SARAWAK HEART CENTRE

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18th Joint Coronary Revascularisation Meeting, Busan, Dec 2018

Ten year trends from the Malaysian acute coronary syndrome registry - A multiethnic cohort

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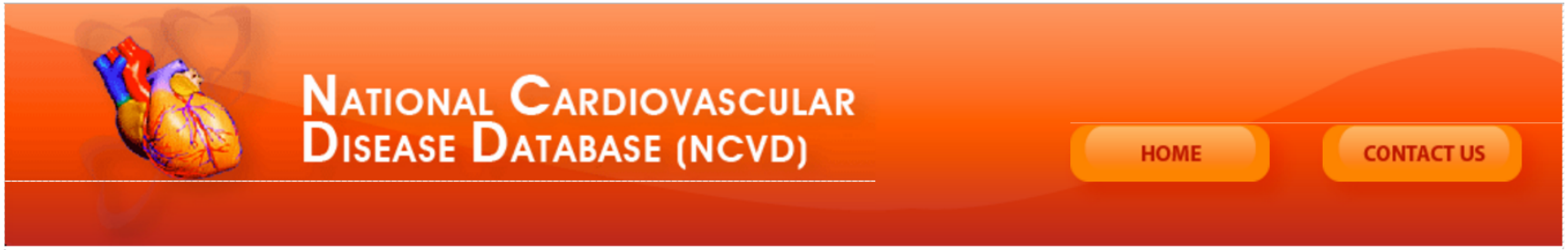
The NCVD Registries (e.2006)



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Visitor number:
029100
since 30/3/2006

Sunday, September 18, 2016

Overview

The **National Cardiovascular Disease Database (NCVD)** is a service supported by the Ministry of Health (MOH) to collect information about cardiovascular disease in Malaysia, which will enable us to know the incidence of cardiovascular disease (CVD), and to evaluate its risk factors and treatment in the country. The NCVD was established to integrate various CVD databases available in the country to achieve nation-wide cardiovascular database. The database refers to the ongoing systematic collection, analysis and interpretation of cardiovascular disease data essential to the planning, implementation and evaluation of clinical and public health services, closely integrated with dissemination of these data to those who need to know. The final link in the chain is the application of these data to the treatment, prevention and control of cardiovascular disease. A database system includes a functional capacity for data collection, analysis and dissemination linked to clinical and public health programs. The NCVD was officially launched on the 31st of March 2006 by Dato' Dr Ghani Mohamed Din, the Deputy Director General of Health Malaysia during the 10th Annual Scientific Meeting (ASM) of National Heart Association of Malaysia (NHAM) in Hilton Kuala Lumpur/ Le Meridien, Kuala Lumpur Sentral.

Sponsors

The NCVD is sponsored by the Ministry of Health Malaysia and co-sponsored by National Heart Association of Malaysia (NHAM). The Clinical Research Centre (CRC) is providing the technical support in the form of clinical epidemiology expertise, biostatistics and Information and Communication Technology (ICT) services.

Objectives

The objectives of the NCVD are to:

- Describe the natural history of Acute Coronary Syndrome (ACS) and Percutaneous Coronary Intervention (PCI)
- Determine effectiveness of treatments for ACS and PCI
- Monitor safety and harm of products and services used in the treatment of ACS and PCI
- Evaluating access to and quality of treatment services for ACS and PCI

http://www.acrm.org.my/ncvd/aboutUs_overview.php

Digging our own oil/gold…

What about Confidentiality?

Current legislation allows doctors to release their patients' data to persons demonstrating a need, which is essential to public health and safety. The NCVD meets this requirement.

The NCVD has also developed strict policies and procedures to maintain confidentiality of data collected by it as well as in disclosure of data.

For further information, the NCVD is also published electronically on website at:

http://www.acrm.org.my/ncvd

We look forward to the continued support and collaboration from all parties that will enable the National Cardiovascular Disease Database (NCVD) to develop and contribute significantly to the control of cardiovascular disease in this country.

NCVD REGISTRATION FORM

☐ Yes! I want to participate in the National Cardiovascular Disease Database (NCVD). Please register my centre.

Details

Name: _____
(Title) (Name)

Designation: _____

Institution: _____

Sector (Check only one):

☐ MOH ☐ University ☐ NGO
☐ Private ☐ Armed Forces ☐ Others, specify_____

Address (office): _____

_____

Postal Code: _____ City/Town: _____

State: _____

Tel: (__) _____

Fax: (__) _____

Handphone: (__) _____

E-Mail: _____

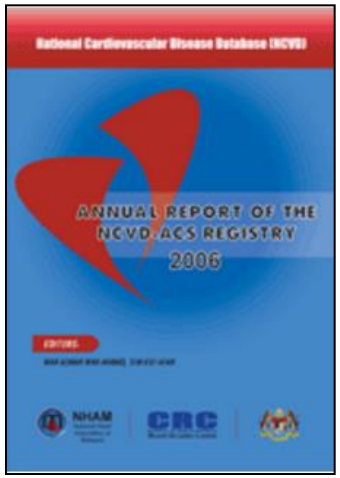
Please mail or fax to:

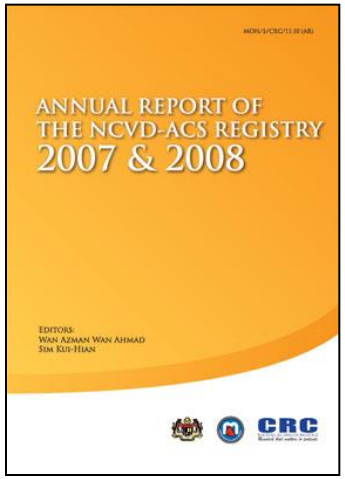
Manager,
National Cardiovascular Disease Database
c/o Clinical Research Centre
3rd Floor, Dermatology Block,
Hospital Kuala Lumpur,
Jalan Pahang,
50586 Kuala Lumpur
Tel: 03 - 2692 4249 / 03 -2698 0310
Fax: 03 - 2691 1682
Email: ncvd@acrm.org.my

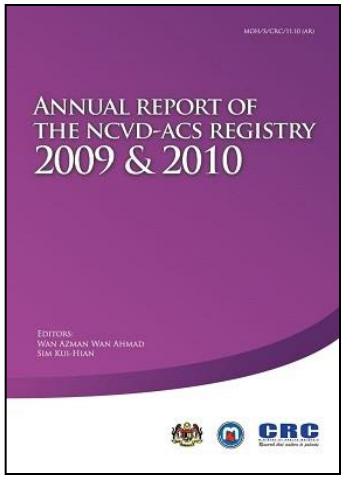
NATIONAL CARDIOVASCULAR DISEASE DATABASE

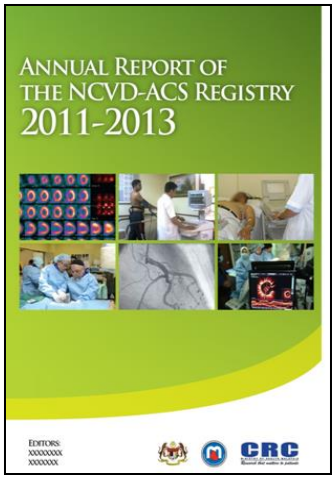
Sponsored by:

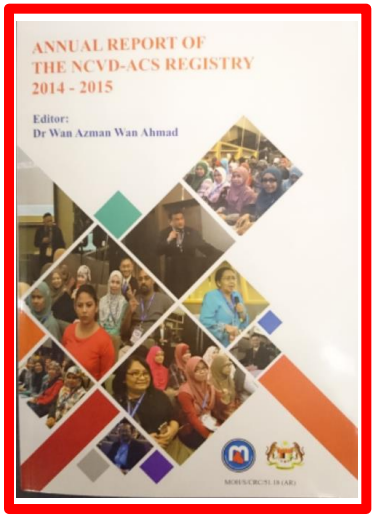
- *Departments of Cardiology & Medicine / MOH Hospitals*
- *Clinical Research Centre*

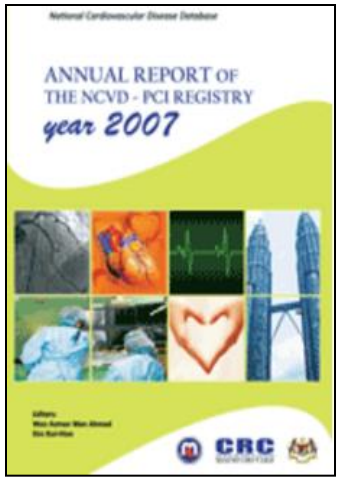

National Cardiovascular Disease Database (NCVD)
ANNUAL REPORT OF THE NCVD-ACS REGISTRY
2006
NHAM
CRC

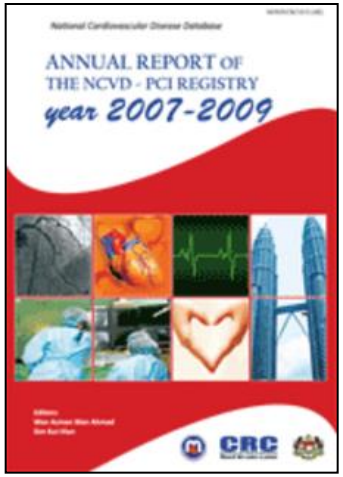

ANNUAL REPORT OF THE NCVD-ACS REGISTRY
2007 & 2008
EDITORS:
WAN AZMAN WAN AHMAD
SIM KUI-HIAN
CRC


ANNUAL REPORT OF THE NCVD-ACS REGISTRY
2009 & 2010
EDITORS:
WAN AZMAN WAN AHMAD
SIM KUI-HIAN
CRC


ANNUAL REPORT OF THE NCVD-ACS REGISTRY
2011-2013
EDITORS:
XXXXXXX
XXXXXX
CRC


ANNUAL REPORT OF THE NCVD-ACS REGISTRY
2014 - 2015
Editor:
Dr Wan Azman Wan Ahmad


National Cardiovascular Disease Database
ANNUAL REPORT OF THE NCVD - PCI REGISTRY
year 2007
CRC


National Cardiovascular Disease Database
ANNUAL REPORT OF THE NCVD - PCI REGISTRY
year 2007-2009
CRC


National Cardiovascular Disease Database
ANNUAL REPORT OF THE NCVD-PCI
REGISTRY YEAR
2010-2012
CRC


National Cardiovascular Disease Database
ANNUAL REPORT OF THE NCVD-PCI
REGISTRY YEAR
2013-2014
CRC

NCVD ACS : SDP and ACS Admissions

YEAR	NO. OF SDPs	NO. OF ACS ADMISSIONS
2006	12	3,500
2007	15	3,870
2008	16	3,317
2009	15	3,713
2010	17	3,822
2011	19	4,260
2012	19	5,086
2013	19	6,595
2014	21	9,306
2015	23	10,209
2016	24	10,255
	TOTAL	**63,933**

SPD patterns

#	Hospital	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	TOTAL
1	H. Kuala Lumpur	422	386	339	234	439	306	378	318	703	606	805	**4936**
2	IJN	467	403	270	484	367	288	434	516	563	714	538	**5044**
3	H. Penang	477	611	496	419	344	657	875	1346	1511	1425	1258	**9419**
4	H. Raja Perempuan Zainab II	144	139	84	135	72	18	38	67	110	85	32	**924**
5	PJHUS	318	287	297	245	161	233	434	526	678	908	976	**5063**
6	SGH (Med)	66	34	1									**101**
7	H. Sultanah Aminah	242	232	261	304	441	445	477	658	647	660	689	**5056**
8	H. Sultanah Bahiyah	167	53	4	102	70	118	263	339	404	351	620	**2491**
9	H. Tengku Ampuan Afzan	153	377	281	352	299	288	342	579	693	592	576	**4532**
10	H. Tuanku Fauziah	53	71	101	20	61	83	85	107	81	119	20	**801**
11	H. Tuanku Ja'afar	161	257	280	77	145	24	22	10	50	78	42	**1146**
12	PPUM	830	745	654	946	631	412	363	215	1487	1214	1135	**8632**
13	H. Queen Elizabeth		93	84	85	101	32	2	0	34	66	45	**542**
14	H. Raja Permaisuri Bainun		54	0	103	188	207	228	211	394	379	333	**2097**
15	H. Melaka		128	155	136	203	216	1	88	193	163	168	**1451**
16	H. Tengku Ampuan Rahimah			10	71	142	109	110	117	26	9	0	**594**
17	H. Queen Elizabeth II					124	150	278	333	650	825	790	**3150**
18	H. Serdang					34	555	577	885	587	1329	1446	**5413**
19	H.Ampang						33	105	63	0	137	111	**449**
20	H. Sultanah Nur Zahirah						86	74	217	320	307	422	**1426**
21	H. Lahad Datu									12	67	0	**79**
22	UiTM									163	111	41	**315**
23	Oriental Melaka Medical Centre										8	29	**37**
24	PPUKM										56	89	**145**
25	H. Duchess of Kent, Sandakan											90	**90**
	TOTAL	**3500**	**3870**	**3317**	**3713**	**3822**	**4260**	**5086**	**6595**	**9306**	**10209**	**10255**	**63933**
	No. of SDPs	**12**	**15**	**16**	**15**	**17**	**19**	**19**	**19**	**21**	**23**	**24**	

Table 1: Number of cardiologists in Malaysia (%), 2006-2015

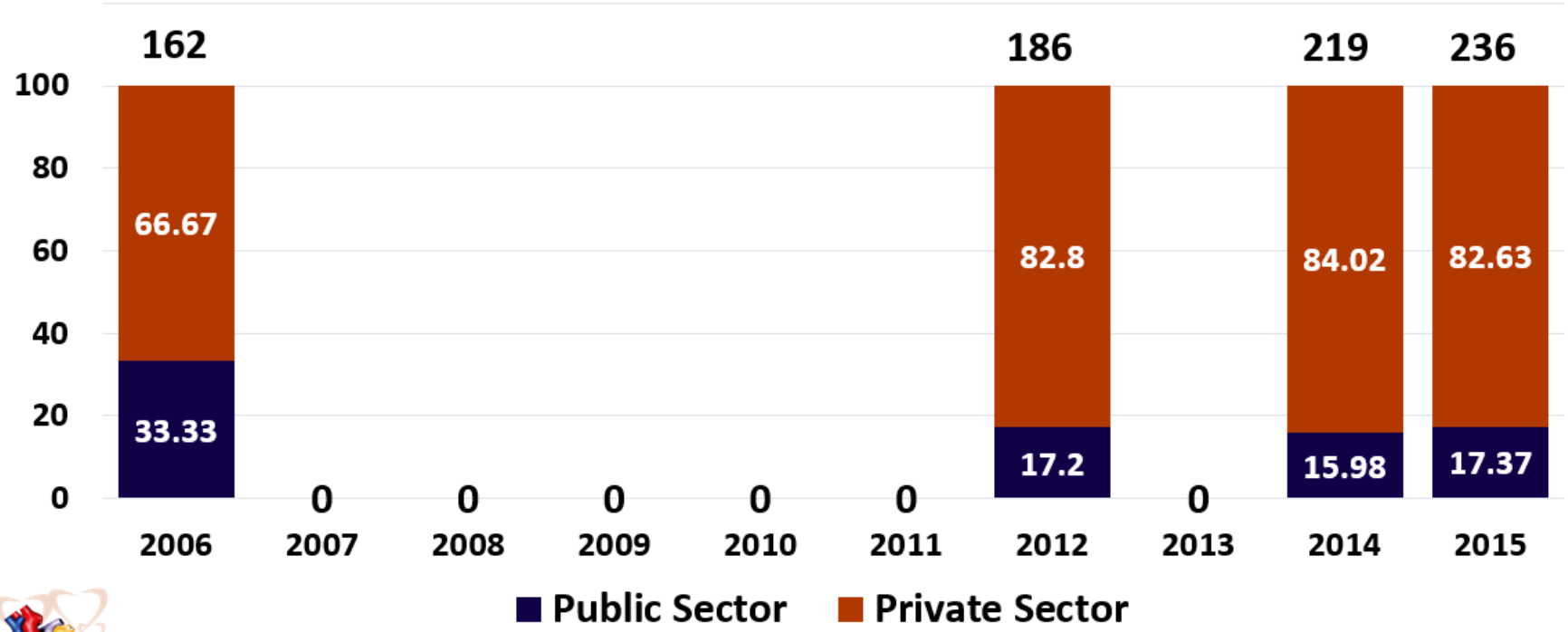


Table 2: Number of hospitals with cardiac catheterisation laboratory in Malaysia (%), 2006-2015

