107 (2.5)	120 (4.9)	116 (4.5)	198 (2.4)	247 (5.5)	244 (4.8)
Gender, No. (%)												
Male	6,397 (85.2)	2,882 (75.0)	2,359 (69.0)	3,384 (87.1)	1,554 (75.8)	1,767 (70.0)	3,733 (86.7)	1,856 (76.4)	1,795 (69.6)	7,117 (86.9)	3,410 (76.1)	3,562 (69.8)
Female	1,105 (14.8)	960 (25.0)	1,060 (31.0)	502 (12.9)	495 (24.2)	756 (30.0)	571 (13.3)	574 (23.6)	784 (30.4)	1,073 (13.1)	1,069 (23.9)	1,540 (30.2)

Year	2011 – 2013			2014			2015			2014 – 2015		
	STEMI	NSTEMI	UA	STEMI	NSTEMI	UA	STEMI	NSTEMI	UA	STEMI	NSTEMI	UA
ACS stratum												
Total	7,502	3,842	3,419	3,886	2,049	2,523	4,304	2,430	2,579	8,190	4,479	5,102
Ethnic group, No. (%)												
Malay	4,318 (57.6)	1,726 (44.9)	1,415 (41.4)	2,128 (54.8)	933 (45.5)	1,129 (44.7)	2,344 (54.5)	1,084 (44.6)	1,140 (44.2)	4,472 (54.6)	2,017 (45.0)	2,269 (44.5)
Chinese	1,262 (16.8)	958 (24.9)	954 (27.9)	634 (16.3)	500 (24.4)	633 (25.1)	702 (16.3)	537 (22.1)	649 (25.2)	1,336 (16.3)	1,037 (23.2)	1,282 (25.1)
Indian	1,145 (15.3)	886 (23.1)	873 (25.5)	629 (16.2)	402 (19.6)	549 (21.8)	660 (15.3)	521 (21.4)	535 (20.7)	1,289 (15.7)	923 (20.6)	1,084 (21.2)
Orang Asli	7 (0.1)	1 (0.0)	0 (0.0)	10 (0.3)	0 (0.0)	1 (0.0)	5 (0.1)	0 (0.0)	0 (0.0)	15 (0.2)	0 (0.0)	1 (0.0)
Kadazan Dusun	84 (1.1)	32 (0.8)	19 (0.6)	60 (1.5)	32 (1.6)	42 (1.7)	80 (1.9)	54 (2.2)	59 (2.3)	140 (1.7)	86 (1.9)	101 (2.0)
Melanau	5 (0.1)	4 (0.1)	1 (0.0)	0 (0.0)	1 (0.0)	2 (0.1)	1 (0.0)	0 (0.0)	0 (0.0)	1 (0.0)	1 (0.0)	2 (0.0)
Murut	7 (0.1)	3 (0.1)	1 (0.0)	3 (0.1)	3 (0.1)	2 (0.1)	6 (0.1)	3 (0.1)	3 (0.1)	9 (0.1)	6 (0.1)	5 (0.1)
Bajau	83 (1.1)	23 (0.6)	7 (0.2)	57 (1.5)	30 (1.5)	15 (0.6)	72 (1.7)	33 (1.4)	26 (1.0)	129 (1.6)	63 (1.4)	41 (0.8)
Bidayuh	42 (0.6)	25 (0.7)	13 (0.4)	10 (0.3)	11 (0.5)	11 (0.4)	27 (0.6)	18 (0.7)	22 (0.9)	37 (0.5)	29 (0.6)	33 (0.6)
Iban	97 (1.3)	48 (1.2)	39 (1.1)	58 (1.5)	26 (1.3)	27 (1.1)	57 (1.3)	30 (1.2)	44 (1.7)	115 (1.4)	56 (1.3)	71 (1.4)
Punjabi	14 (0.2)	18 (0.5)	17 (0.5)	11 (0.3)	5 (0.2)	18 (0.7)	12 (0.3)	10 (0.4)	13 (0.5)	23 (0.3)	15 (0.3)	31 (0.6)
Other Malaysian	155 (2.1)	52 (1.4)	48 (1.4)	100 (2.6)	50 (2.4)	56 (2.2)	114 (2.6)	76 (3.1)	56 (2.2)	214 (2.6)	126 (2.8)	112 (2.2)
Foreigner	283 (3.8)	66 (1.7)	32 (0.9)	186 (4.8)	56 (2.7)	38 (1.5)	224 (5.2)	64 (2.6)	32 (1.2)	410 (5.0)	120 (2.7)	70 (1.4)
OTHER CORONARY RISK FACTORS												
Smoking, No. (%)												
