



香港大學香港賽馬會防止自殺研究中心



## Chronic Diseases: Challenges and Opportunities

Paul YIP  
Social work and Social Administration  
University of Hong Kong  
(with Karen Cheung)



THE HONG KONG JOCKEY CLUB  
Centre for Suicide Research and Prevention  
THE UNIVERSITY OF HONG KONG

香港大學香港賽馬會防止自殺研究中心

### Plan

- Overview chronic diseases
- Common myths on chronic diseases
- Disease burden on chronic disease
- Trends of chronic diseases, Health expectancy and its projections
- Challenges and Opportunities

HKJC Centre for Suicide Research and Prevention

香港大學香港賽馬會防止自殺研究中心

### Definition of chronic diseases (WHO, 2005)

**Common diseases:**

- Heart disease
- Stroke
- Cancer
- Respiratory diseases
- Diabetes

Chronic conditions and diseases that contribute significantly to the burden of disease on **individuals, families, societies and countries.**

HKJC Centre for Suicide Research and Prevention

香港大學香港賽馬會防止自殺研究中心

### CHRONIC DISEASES ARE THE MAJOR CAUSE OF DEATH IN ALMOST ALL COUNTRIES

Projected global deaths by cause, all ages, 2005

From a projected total of 51 million deaths from all causes in 2005, it is estimated that chronic disease will account for 30 million, which is double the number of deaths from all infectious diseases (including HIV/AIDS, tuberculosis and malaria), maternal and perinatal conditions, and nutritional deficiencies combined.

**35 000 000** people will die from chronic diseases in 2005

Cause	Deaths
HIV/AIDS	2 800 000
Tuberculosis	1 600 000
Malaria	800 000
Cardiovascular disease	17 528 000
Cancer	7 306 000
Chronic respiratory disease	4 097 000
Diabetes	1 126 000

**60%** of all deaths are due to chronic diseases

HKJC Centre for Suicide Research and Prevention

香港大學香港賽馬會防止自殺研究中心

### Common risk Factors (WHO, 2005)

- Unhealthy diet: 4.9 million
- Tobacco use: 7.1 million
- Physical inactivity: 4.4 million
- Blood pressure: 2.6 million
- Stress
- Total cholesterol levels

HKJC Centre for Suicide Research and Prevention

香港大學香港賽馬會防止自殺研究中心

### Common myths about chronic diseases (WHO, 2005)

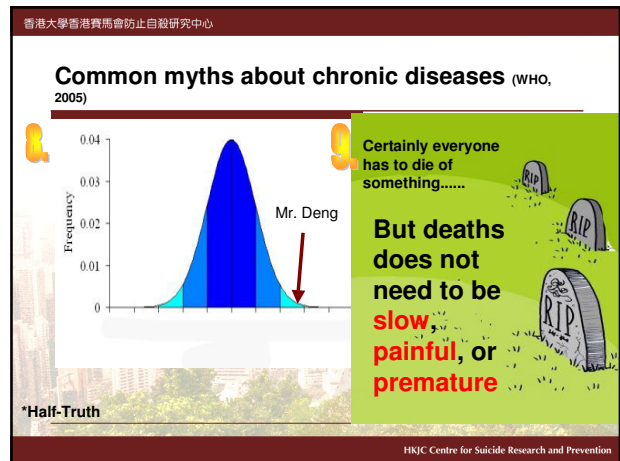
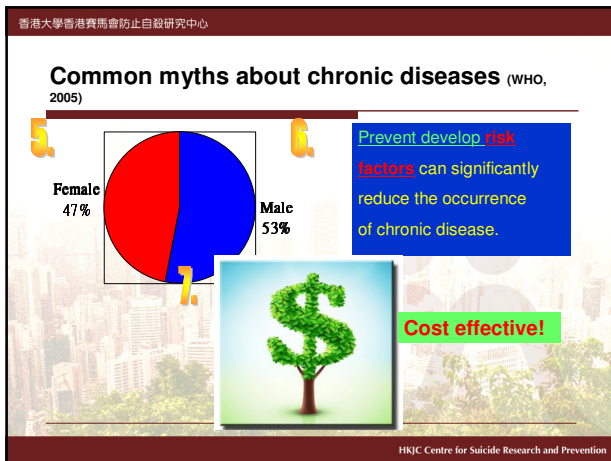
Projected main causes of burden of disease (DALYs) by World Bank income

Control infectious diseases

Almost half of chronic disease deaths occur who aged under 70 years of age.

