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mathematical
modelling of
infectious diseases

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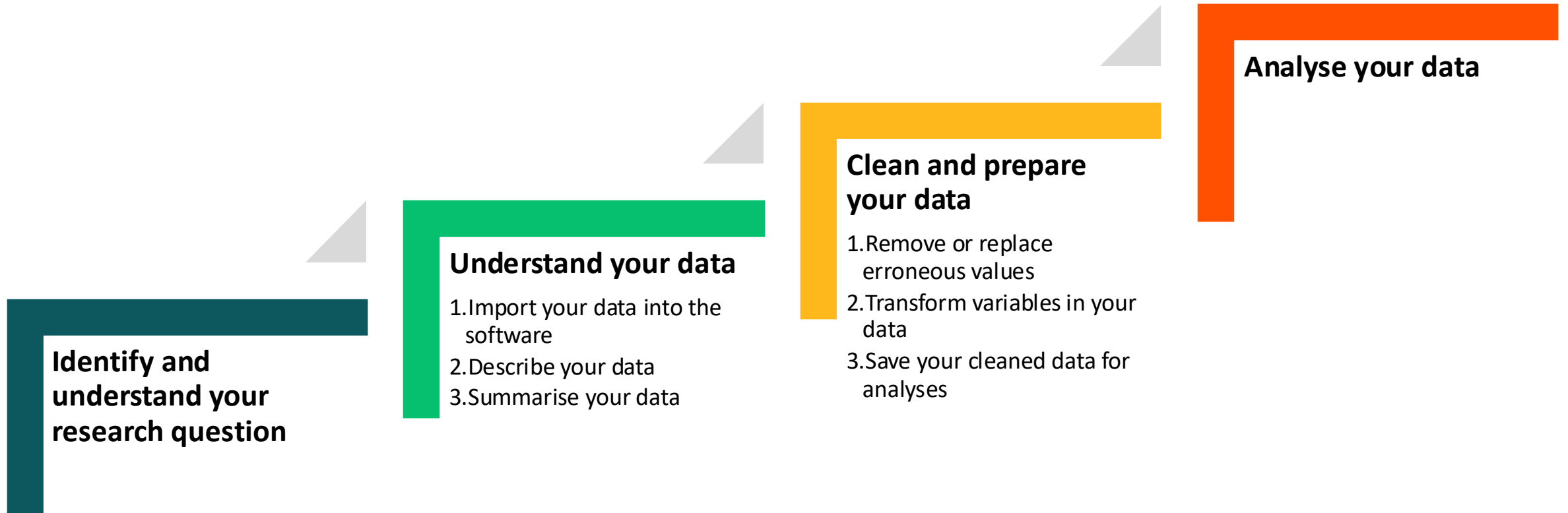
Saw Swee Hock
School of Public Health

TM-CM02 **Biostatistics for Public Health** Assignment

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Data analysis



Overview of the study

Study Design

A community-based cross-sectional survey of 10,022 respondents aged 40 years and above in Singapore was conducted to examine the factors associated with cardiovascular risk

Disproportionate stratified sampling of ethnic groups was undertaken (only individuals of Chinese, Malay or Indian ethnicity were included)

Data collected

1. Age - in completed years **(in integers)**
2. Gender **(Male/Female)**
3. BMI – measured height and weight **(calculated to one decimal place)**
4. Ethnicity **(Chinese/Malay/Indian)**
5. Smoking status – self-reported by participants **(Daily smoker/Occasional smoker/Ex-smoker/Never smoker)**
6. LDL cholesterol – measured from fasting blood samples obtained from participants **(available up to to two decimal places)**
7. Presence of cardiovascular disease– self-reported by participants as having being diagnosed by a physician **(Yes/No)**

Data analysis

Load your cleaned data

Depending on how you saved your cleaned data: you may need to import the data for analysis via other methods

```
load('data/chp_cleaned.rdata')
```

Or

```
chp = read.csv('data/chp_cleaned.csv', as.is = TRUE)
```

Or

```
chp = readRDS('data/chp_cleaned.rds')
```

Question #1

Populate the table

		Cardiovascular disease			
		With CVD (Total N =)	Without CVD (Total N=)	p-value	Test used
		Mean ± SD	Mean ± SD		
Age (in years)					
BMI (kg/m ²)					
LDL cholesterol levels (mmol/L)					
		N (%)	N (%)		
Gender	Female				
	Male				
Ethnicity	Chinese				
	Malay				
	Indian				
Smoking status	Daily smoker				
	Occasional smoker				
	Ex-smoker				
	Never smoker				

Question #2

Is BMI associated with CVD? Populate your results in the table.

		Cardiovascular disease			
		With CVD (Total N =)	Without CVD (Total N=)	p-value	Test used
		N (%)	N (%)		
Overweight	Yes				
	No				

Question #3

Is smoking associated with BMI? Populate your results in the table.

		Overweight			
		Yes (Total N =)	No (Total N=)	p-value	Test used
		N (%)	N (%)		
Smoker	Yes				
	No				

Question #4

Is smoking associated with CVD? Populate your results in the table.

		Cardiovascular disease			
		With CVD (Total N =)	Without CVD (Total N=)	p-value	Test used
		N (%)	N (%)		
Smoker	Yes				
	No				

Question #5

Is there a linear association between BMI and LDL cholesterol levels?

Thank you!