Never	2,191 (29.9)	1,609 (43.4)	1,591 (48.4)	1,132 (29.4)	876 (43.4)	1,251 (50.5)	1,269 (29.8)	1,064 (44.6)	1,335 (52.6)	2,401 (29.6)	1,940 (44.0)	2,586 (51.6)
Former (quit > 30 days)	1,253 (17.0)	927 (25.0)	879 (26.8)	599 (15.6)	448 (22.2)	577 (23.3)	655 (15.4)	489 (20.5)	604 (23.8)	1,254 (15.5)	937 (21.3)	1,181 (23.5)
Current (any tobacco use within last 30 days)	3740 (51.0)	1,012 (27.2)	691 (21.0)	1,986 (51.6)	611 (30.2)	513 (20.7)	2,203 (51.7)	719 (30.1)	501 (19.7)	4,189 (51.7)	1,330 (30.2)	1,014 (20.2)
Unknown	151 (2.1)	167 (4.4)	127 (3.8)	133 (3.5)	85 (4.2)	135 (5.5)	131 (3.1)	114 (4.8)	99 (3.9)	264 (3.3)	199 (4.5)	234 (4.7)
Missing	167	127	131	36	29	47	46	44	40	82	73	87

Year	2011 – 2013				2014				2015				2014 – 2015			
	STEMI	NSTEMI	UA		STEMI	NSTEMI	UA		STEMI	NSTEMI	UA		STEMI	NSTEMI	UA	
ACS stratum																
Total	7,502	3,842	3,419		3,886	2,049	2,523		4,304	2,430	2,579		8,190	4,479	5,102	
Family history of premature CVD, No. (%)																
Yes	853 (12.7)	474 (13.2)	448 (14.0)		414 (11.6)	235 (12.0)	357 (15.9)		478 (12.1)	276 (12.1)	385 (16.6)		892 (11.9)	511 (12.1)	742 (16.3)	
No	4,742 (70.7)	2,455 (68.8)	2,131 (66.3)		2,652 (74.5)	1,461 (74.8)	1,651 (73.7)		2,899 (73.5)	1,739 (76.1)	1,695 (73.2)		5,551 (74.0)	3,200 (75.5)	3,346 (73.5)	
Unknown	1,107 (16.6)	644 (18.0)	633 (19.7)		496 (13.9)	256 (13.1)	231 (10.3)		565 (14.3)	271 (11.9)	236 (10.2)		1,061 (14.1)	527 (12.4)	467 (10.3)	
Missing	800	269	207		324	97	284		362	144	263		686	241	547	
ANTHROPOMETRICS																
Body Mass Index (BMI), kgm⁻²																
N	2,729	1,285	1,156		1,660	1,016	1,085		1,670	1,102	1,211		3,330	2,118	2,296	
Mean (SD)	26.1 (4.1)	26.0 (4.4)	26.0 (4.6)		25.8 (4.3)	25.9 (4.4)	25.7 (4.3)		26.3 (4.3)	26.0 (4.5)	26.3 (4.3)		26.0 (4.3)	26.0 (4.4)	26.0 (4.3)	
Median (min, max)	25.8 (14.6, 48.1)	25.7 (15.0, 47.4)	25.5 (14.7, 49.8)		25.5 (14.7, 48.4)	25.4 (15.1, 46.4)	25.1 (15.0, 49.5)		26.0 (14.2, 48.9)	25.5 (15.4, 49.0)	26.0 (14.6, 49.9)		25.7 (14.2, 48.9)	25.5 (15.1, 49.0)	25.6 (14.6, 49.9)	
IQR	4.9	5.5	5.7		5.0	5.1	4.8		5.0	5.2	5.5		5.1	5.2	5.3	
Not available	3,932 (59.0)	1,939 (60.1)	1,887 (62.0)		1,964 (54.2)	914 (47.4)	1,319 (54.9)		2,252 (57.4)	1,128 (50.6)	1,088 (47.3)		4,216 (55.9)	2,042 (49.1)	2,407 (51.2)	
Missing	841 (11.2)	618 (16.1)	376 (11.0)		262 (6.7)	119 (5.8)	119 (4.7)		382 (8.9)	200 (8.2)	280 (10.9)		644 (7.9)	319 (7.1)	399 (7.8)	
BMI, kgm⁻², No. (%)																