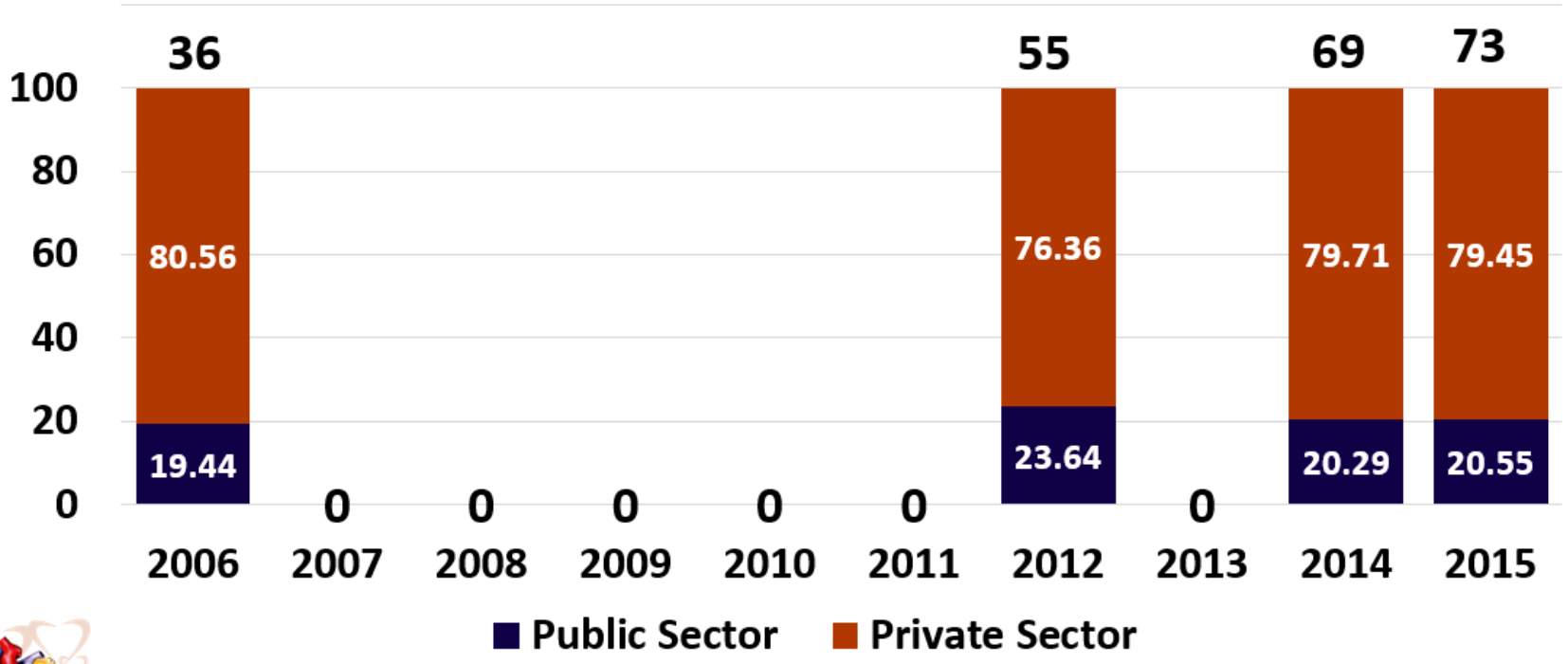
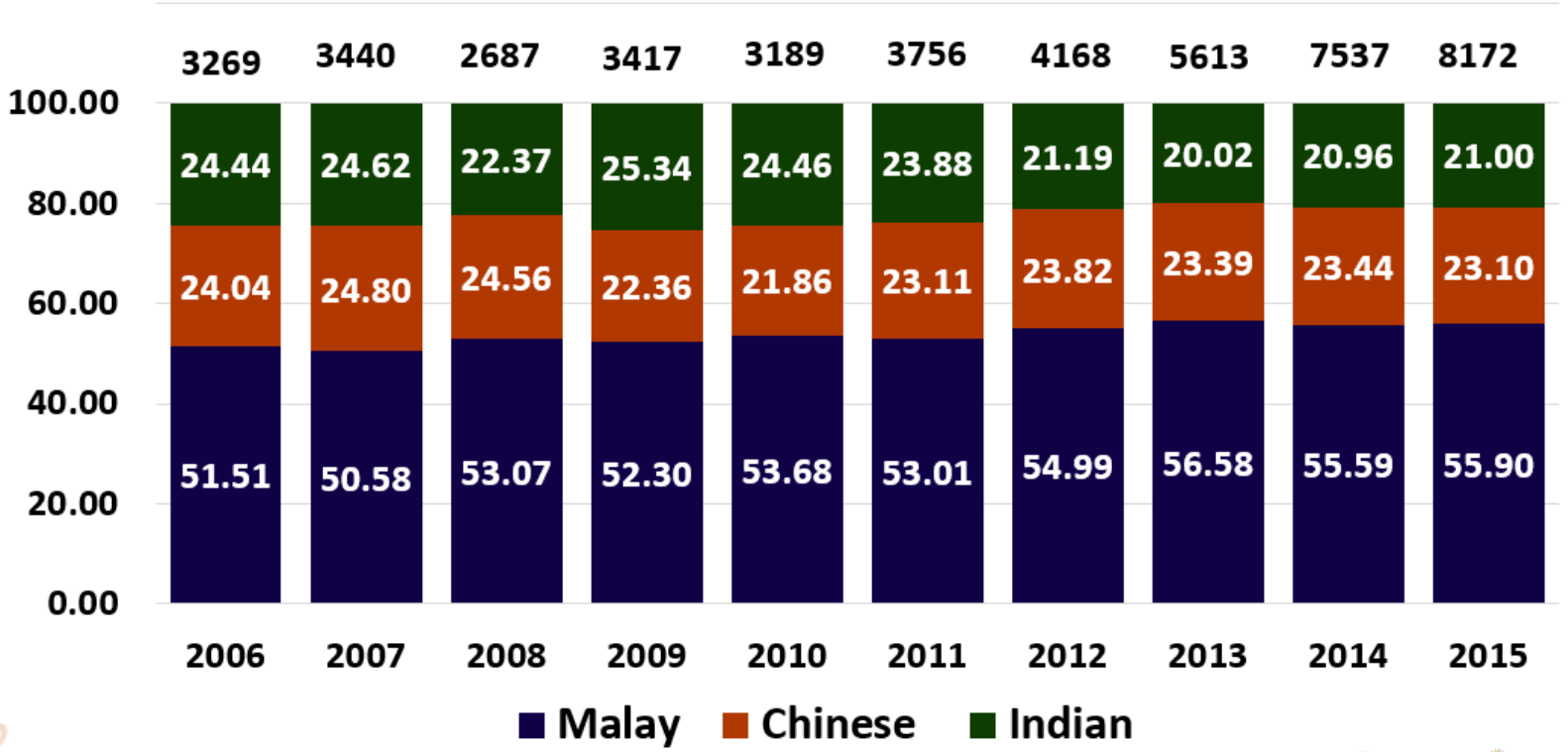


Table 6: Ethnic distribution of patients presenting with ACS (%), 2006-2015



* Only data from the three major ethnic groups presented here

Table 3: Mean age of patients presenting with ACS, 2006-2015

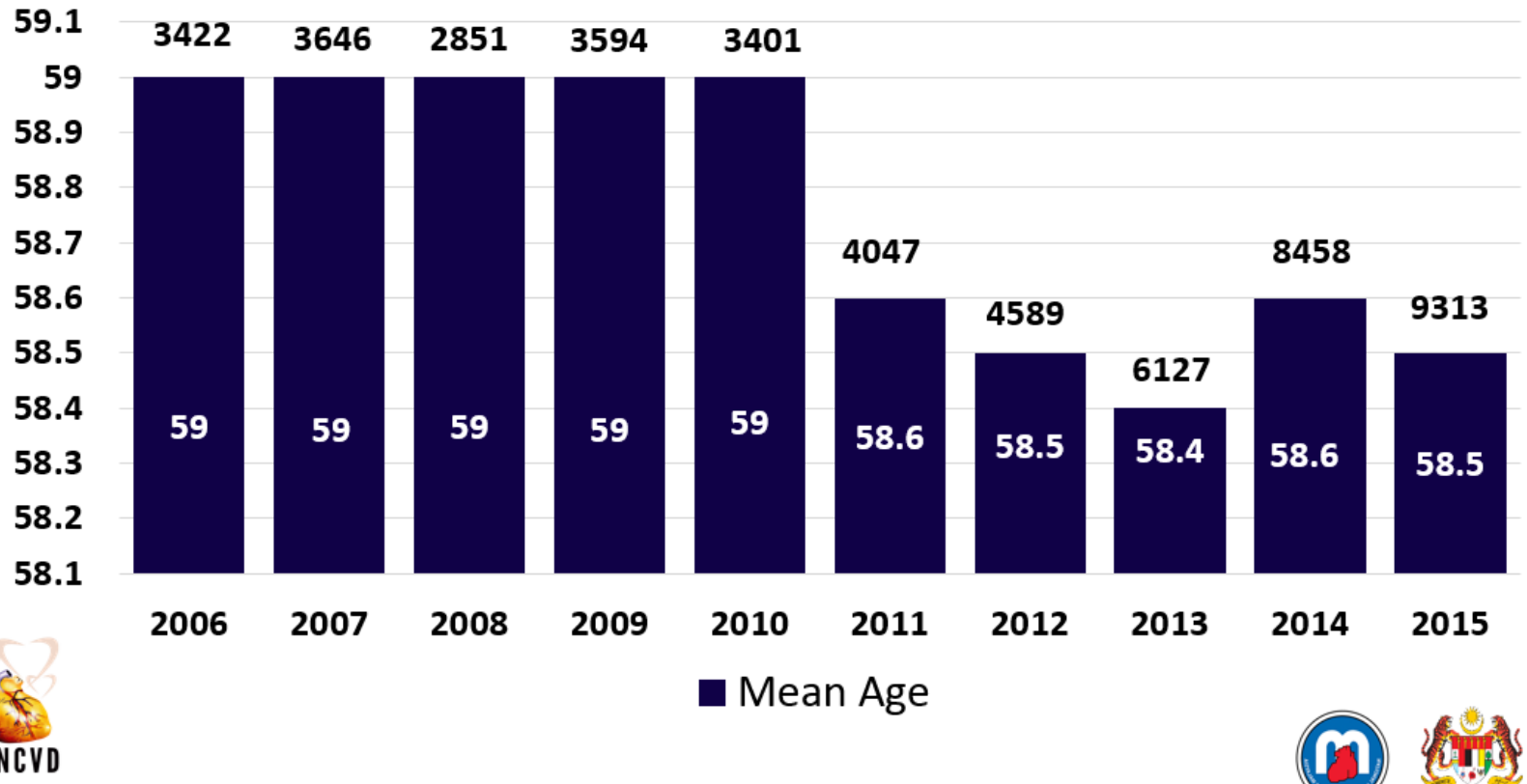


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Table 4: Age-groups of patients presenting with ACS (%), 2006-2015