World Bank income group	Communicable diseases, maternal and perinatal conditions, and nutritional deficiencies	Chronic diseases	Injuries
Low income	High	Low	Low
Lower middle income	Medium	Medium	Low
Upper middle income	Low	High	Low
High income	Low	High	Low
World	Medium	High	Low

HKJC Centre for Suicide Research and Prevention

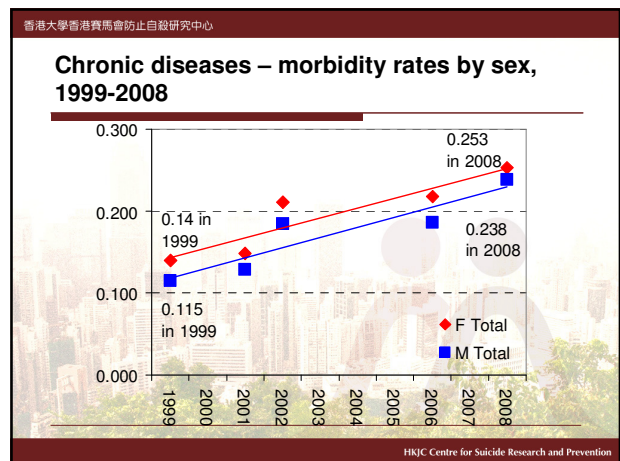
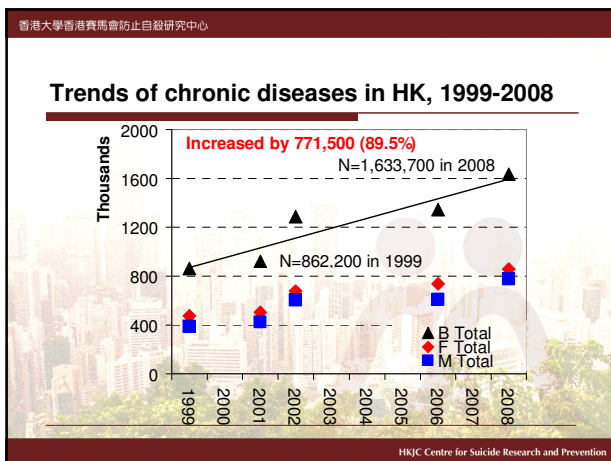


香港大學香港賽馬會防止自殺研究中心

## Hong Kong Challenges

HKJC Centre for Suicide Research and Prevention

- 香港大學香港賽馬會防止自殺研究中心
- ### Trends of chronic diseases in Hong Kong
- Morbidity data (i.e. Persons who had chronic diseases that required long-term follow-up by doctors, e.g. hypertension, diabetes mellitus, high cholesterol, heart diseases, asthma, stroke and cancer, etc.) from Thematic Household Survey, HKCSD, for FIVE time points (Sep – Nov 1999, Jan – May 2001, May – July 2002, Nov 2005 – March 2006 & Feb – May 2008);
  - Land-based non-institutional population, a systematic random sample, independent, territory-wide survey;
  - All household members (excl. FDH), some 10 000 community-based households, constituting a response rate of 77.5%.
- HKJC Centre for Suicide Research and Prevention



### Estimation of the annual change of chronic morbidity

- Examine the **annual change** of chronic morbidity, we fit a logit form, the formula of the logistic regression model is written as follows:

$$\ln\left(\frac{CMR_{x,s}}{1-CMR_{x,s}}\right) = \alpha_i + \beta_i(yr) + \varepsilon_i \quad \varepsilon_i \sim N(0, \sigma^2)$$

- Where  $CMR_{x,s}$  is the age and sex specific chronic morbidity rate; year ( $yr$ ) is the independent variable;  $\beta$  is the slope coefficient of the regression model, which represents the annual change of logit form of  $CMR_{x,s}$ ;  $\alpha$  is the constant term, which represents the expected value of logit form of  $CMR$  when year equals to zero.