< 18.5	48 (0.7)	36 (1.1)	45 (1.5)		45 (1.2)	25 (1.3)	26 (1.1)		42 (1.1)	33 (1.5)	21 (0.9)		87 (1.2)	58 (1.4)	47 (1.0)	
18.5 – 22.9	538 (8.1)	300 (9.3)	248 (8.1)		360 (9.9)	223 (11.6)	253 (10.5)		298 (7.6)	230 (10.3)	254 (11.0)		658 (8.7)	453 (10.9)	507 (10.8)	
23.0 – 27.4	1,237 (18.6)	511 (15.8)	479 (15.7)		735 (20.3)	460 (23.8)	507 (21.1)		749 (19.1)	479 (21.5)	509 (22.1)		1,484 (19.7)	939 (22.6)	1,016 (21.6)	
> 27.4	906 (13.6)	438 (13.6)	384 (12.6)		520 (14.3)	308 (16.0)	299 (12.4)		581 (14.8)	360 (16.1)	427 (18.6)		1,101 (14.6)	668 (16.1)	726 (15.4)	
Not available (%)	3,932 (59.0)	1,939 (60.1)	1,887 (62.0)		1,964 (54.2)	914 (47.4)	1,319 (54.9)		2,252 (57.4)	1,128 (50.6)	1,088 (47.3)		4,216 (55.9)	2,042 (49.1)	2,407 (51.2)	
Missing	841	618	376		262	119	119		382	200	280		644	319	399	

Year	2011 – 2013			2014			2015			2014 – 2015		
	STEMI	NSTEMI	UA	STEMI	NSTEMI	UA	STEMI	NSTEMI	UA	STEMI	NSTEMI	UA
ACS stratum												
Total	7,502	3,842	3,419	3,886	2,049	2,523	4,304	2,430	2,579	8,190	4,479	5,102
Waist Hip Ratio (WHR)												
N	1,771	510	451	1,068	519	414	900	599	455	1,968	1,118	869
Mean (SD)	1.0 (0.1)	1.0 (0.2)	1.0 (0.2)	1.0 (0.1)	1.0 (0.1)	1.0 (0.2)	1.0 (0.1)	1.0 (0.1)	1.0 (0.1)	1.0 (0.1)	1.0 (0.1)	1.0 (0.1)
Median (min, max)	1.0 (0.7, 2.9)	1.0 (0.7, 2.9)	1.0 (0.7, 2.4)	1.0 (0.7, 2.5)	1.0 (0.7, 2.3)	1.0 (0.7, 2.2)	1.0 (0.7, 2.5)	1.0 (0.7, 2.2)	1.0 (0.8, 2.2)	1.0 (0.7, 2.5)	1.0 (0.7, 2.3)	1.0 (0.7, 2.2)
IQR	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Not available	4,705 (72.7)	2,625 (83.7)	2,492 (84.7)	2,507 (70.1)	1,385 (72.7)	1,949 (82.5)	2,983 (76.8)	1,597 (72.7)	1,786 (79.7)	5,490 (73.6)	2,982 (72.7)	3,735 (81.1)
Missing	1,026 (13.7)	707 (18.4)	476 (13.9)	311 (8.0)	145 (7.1)	160 (6.3)	421 (9.8)	234 (9.6)	338 (13.1)	732 (8.9)	379 (8.5)	498 (9.8)
WHR, No. (%)												
Men	1573	394	324	942	393	295	787	438	305	1,729	831	600
≤ 1.0	1,133 (72.0)	278 (70.6)	254 (78.4)	644 (68.4)	254 (64.6)	194 (65.8)	545 (69.3)	268 (61.2)	213 (69.8)	1,189 (68.8)	522 (62.8)	407 (67.8)
> 1.0	440 (28.0)	116 (29.4)	70 (21.6)	298 (31.6)	139 (35.4)	101 (34.2)	242 (30.7)	170 (38.8)	92 (30.2)	540 (31.2)	309 (37.2)	193 (32.2)
Women	198	116	127	126	126	119	113	161	150	239	287	269
≤ 0.85	21 (10.6)	15 (13.0)	19 (15.0)	11 (8.7)	11 (8.7)	8 (6.7)	9 (8.0)	10 (6.2)	11 (7.3)	20 (8.4)	21 (7.3)	19 (7.1)
> 0.85	177 (89.4)	101 (87.0)	108 (85.0)	115 (91.3)	115 (91.3)	111 (93.3)	104 (92.0)	151 (93.8)	139 (92.7)	219 (91.6)	266 (92.7)	250 (92.9)