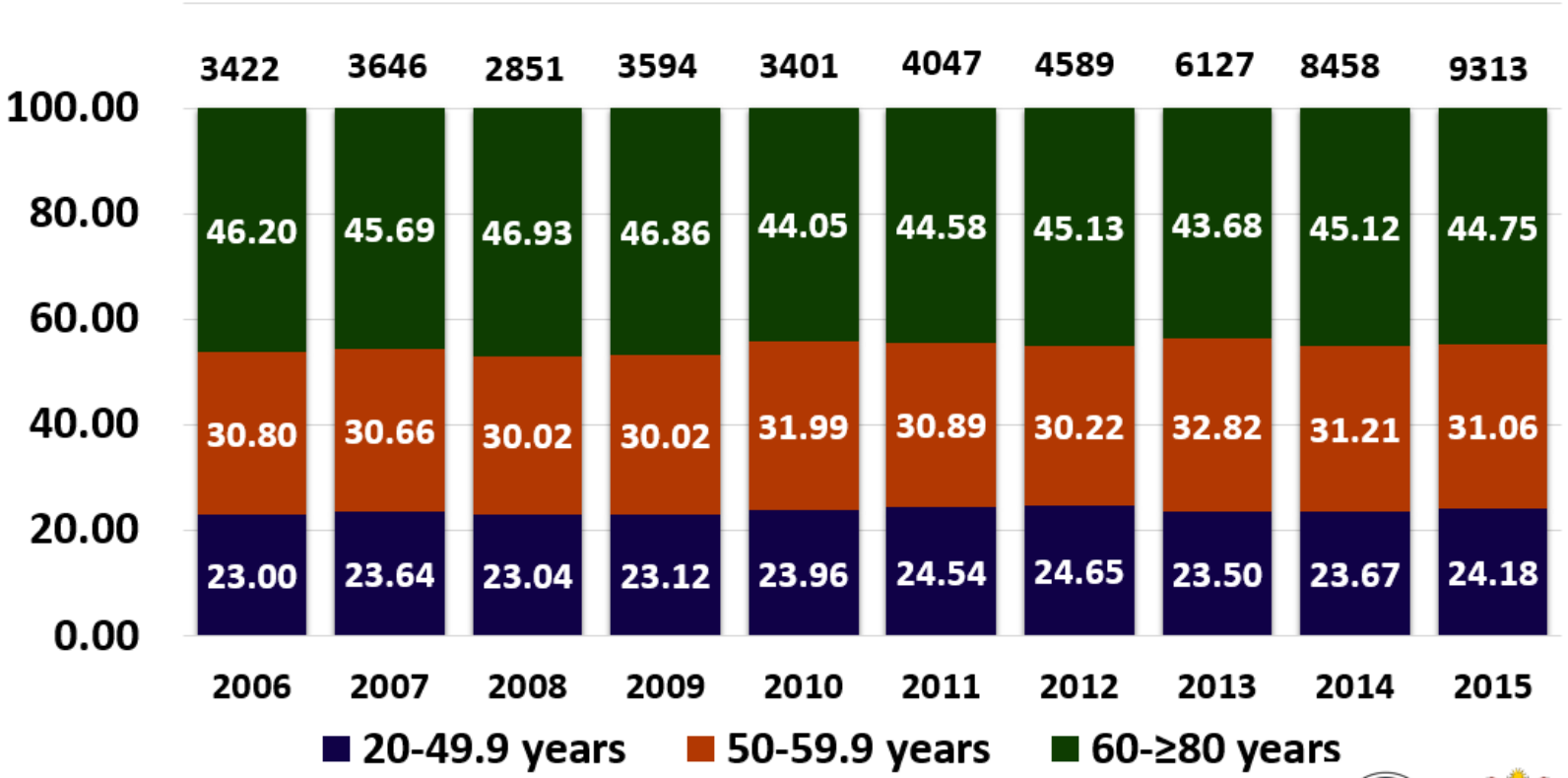


Table 5: Gender distribution of patients with ACS (%), 2006-2015

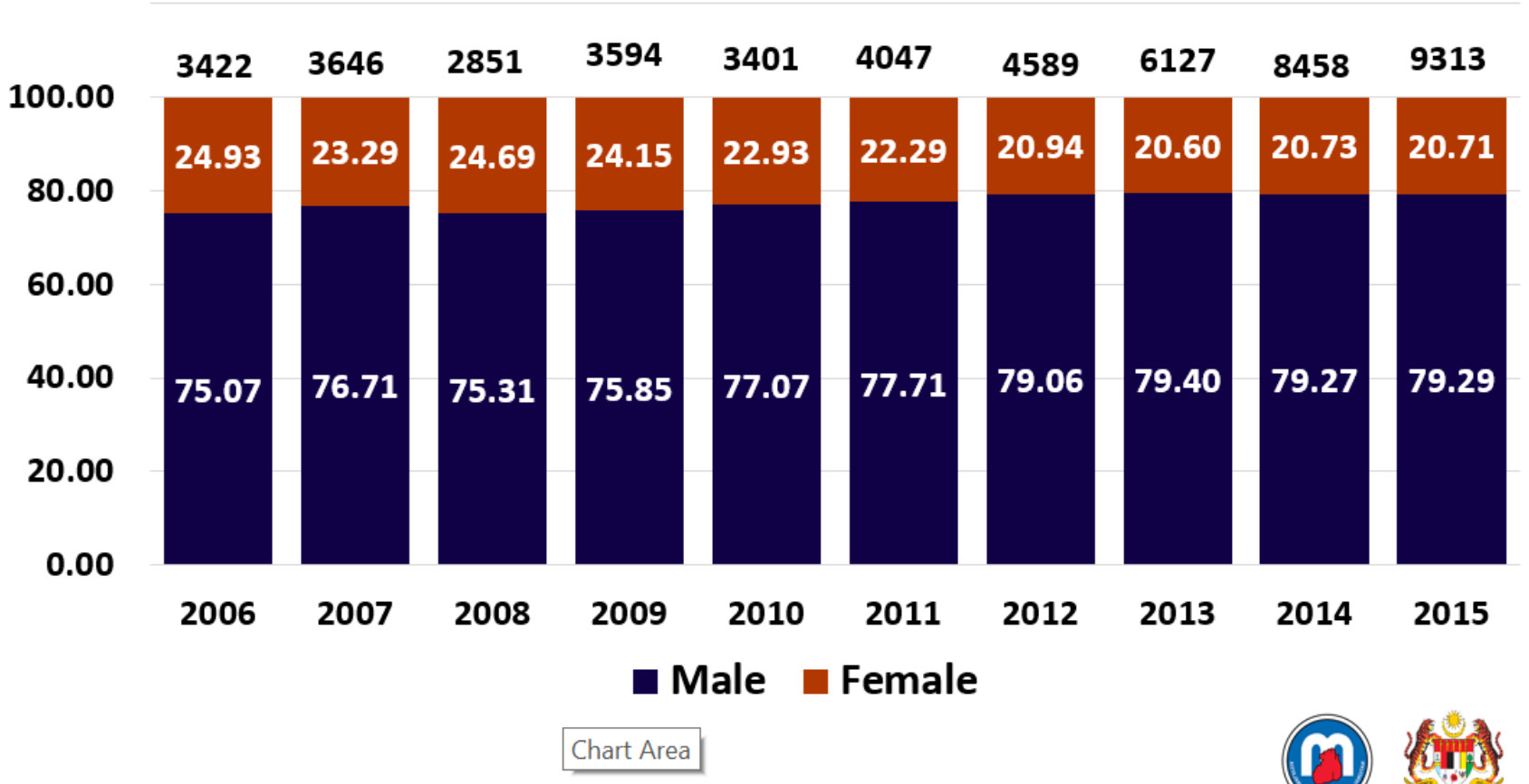


Table 7: Smoking and patients presenting with ACS (%), 2006-2015

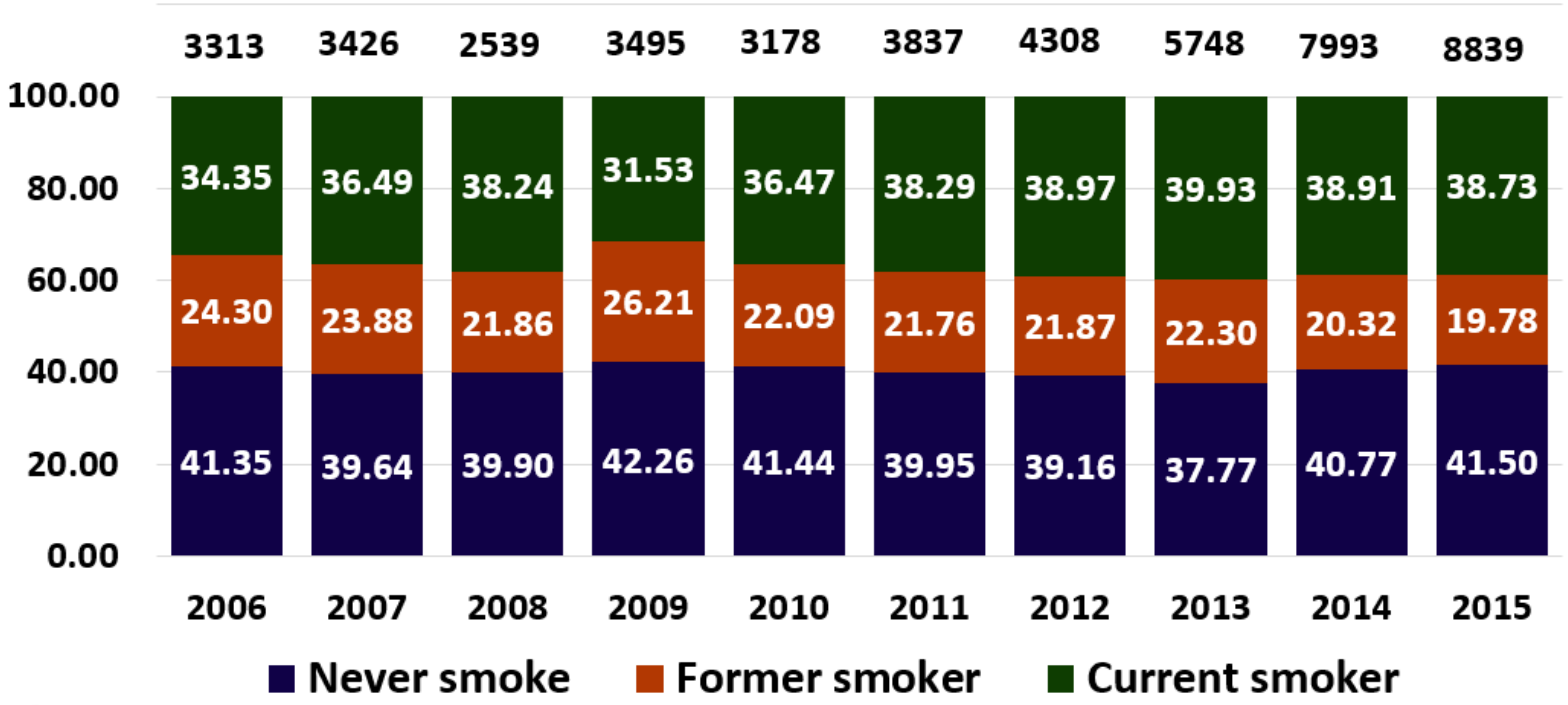


Table 8: Body Mass Index (BMI) and patients presenting with ACS (%), 2006-2015

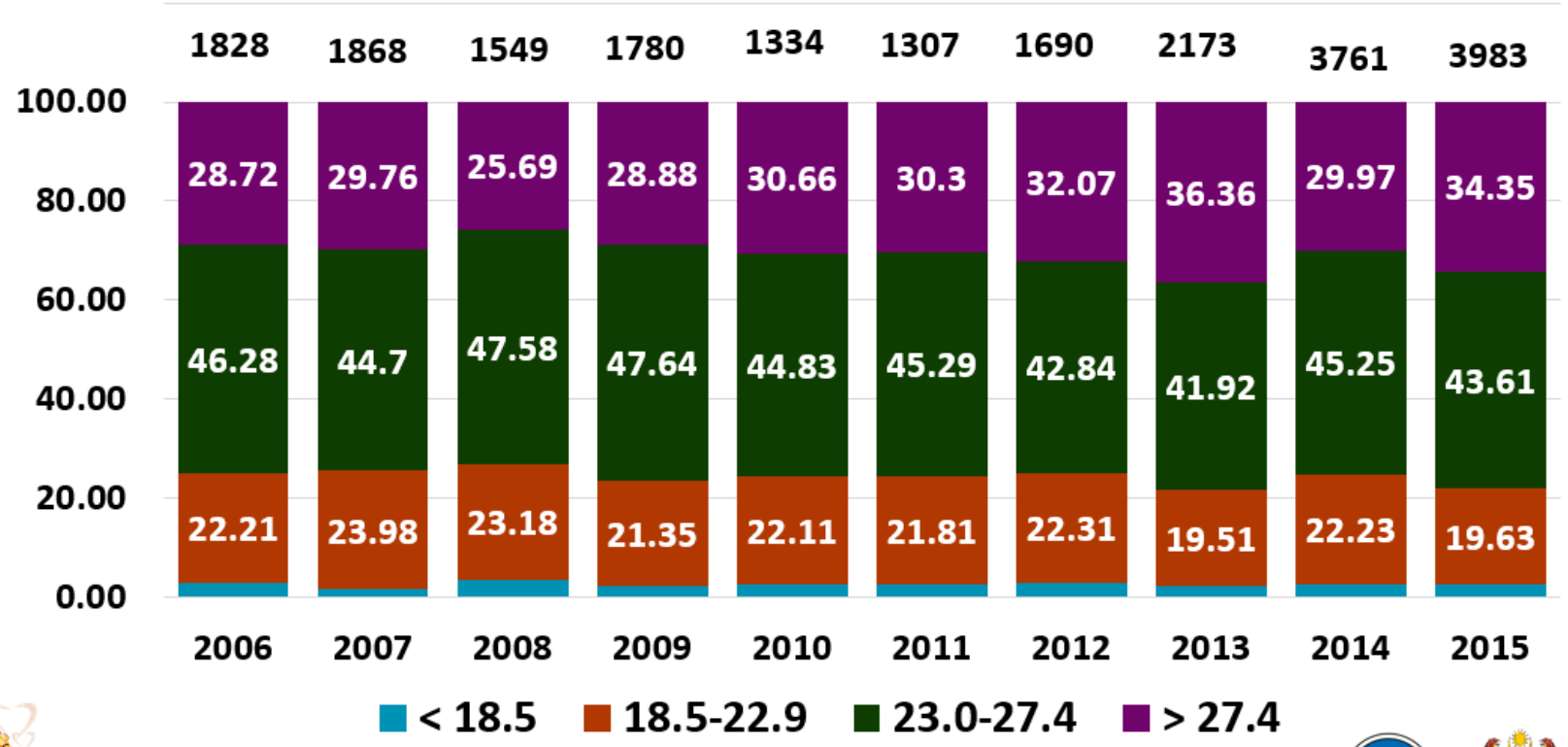


Table 9: Dyslipidaemia and patients presenting with ACS (%), 2006-2015

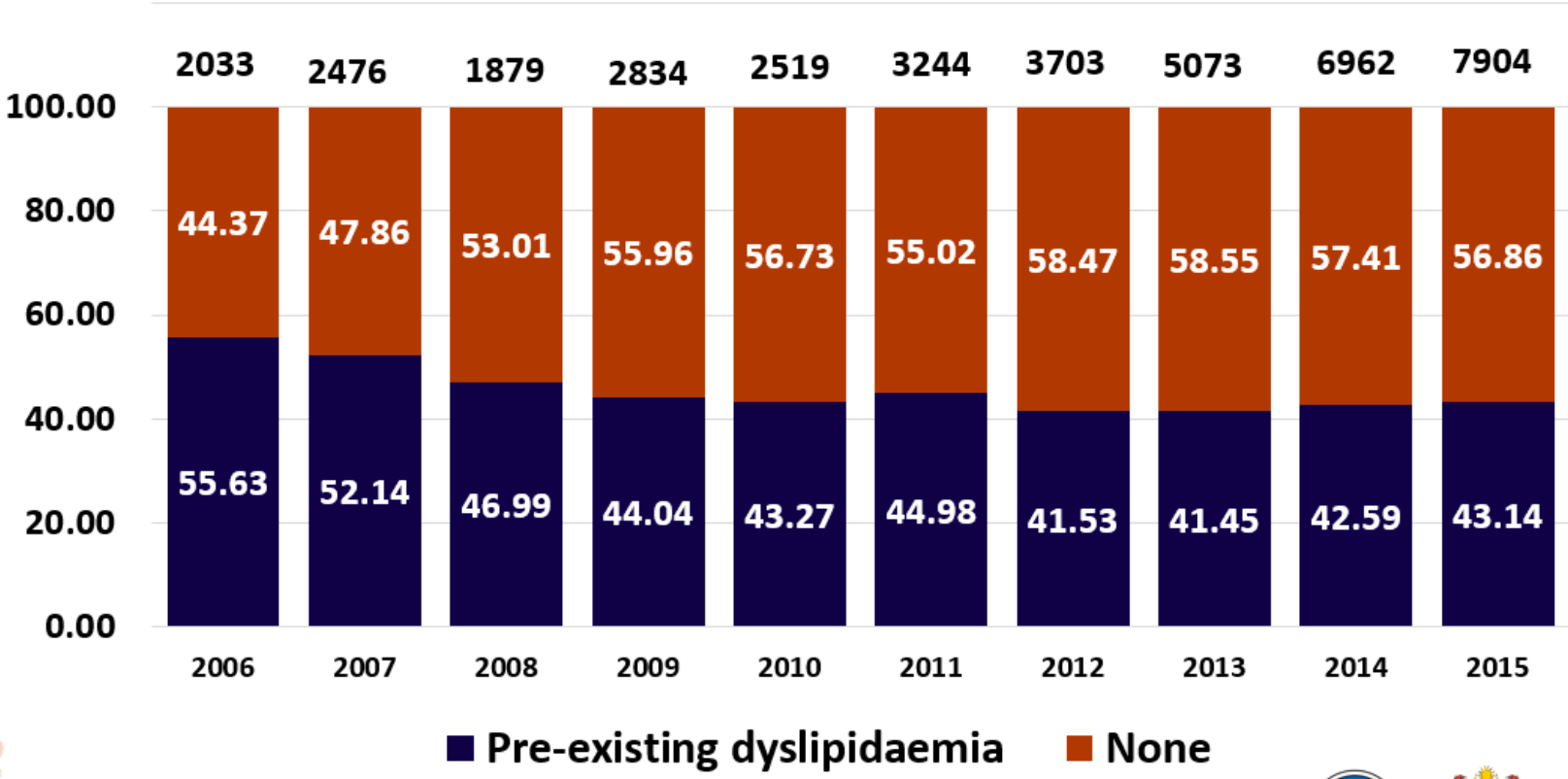


Table 10: Hypertension and patients presenting with ACS (%), 2006-2015

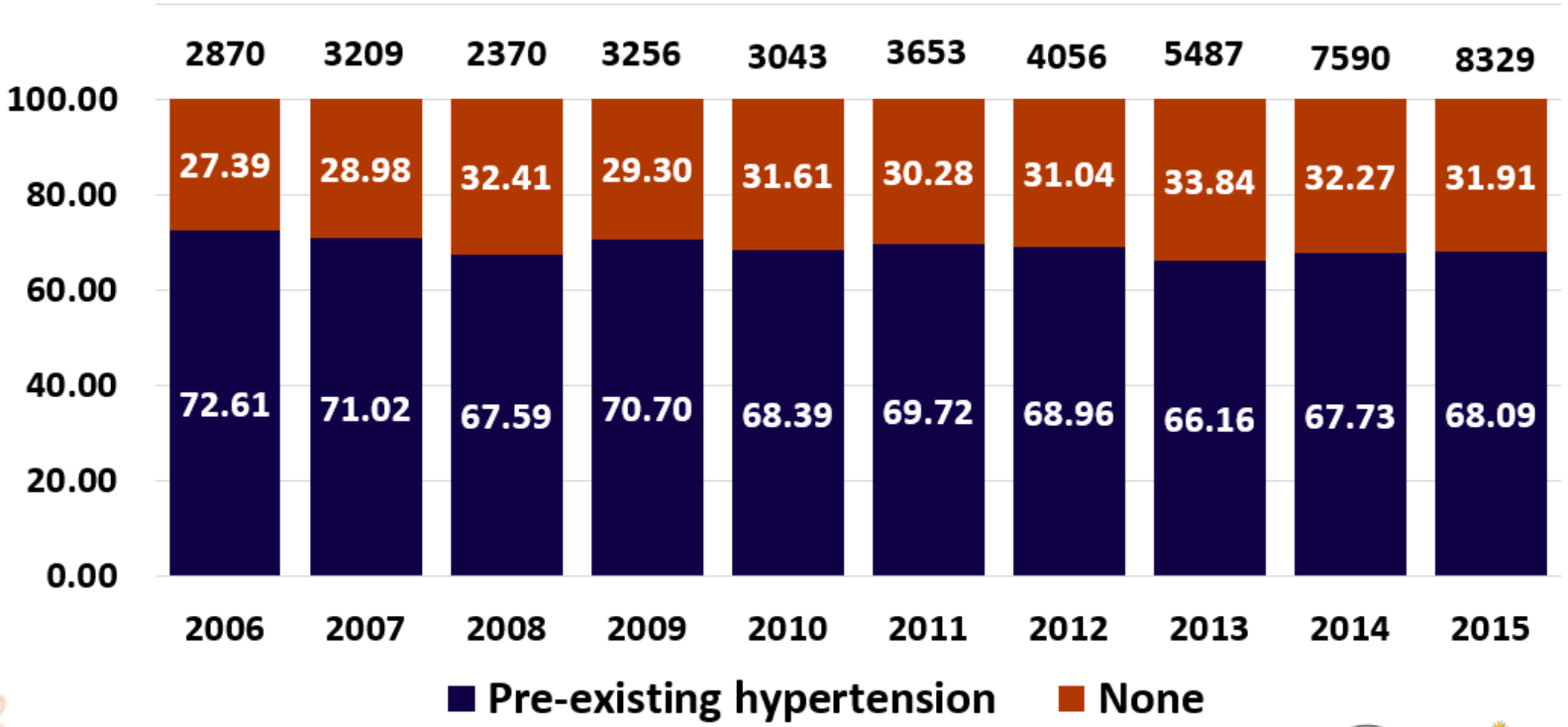


Table 11: Diabetes and patients presenting with ACS (%), 2006-2015

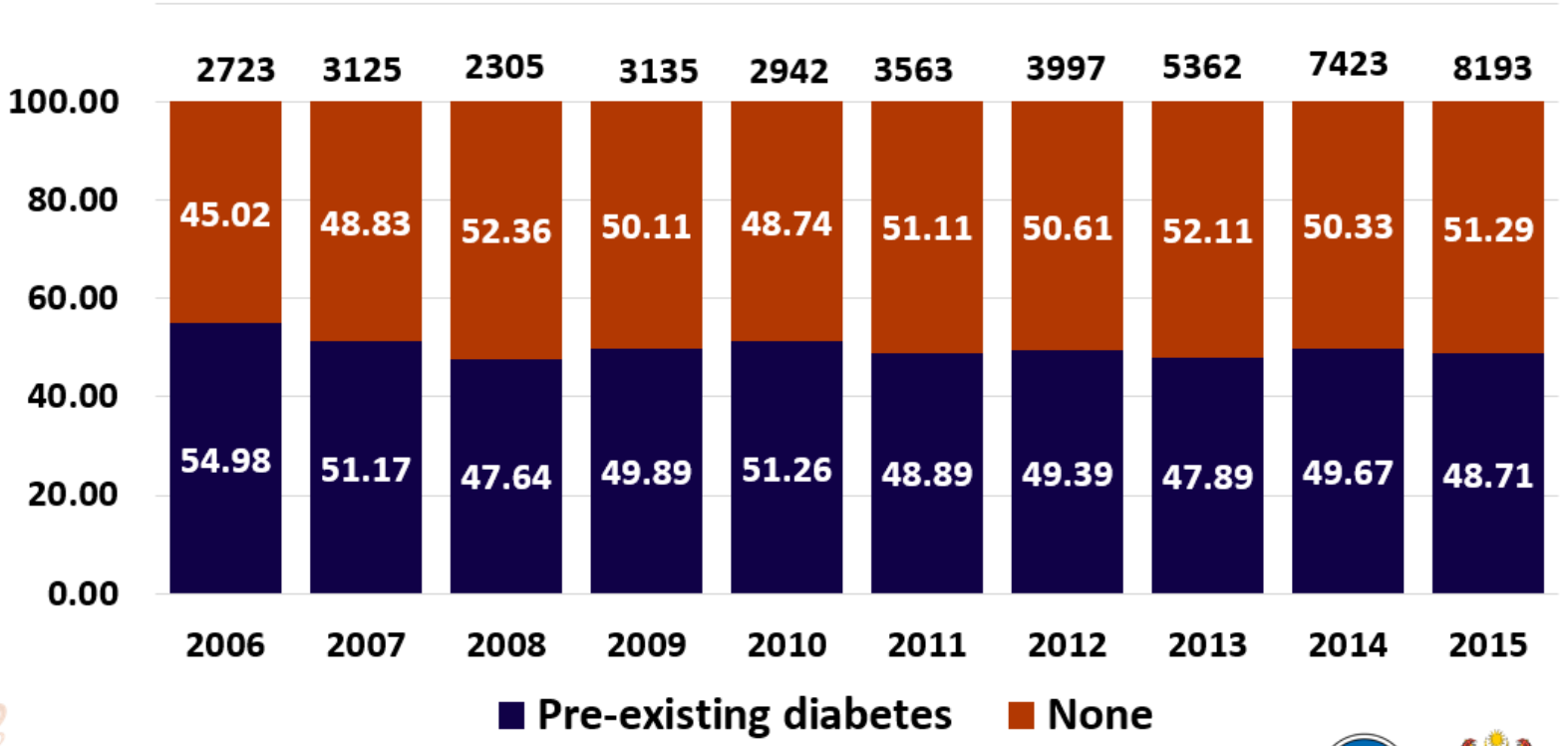
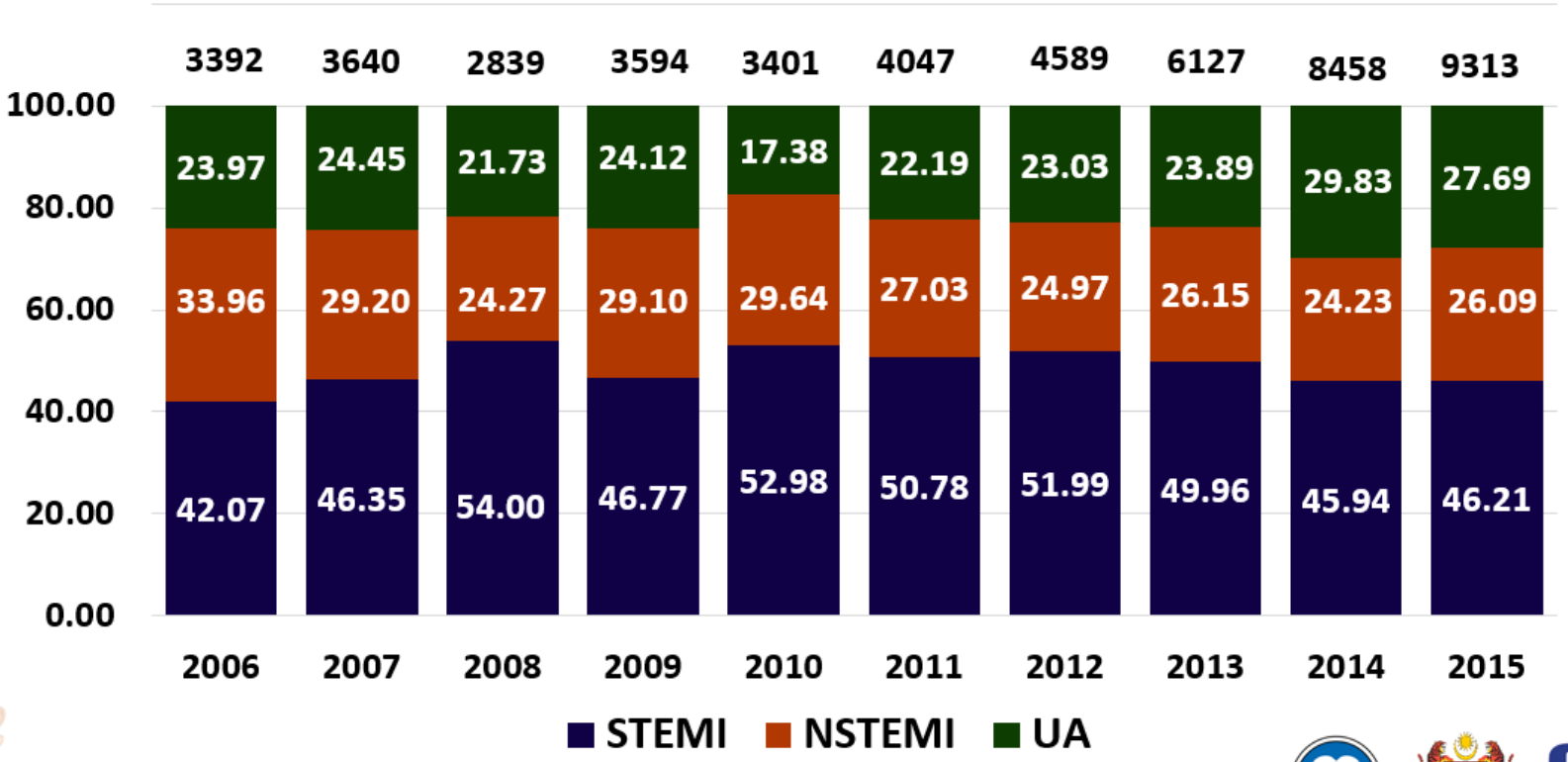


