

### Department of Social Work & Social Administration

The University of Hong Kong

# Trends in dementia-free life expectancy in Hong Kong SAR

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22<sup>nd</sup> REVES conference: "Public Health Intervention to Increase Health Expectancies" held in Havana, Cuba 19 to 21 May 2010



Réseau Espérance de Vie En Santé Network on Health Expectancy

#### **Charles Kao**

 Invented fiber-optic networks and received the 2009 Nobel Prize in physics





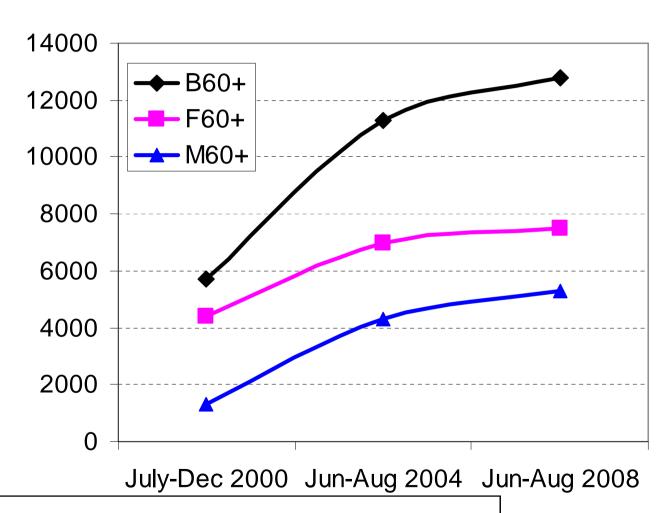
#### **Previous studies**

- Several previous studies have tried to investigate the mental health status of the elderly in Hong Kong since 1984 (Mental Health Association of Hong Kong 1984; Donnan et al. 1988; Chi and Lee 1989)
- BUT <u>no systematic study</u> has been conducted on the prevalence of dementia until 1992.

### Liu et al. (1993)

- The study showed that <u>6.5% of males and</u>
  <u>15.1% of females aged 65+</u> could be classified as <u>cognitively impaired</u> in community of HK
- By using procedures of logistic regression analysis to follow the Shanghai data as the basis of constructing predictive models, the authors found that the estimated prevalence of dementia in the absence of a clinical evaluation was 5.2% of males and 15.8% of females aged 65 and above.

### The estimated number of older adults reporting suffering from AD &/or dementia

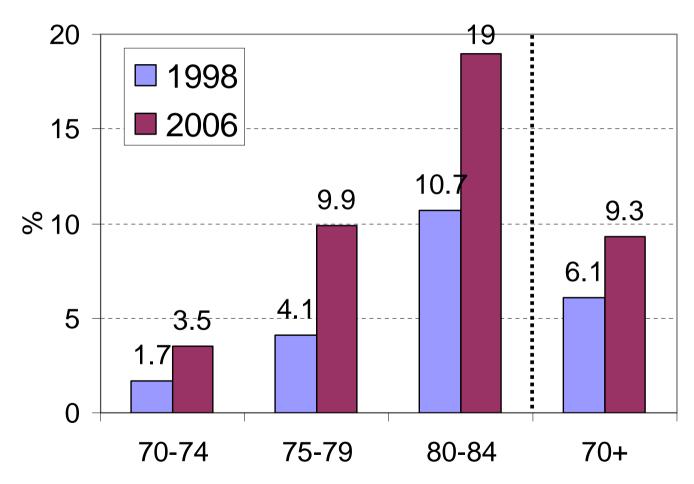


STR#27, THR#21 and #40 (HKCSD 2000, 2004, 2008)

# General Household Survey (THS#28) - a cross-sectional study

- Using MMSE and number of years of receiving education to assess the cognitive function of older persons aged 60 and over
- It was estimated from the survey that of 321,100 older persons (30.3%) of the 1,058,700 older persons had positive results in the cognitive screening test which refer to the MMSE score ≤ 23 and no schooling
- A total of 2,400 older adults had reported suffering from Alzheimer's Disease (AD) and/or dementia with having positive results in the cognitive screening tests

## Weighted Prevalence of Dementia in HK in 1996 & 2006



•1998: population of community and institutions in Sha Tin district (Chiu et al. 1998)

•2006: population of the community after stages 1 (screening) and 2 (CA) (Lam et al. 2006)

- <u>70,000 elders</u> suffering from dementia in the community (Chan 2006 presented in EC 47th meeting).
- Based on THS#21 and 28 (HKCSD 2004, 2008), the prevalence of AD and/or dementia <u>reported</u> by elders at aged 60 and over residing <u>in</u> <u>residential care institutions remained 31%</u> in 2004 and 2008, with 28% of males and 32% of females.
- The estimated number of people aged 60 and over with dementia was 110,000 including the community and institutional population (Cadenza 2010).

