



5th Malaysia Statistics Conference

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From Data to Knowledge : The Journey

Statistical Standard, Methodology and Application in Data Management and Usage

Health Care Expenditure of the Ageing Population in Perak

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5th Malaysia Statistics Conference

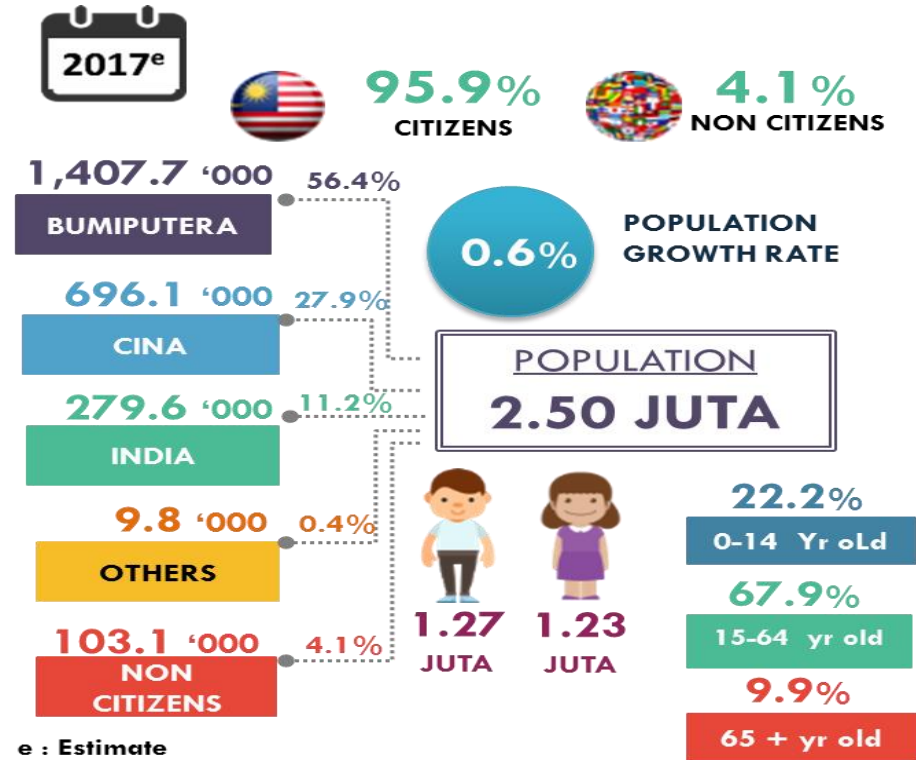
Outline

Introduction

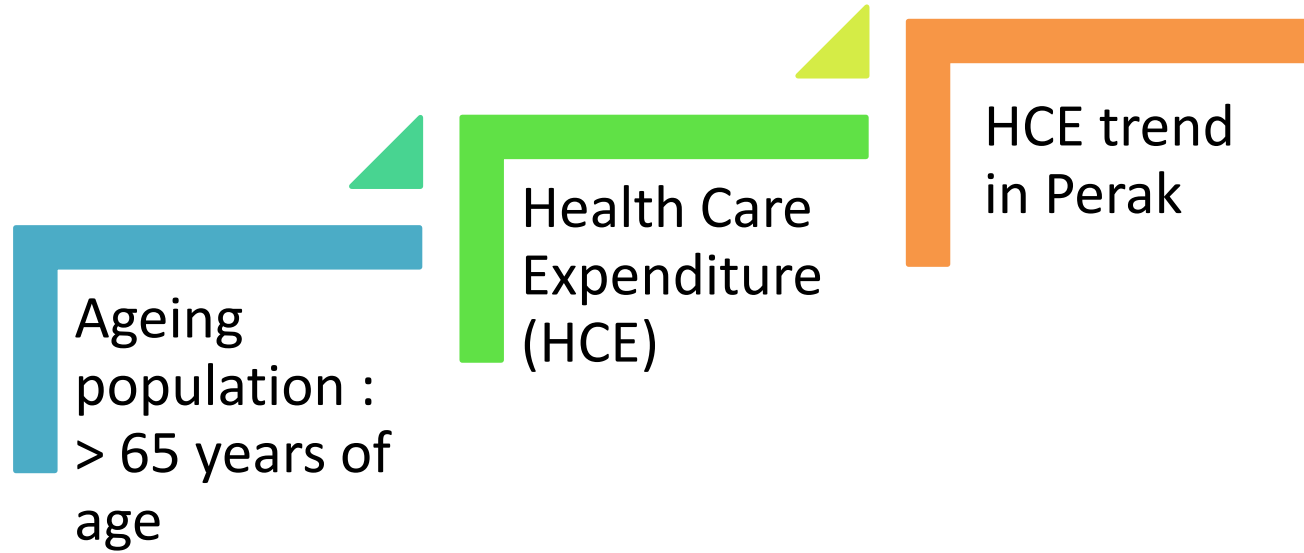
Data Sources & Research Methodology

Results & Conclusion

WHY PERAK????



Introduction ...cont'd.



Research Question: Does population ageing contribute to the increase of HCE in Perak?

Literature Review

Author/s	Findings
Breyer et al (2010), Lubitz et al, (2003)	rise in longevity lead to a further demand for life prolonging medical care. with growing per capita income, the willingness to pay for greater longevity and thus, the demand for health services in old age also increased
Breyer et al , (2015)	find that ageing i.e. an increase of longevity alongside a fall in mortality rates increase health expenditure
Werblow A. et al (2007), Zweifel et al, 1999.	there were limited impact of age on HCE
Werblow. A et al (2007). Dormont, B et al (2006)	Technological progress i.e medical technology increase HCE with limited impact on age

Research Methods

1. Data

Household Expenditure
Survey 2004, 2009 and 2014
- DOSM

2. Definition

HCE consists of comprised of medical products, appliances and equipment; outpatient services and patient services in hospital and were based on the Classification of Individual Consumption According to Purpose (COICOP) by the United Nations.

3. Technique

HEALTH CPI AS DEFLATOR

- Constant prices 2010=100
- HCE for Head of Household (HoH) more than 65 years

4. Classification