Table 12: Clinical presentation of patients presenting with ACS (%), 2006-2015



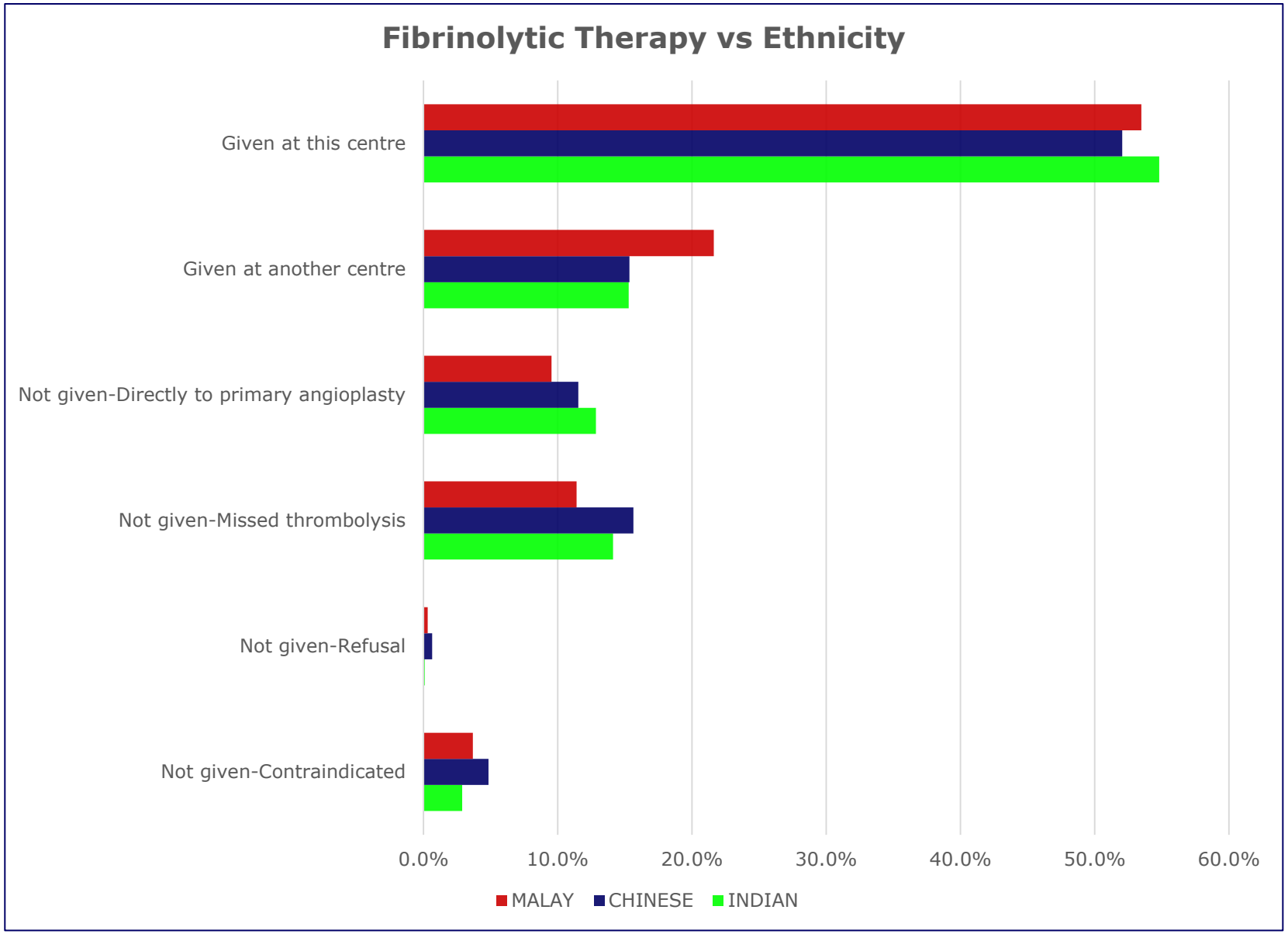

Fibrinolytic Therapy vs Ethnicity
Given at this centre
Given at another centre
Not given-Directly to primary angioplasty
Not given-Missed thrombolysis
Not given-Refusal
Not given-Contraindicated
0.0%
10.0%
20.0%
30.0%
40.0%
50.0%
60.0%
MALAY
CHINESE
INDIAN

Table 13: In-hospital mortality for STEMI (%), 2006-2015

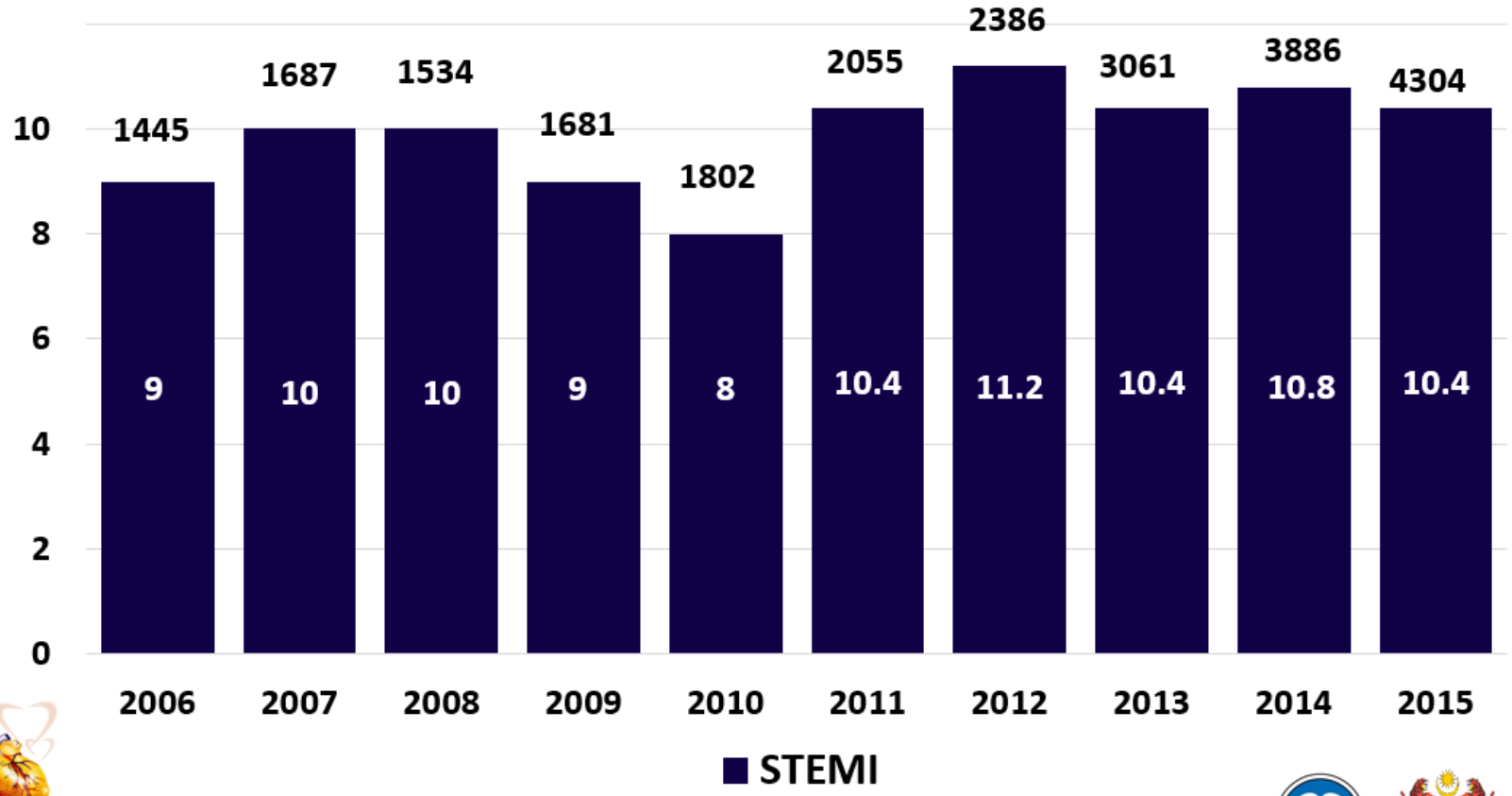


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Table 14: In-hospital mortality for NSTEMI (%), 2006-2015

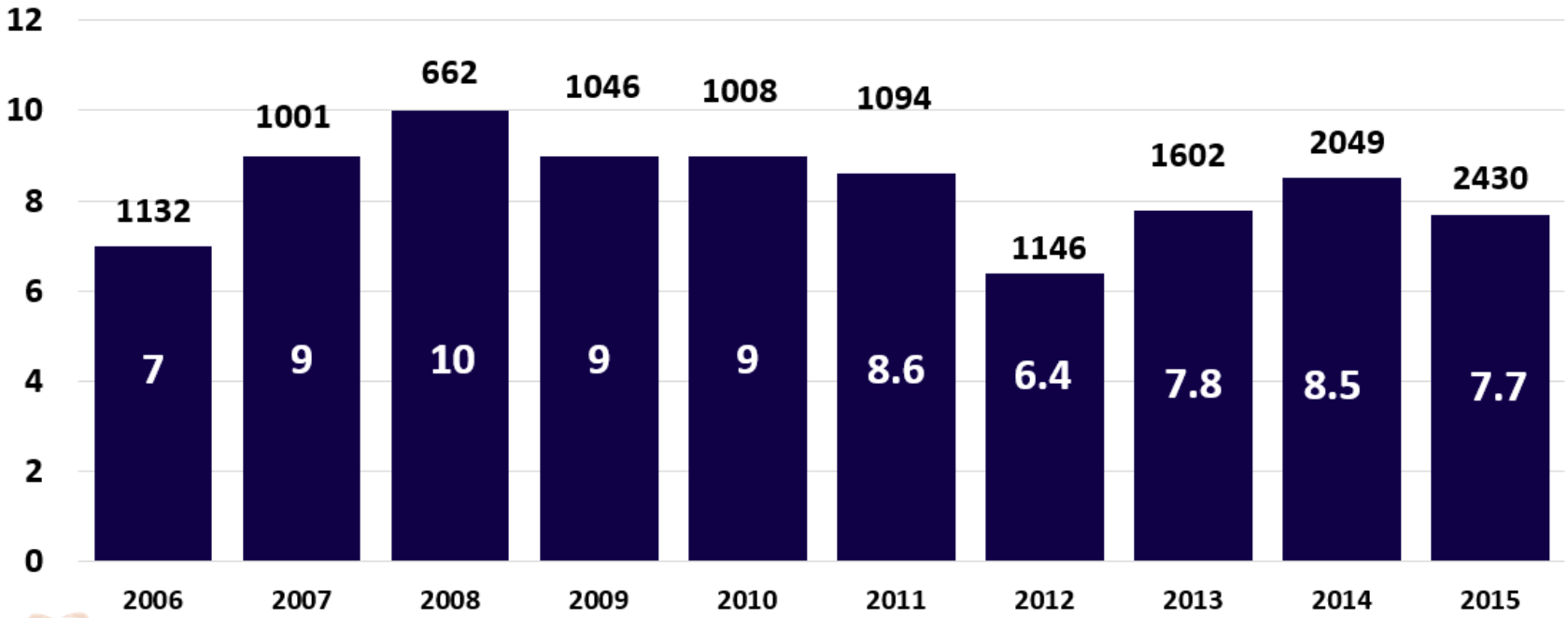

Table 15: In-hospital mortality for unstable angina (%), 2006-2015

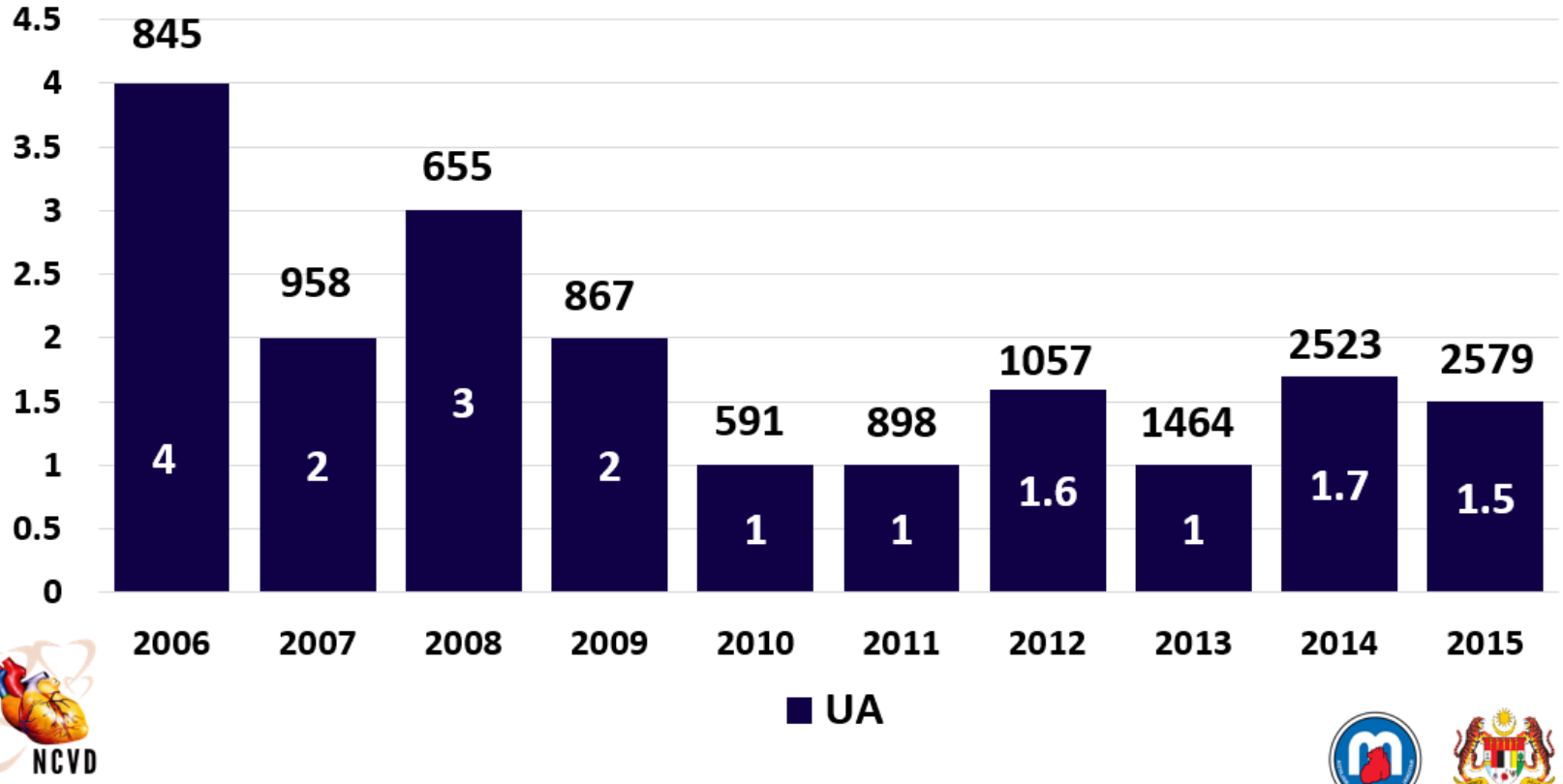

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Table 16: 30-day mortality for STEMI (%), 2006-2015

