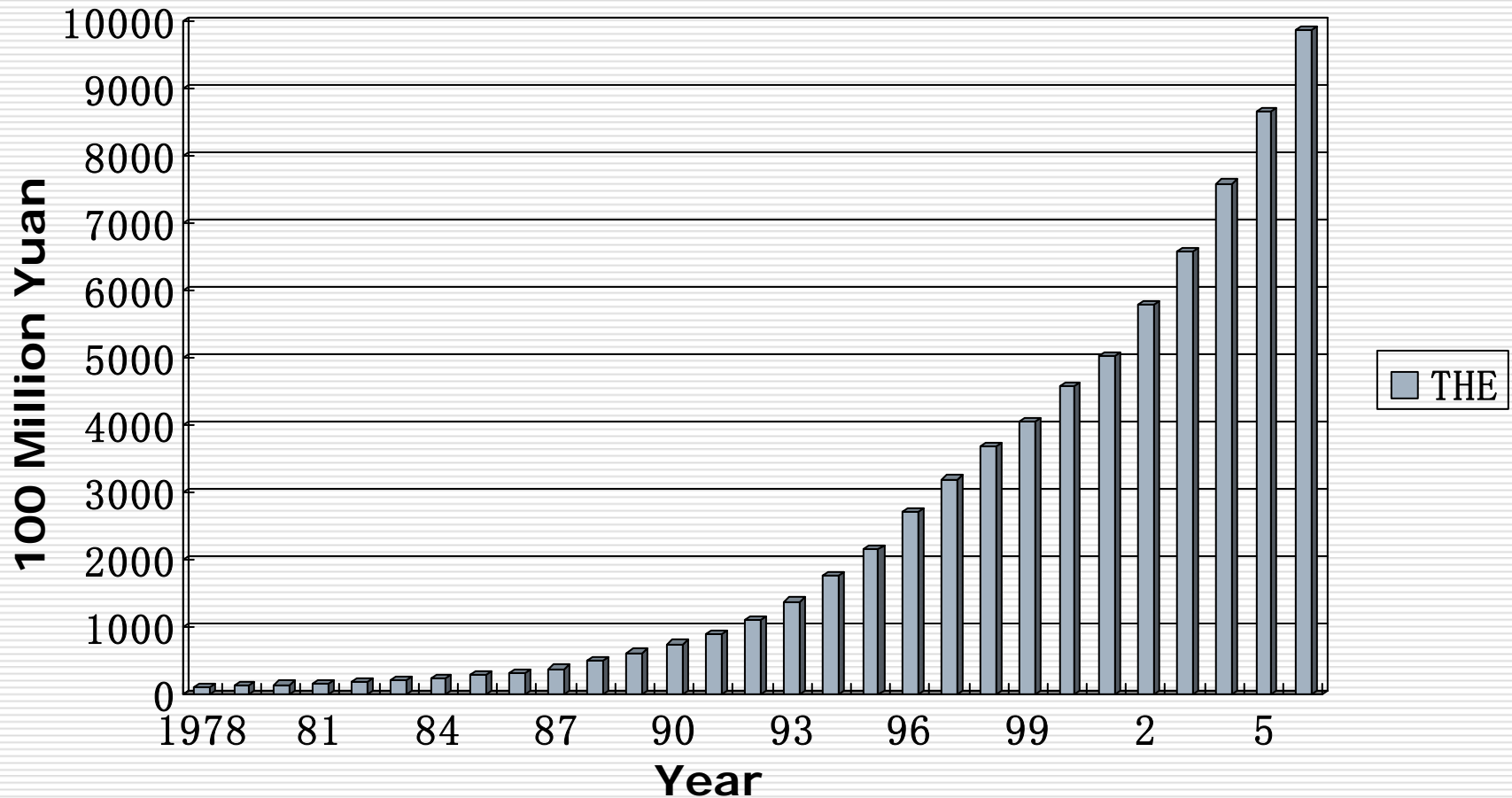


China's Health Reform, Chronic Disease Burden and the Elderly

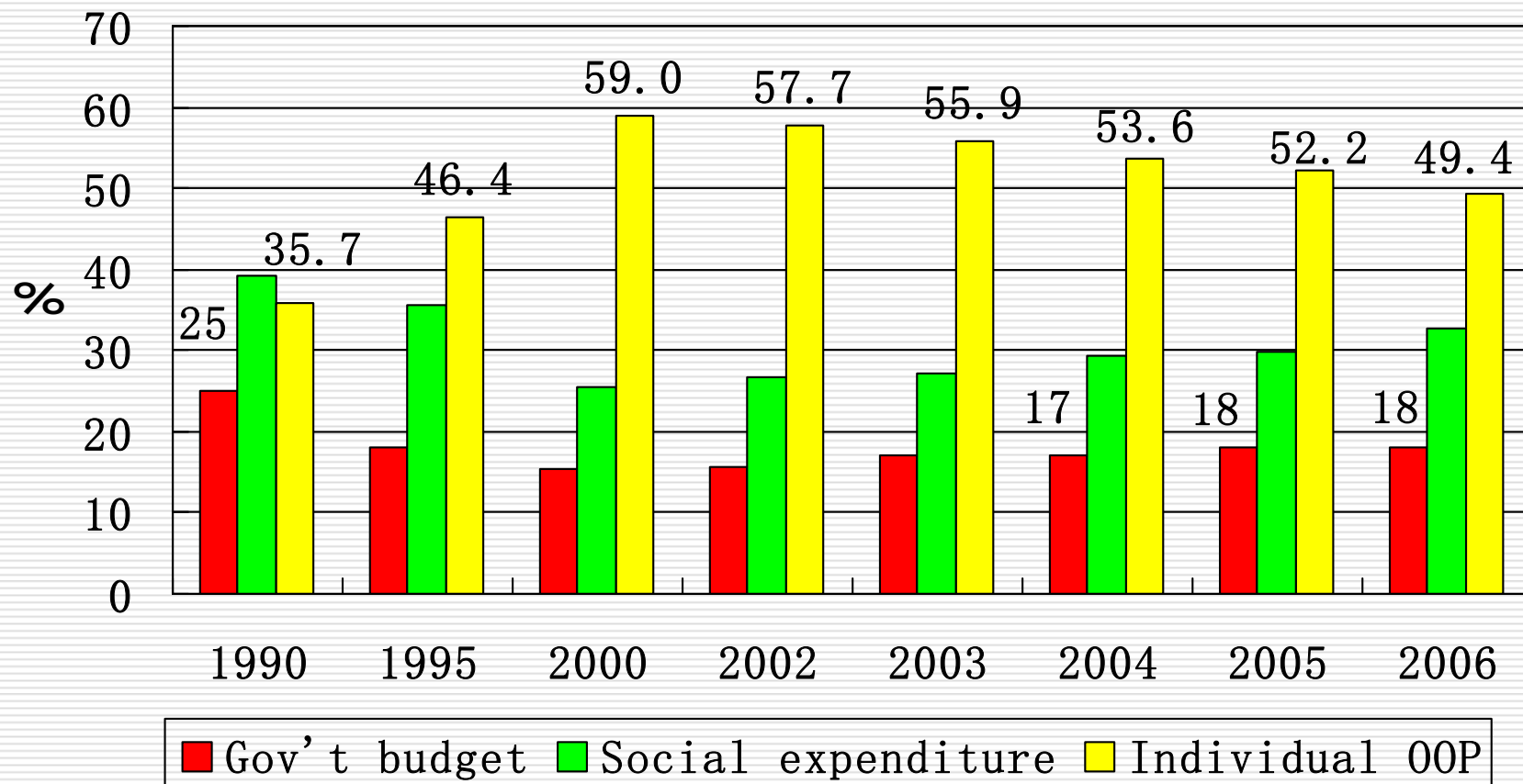
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Aging Asia Workshop, Stanford Univ.
February 26, 2009

Growth Trend of Total Health Expenditure in China



The Composition of National Health Accounts in China



(CHEI Report 2007)

Institutional Issues in China's Health System

- The focused issue from society and population is “hardship and expensive to seek medical care”
- Three reasons caused the institutional issues
 - Lack of government public spending
 - Low coverage of health insurance system
 - Distortion of reimbursement mechanism in hospitals

Establishing a Basic Health System in China

- One objective (basic health services for all)
- Improving four systems (public health, medical service system, medical insurance system and drug provision security system)