Seven components :

1. Dental & Medical Services;
2. Govt. Corporate Hospital;
3. Government Hospital;
4. Other Medical Products;
5. Paramedical Services;
6. Pharmaceutical Products; and
7. Private Hospital Care.

5. Limitation

The older population in the HES data can only be extracted by the Head of Household (HoH); Thus does not represent everyone who is > 65 years old in Perak

Research Methods

Hypothesis :

Ho: There is no difference in medical expenditure pattern among the elderly in Perak between 2004 and 2014.

Ha: There is a difference in medical expenditure pattern among the elderly in Perak between 2004 and 2014.



Failed to reject Ho

P value : 0.743

RESULTS

HCE for Perak by Age Group, RM '000 at Constant Price & Compounded Average Growth Rate (%)



<24



25-34



35-44



45-64



65+

RM ' 000

2004	138	1,262	1,053	3,088	1,488
2009	109	2,891	3,675	9,734	3,028
2014	304	3,470	5,591	11,702	3,927

% Growth

2009	-4.7	18	28.4	25.8	15.3
2014	22.8	3.7	8.8	3.8	5.3
04-14	8.2	10.6	18.2	14.2	10.2

HCE Components for the Elderly, Perak at Constant Price (RM '000)



Dental & medical services

Govt. Corporate & Govt. Hospital

Other medical products

Paramedical services

Pharmaceuticals

Private Hosp. Care

Therapeutic Appli & Equip

2004	2009	2014
222.8	540.6	1,176.9
27.6	359.3	51.4
28.4	14.7	90.3
60.7	19.9	125.7
491.5	1,827.6	2,143.3
542.2	22.0	6.2
115.0	244.2	332.8
1,488.2	3,028.4	3,926.6

HCE Components for the Elderly, Perak at Constant Price (RM '000)



Dental & medical services

Govt. Corporate & Govt. Hospital

Other medical products

Paramedical services

Pharmaceuticals

Private Hosp. Care

Therapeutic Appli & Equip

2004	2009	2014
15.0	17.9	30.0
1.9	11.9	1.3
1.9	0.5	2.3
4.1	0.7	3.2
33.0	60.3	54.6
36.4	0.7	0.2
7.7	8.1	8.5
100.0	100.0	100.0

Thank you!