Chronic Diseases: Challenges and Opportunities

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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

Definition of chronic diseases (WHO, 2005)

Common diseases:

Heart disease

Cancer

Diabetes

Stroke

Respiratory diseases

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

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

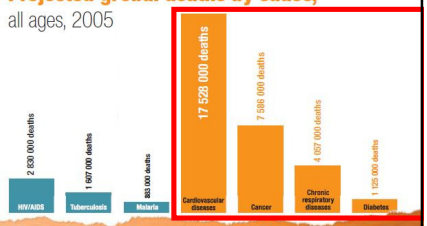
Chronic diseases include heart disease, stroke, cancer, chronic respiratory diseases and diabetes. Visual impairment and blindness, hearing impairment and deafness, oral diseases and genetic disorders are other chronic conditions that account for a substantial portion of the global burden of disease.

From a projected total of 58 million deaths from all causes in 2005,[1] it is estimated that chronic diseases will account for 35 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.

[1] The data presented in this overview were estimated by WHO using standard methods to maximize cross-country comparability. They are not necessarily the official statistics of Member States.

35 000 000 people will die from chronic diseases in 2005

Projected global deaths by cause, all ages, 2005



60% of all deaths are due to chronic diseases

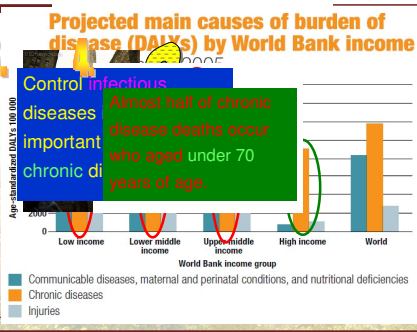
Common risk Factors (WHO, 2005)

Common myths about chronic diseases (WHO, 2005)

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

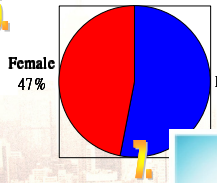
Control infectious diseases important chronic di

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



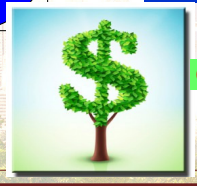
Common myths about chronic diseases (WHO, 2005)

5.



6. Prevent develop risk factors can significantly reduce the occurrence of chronic disease.

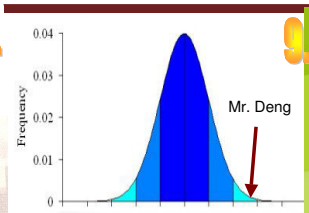
7.



Cost effective!

Common myths about chronic diseases (WHO, 2005)

8.



9. Certainly everyone has to die of something.....

But deaths does not need to be slow, painful, or premature

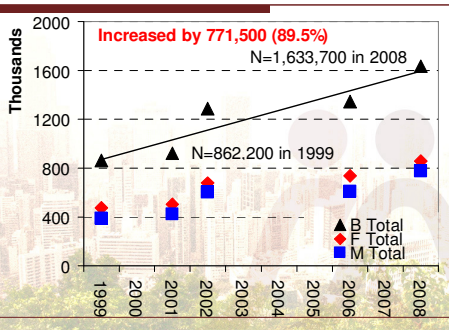
*Half-Truth

Hong Kong Challenges

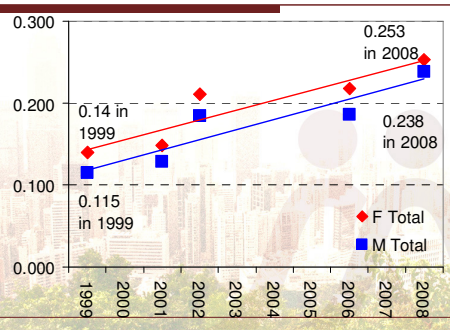
Trends of chronic diseases in Hong Kong

- 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%.

Trends of chronic diseases in HK, 1999-2008



Chronic diseases – morbidity rates by sex, 1999-2008



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:

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

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

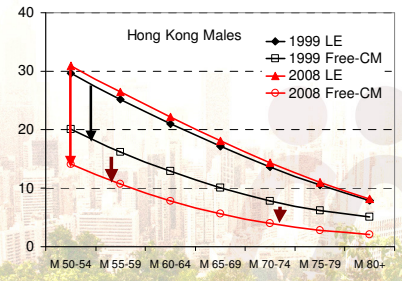
Annual change of chronic morbidity rates, 1999-2008

	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

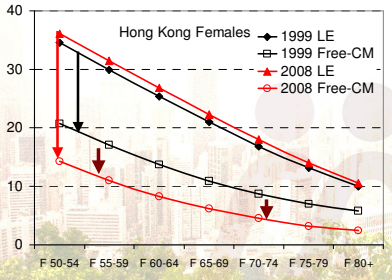
Results

- 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.