Waist circumference, cm												
N	1594	467	407	977	476	380	840	557	418	1,817	1,033	798
Mean (SD)	92.7 (10.3)	92.9 (11.3)	92.7 (11.1)	92.3 (10.5)	92.8 (11.1)	93.3 (11.3)	92.8 (10.1)	93.2 (10.9)	90.9 (10.6)	92.5 (10.3)	93.0 (11.0)	92.1 (11.0)
Median (min, max)	92.0 (70.0, 129.0)	92.0 (70.0, 128.0)	90.0 (70.0, 130.0)	91.0 (70.0, 126.0)	91.5 (70.0, 129.0)	92.0 (70.0, 127.0)	92.0 (70.0, 130.0)	92.0 (70.0, 129.0)	90.0 (70.0, 126.0)	92.0 (70.0, 130.0)	92.0 (70.0, 129.0)	90.0 (70.0, 127.0)
IQR	13.0	15.0	15.0	14.0	15.0	14.0	13.0	12.0	13.0	13.0	14.0	15.0
Not available	4,687 (74.6)	2,618 (84.8)	2,476 (85.8)	2,497 (71.9)	1,378 (74.3)	1,946 (83.7)	2,979 (78.0)	1,593 (74.1)	1,783 (81.0)	5,476 (75.1)	2,971 (74.2)	3,729 (82.4)
Missing	1,221 (16.3)	757 (19.7)	536 (15.7)	412 (10.6)	195 (9.5)	197 (7.8)	485 (11.3)	280 (11.5)	378 (14.7)	897 (11.0)	475 (10.6)	575 (11.3)

Year	2011 – 2013			2014			2015			2014 – 2015		
	STEMI	NSTEMI	UA	STEMI	NSTEMI	UA	STEMI	NSTEMI	UA	STEMI	NSTEMI	UA
ACS stratum												
Total	7,502	3,842	3,419	3,886	2,049	2,523	4,304	2,430	2,579	8,190	4,479	5,102
Diabetes, No. (%)												
Yes	2,668 (39.3)	1,930 (52.8)	1,686 (51.4)	1,419 (39.8)	1,007 (51.2)	1,261 (53.8)	1,496 (37.7)	1,227 (52.8)	1,268 (52.9)	2,915 (38.7)	2,234 (52.1)	2,529 (53.4)
No	3,578 (52.7)	1,596 (43.7)	1,464 (44.6)	1,842 (51.6)	868 (44.2)	1,026 (43.8)	2,110 (53.1)	1,008 (43.4)	1,084 (45.3)	3,952 (52.4)	1,876 (43.7)	2,110 (44.5)
Unknown	536 (8.0)	127 (3.5)	129 (4.0)	308 (8.6)	91 (4.6)	58 (2.5)	365 (9.2)	89 (3.8)	43 (1.8)	673 (8.9)	180 (4.2)	101 (2.1)
Missing	720	189	140	317	83	178	333	106	184	650	189	362
Types of diabetes treatment, No. (%)												
		<i>*only for 2013</i>										
OHA	502 (66.8)	387 (65.8)	324 (58.5)	792 (67.2)	500 (56.4)	691 (60.2)	876 (65.0)	655 (59.7)	744 (64.2)	1,668 (66.0)	1,155 (58.2)	1,435 (62.2)
Insulin	115 (15.3)	99 (16.8)	88 (15.9)	163 (13.8)	211 (23.8)	220 (19.2)	196 (14.6)	251 (22.9)	192 (16.6)	359 (14.2)	462 (23.3)	412 (17.9)
OHA + Insulin	27 (3.6)	46 (7.8)	53 (9.6)	48 (4.1)	80 (9.0)	125 (10.9)	80 (5.9)	89 (8.1)	117 (10.1)	128 (5.1)	169 (8.5)	242 (10.5)
Non-pharmacology therapy	107 (14.2)	56 (9.5)	89 (16.1)	176 (14.9)	95 (10.7)	112 (9.8)	195 (14.5)	103 (9.4)	105 (9.1)	371 (14.7)	198 (10.0)	217 (9.4)
Missing (all false)	360	186	129	240	121	113	149	129	110	389	250	223
Fasting blood glucose, mmol/L.												