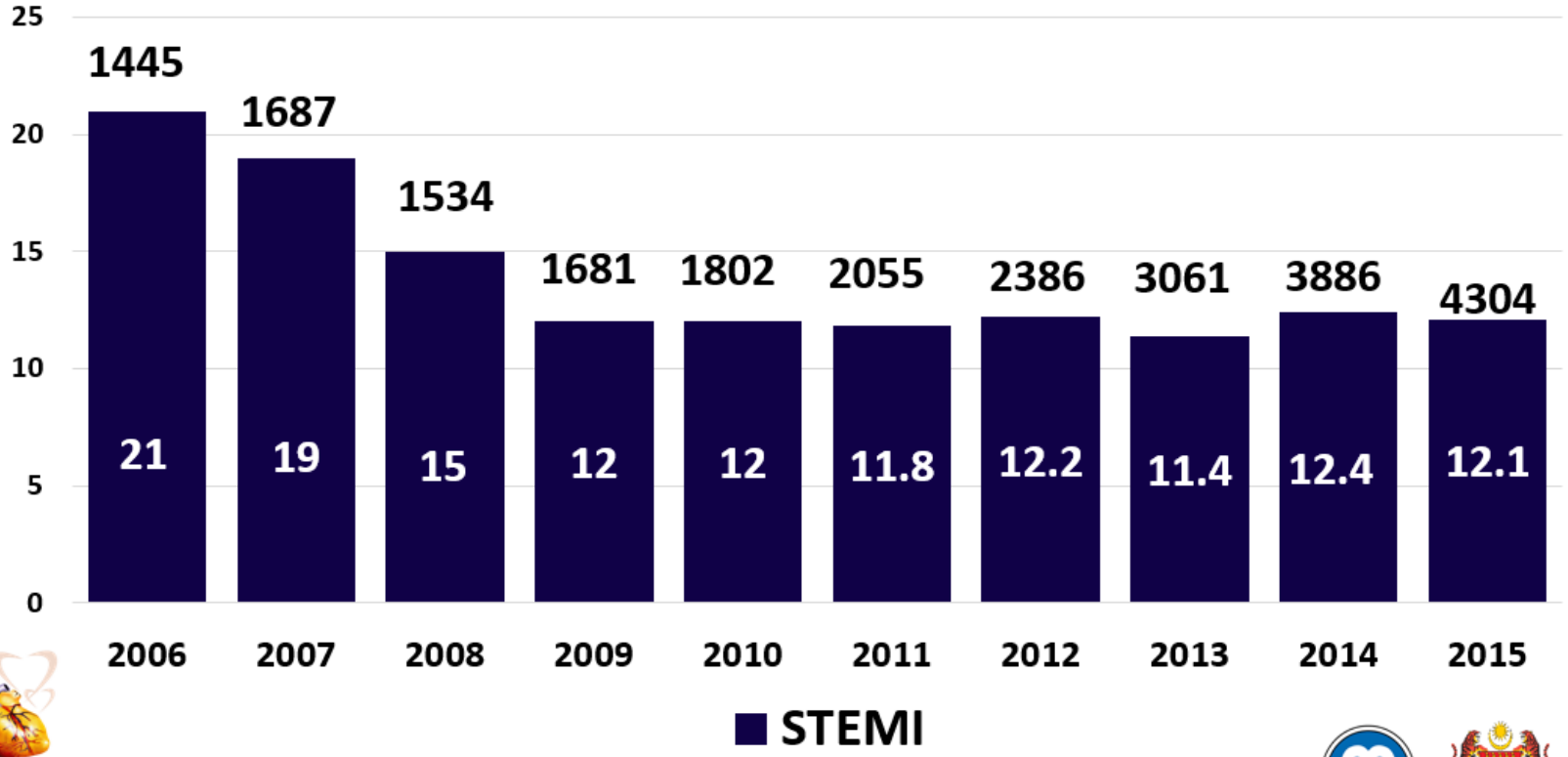
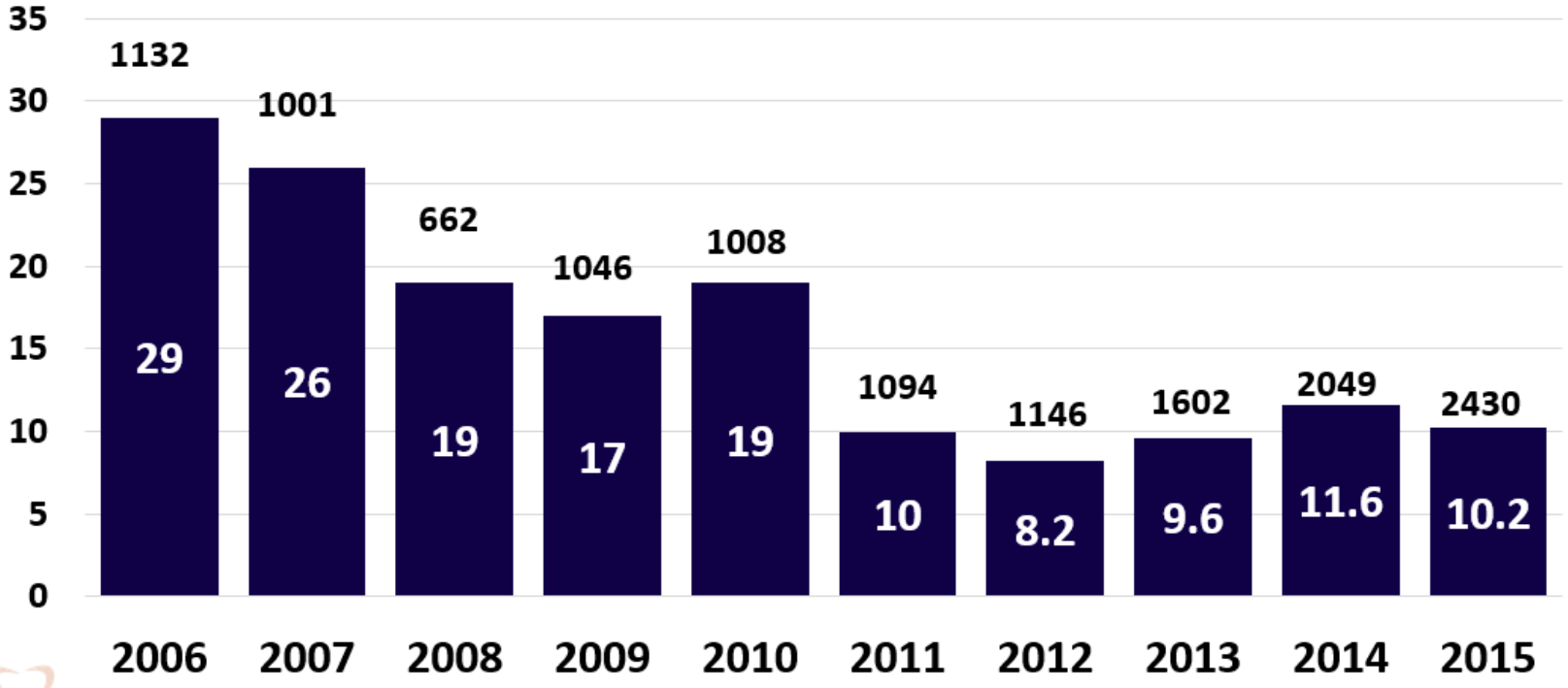
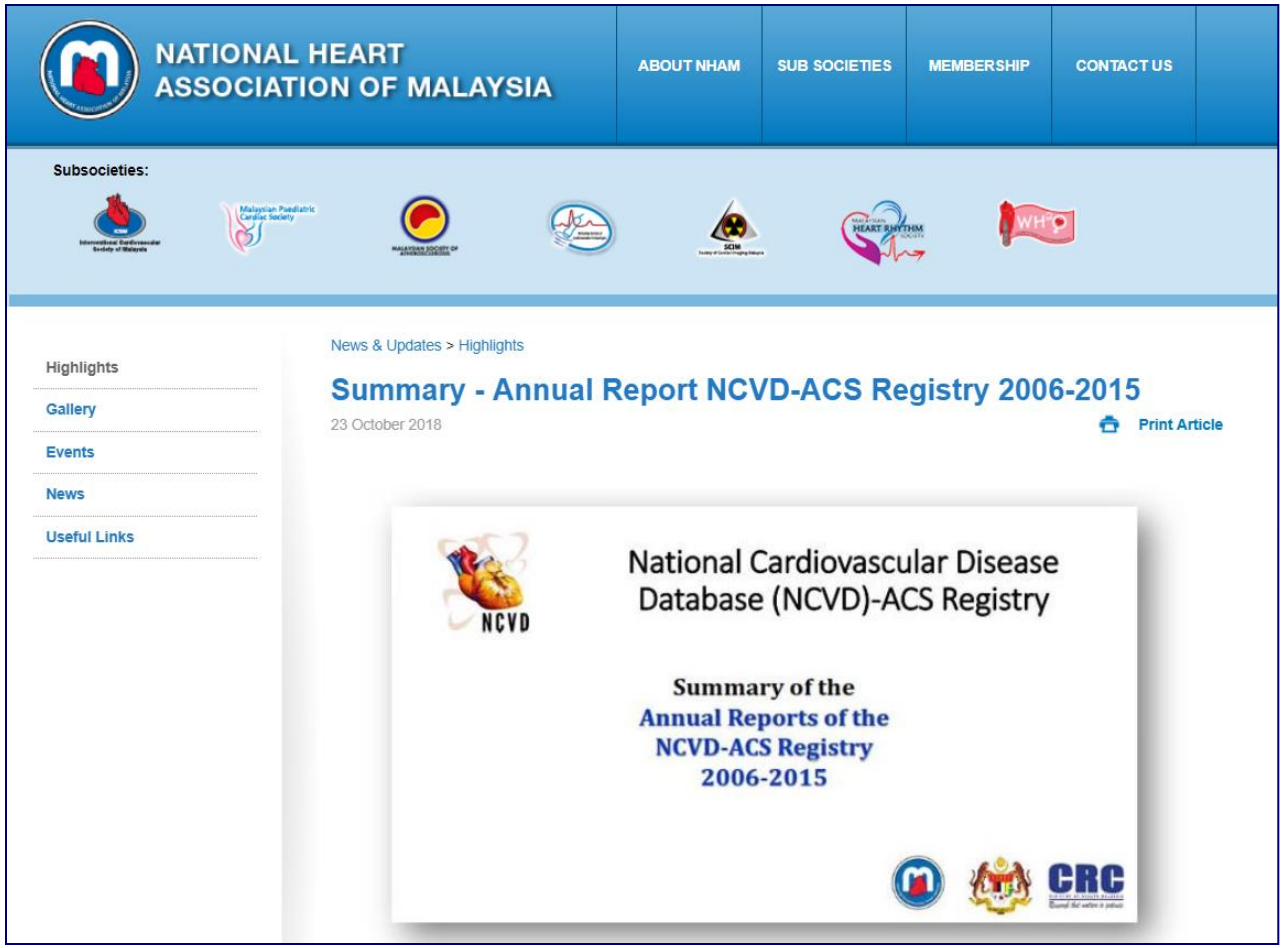


Table 17: 30-day mortality for NSTEMI (%), 2006-2015



Uploaded on our Website:
www.malaysianheart.org



https://www.malaysianheart.org/?p=highlights&a=1307

Sarawak Heart Centre

Disclaimer

Research/Educational Grants/Lecture Honoraria from Ministry of Health Malaysia, Astra Zeneca, Boehringer Ingelheim, B.Braun, Medtronic, Merck AG, MSD, Novartis AG, Orbus Neich, Pfizer Ltd, Roche Diagnositics, Siemens Diagnositics, Sanofi-Aventis. St Jude Medical.

For me - Acute Coronary Syndrome: the GRACE Registry Map in 2005

National Health and Morbidity Surveys.. (e.1986)

NHMS 2015

Published: 26 March 2015 | Written by Dr. Muhammad Fadhli Mohd Yusoff | | Hits: 20435

National Health and Morbidity Survey 2015

The National Health and Morbidity Survey (NHMS) has been an important platform for monitoring the health of the population in Malaysia. The objectives of the NHMS are to provide the community-based data on the pattern of common health problems, health service utilisation and health expenditure in the community. Findings of the NMHS support the Ministry of Health to review the priorities and activities of the health programme, to plan for future allocation of resources and to evaluate the impact of strategies.

The NHMS (NHMS I) was first initiated in 1986 and the interval was conducted once every 10 years. In 1996, the NHMS II was then conducted, followed by the NHMS III in 2006. However, since 2011, the interval was shortened from 10 to 4 years to ensure that more recent data and information can be used for the planning of health programmes. The NHMS 2015 was conducted in March till May 2015.

The NHMS 2015 covered most of the modules in NHMS 2011 especially on health care demands, non-communicable diseases (NCD),risk factors of the non-communicable diseases, and a few additional modules such as tuberculosis, dengue and traditional and complementary medicine.

About 10,000 randomly selected living quarters (LQ) were visited from all over the country and 30,000 populations responded to the survey with the overall response rate of 86.4%.

- See NHMS 2015 FAQ **here**.
- The NHMS 2015 activities can be followed in Facebook pages as '**National Health & Morbidity Survey 2015**'.
- NHMS Report 2015 Volume I - METHODOLOGY & GENERAL FINDINGS (View / Download)
- NHMS Report 2015 Volume II - NON-COMMUNICABLE DISEASES & OTHER HEALTH PROBLEMS (View / Download)

Risk factors for cardiovascular disease

NHMS 2015 HIGHLIGHTS

CARDIOVASCULAR DISEASES

DIABETES MELLITUS

- 17.5% (3.5 million) of adults 18 years and above have diabetes
- 8.3% are known diabetes
- 9.2% are previously undiagnosed with diabetes

HYPERTENSION

- 30.3% (6.1 million) of adults 18 years and above have hypertension
- 13.1% are known to have hypertension
- 17.2% are previously undiagnosed with hypertension

HYPERCHOLESTEROLEMIA

- 47.7% (9.6 million) of adults 18 years and above have hypercholesterolemia
- 9.1% are known to have hypercholesterolemia
- 38.6% are previously undiagnosed with hypercholesterolemia

TOBACCO USE

- 43.0 % of men, 1.4% of women, and 22.8% overall (5.0 million) currently smoked tobacco.

NATIONAL HEALTH & MORBIDITY SURVEY (NHMS) 2015 FACT SHEET

About 10,000 randomly selected living quarters (LQ) were visited and 30,000 population responded to the survey with the overall response rate of 86.4%.

Causes of hospital admissions and mortality

Ten Principal Causes of Hospitalisation in MoH, 2016 [P]

1.	Pregnancy, childbirth and the puerperium	23.07%
2.	Diseases of the respiratory system	12.80%
3.	Certain infectious and parasitic diseases	8.74%
4.	Certain conditions originating in the perinatal period	8.67%
5.	Injury, poisoning and certain other consequences of external causes	7.66%
6.	Diseases of the circulatory system	7.50%
7.	Diseases of the digestive system	4.58%
8.	Diseases of the genitourinary system	4.29%
9.	Neoplasms	4.17%
10.	Factors influencing health status and contact with health services	3.24%

Ten Principal Causes of Hospitalisation in Private Hospitals, 2016

1.	Diseases of the respiratory system	5.93%
2.	Certain infectious and parasitic diseases	4.57%
3.	Pregnancy, childbirth and the puerperium	9.90%
4.	Diseases of the digestive system	9.56%
5.	Injury, poisoning and certain other consequences of external causes	7.51%
6.	Diseases of the circulatory system	7.32%
7.	Diseases of the genitourinary system	6.92%
8.	Diseases of the musculoskeletal system and connective tissue	6.92%
9.	Neoplasms	4.24%
10.	Factors influencing health status and contact with health services	3.81%

Ten Principal Causes of Death* in MoH Hospitals, 2016 [P]

1.	Diseases of the circulatory system	22.62%
2.	Diseases of the respiratory system	21.65%
3.	Certain infectious and parasitic diseases	13.30%
4.	Neoplasms	12.61%
5.	Diseases of the genitourinary system	4.65%
6.	Diseases of the digestive system	4.56%
7.	External causes of morbidity and mortality	4.50%
8.	Certain conditions originating in the perinatal period	2.56%
9.	Endocrine, nutritional and metabolic diseases	2.39%
10.	Disease of the nervous system	1.65%

Note: Based on 3 digit code grouping ICD10.
** Based on underlying causes of death.*
P Preliminary

13

Ten Principal Causes of Death* in Private Hospitals, 2016

1.	Neoplasms	26.71%
2.	Diseases of the circulatory system	26.43%
3.	Diseases of the respiratory system	13.80%
4.	Certain infectious and parasitic diseases	13.36%
5.	Diseases of the genitourinary system	4.19%
6.	Diseases of the digestive system	4.09%
7.	Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	2.92%
8.	Injury, poisoning and certain other consequences of external causes	1.67%
9.	Endocrine, nutritional and metabolic diseases	1.25%
10.	Certain conditions originating in the perinatal period	0.94%

Note: Based on 3 digit code grouping ICD10. ** Based on immediate causes of death.*

14

Public sector investment into healthcare

Financial Allocation, 2012

Total MoH Allocation	RM 16,870,767,600
- Operating	RM 14,998,120,400
- Development	RM 1,872,647,200
Per Capita Income [1] (current prices) (forecast)	RM 30,856
Percentage of Total MoH Allocation to National Allocation	7.25

Source: Estimated Federal Budget 2012, Ministry of Finance
[1] Economic Report 2011 / 2012, Ministry of Finance

Financial Allocation, 2014

Total MoH Allocation	RM22,160,380,300
- Operating	RM20,498,060,000
- Development	RM1,662,320,300
Per Capita Income[1] (current prices)	RM34,126 (forecast)
Percentage of Total MoH Allocation to National Budget	8.39%

Sources: Estimated Federal Budget 2014, Ministry of Finance
[1]Economic Report 2013/2014, Ministry of Finance

Financial Allocation, 2016

Total MoH Allocation	RM23,031,066,400
- Operating	RM21,430,802,000
- Development	RM1,600,264,400
Per Capita Income[1] (current prices)	RM38,438 (forecast)
Percentage of Total MoH Allocation to National Budget	8.62%

Sources: Estimated Federal Budget 2016, Ministry of Finance
[1]Economic Report 2015/2016, Ministry of Finance

MoH	2012	2014	2016
Doctors	25845	28949	33545
Nurses	50063	56503	64016

Patient load : Capacity

Healthcare Facilities, 2016 (as of 31 December)

Government

• Ministry of Health	NO.	OFFICIAL BEDS
Hospitals and Special Medical Institutions	144	41,995
- Hospitals	135	37,293
- Special Medical Institutions[1]	9	4,702

	NO.	TEAMS
Health Clinics		
- Health Clinics[2]	1,060	-
- Community Clinics (Klinik Desa)	1,803	-
- Mobile Health Clinics (Teams)	-	204
- Flying Doctor Services (Teams)	6 (Helicopters)	12

Healthcare Facilities, 2016 (as of 31 December)

