CITIES, HEALTH AND WELL-BEING

NOVEMBER 2011

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URBAN AGE CONFERENCE, HONG KONG, 16-17 NOVEMBER 2011

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1960: 580 km²
2010: 710 km²

KEY POPULATION INDICATORS

	1970	1980	1990	2000	2010
Total Population ('000)	2,074.5	2,413.9	3,047.1	4,027.9	5,076.7
Resident Population	2,013.6	2,282.1	2,735.9	3,273.4	3,771.7
Singapore Citizens	1,874.8	2,194.3	2,623.7	2,985.9	3,230.7
Permanent Residents	138.8	87.8	112.1	287.5	541.0
Non-Resident Population	60.9	131.8	311.3	754.5	1,305.0
Ethnic Composition (%)	100.0	100.0	100.0	100.0	100.0
Chinese	77.0	78.3	77.8	76.8	74.1
Malays	14.8	14.4	14.0	13.9	13.4
Indians	7.0	6.3	7.1	7.9	9.2
Others	1.2	1.0	1.1	1.4	3.3

Total fertility rates (15-44), Sweden and Singapore, 1964-1977.
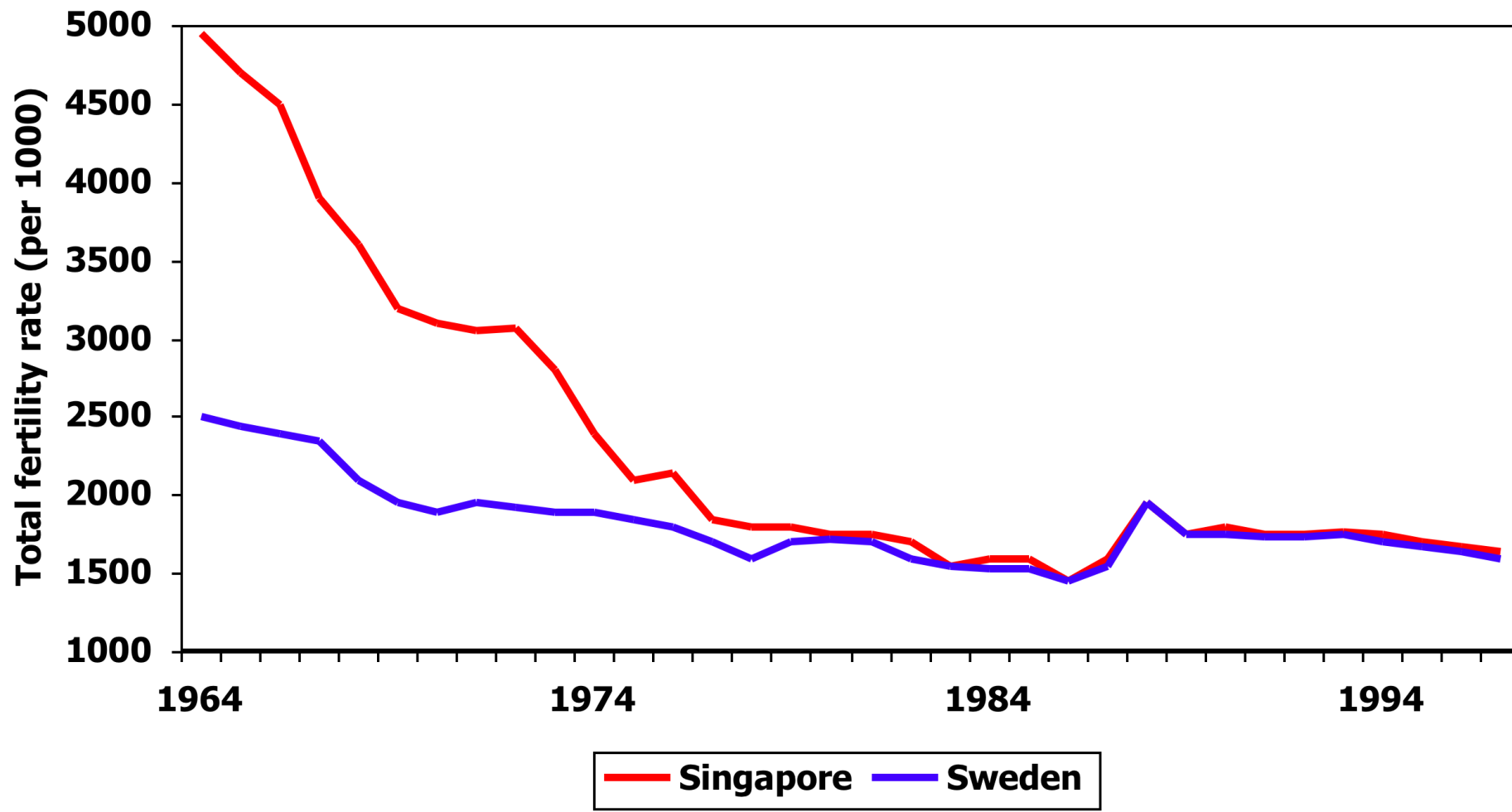
Chia KS et al. Profound changes in breast cancer incidence may reflect changes into a westernised lifestyle: a comparative population-based study in Singapore and Sweden. IJC2004; 113:302