N	5,803	2,454	2,016	3,078	1,411	1,773	3,525	1,780	1,883	6,603	3,191	3,656
Mean (SD)	8.7 (4.3)	8.1 (4.2)	7.3 (3.5)	8.7 (4.2)	8.2 (4.2)	7.5 (3.7)	8.5 (4.2)	8.2 (3.9)	7.4 (3.8)	8.6 (4.2)	8.2 (4.0)	7.5 (3.7)
Median (min, max)	7.2 (3.0, 49.0)	6.7 (3.0, 43.1)	6.0 (3.0, 49.9)	7.2 (3.1, 48.0)	6.8 (3.0, 45.0)	6.2 (3.0, 48.0)	7.1 (3.1, 45.0)	6.9 (3.0, 31.7)	6.1 (3.1, 47.0)	7.1 (3.1, 48.0)	6.9 (3.0, 45.0)	6.2 (3.0, 48.0)
IQR	4.1	4.0	2.8	4.0	3.9	3.3	4.3	4.1	3.3	4.2	4.1	3.3
Not available (%)	1,144 (16.5)	991 (28.8)	1,172 (36.8)	576 (15.8)	507 (26.4)	656 (27.0)	557 (13.6)	538 (23.2)	617 (24.7)	1,133 (14.6)	1,045 (24.7)	1,273 (25.8)
Missing (%)	555 (7.4)	397 (10.3)	231 (6.8)	232 (6.0)	131 (6.4)	94 (3.7)	222 (5.2)	112 (4.6)	79 (3.1)	454 (5.5)	243 (5.4)	173 (3.4)

Year	2011 – 2013				2014				2015				2014 – 2015			
	STEMI	NSTEMI	UA		STEMI	NSTEMI	UA		STEMI	NSTEMI	UA		STEMI	NSTEMI	UA	
ACS stratum																
Total	7,502	3,842	3,419		3,886	2,049	2,523		4,304	2,430	2,579		8,190	4,479	5,102	
Myocardial infarction history, No. (%)																
Yes	805 (12.0)	860 (24.0)	935 (29.2)		420 (11.8)	364 (18.6)	530 (23.5)		424 (10.7)	435 (19.0)	526 (22.8)		844 (11.2)	799 (18.8)	1,056 (23.2)	
No	5,329 (79.3)	2,390 (66.8)	1,936 (60.3)		2,929 (82.0)	1,464 (74.9)	1,623 (71.9)		3,342 (84.3)	1,738 (75.8)	1,686 (73.2)		6,271 (83.2)	3,202 (75.4)	3,309 (72.6)	
Unknown	585 (8.7)	330 (9.2)	339 (10.5)		225 (6.3)	127 (6.5)	103 (4.6)		198 (5.0)	119 (5.2)	91 (4.0)		423 (5.6)	246 (5.8)	194 (4.3)	
Missing	783	262	209		312	94	267		340	138	276		652	232	543	
*Documented CAD, No. (%)																
Yes	551 (8.2)	1,049 (29.4)	1,252 (38.8)		399 (11.2)	578 (29.5)	1,103 (48.4)		392 (9.9)	636 (27.8)	1,063 (45.3)		791 (10.5)	1,214 (28.6)	2,166 (46.8)	
No	5,239 (78.4)	2,152 (60.2)	1,620 (50.3)		2,886 (80.9)	1,264 (64.6)	1,087 (47.7)		3,294 (83.3)	1,534 (67.0)	1,220 (52.0)		6,180 (82.1)	2,798 (65.9)	2,307 (49.9)	
Unknown	893 (13.4)	370 (10.4)	351 (10.9)		283 (7.9)	116 (5.9)	89 (3.9)		270 (6.8)	118 (5.2)	63 (2.7)		553 (7.3)	234 (5.5)	152 (3.3)	
Missing	819	271	196		318	91	244		348	142	233		666	233	477	
Chronic angina (onset more than 2 weeks ago), No. (%)																
Yes	350 (5.2)	444 (12.4)	549 (17.2)		194 (5.4)	218 (11.2)	350 (15.9)		194 (4.9)	248 (10.9)	295 (13.2)		388 (5.2)	466 (11.0)	645 (14.5)	
No	5,857 (87.6)	2,898 (81.0)	2,414 (75.4)		3,193 (89.4)	1,650 (84.5)	1,775 (80.8)		3,610 (91.1)	1,950 (86.1)	1,898 (84.8)		6,803 (90.3)	3,600 (85.3)	3,673 (82.9)	