Private

• Licensed	NO.	OFFICIAL BEDS
Hospitals	187	13,957

Admissions and Outpatient Attendances, 2016

Government

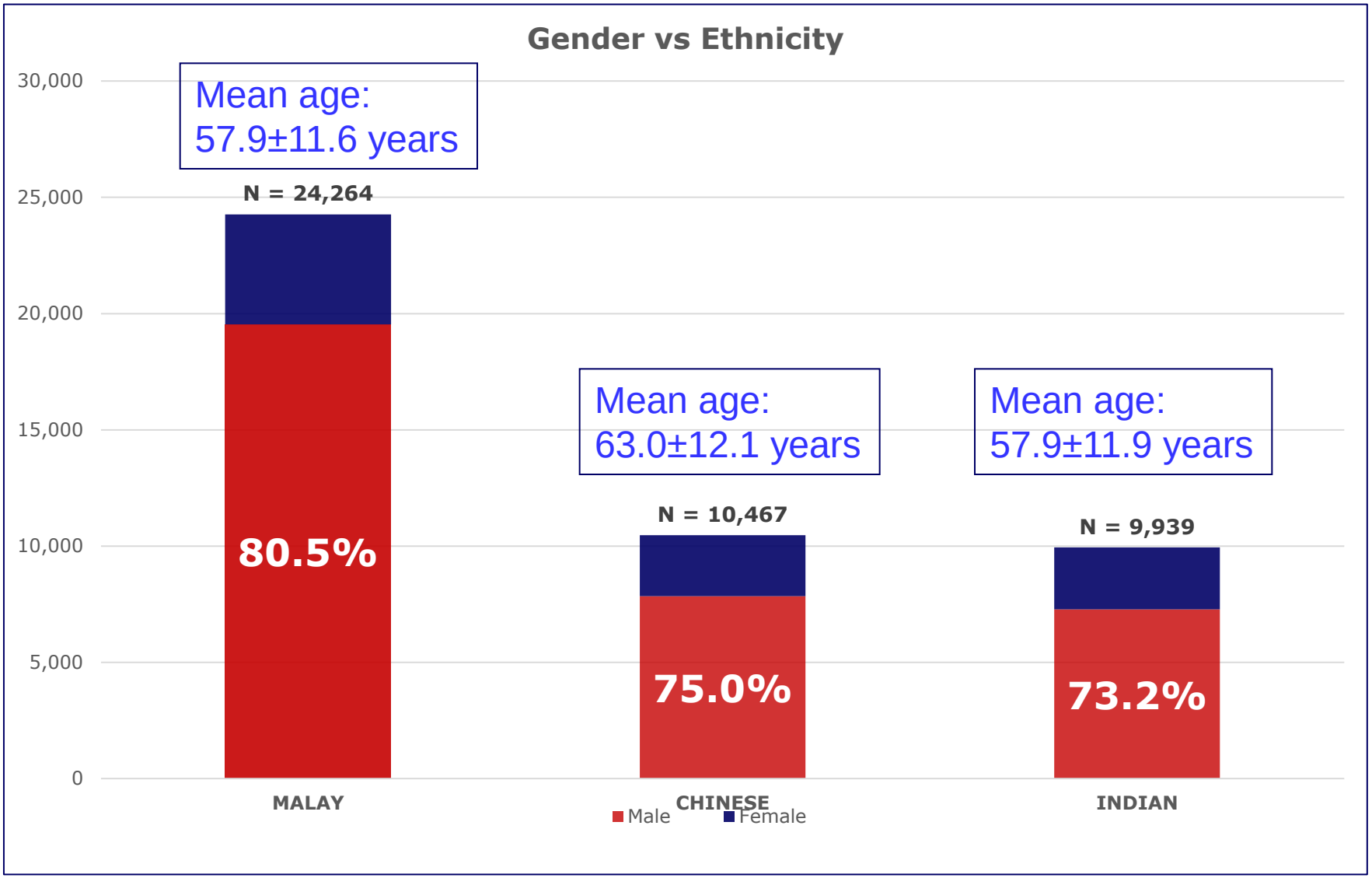
- **Ministry of Health**

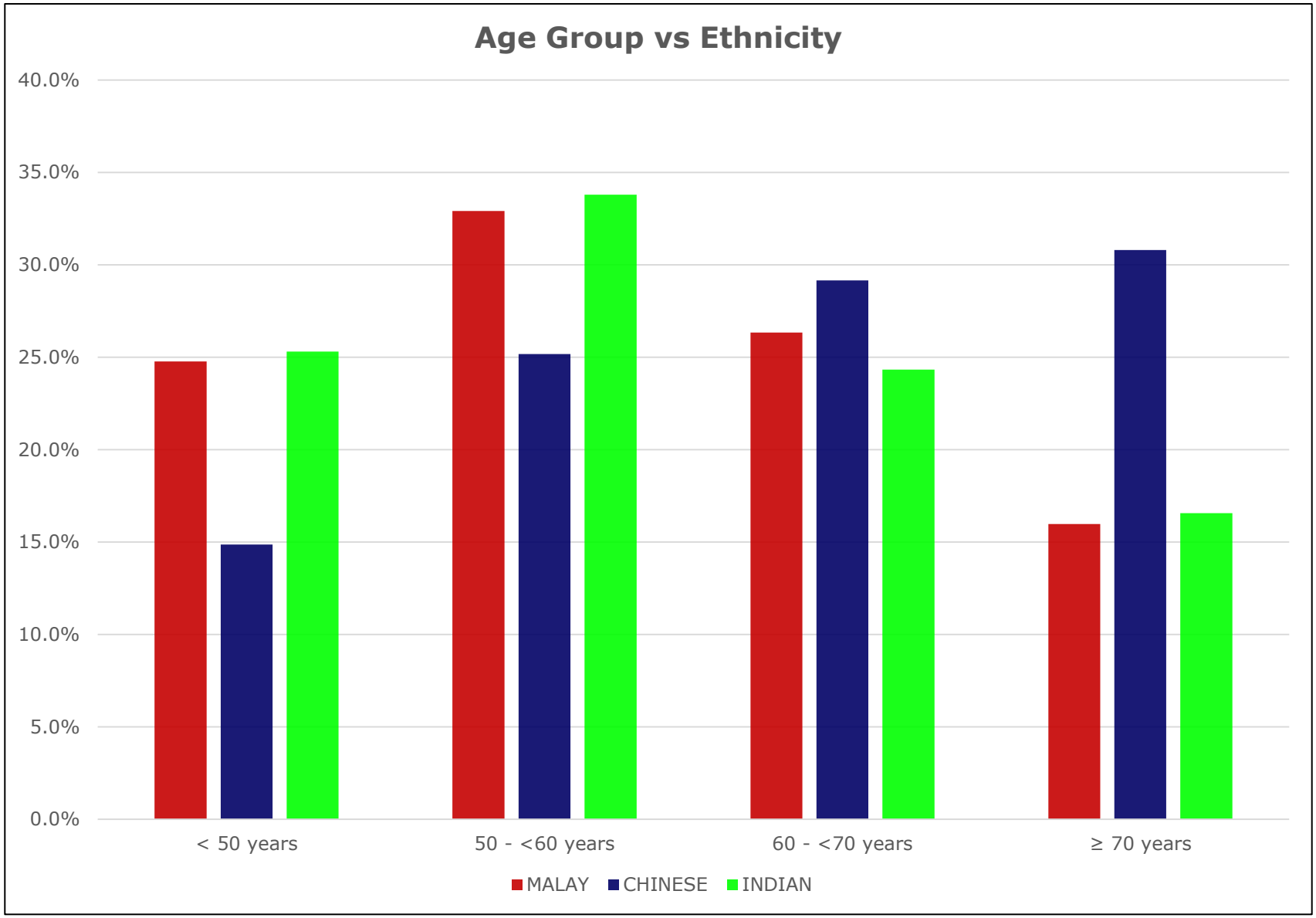
Admissions[1]	
Hospitals	2,510,438
Special Medical Institutions	61,442
Outpatient Attendances	
Hospitals	20,721,556
Special Medical Institutions	326,665
Public Health Facilities[2]	40,154,008

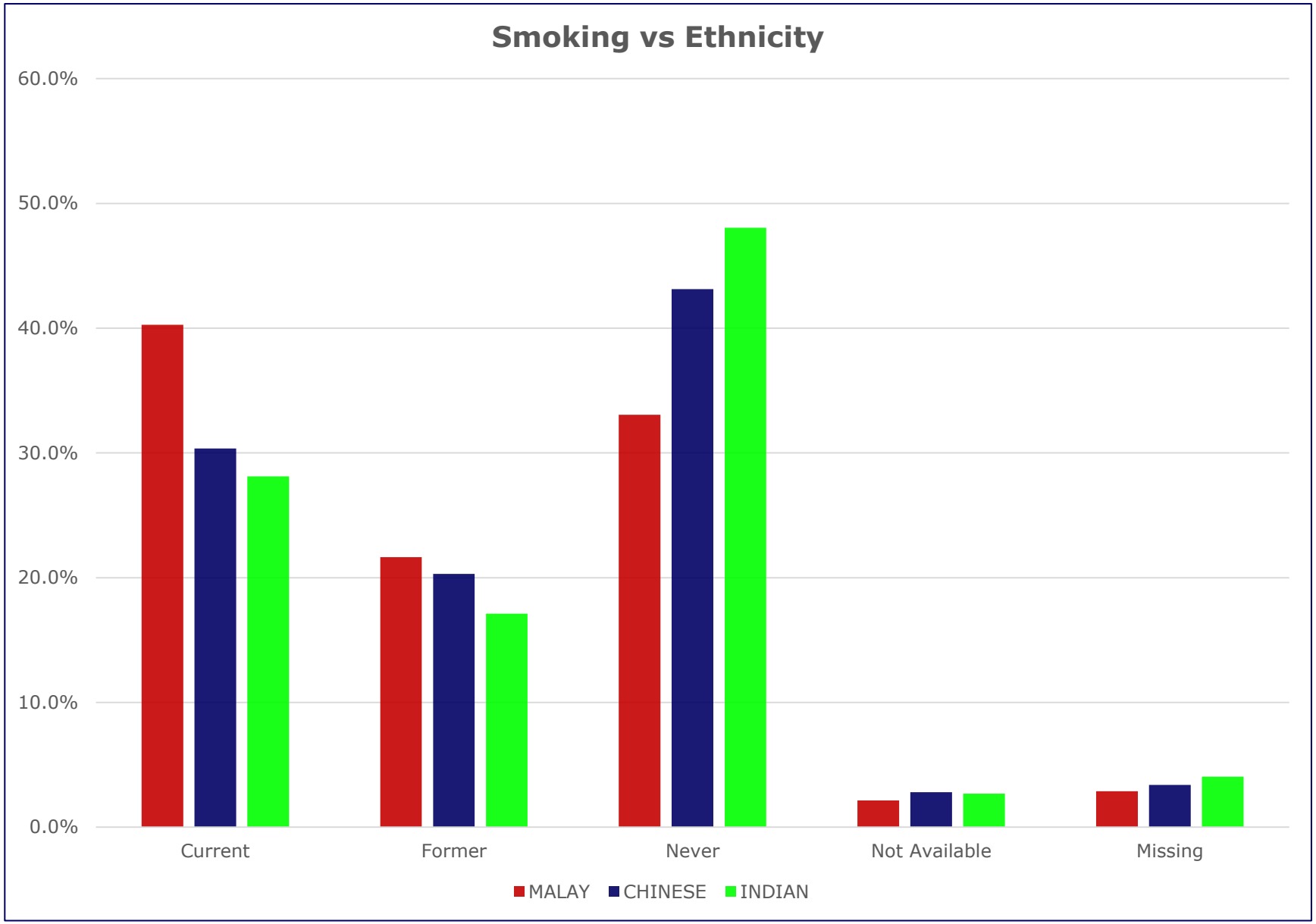
Private Hospitals[10]

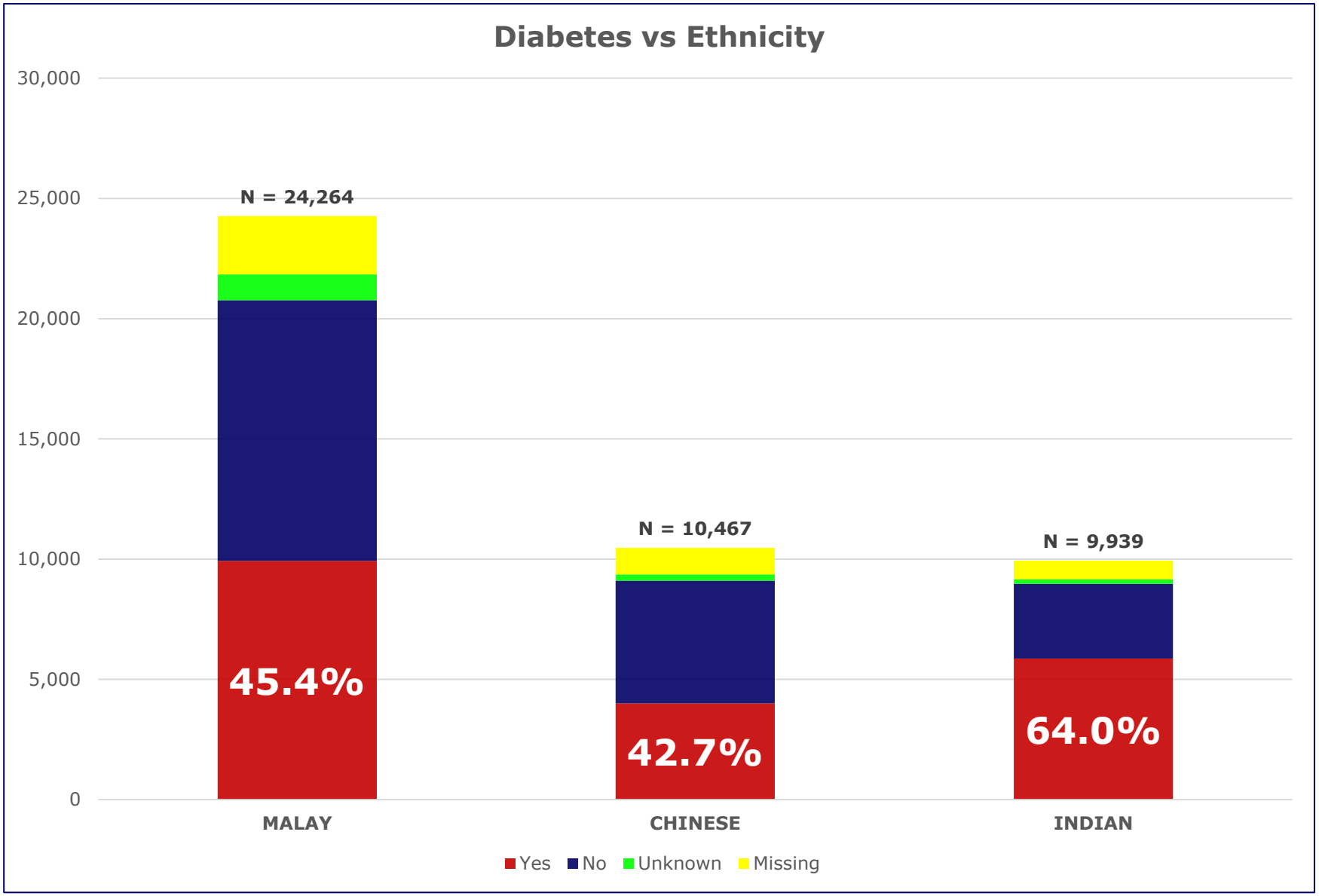
Admissions	1,073,039
Outpatient Attendances	3,821,698