PRINCIPAL CAUSES OF DEATH

	2007	2008	2009
Total No. of Deaths	17,140	17,222	17,101

% of Total Deaths

1. **Cancer**
   [ICD9 : 140-208]

2. **Ischaemic Heart Disease**
   [ICD9 : 410-414]

3. **Pneumonia**
   [ICD9 : 480-486]

4. **Cerebrovascular Disease (including st**
   [ICD9 : 430-438]

5. **Accidents, Poisoning & Violence**
   [ICD9 : E800-E999]

6. **Other Heart Diseases**
   [ICD9 : 393-398,402,415-429]

7. **Urinary Tract Infections**
   [ICD9 : 599.0]

8. **Chronic Obstructive Lung Disease**
   [ICD9 : 490-493, 496]

9. **Nephritis, Nephrotic Syndrome & Nep**
   [ICD9 : 580-589]

10. **Diabetes Mellitus**
    [ICD9 : 250]
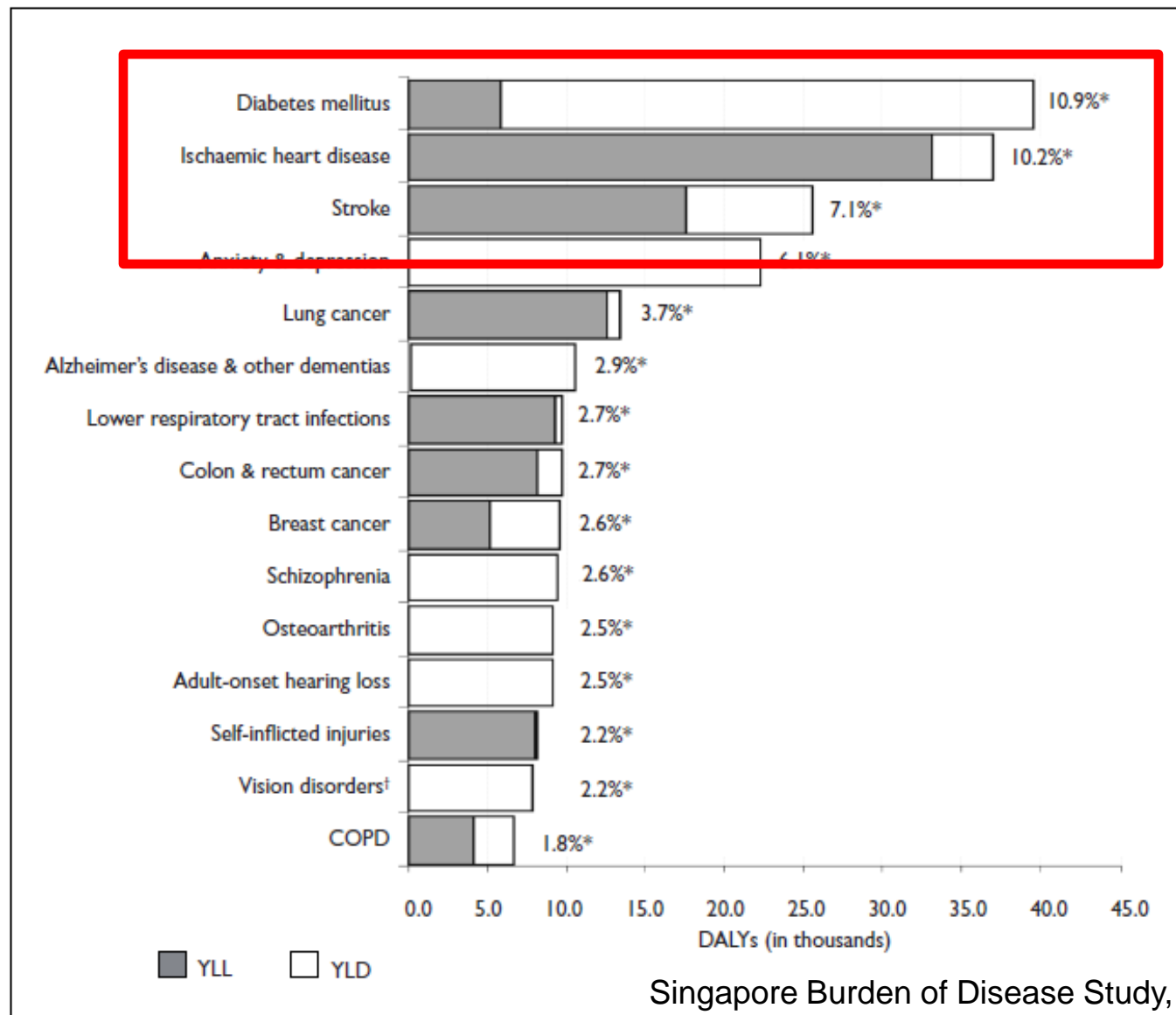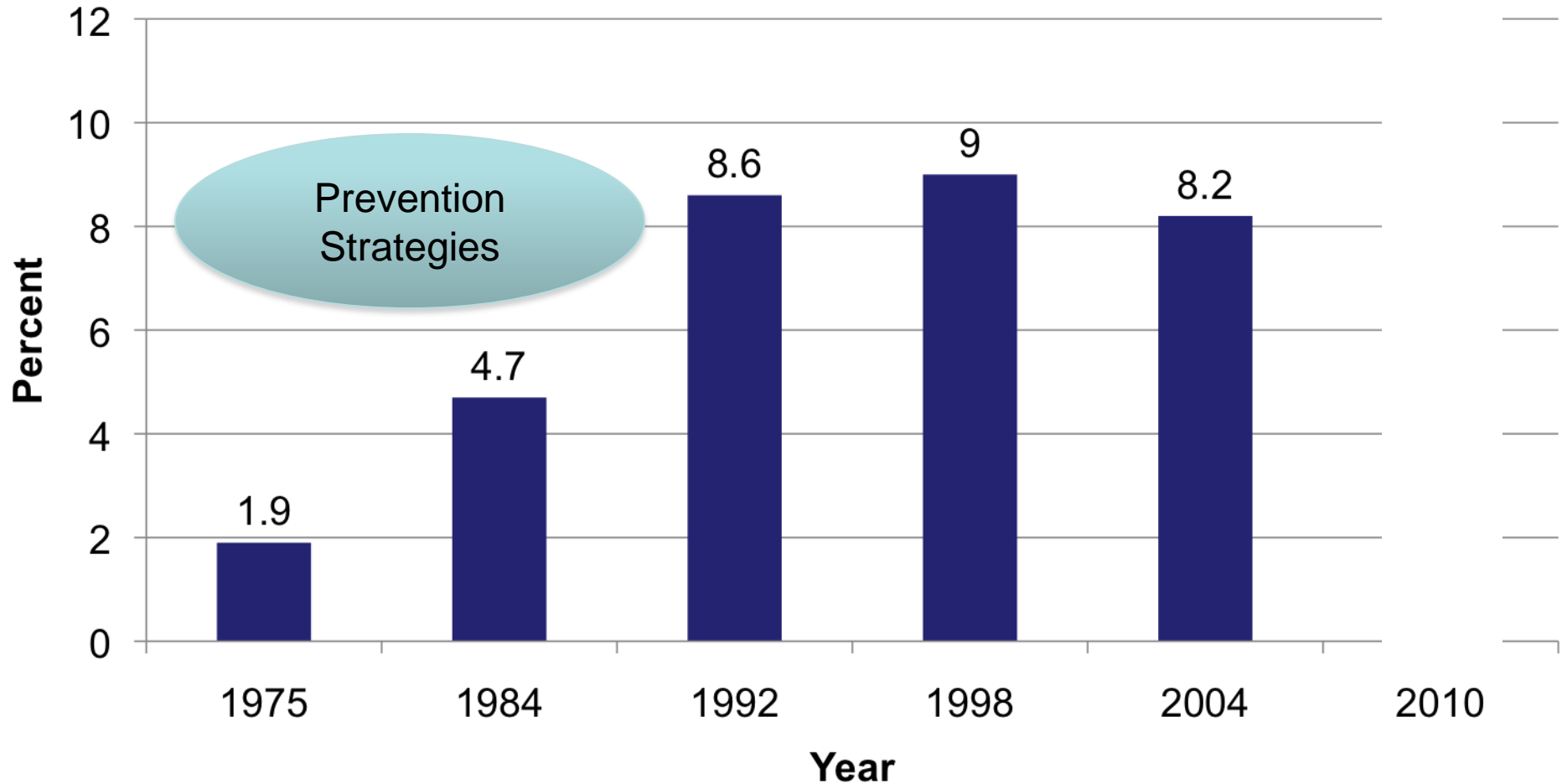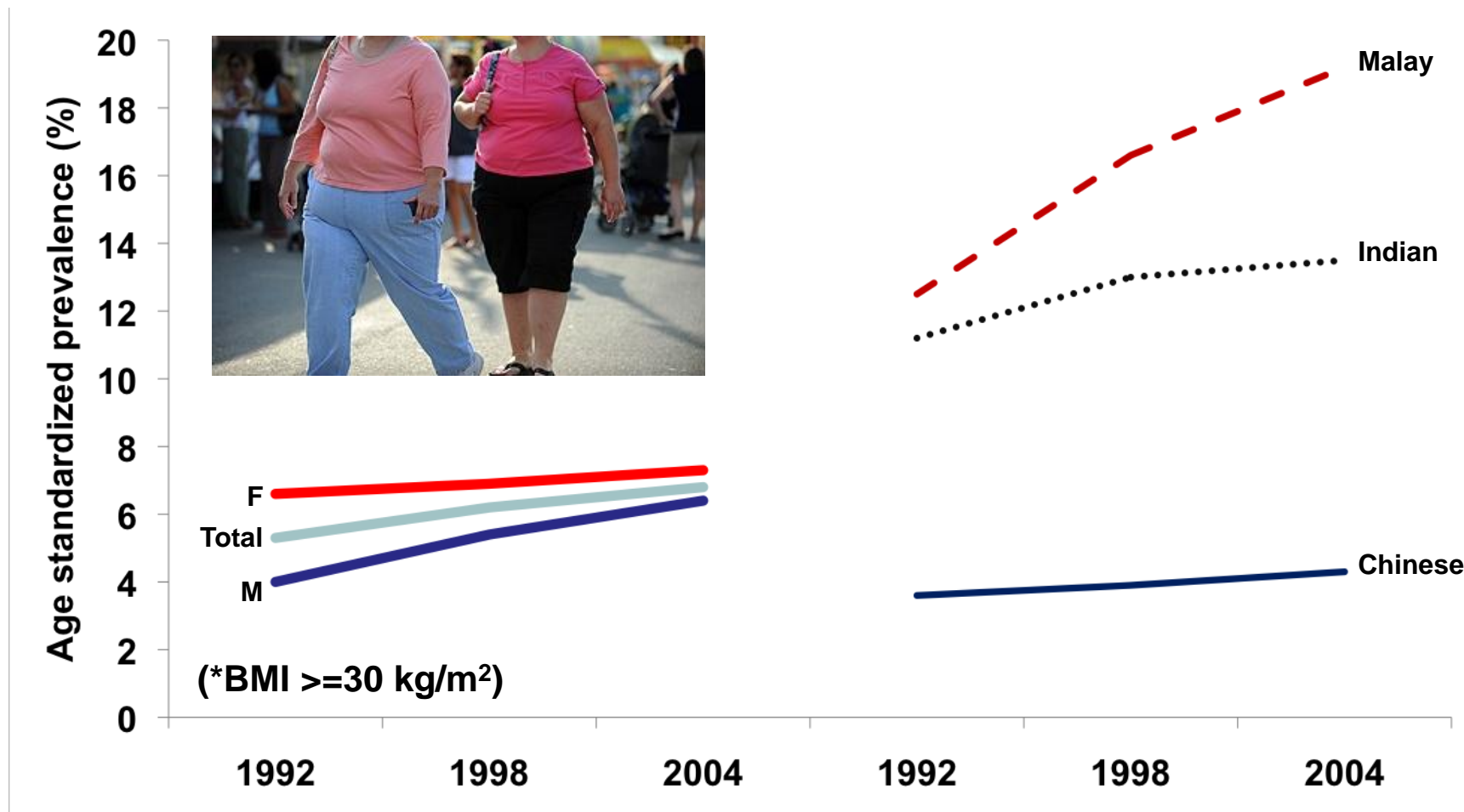