Unknown	484 (7.2)	233 (6.6)	240 (7.4)		185 (5.2)	85 (4.4)	71 (3.2)		157 (4.0)	68 (3.0)	44 (2.0)		342 (4.5)	153 (3.6)	115 (2.6)	
Missing	811	267	216		314	96	327		343	164	342		657	260	669	
New onset angina (less than 2 weeks ago), No. (%)																
Yes	3,728 (55.4)	2,146 (59.3)	2,026 (62.6)		2,064 (57.5)	1,063 (54.1)	1,365 (59.4)		2,759 (69.4)	1,489 (63.9)	1,565 (64.6)		4,823 (63.8)	2,552 (59.4)	2,930 (62.1)	
No	2,717 (40.3)	1,342 (37.2)	1,042 (32.2)		1,404 (39.1)	830 (42.2)	872 (37.9)		1,101 (27.7)	778 (33.4)	823 (34.0)		2,505 (33.1)	1,608 (37.4)	1,695 (35.9)	
Unknown	293 (4.3)	127 (3.5)	169 (5.2)		121 (3.4)	73 (3.7)	62 (2.7)		115 (2.9)	64 (2.7)	34 (1.4)		236 (3.1)	137 (3.2)	96 (2.0)	
Missing	764	227	182		297	83	224		329	99	157		626	182	381	

Year	2011 – 2013			2014			2015			2014 – 2015		
	STEMI	NSTEMI	UA	STEMI	NSTEMI	UA	STEMI	NSTEMI	UA	STEMI	NSTEMI	UA
ACS stratum												
Total	7,502	3,842	3,419	3,886	2,049	2,523	4,304	2,430	2,579	8,190	4,479	5,102
Heart failure, No. (%)												
Yes	235 (3.6)	435 (12.2)	300 (9.4)	83 (2.3)	209 (10.7)	194 (8.8)	79 (2.0)	208 (9.2)	165 (7.4)	162 (2.1)	417 (9.9)	359 (8.1)
No	6,066 (90.6)	2,980 (83.2)	2,708 (84.6)	3,316 (92.5)	1,670 (85.2)	1,940 (88.1)	3,739 (94.4)	1,997 (87.9)	2,014 (90.4)	7,055 (93.5)	3,667 (86.6)	3,954 (89.2)
Unknown	387 (5.8)	166 (4.6)	193 (6.0)	184 (5.1)	82 (4.2)	69 (3.1)	144 (3.6)	66 (2.9)	50 (2.2)	328 (4.3)	148 (3.5)	119 (2.7)
Missing	814	261	218	303	88	320	342	159	350	645	247	670
Chronic lung disease, No. (%)												
Yes	142 (2.2)	142 (4.0)	141 (4.4)	68 (1.9)	96 (4.9)	133 (6.0)	76 (1.9)	101 (4.5)	116 (5.2)	144 (1.9)	197 (4.7)	249 (5.6)
No	6,150 (91.8)	3,258 (91.4)	2,867 (89.6)	3,323 (93.0)	1,784 (91.0)	2,005 (91.1)	3,734 (94.3)	2,100 (92.7)	2,074 (93.0)	7,057 (93.7)	3,884 (91.9)	4,079 (92.1)
Unknown	401 (6.0)	167 (4.6)	193 (6.0)	181 (5.1)	81 (4.1)	62 (2.8)	151 (3.8)	64 (2.8)	41 (1.8)	332 (4.4)	145 (3.4)	103 (2.3)
Missing	809	275	218	314	88	323	343	165	348	657	253	671
*Renal disease, No. (%)												
Yes	261 (3.8)	457 (12.8)	325 (10.2)	129 (3.6)	255 (12.9)	240 (10.8)	137 (3.5)	294 (12.9)	267 (11.9)	266 (3.5)	549 (12.9)	507 (11.4)
No	6,039 (90.2)	2,982 (83.2)	2,704 (84.1)	3,272 (91.4)	1,632 (82.8)	1,915 (86.5)	3,684 (92.9)	1,926 (84.6)	1,937 (86.4)	6,956 (92.2)	3,558 (83.8)	3,852 (86.4)
Unknown	398 (6.0)	144 (4.0)	184 (5.7)	178 (5.0)	83 (4.2)	59 (2.7)	143 (3.6)	57 (2.5)	39 (1.7)	321 (4.3)	140 (3.3)	98 (2.2)
