APPENDIX B: STATISTICAL METHODS

The statistical methods described were used to summarise the data collected from the National Cardiovascular Database (NCVD). In this report, two sources of data have been used for analyses. They were the centre survey data and the NCVD-PCI registry data.

Provision of acute coronary care services in Malaysia
Chapter 1 of this report is reserved for the next publication.

The analyses for the rest of this report were generated based on the NCVD- PCI registry data, using the following analysis set:

The data without missing information on status of percutaneous coronary intervention, details of procedures and those of ages above 18 years old that which had been collected until 31st December 2007 by NCVD-PCI were analysed. The data were stratified to reflect differences in

- Demography: race, gender, age
- Medical factors: pre-morbid or past medical history
- Therapy: lesion characteristics and type of stent used

Methods for handling missing data and outliers

The outliers were set to missing (see table below)

Fields	Acceptable range
Age	>18 years old
Height	130 cm – 250 cm
Weight	40 kg – 200 kg
Heart rate	25 – 200 beats/min
Systolic BP	60 – 230 mmHg
Diastolic BP	10 – 120 mmHg
Creatinine	60.0 micromol/L (min)
TC	2.5 mmol/L – 25.0 mmol/L
LDL	1.0 mmol/L – 20.0 mmol/L
EF status	15% – 80%
Fluoroscopy time	2 mins – 180 mins
Contrast volume	15 ml – 500 ml
Pre-stenosis %	10% - 100%
Post-stenosis %	0% - 100%
Estimated lesion length	1-120 mm
a. Stent length	8 – 50 mm
b. Diameter	2.00 – 7.00 mm
Max balloon size used	1 - 6 mm
Max stent/balloon deploy pressure	1 - 30 atm

Patient Characteristics

The information on patient characteristics was summarised in chapter 2 of this report. The tables included patients' age, gender, ethnic group, admission status, coronary risk factors, anthropometric measurements, co-morbidity, previous interventions and also the distribution of patients, by source data providers (SDPs). For summarising continuous data, the mean, standard deviation, median, minimum and maximum were reported. On the other hand, both the frequency count and percentage were reported for discrete data. Invariably, there were situations where there was missing data. Analysis was confined to available data and no imputation was done.

Clinical Presentations & Investigations

Chapter 3 of the report basically was to summarize the patient clinical examination, cardiac status at PCI procedure, ACS, STEMI: time-to-treatment analysis, comparison of time to STEMI treatment according to patients with transfer or without transfer, comparison of heart rate according to PCI settings, comparison of heart rate according to ACS subtypes and duration of symptom at presentation according to ACS. For continuous data, the mean, standard deviation, median, minimum and maximum were reported. On the other hand, frequency count and percentage were reported for discrete data.

Procedural Details

The procedural settings and treatments that were provided to the patients were mainly summarized in chapter 4. PCI procedural details of lesion characteristics were also reported.

Clinical Outcomes

Chapter 5 summarized the overall in-hospital as well as 30-day outcomes for patients with PCI. Cross tabulations of outcomes by gender, age group, and pre-morbid conditions such as diabetes, hypertension, dyslipidaemia were included in this chapter. Tabulation of the overall in-hospital as well as 30-day medications by outcomes were presented for patients who underwent PCI. Other tabulations present data such as location of death, by the overall in-hospital as well as 30-day outcomes for patients with PCI, outcome by cardiogenic shock (post-procedure), procedural complications and clinical outcomes according to PCI status. Tabulation of discharge outcome by post-PCI TIMI flow and contrast volume used were presented. 30 days readmission and also reason for readmission were tabulated. Prognostic factors for in-hospital death as well as death within 30 days were summarised among patients who underwent PCI. No imputation was done for this chapter.