Fig. 2 Bar chart shows the 15 specific leading causes of disease burden in Singapore 2004.

Singapore Burden of Disease Study, 2004

Prevalence of T2DM in Singapore

TREND IN PREVALENCE OF OBESITY* BY GENDER AND ETHNIC GROUPS

Age standardized prevalence (%)

F
Total
M

(*BMI >=30 kg/m²)

Malay
Indian
Chinese

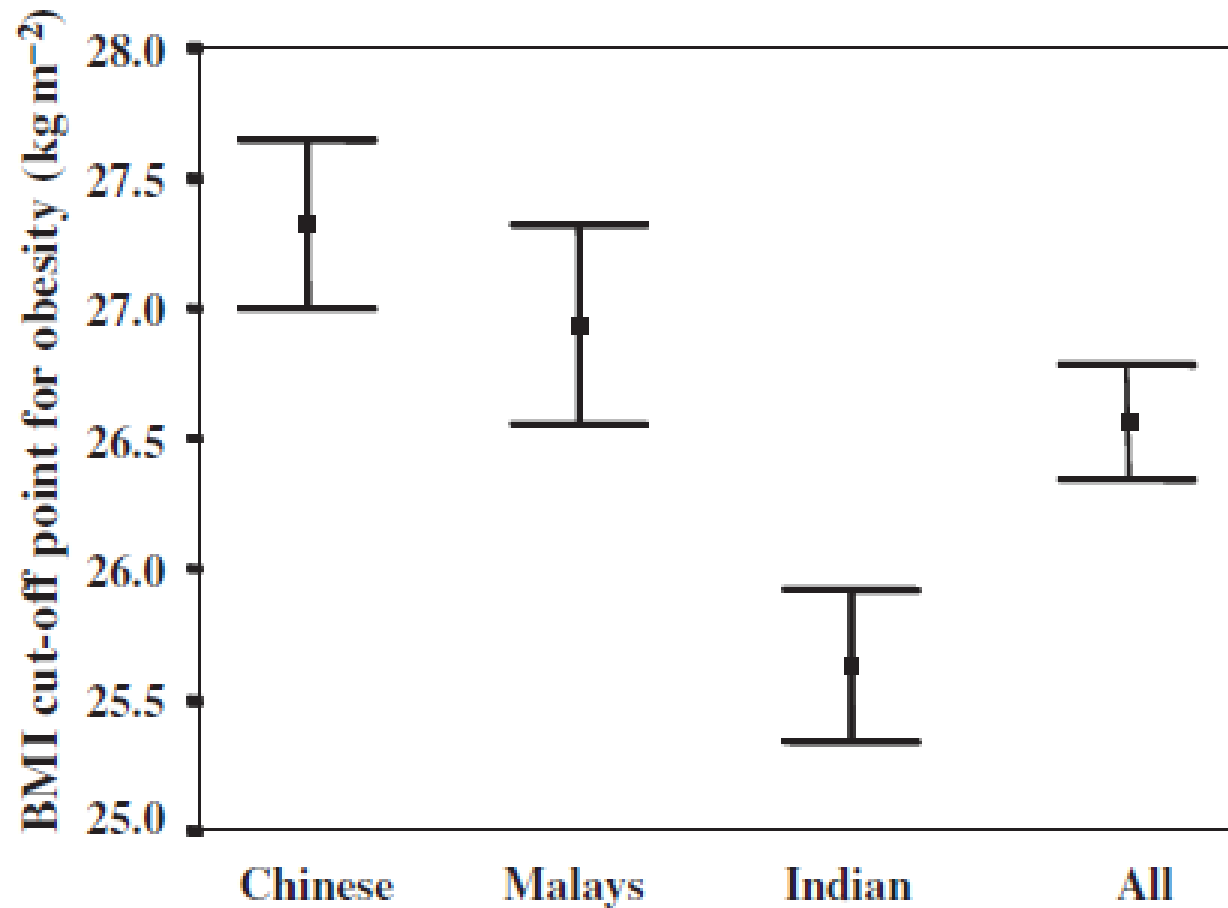1992   1998   2004   1992   1998   2004

*BMI >=30 kg/m²

Figure 4 Recalculated cut-off point for obesity in different ethnic groups in Singapore. The cut-off point was calculated based on body fat per cent (BF%) in Caucasians of the same age and gender with a body mass index (BMI) of $30 \, kg \, m^{-2}$. Data were obtained from ref. 41.

Asians are different from Caucasians and from each other in their BMI/body fat percent relationship. Obes Rev 2002;3(3):141-146