Missing	804	259	206	307	79	309	340	153	336	647	232	645
Cerebrovascular disease, No. (%)												
Yes	205 (3.0)	149 (4.2)	155 (4.8)	107 (3.0)	99 (5.0)	133 (6.1)	129 (3.3)	109 (4.8)	114 (5.2)	236 (3.1)	208 (4.9)	247 (5.6)
No	6,112 (91.5)	3,255 (91.2)	2,852 (89.3)	3,302 (92.3)	1,802 (91.7)	2,007 (91.4)	3,694 (93.3)	2,098 (92.9)	2,056 (92.9)	6,996 (92.8)	3,900 (92.3)	4,063 (92.2)
Unknown	367 (5.5)	162 (4.6)	187 (5.9)	170 (4.7)	65 (3.3)	56 (2.6)	137 (3.5)	52 (2.3)	43 (1.9)	307 (4.1)	117 (2.8)	99 (2.2)
Missing	818	276	225	307	83	327	344	171	366	651	254	693

Year	2011 – 2013			2014			2015			2014 – 2015		
	STEMI	NSTEMI	UA	STEMI	NSTEMI	UA	STEMI	NSTEMI	UA	STEMI	NSTEMI	UA
ACS stratum												
Total	7,502	3,842	3,419	3,886	2,049	2,523	4,304	2,430	2,579	8,190	4,479	5,102
Peripheral vascular disease, No. (%)												
Yes	20 (0.4)	43 (1.2)	41 (1.3)	6 (0.2)	9 (0.5)	12 (0.6)	12 (0.3)	23 (1.0)	23 (1.0)	18 (0.2)	32 (0.8)	35 (0.8)
No	6,247 (93.8)	3,330 (93.8)	2,949 (92.4)	3,373 (94.8)	1,871 (95.7)	2,085 (96.4)	3,778 (96.1)	2,163 (96.4)	2,133 (96.9)	7,151 (95.4)	4,034 (96.0)	4,218 (96.7)
Unknown	390 (5.8)	174 (5.0)	200 (6.3)	180 (5.1)	76 (3.9)	65 (3.0)	143 (3.6)	58 (2.6)	46 (2.1)	323 (4.3)	134 (3.2)	111 (2.5)
Missing	845	295	229	327	93	361	371	186	377	698	279	738
None of the above, No. (%)												
Yes	617 (8.2)	99 (2.6)	49 (1.4)	268 (6.9)	61 (3.0)	47 (1.9)	288 (6.7)	53 (2.2)	41 (1.6)	556 (6.8)	114 (2.5)	88 (1.7)
No	6,885 (91.8)	3,743 (97.4)	3,370 (98.6)	3,618 (93.1)	1,988 (97.0)	2,476 (98.1)	4,016 (93.3)	2,377 (97.8)	2,538 (98.4)	7,634 (93.2)	4,365 (97.5)	5,014 (98.3)
**Coronary artery disease, No. (%)												
Yes	4,349 (69.2)	2,862 (81.4)	2,806 (89.8)	2,433 (70.9)	1,517 (79.5)	2,118 (90.2)	3,064 (79.7)	1,901 (83.6)	2,136 (86.7)	5,497 (75.5)	3,418 (81.7)	4,254 (88.4)
No	1,930 (30.8)	656 (18.6)	321 (10.2)	998 (29.1)	392 (20.5)	230 (9.8)	782 (20.3)	374 (16.4)	329 (13.3)	1,780 (24.5)	766 (18.3)	559 (11.6)

* Definition was different in CRF version 2013

** Coronary artery disease is defined as "Yes" to any of the following co-morbidities: 1) History of myocardial infarction, 2) Documented CAD, 3) Chronic angina (onset more than 2 weeks ago), 4) New onset angina (less than 2 weeks)

Note: Percentage is to the nearest decimal point

Table 2.8 Age-gender distribution of patients with ACS by ACS stratum, NCD-ACS Registry, 2014 – 2015