- The <u>diverging figures</u> suggest that the importance of <u>data sources</u>, <u>assessment</u> tools and <u>definition and different</u> calculation methods could yield the results greatly various.
- None of current study pertaining to dementia-free life expectancy could be found in the context of Hong Kong.

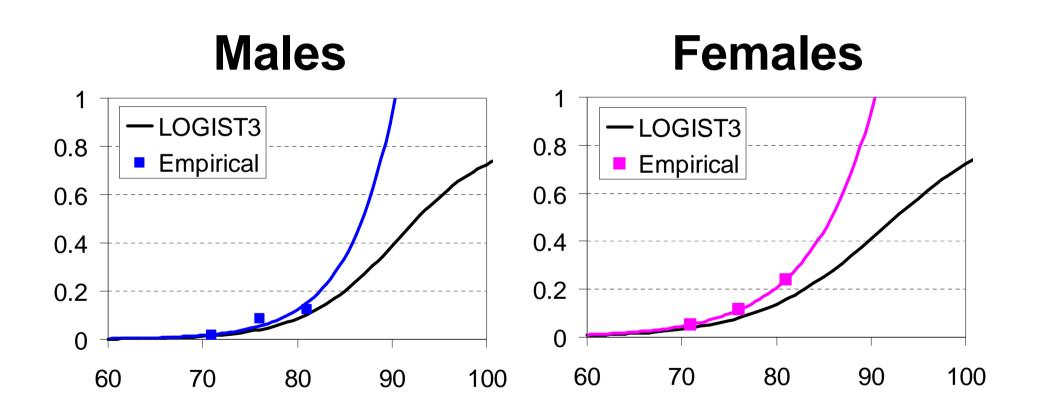
#### **Aims**

 To assess how long Hong Kong older adults live with dementia and determine the proportion of the life expectancy without dementia

#### Data and methods

- The weighted prevalence of dementia by age group and sex from the study by Lam et al. (2006)
- Modeling three parameters of logistic model
- Period life tables by age group and sex for 1998 and 2008

# **Empirical Observations and Logistic Trajectories**



## Observed and Fitted Prevalence of Dementia

	<u>Males</u>		<u>Females</u>		
	Empirical	Logisitic	Empirical	Logisitic	
60-64		0.002		0.011	
65-69		0.007		0.022	
70-74	0.016	0.018	0.053	0.046	
75-79	0.083	0.049	0.114	0.093	
80-84	0.122	0.122	0.240	0.177	
85+	0.331	0.315	0.320	0.373	

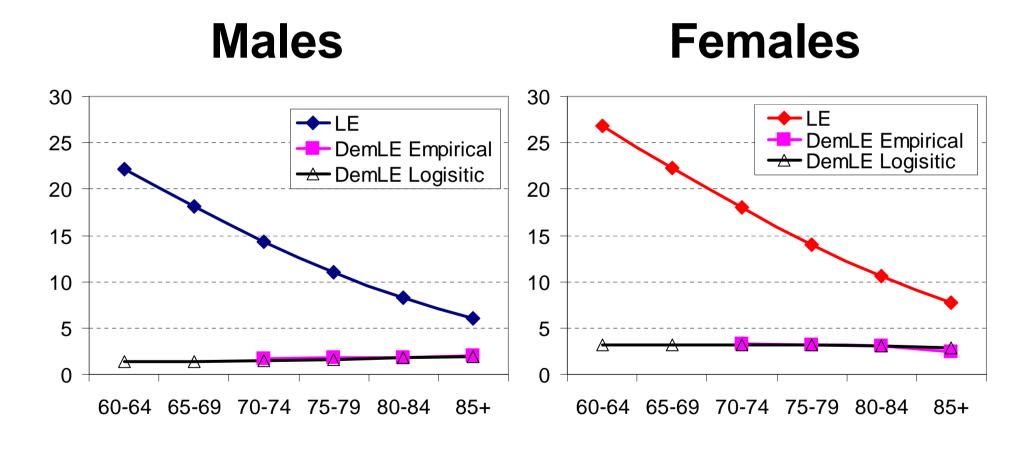
# Sullivan prevalence-based method

 Compute <u>expected number of years</u> lived with dementia and the <u>proportion of the life-time</u> free of dementia for two time points in 1998 & 2008