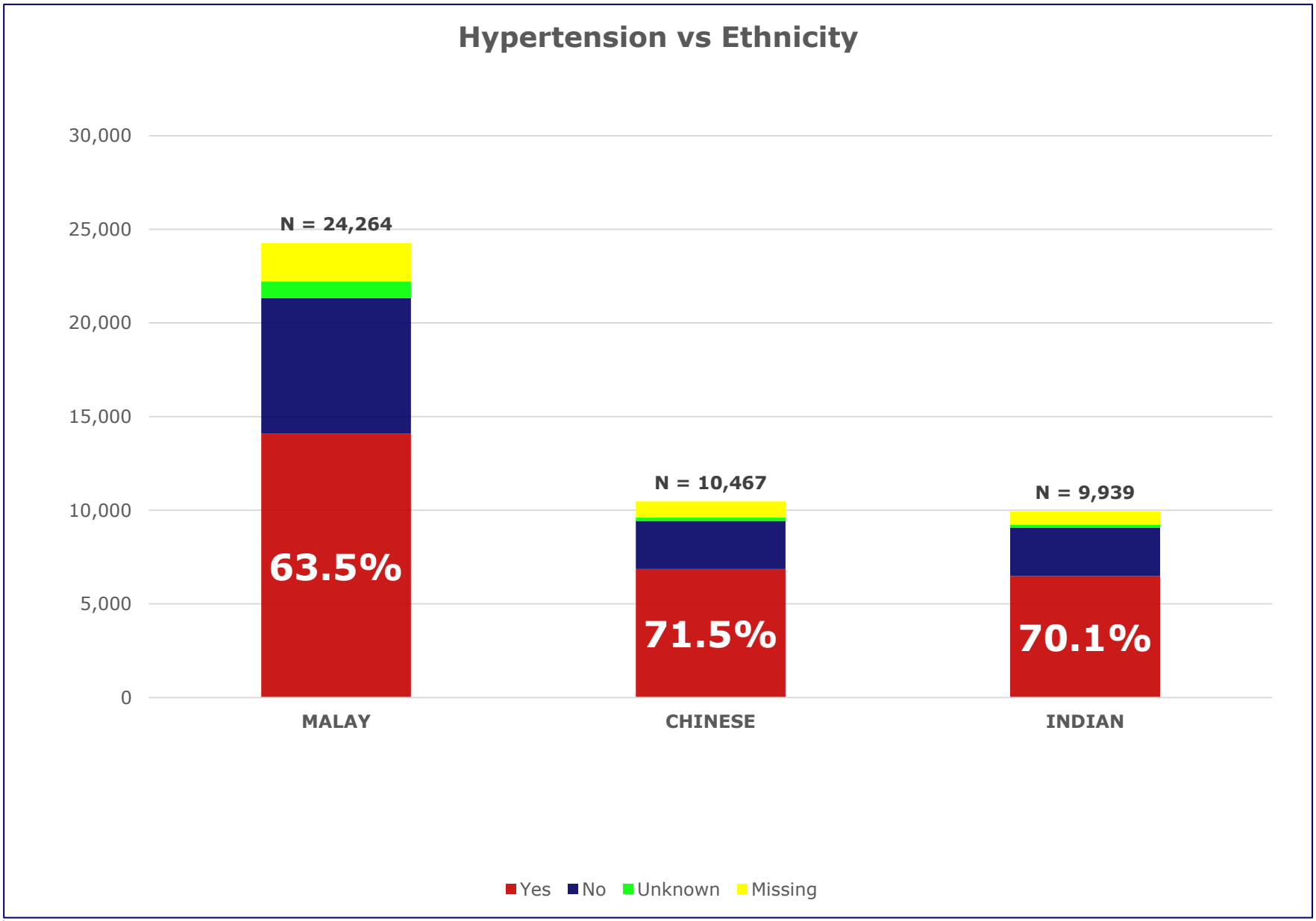
The 3 major ethnic groups



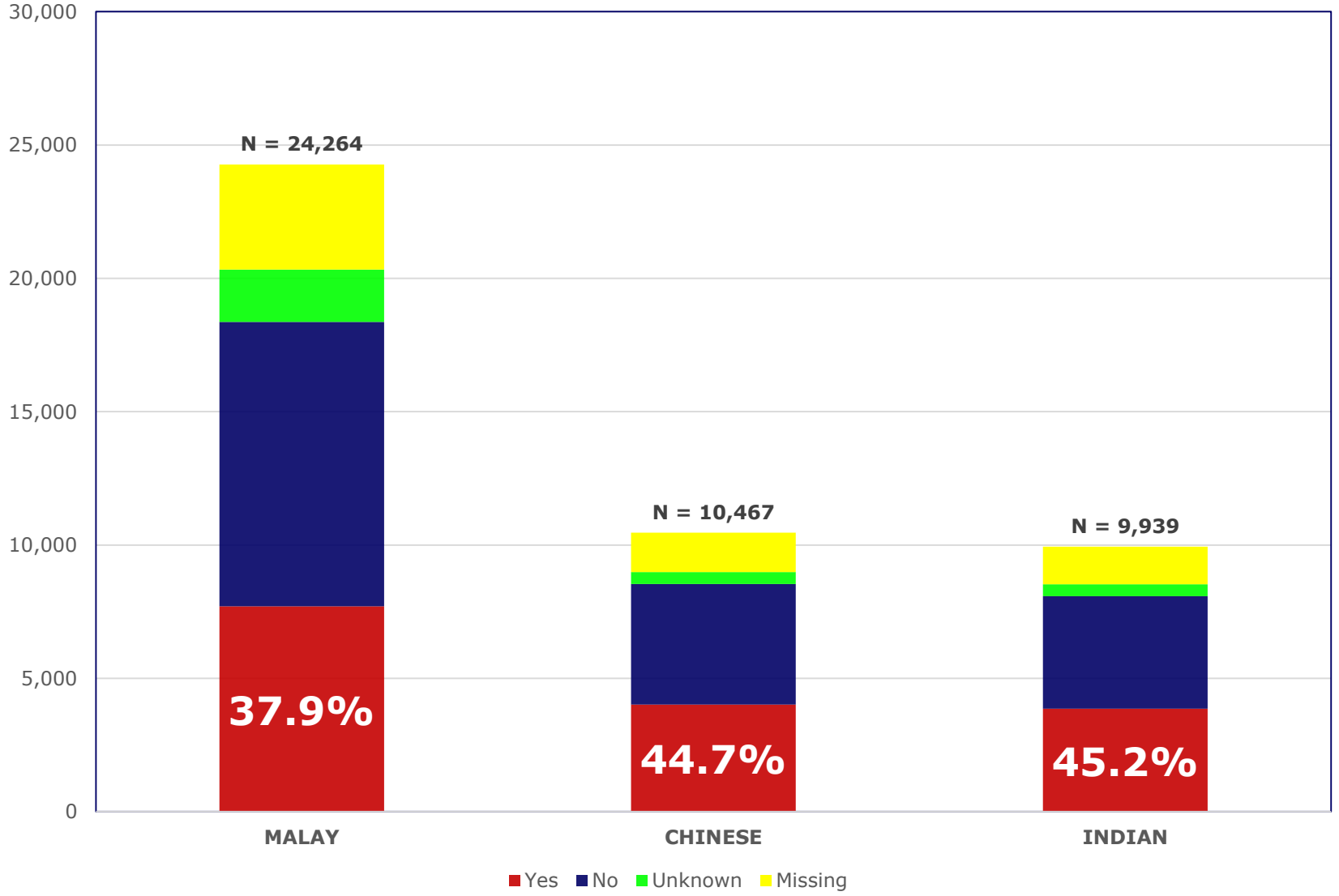

Age Group vs Ethnicity
40.0%
35.0%
30.0%
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
< 50 years
50 - <60 years
60 - <70 years
≥ 70 years
MALAY
CHINESE
INDIAN

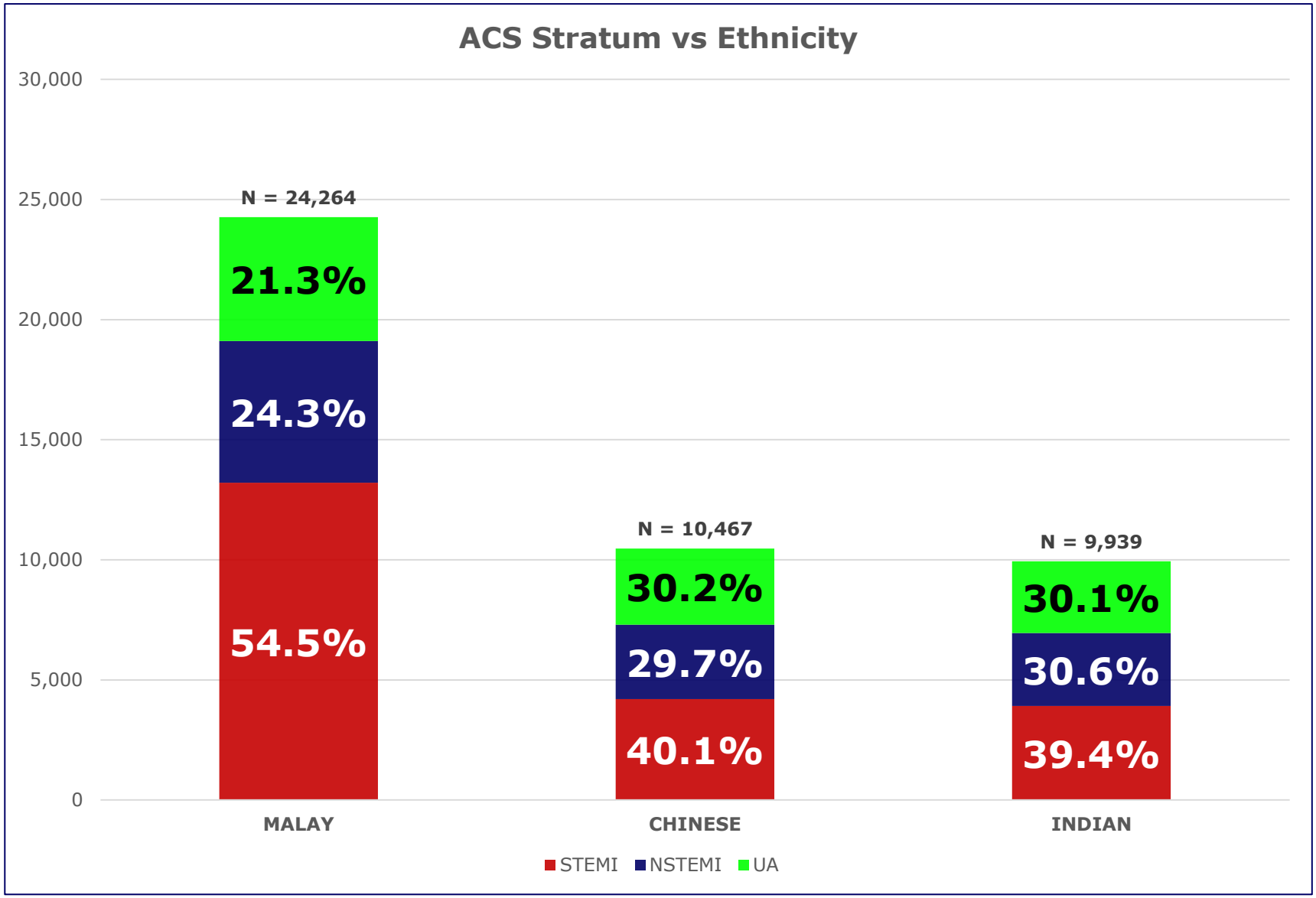

Smoking vs Ethnicity
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
Current
Former
Never
Not Available
Missing
MALAY
CHINESE
INDIAN

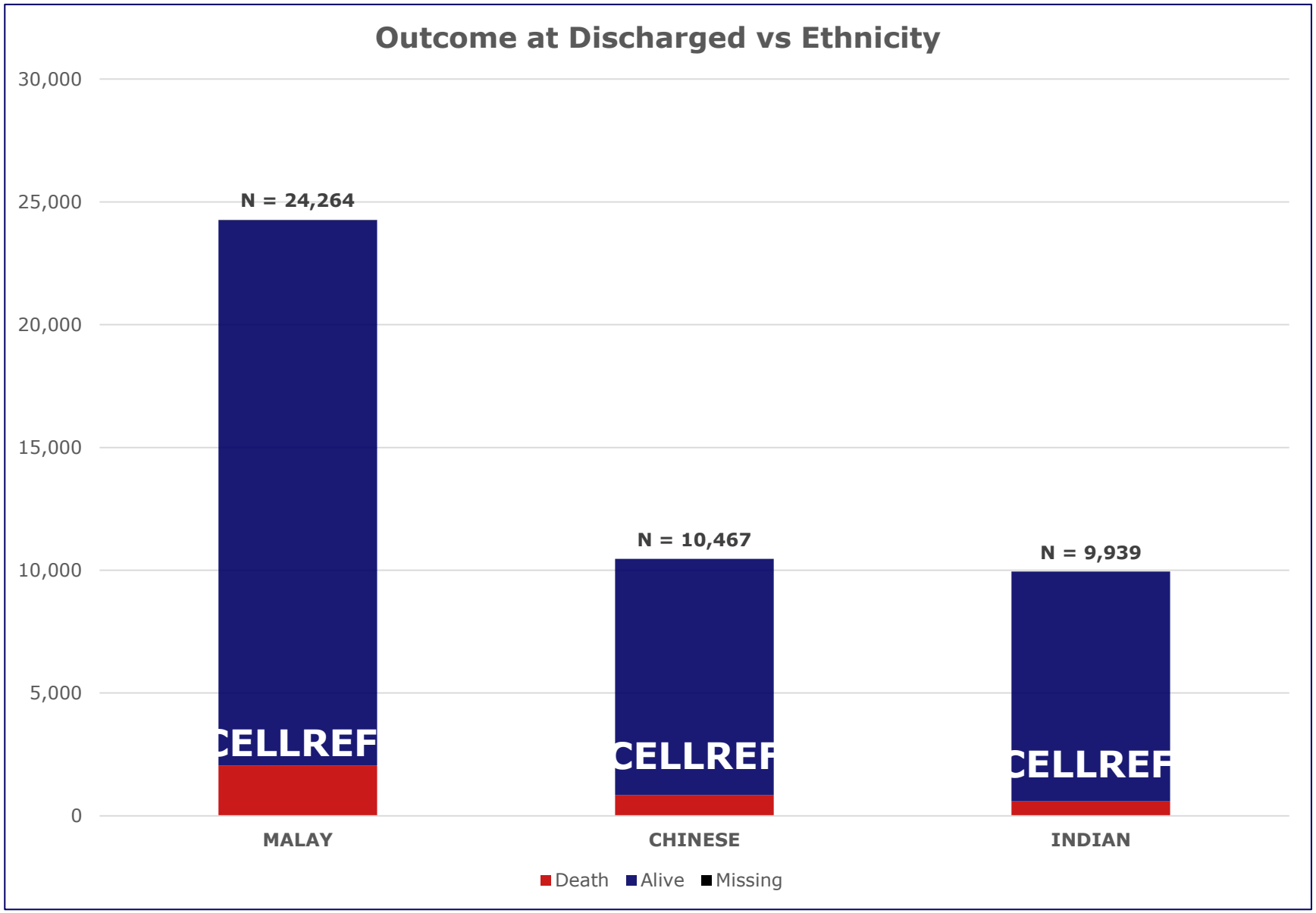

Diabetes vs Ethnicity
30,000
25,000
20,000
15,000
10,000
5,000
0
N = 24,264
N = 10,467
N = 9,939
45.4%
42.7%
64.0%
MALAY
CHINESE
INDIAN
Yes
No
Unknown
Missing

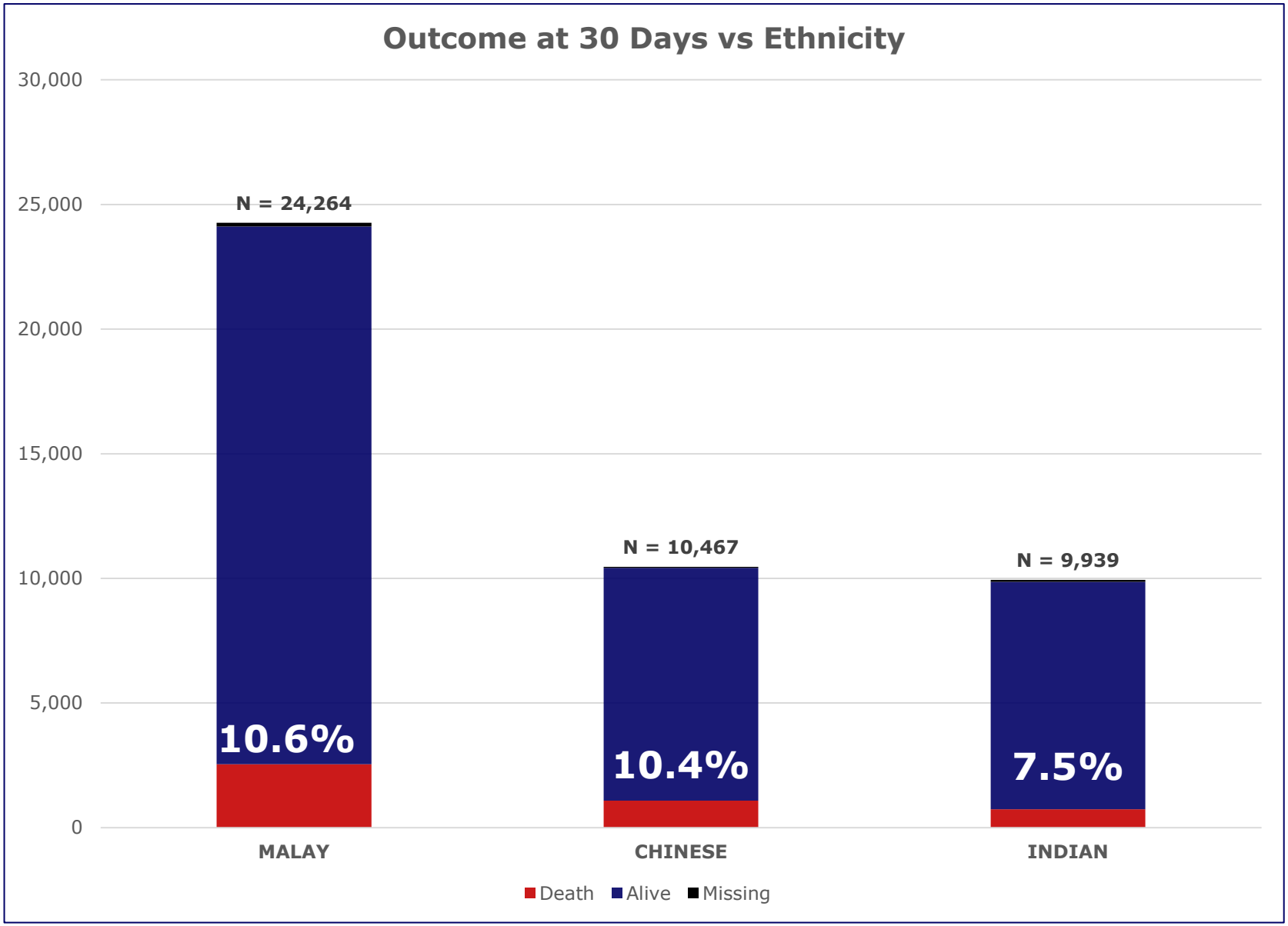

Hypertension vs Ethnicity
30,000
25,000
20,000
15,000
10,000
5,000
0
N = 24,264
63.5%
N = 10,467
71.5%
N = 9,939
70.1%
MALAY
CHINESE
INDIAN
Yes
No
Unknown
Missing