Gender	Age group	2011 – 2013			2014			2015			2014 – 2015			
		STEMI No. (%)	NSTEMI No. (%)	UA No. (%)	STEMI No. (%)	NSTEMI No. (%)	UA No. (%)	STEMI No. (%)	NSTEMI No. (%)	UA No. (%)	STEMI No. (%)	NSTEMI No. (%)	UA No. (%)	
Male	20 – < 30	99 (1.5)	18 (0.6)	15 (0.6)	49 (1.4)	13 (0.8)	12 (0.7)	52 (1.4)	8 (0.4)	9 (0.5)	101 (1.4)	21 (0.6)	21 (0.6)	
	30 – < 40	531 (8.4)	132 (4.6)	97 (4.2)	294 (8.7)	62 (4.0)	91 (5.1)	357 (9.6)	88 (4.7)	105 (5.8)	651 (9.1)	150 (4.4)	196 (5.5)	
	40 – < 50	1474 (23.0)	457 (15.8)	376 (16.0)	789 (23.3)	227 (14.6)	272 (15.4)	832 (22.3)	291 (15.7)	267 (14.9)	1,621 (22.8)	518 (15.2)	539 (15.1)	
	50 – < 60	2207 (34.5)	949 (33.0)	768 (32.6)	1,137 (33.6)	487 (31.3)	561 (31.7)	1,293 (34.6)	584 (31.5)	557 (31.0)	2,430 (34.1)	1,071 (31.4)	1,118 (31.4)	
	60 – < 70	1404 (22.0)	792 (27.5)	631 (26.7)	778 (23.0)	443 (28.5)	519 (29.4)	815 (21.8)	531 (28.6)	523 (29.1)	1,593 (22.4)	974 (28.6)	1,042 (29.3)	
	70 – < 80	579 (9.0)	440 (15.3)	390 (16.6)	284 (8.4)	252 (16.2)	251 (14.2)	316 (8.5)	298 (16.1)	286 (15.9)	600 (8.4)	550 (16.1)	537 (15.1)	
	≥ 80	103 (1.6)	94 (3.2)	82 (3.3)	53 (1.6)	70 (4.5)	61 (3.5)	68 (1.8)	56 (3.0)	48 (2.7)	121 (1.7)	126 (3.7)	109 (3.1)	
	Total	6,397 (100.0)	2,882 (100.0)	2,359 (100.0)	3,384 (100.0)	1,554 (100.0)	1,767 (100.0)	3,733 (100.0)	1,856 (100.0)	1,795 (100.0)	7,117 (100.0)	3,410 (100.0)	3,562 (100.0)	
	Female	20 – < 30	3 (0.2)	2 (0.2)	4 (0.4)	1 (0.2)	1 (0.2)	2 (0.3)	1 (0.2)	2 (0.3)	1 (0.1)	2 (0.2)	3 (0.3)	3 (0.2)
		30 – < 40	22 (2.0)	12 (1.2)	23 (2.2)	9 (1.8)	7 (1.4)	17 (2.2)	18 (3.2)	4 (0.7)	22 (2.8)	27 (2.5)	11 (1.0)	39 (2.5)
40 – < 50		135 (12.2)	52 (5.4)	112 (10.6)	54 (10.8)	33 (6.7)	69 (9.1)	54 (9.5)	48 (8.4)	93 (11.9)	108 (10.1)	81 (7.6)	162 (10.5)	
50 – < 60		273 (24.7)	209 (21.8)	242 (22.8)	142 (28.3)	123 (24.8)	190 (25.1)	149 (26.1)	122 (21.3)	188 (24.0)	291 (27.1)	245 (22.9)	378 (24.5)	
60 – < 70		311 (28.2)	295 (30.8)	331 (31.2)	152 (30.3)	132 (26.7)	235 (31.1)	168 (29.4)	182 (31.7)	242 (30.9)	320 (29.8)	314 (29.4)	477 (31.0)	
70 – < 80		289 (26.2)	301 (31.4)	261 (24.6)	106 (21.1)	142 (28.7)	176 (23.3)	142 (24.9)	152 (26.5)	170 (21.7)	248 (23.1)	294 (27.5)	346 (22.5)	
≥ 80		72 (6.5)	89 (9.2)	87 (8.2)	38 (7.6)	57 (11.5)	67 (8.9)	39 (6.8)	64 (11.1)	68 (8.7)	77 (7.2)	121 (11.3)	135 (8.8)	
Total		1,105 (100.0)	960 (100.0)	1,060 (100.0)	502 (100.0)	495 (100.0)	756 (100.0)	571 (100.0)	574 (100.0)	784 (100.0)	1,073 (100.0)	1,069 (100.0)	1,540 (100.0)	