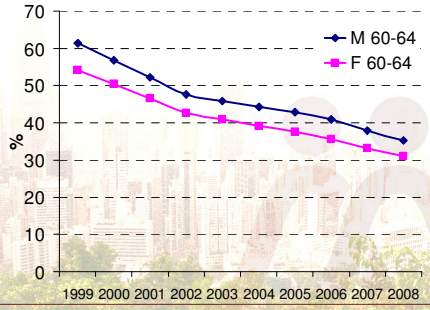
Health expectancy by Sullivan prevalence-based method



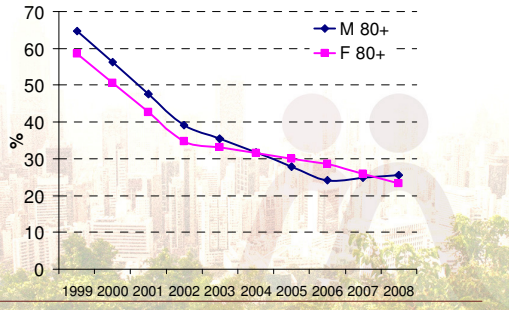
Expansion of chronic morbidity between 1999-2008



Proportion of LE without chronic morbidity to LE

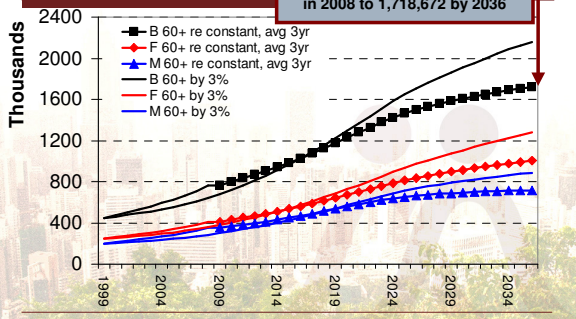


A strong decline in proportion of LE without chronic morbidity to LE among those oldest-old

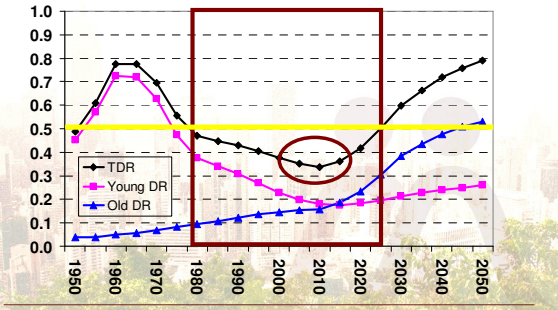


Projection up to 2034

Increased by 126% from 761,501 in 2008 to 1,718,672 by 2036



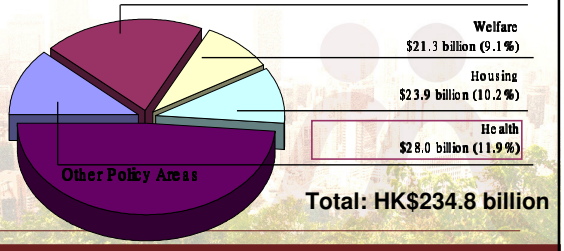
No urgency?!! Demographic Window



Source: Yip et al. (2010) Asian Population Studies

Public expenditure by policy area group, 1997-98

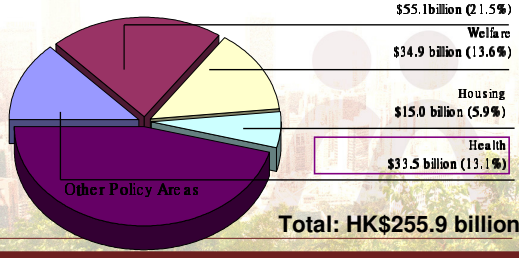
Estimated Percentage Share of Social Welfare in Total Recurrent Public Expenditure (97/98)



Total: HK$234.8 billion

2007-2008

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

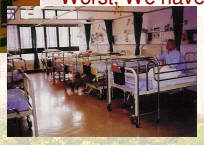


Total: HK$255.9 billion

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 committment:

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

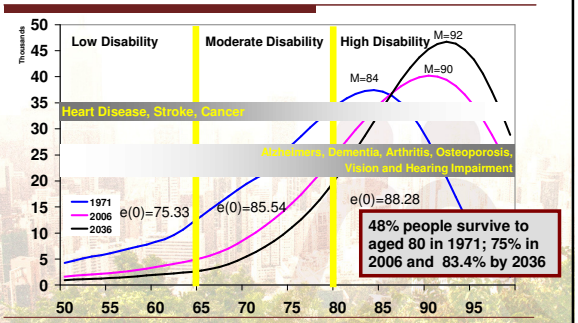
- Results and evidence are loud and clear, what we need is the conviction and commitment from the community to prepare ourselves for the challenges to come.
- Certainly, the Government has to take the lead and the heat to implement appropriate measure in place.

Only if we can age and live well

Paul S. F. Yip and Karen K. Y. Cheung

November 30, 2009

More HK people dying at advanced age



Hong Kong Life Table – female, 1971, 2006, 2036

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

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THANK YOU !