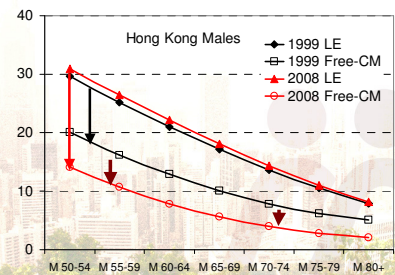
### Annual change of chronic morbidity rates, 1999-2008

	Males	Females	Both sexes
<50	0.088	0.075	0.080
50-54	0.058	0.014	0.036
55-59	0.037	0.061	0.051
60-64	0.061	0.072	0.067
65-69	0.107	0.077	0.092
70-74	0.095	0.090	0.091
75-79	0.098	0.095	0.097
80+	0.191	0.153	0.167
Total	0.086	0.076	0.081

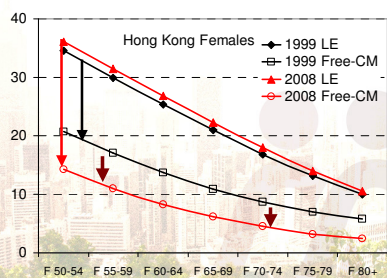
### Results

- Intrapolation and Sullivan prevalence-based method;
- Compute **expected number of years** lived free of chronic morbidity;
- The **proportion of the life-time** free of chronic morbidity, 1999-2008;
- Projected numbers** of HK people aged 60+ suffered from chronic diseases, with (i) average prevalence of 2006-2008, remain constant up to 2036 and (ii) increased by 3% per year.

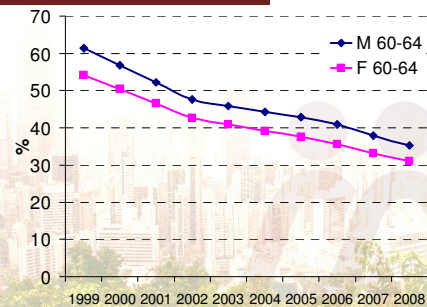
### Health expectancy by Sullivan prevalence-based method



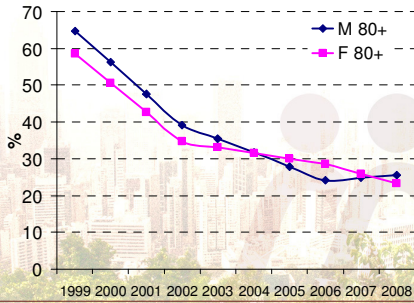
### Expansion of chronic morbidity between 1999-2008



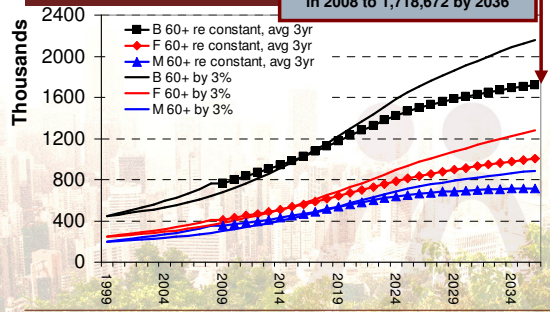
### Proportion of LE without chronic morbidity to LE



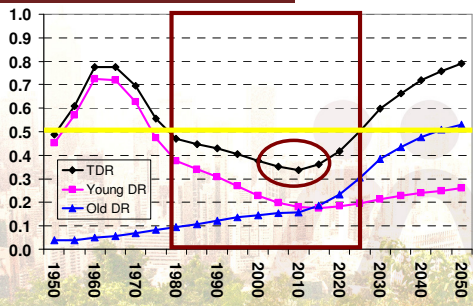
### A strong decline in proportion of LE without chronic morbidity to LE among those oldest-old