#### LE and LE with Dementia in 2008

	<u>Males</u>		<u>Females</u>			
	LE	DemLE		LE	DemLE	
		Empirical	Logisitic		Empirical	Logisitic
60-64	22.1		1.4	26.8		3.1
65-69	18.1		1.4	22.3		3.2
70-74	14.3	1.7	1.5	18.0	3.3	3.2
75-79	11.0	1.8	1.6	14.0	3.2	3.1
80-84	8.2	1.8	1.8	10.6	3.0	3.1
85+	6.0	2.0	1.9	7.7	2.5	2.9

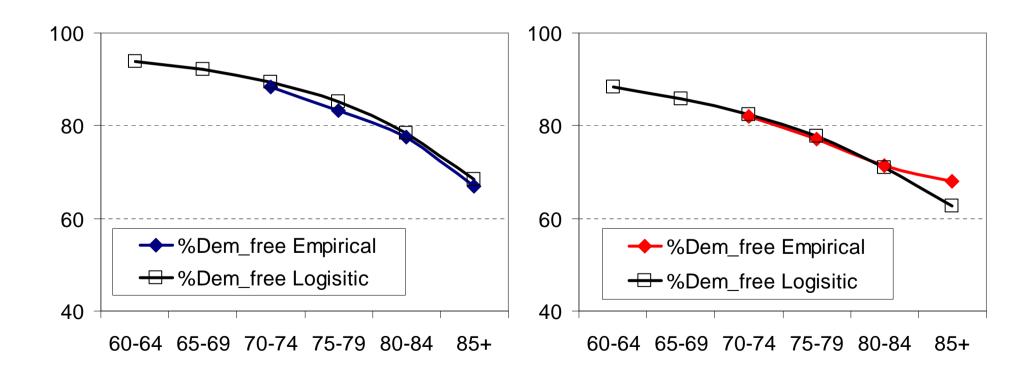
### Life expectancy and expected number of years with & without dementia



## Proportion of life expectancy free of dementia

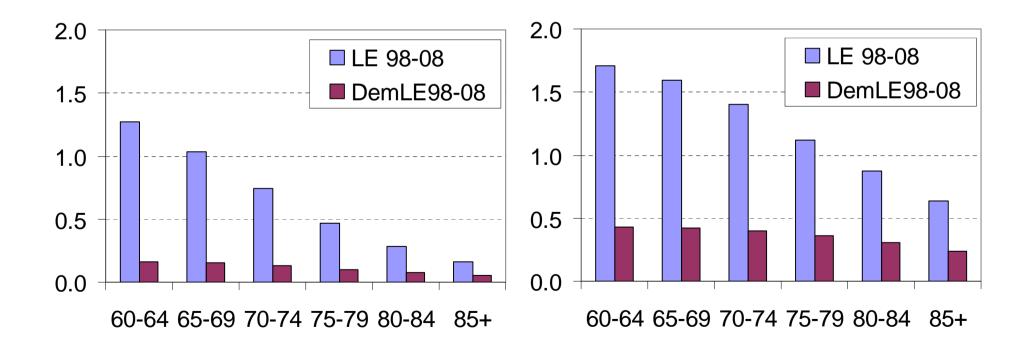
#### **Males**

#### **Females**



### Absolute Change in LE and LE with Dementia b/w 1998 and 2008





## Relative Change in LE and LE with Dementia b/w 1998 and 2008

#### **Males**

#### **Females**

Age	LE 98-08	DemLE98-08		LE 98-08	DemLE98-08
60	6%	13%	60-64	7%	16%
65	6%	12%	65-69	8%	15%
70	5%	9%	70-74	8%	14%
75	4%	7%	75-79	9%	13%
80	4%	5%	80-84	9%	11%

#### Conclusion

- When older adults live longer, LE with dementia increases over time even if the prevalence remains constant
- Female older adults live longer and also tend to have longer LE with dementia
- LE with dementia very slightly increases with age especially for males and remains almost constant for females
- The proportion of LE without dementia decreases with age

### Thank you!