TREND IN PREVALENCE OF OBESITY* BY GENDER AND ETHNIC GROUPS
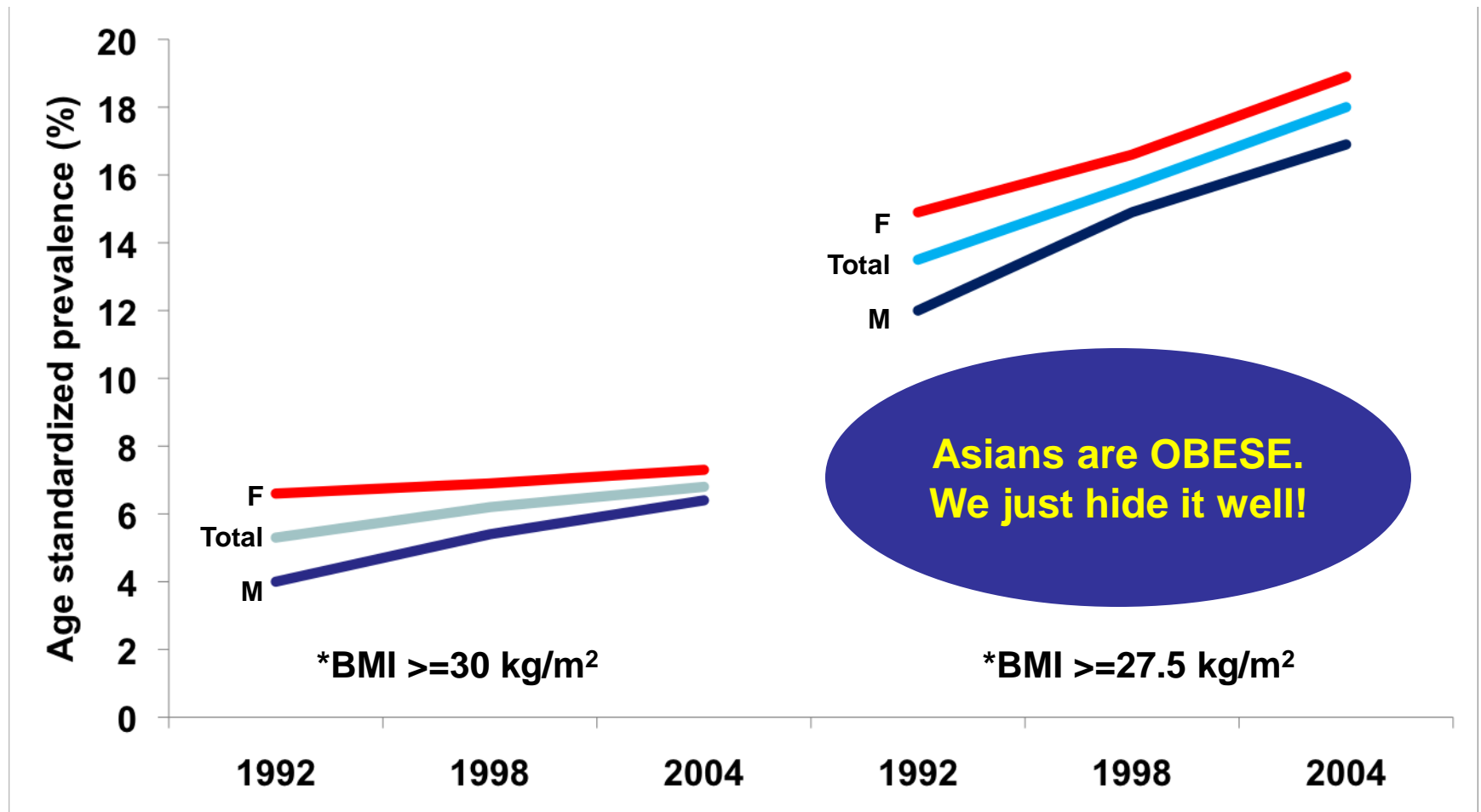
Overwhelming "OBESOGENIC" Environment
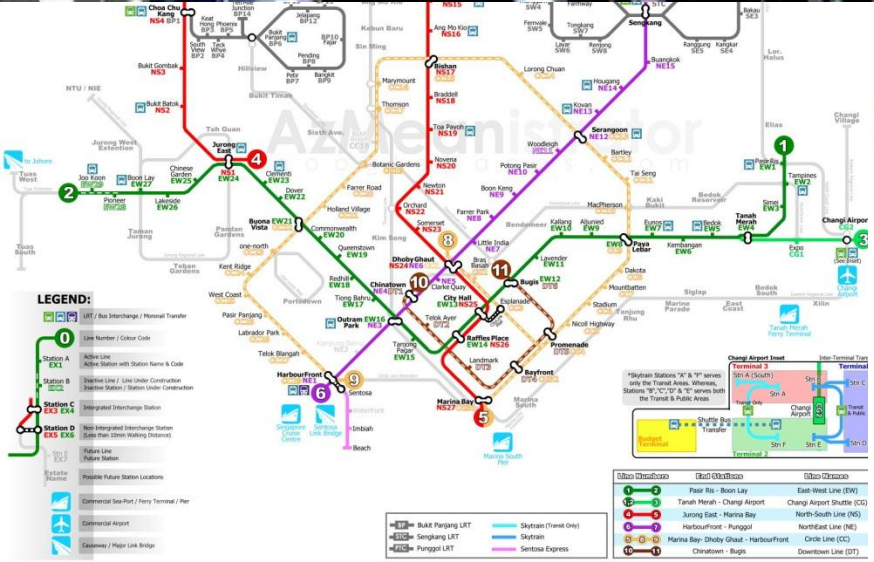
URBANISATION and OBESITY

- ✓ **Urbanized lifestyle = "Obesogenic" Environment**
  - ▪ Ease of transport/apartment living/office environment: decline in level of physical activity.
  - ▪ Conflict between health messages vs easy availability of unhealthy food items.

- ✓ **Lack of awareness**
  - ▪ Superficial level of knowledge
  - ▪ Distraction of post-genomic era

- ✓ **Lack of co-ordination**
  - ▪ Multi-sectoral, multi-agencies, public-private integration
  - ▪ Integrative modelling and simulation as a tool for evidence-based policy formulation.