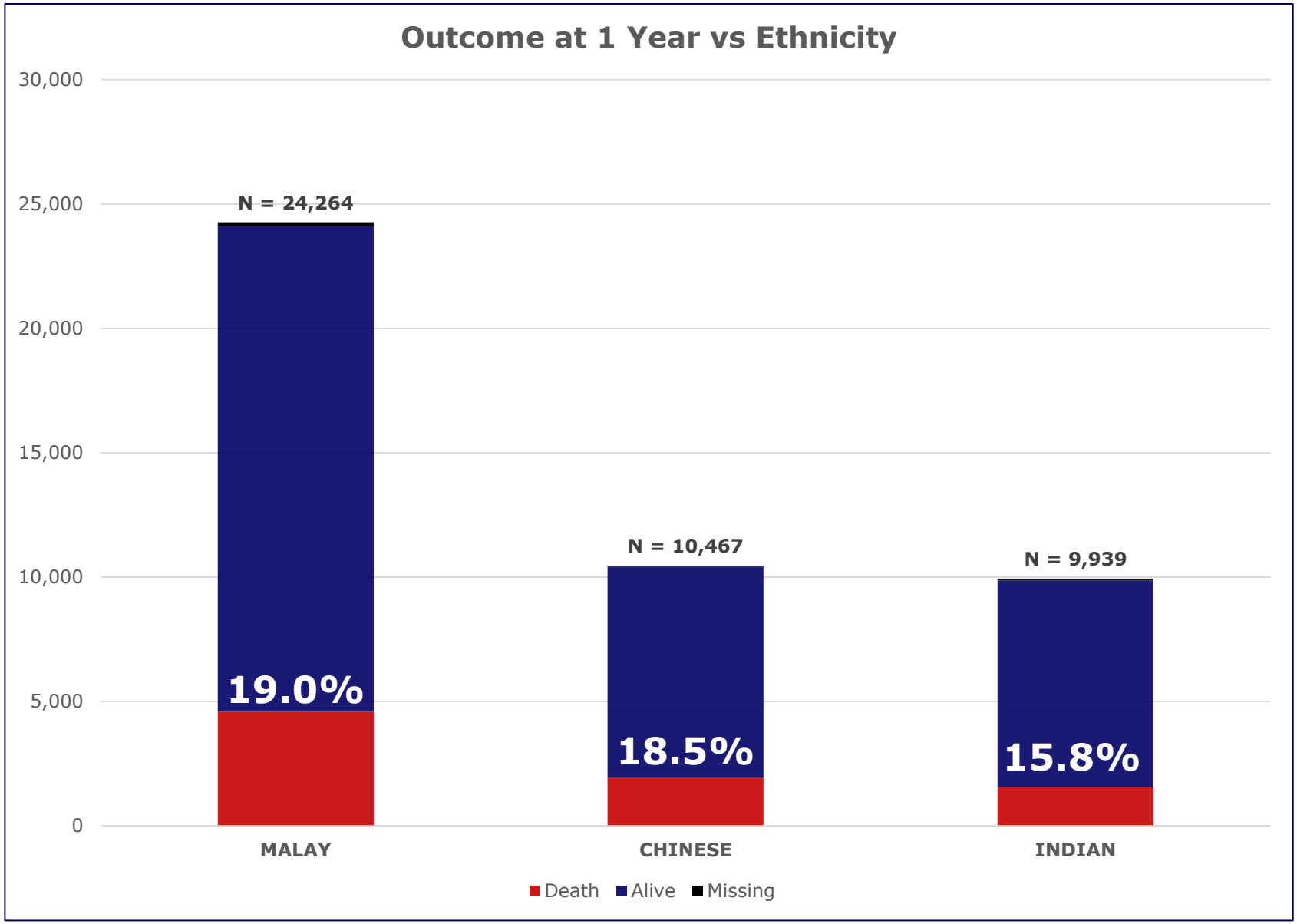
Dyslipidaemia vs Ethnicity




ACS Stratum vs Ethnicity
30,000
25,000
20,000
15,000
10,000
5,000
0
N = 24,264
21.3%
24.3%
54.5%
N = 10,467
30.2%
29.7%
40.1%
N = 9,939
30.1%
30.6%
39.4%
MALAY
CHINESE
INDIAN
STEMI
NSTEMI
UA


Outcome at Discharged vs Ethnicity
30,000
25,000
20,000
15,000
10,000
5,000
0
N = 24,264
N = 10,467
N = 9,939
CELLREF
CELLREF
CELLREF
MALAY
CHINESE
INDIAN
Death
Alive
Missing


Outcome at 30 Days vs Ethnicity
30,000
25,000
20,000
15,000
10,000
5,000
0
N = 24,264
N = 10,467
N = 9,939
10.6%
10.4%
7.5%
MALAY
CHINESE
INDIAN
Death
Alive
Missing


Outcome at 1 Year vs Ethnicity
30,000
25,000
20,000
15,000
10,000
5,000
0
N = 24,264
19.0%
N = 10,467
18.5%
N = 9,939
15.8%
MALAY
CHINESE
INDIAN
Death
Alive
Missing

A glimpse into the future

Beth Israel Deaconess Medical Center

A major teaching hospital of Harvard Medical School

STANFORD MEDICINE

C. Michael Gibson, M.S., M.D., F.A.C.C., F.S.C.A.I., F.A.C.A.

Professor of Medicine
Harvard Medical School

Robert Harrington, M.D., FAHA, FACC

Professor of Medicine
Stanford University

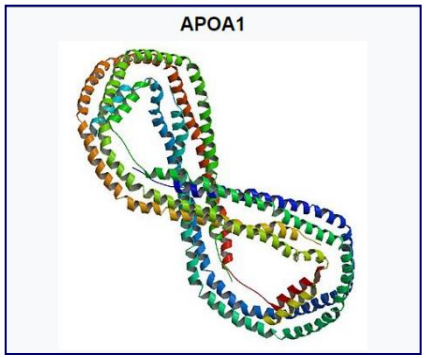
April 11, 2017

RE: Academic Leadership for CSL112 Phase 3 Study

Dear Dr. Fong,

Dr. Harrington and I write to you at this time to request your participation on the CSL112 AEGIS-II Steering Committee. This is a Phase 3, multicenter, double-blind, randomized, placebo-controlled, parallel-group study designed to investigate the efficacy and safety of CSL112 (intravenous ApoA1) on the occurrence of major adverse cardiovascular events (MACE) in subjects with ACS who are receiving standard of care (SOC) therapy. CSL112 is being developed for use in patients with ACS to reduce the risk of recurrent cardiovascular events.

AEGIS-II



Selected Sites

Country	Site #	Principal Investigator	Institution
Malaysia	4580002	Dr. Ong, Tiong Kiam	Hospital Umum Sarawak (HUS) - The Cardiac Centre
Malaysia	4580003	Dr. Ruhani, Anwar Irawan	Hospital Tengku Ampuan Afzan
Malaysia	4580004	Dr. Ma, Kian Fung (Gordon)	Queen Elizabeth Hospital II
Malaysia	4580005	Dr. Kasim, Sazzli Shahlan	Universiti Teknologi MARA (UiTM)
Malaysia	4580008	Dr. Maskon, Oteh	Universiti Kebangsaan Malaysia Medical Centre
Malaysia	4580007	Dr. Rosman, Datuk Azhari	Institut Jantung Negara
Malaysia	4580015	Dr. W Isa, W Yus Haniff	Hospital Universiti Sains Malaysia
Malaysia	4580016	Dr. Wan Ahmad, Wan Azman	University Malaya Medical Centre
Malaysia	4580019	Dr. Abdul Kader, Muhamad Ali	Hospital Pulau Pinang

NVCD Updates: More patients, more staff!

7 pakar jantung untuk sejuta penduduk

Timbalan Ketua Pengarah Kesihatan (Perubatan) Kementerian Kesihatan Malaysia, Datuk Dr Azman Abu Bakar (tengah) bersama Pakar Perunding Kanan Kardiologi Hospital Universiti Sains Malaysia HUSM, Prof Datuk Dr Zurkurnai Yusof (empat, kanan) dan pakar-pakar serta doktor yang terlibat pada Persidangan 11th Asia Pacific Cardiology Update USM 2018 di Kota Bharu, hari ini. - UTUSAN ONLINE/SHIDDIEQIIN ZON

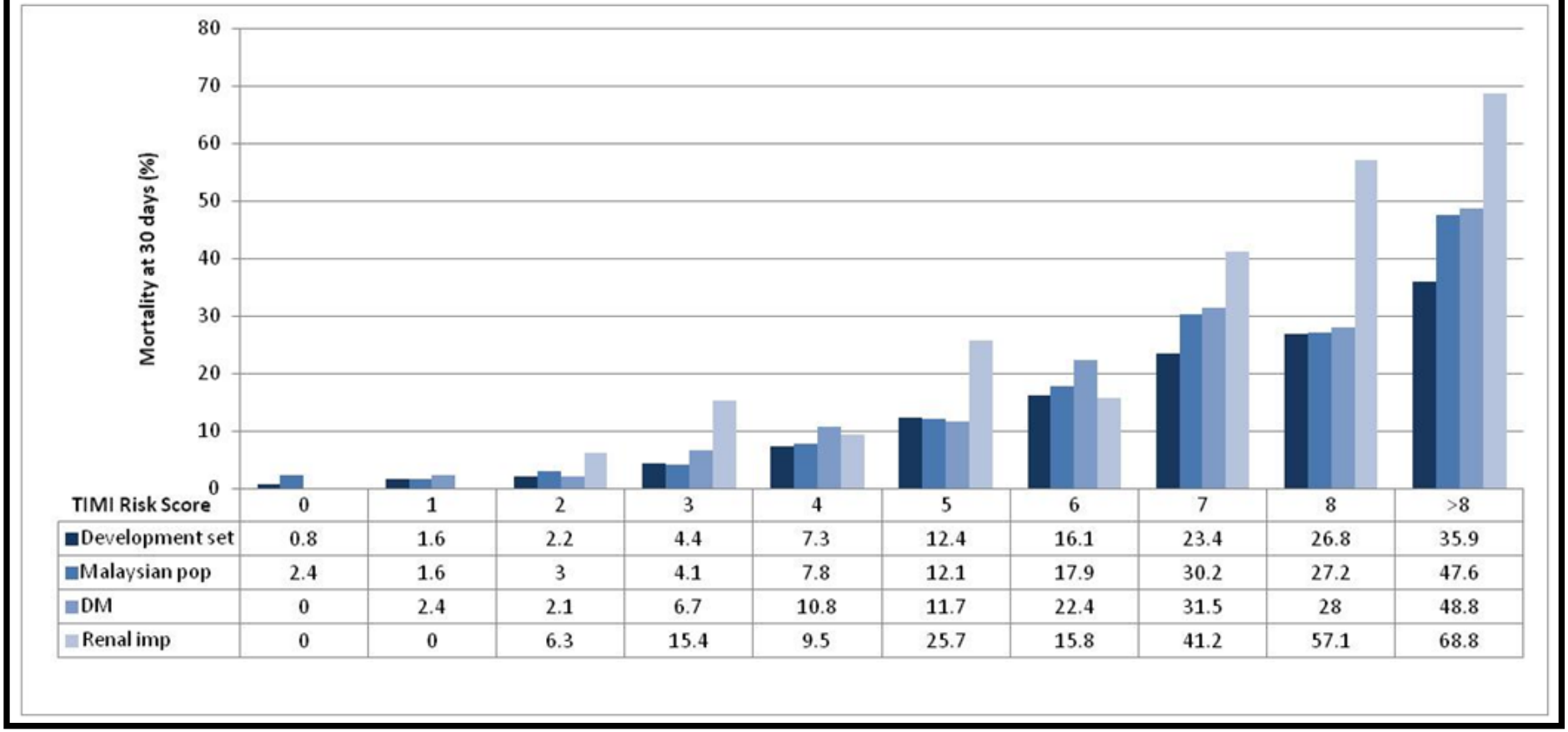
UTUSAN ONLINE

http://www.utusan.com.my/berita/nasional/7-pakar-jantung-untuk-sejuta-penduduk-1.771490

Registry, Research, Guidelines, Results

STEMI: comparison between NCVD and TIMI developmental dataset

Figure 2. Mortality rate at 30 days for TIMI risk score development and Malaysian STEMI population



TIMI Risk Score	0	1	2	3	4	5	6	7	8	>8
Development set	0.8	1.6	2.2	4.4	7.3	12.4	16.1	23.4	26.8	35.9
Malaysian pop	2.4	1.6	3	4.1	7.8	12.1	17.9	30.2	27.2	47.6
DM	0	2.4	2.1	6.7	10.8	11.7	22.4	31.5	28	48.8
Renal imp	0	0	6.3	15.4	9.5	25.7	15.8	41.2	57.1	68.8

An Asian Validation of the TIMI risk score for ST-Segment Elevation Myocardial Infarction: Results and Implications for Cardiac Care in a Developing Country. Sharmini Selvarajah, Alan Fong Yean Yip, Gunavathy Selvaraj, Jamaiyah Haniff, Cuno S.P.M. Uiterwaal, Michiel L. Bots, PLoS One 2012;7(7):e40249

A recent hit…. with global implications

Am J Cardiol. 2013 Feb 14. pii: S0002-9149(13)00333-0. doi: 10.1016/j.amjcard.2013.01.271. [Epub ahead of print]

Impact of Cardiac Care Variation on ST-Elevation Myocardial Infarction Outcomes in Malaysia.

Selvarajah S, Fong AY, Selvaraj G, Haniff J, Hairi NN, Bulgiba A, Bots ML.

Clinical Research Centre, Kuala Lumpur Hospital, Kuala Lumpur, Malaysia; Julius Center for Health Sciences and Primary Care, University Medical Center Utrecht, Utrecht, The Netherlands; Julius Centre University of Malaya, Department of Social and Preventive Medicine, University of Malaya, Kuala Lumpur, Malaysia. Electronic address: sharm@crc.gov.my.

Abstract

Developing countries face challenges in providing the best reperfusion strategy for patients with ST-segment elevation myocardial infarction because of limited resources. This causes wide variation in the provision of cardiac care. The aim of this study was to assess the impact of variation in cardiac care provision and reperfusion strategies on patient outcomes in Malaysia. Data from a prospective national registry of acute coronary syndromes were used. Thirty-day all-cause mortality in 4,562 patients with ST-segment elevation myocardial infarctions was assessed by (1) cardiac care provision (specialist vs nonspecialist centers), and (2) primary reperfusion therapy (thrombolysis or primary percutaneous coronary intervention [P-PCI]). All patients were risk adjusted by Thrombolysis In Myocardial Infarction (TIMI) risk score. Thrombolytic therapy was administered to 75% of patients with ST-segment elevation myocardial infarctions (12% prehospital and 63% in-hospital fibrinolytics), 7.6% underwent P-PCI, and the remainder received conservative management. In-hospital acute reperfusion therapy was administered to 68% and 73% of patients at specialist and nonspecialist cardiac care facilities, respectively. Timely reperfusion was low, at 24% versus 31%, respectively, for in-hospital fibrinolysis and 28% for P-PCI. Specialist centers had statistically significantly higher use of evidence-based treatments. The adjusted 30-day mortality rates for in-hospital fibrinolytics and P-PCI were 7% (95% confidence interval 5% to 9%) and 7% (95% confidence interval 3% to 11%), respectively (p = 0.75). In conclusion, variation in cardiac care provision and reperfusion strategy did not adversely affect patient outcomes. However, to further improve cardiac care, increased use of evidence-based resources, improvement in the quality of P-PCI care, and reduction in door-to-reperfusion times should be achieved.

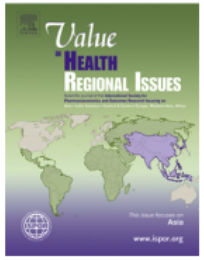
Quality of Life – Value in Health

VALUE IN HEALTH REGIONAL ISSUES 6C (2015) 80–83

Available online at www.sciencedirect.com

ScienceDirect

journal homepage: www.elsevier.com/locate/vhri



Quality of life among Patients with Acute Coronary Syndrome in Malaysia

Soraya Azmi, MPH, MD[1,2,*], *Adrian Goh, MEc, BEc*[1,2], *Alan Fong, MRCP, MBChB*[3,4,5], *Lawrence Anchah, PhD, MPharm, BPharm*[3]

[1]*Azmi Burhani Consulting, Petaling Jaya, Malaysia;* [2]*Veras Research, Petaling Jaya, Malaysia;* [3]*Sarawak General Hospital Heart Centre, Sarawak, Malaysia;* [4]*Clinical Research Centre, Sarawak General Hospital, Sarawak, Malaysia;* [5]*Faculty of Medicine and Health Sciences, Universiti Malaysia, Sarawak, Malaysia*

ABSTRACT

Objectives: This study's objectives were to estimate the quality of life (QOL) of Malaysian patients with acute coronary syndrome (ACS) during admission and at 12 months, to explore the factors associated with the QOL, and to compare utility scores derived from tariffs from local and foreign populations. **Methods:** Data collected from patients with ACS between 2008 and 2009 for a study on cardiac rehabilitation at the Sarawak General Hospital were used for this study. QOL data were obtained using a validated version of the EuroQol five-dimensional questionnaire at baseline and at 12 months. Health utility scores were calculated using visual analogue scale scores and utility tariffs from Malaysia and the United Kingdom. **Results:** Data from 104 subjects from the earlier study was used. The mean age was 56.1 years, with 88.5% being men. The mean hospitalization duration was 6.3 days. The mean utility score was 0.75 at baseline and 0.82 at 12 months. There was a statistically significant improvement in utility from baseline to 12 months based on the Malaysian tariff ($P = 0.014$) but not with the UK tariff ($P = 0.086$). The QOL of patients was associated with sex and diagnosis of ST-segment elevation myocardial infarction. **Conclusions:** Our results showed that there was a significant improvement in the QOL from baseline to 12 months. Only sex and diagnosis affected the QOL score at baseline because of limited variables available for testing. It also reconfirms the importance of applying the appropriate, country-specific utility tariffs in QOL studies. Despite limitations, the study is useful toward describing QOL among a group of Malaysian patients with ACS.

Keywords: acute coronary syndrome, EQ-5D, Malaysia, quality of life, utility.

A recent publication

Contents lists available at ScienceDirect

International Journal of Cardiology

journal homepage: www.elsevier.com/locate/ijcard

Acute coronary syndrome in the Asia-Pacific region

Mark Y. Chan [a,*,1], Xin Du [b], David Eccleston [c], Changsheng Ma [b], Padinhare P. Mohanan [d], Manabu Ogita [e], Kou-Gi Shyu [f], Bryan P. Yan [g], Young-Hoon Jeong [h,**,1]

[a] National University Heart Centre, Singapore
[b] Beijing AnZhen Hospital, Capital Medical University, Beijing, China
[c] University of Melbourne, Melbourne, Australia
[d] West Fort Hospital, Thrissur, India
[e] Juntendo University School of Medicine, Tokyo, Japan
[f] Shin Kong Wu Ho-Su Memorial Hospital, Taiwan
[g] The Chinese University of Hong Kong (Prince of Wales Hospital), Hong Kong
[h] Gyeongsang National University Hospital, Gyeongsang National University School of Medicine, Jinju, Korea

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ABSTRACT

More than 4.2 billion inhabitants populate the Asia-Pacific region. Acute coronary syndrome (ACS) is now a major cause of death and disability in this region with in-hospital mortality typically exceeding 5%. Yet, the region still lacks consensus on the best approach to overcoming its specific challenges in reducing mortality from ACS. The Asia-Pacific Real world evIdenCe on Outcome and Treatment of ACS (APRICOT) project reviewed current published and unpublished registry data, unmet needs in ACS management and possible approaches towards improving ACS-related mortality in the region. There was striking heterogeneity in the use of invasive procedures,

National Clinical Practice Guidelines (CPGs)

- CPG Lipids 2011, now 2017
- CPG Diabetes
- CPG Hypertension 2013, now 2018
- CPG for Stable Angina 2010, now 2018
- CPG for STEMI 2007, 2014
- CPG for NSTEACS 2011
- CPG for Prevention of CVD 2017