### Projection up to 2034

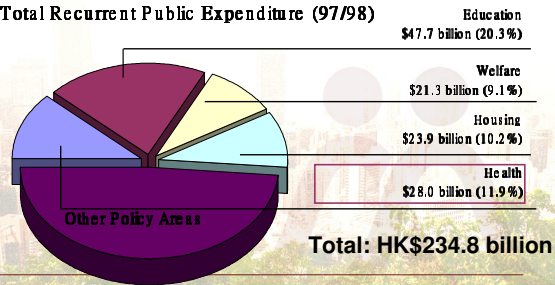


### No urgency?!! Demographic Window



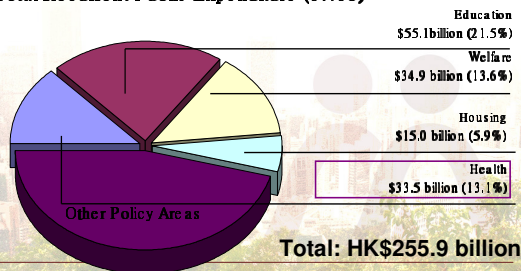
### Public expenditure by policy area group, 1997-98

#### Estimated Percentage Share of Social Welfare in Total Recurrent Public Expenditure (97/98)



### 2007-2008

#### Estimated Percentage Share of Social Welfare in Total Recurrent Public Expenditure (07/08)



### Expenditure on Health Care for the Elders

Even the prevalence rate remains the same (if not increasing) but the demand will still increase simply due to ageing

**Worst, We have a double hit!**

### Chief Executive Policy Address 2009

- “Increase from 50%-90% the proportion of nursing home”  
**Expensive.**
- Purchasing, for the first time, vacant places, cost more expensive
- Building more space is important but still won't be sufficient. With 6.5% residential place

The demand will certainly outgun the supply in terms of actual number of place needed for residential care.

### A new paradigm shift

#### (1) Individual responsibility vs government commitment:

Chronic diseases are indeed as a result of lifestyle, **the community still has to be responsible to their health**

**However,** Individual responsibility can have its effect only where individuals have equitable access to a healthy lifestyle, and are supported to make healthy choice.

This is especially true for children, who can't choose the environment in which they live, their diet and their passive exposure to tobacco smoke

Governments have a crucial role to play in improving the health and well being of the populations, and in providing special protection for vulnerable groups

The poor people also have limited choices about the food they eat, their living conditions, access to health care and education.

### (ii) Finance:

No free lunch!

someone has to pay for it

Don't expect the insurance companies would help to solve chronic disease burden

It is how we can make effective use of the resources in the community (Government and the Hong Kong population) to solve the problem.

### (iii) Services provisions:

Residential care expensive and not enough might not be cost effective

A community care which requires a concerted and integrated community response

Making full use of community resources and really implement **Ageing in Place**, Churches and other religious group and NGO

Support for carers are needed (low salaries already) . Some tax rebates for older adults who suffered from chronic diseases

Money followed the patients (means tested)

Manpower training and job opportunities for providing care and support for older adults services

### Challenges and Opportunities

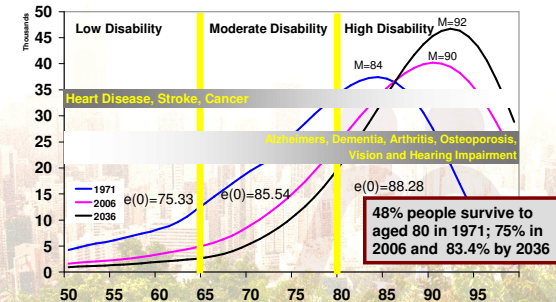
- Results and evidence are loud and clear, what we need is the conviction and commitment from the community to prepare ourselves for the challenges to come.
- Certainly, the Government has to take the **lead** and the **heat** to implement appropriate measure in place.

Only if we can age and live well

Paul S. H. Yip and Karen S. L. Cheung

November 30, 2009

### More HK people dying at advanced age



- Analogy of a clock:  
second arm:  
(Infectious diseases)
- Minute arm (injury  
and other diseases)
- Hour arm (Chronic  
diseases )



THE HONG KONG JOCKEY CLUB  
Centre for Suicide Research  
and Prevention  
THE UNIVERSITY OF HONG KONG

THANK YOU !