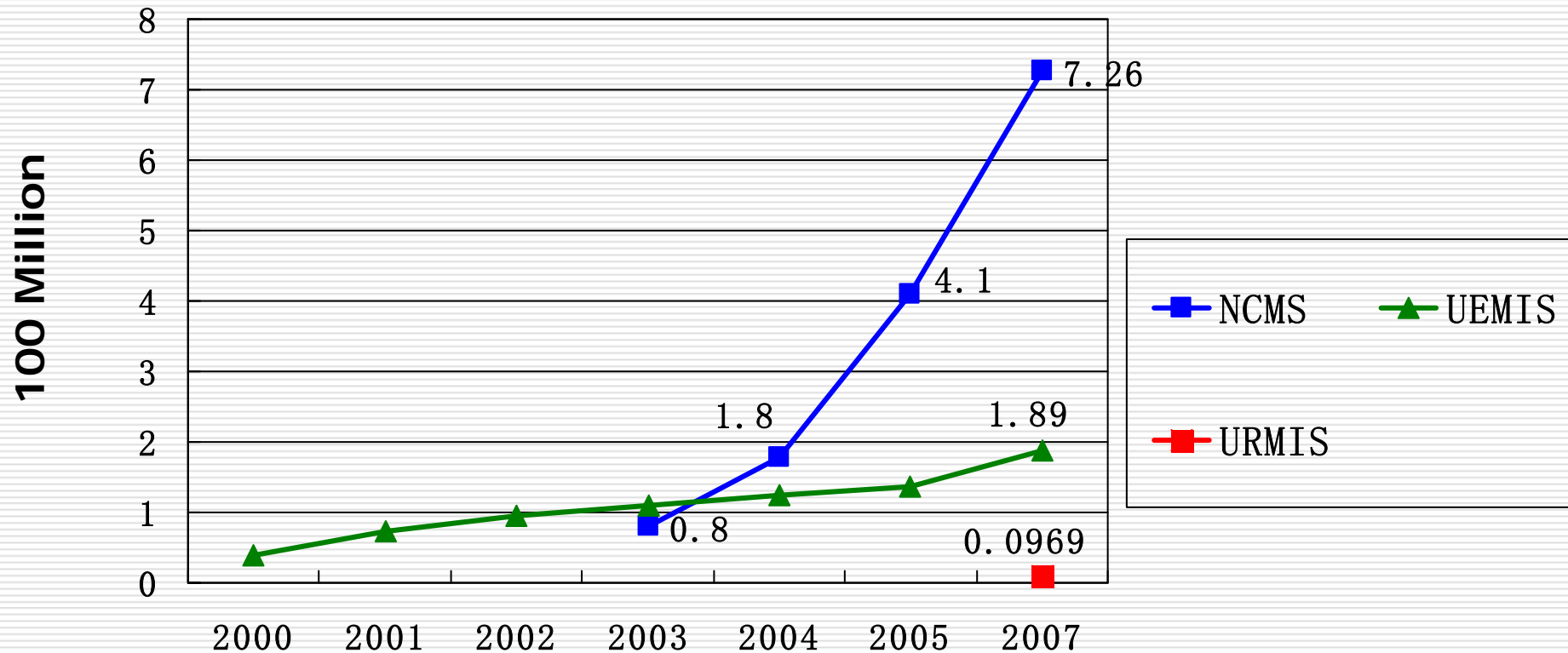
Recent Five Tasks Should be Accomplished by the Year 2010

- Universal coverage of Basic medical insurance system
- National essential medicine system
- Establishing grass-root health service system
- Equality of public health services
- Promoting reform practice in public hospitals

Three Main Medical Insurance Systems in China

- Unban employee' s basic medical insurance system
- New rural cooperative medical system
- Urban resident's basic medical insurance system

The Coverage of Different Medical Insurance System



(Collection of medical insurance reform: Special issue. China News Press, 2006)



April 2006

Burden of Disease in China in 2001

Life expectancy at birth was 71.1 years in 2001, 2.8 years longer than the average life expectancy for China in 1990. Life expectancy at birth in China is now higher than that for the low- and middle-income countries of Europe and Central Asia (67.8) and similar to that of Latin America and the Caribbean (70.7).

Leading Causes of Death

In China, slightly over 8.9 million people died in 2001. Twelve percent of these deaths were from communicable, maternal, and perinatal conditions and nutritional deficiencies (Group I). This proportion has declined by 25% from 1990.

Cerebrovascular disease (stroke) is the leading cause of death in China, responsible for nearly 18% of all deaths (see Table 1). It is followed by chronic obstructive lung disease and ischemic heart disease (IHD), with the three leading causes together responsible for nearly 40% of all deaths. In contrast, these three causes are only responsible for one quarter of

deaths in low and middle income countries as a group (see Figure 1, next page).

Lung cancer and tuberculosis are also among the 10 leading causes of death in China. Stomach cancer and liver cancer, are also in the 10 leading causes for China. None of these cancers, however, appears among the 10 leading causes for low and middle income countries as a group. Self-inflicted injuries (suicide) was responsible for 3% of all deaths in China. In contrast, suicide is responsible for only 1.5% of deaths in low- and middle-income countries as a group.

Child Deaths

Only 8.5% of deaths (765,000) in 2001 were among children younger than five years of age in China. This proportion has declined substantially since 1990, when child deaths were 12% of all deaths in China. The under 5 death rate for China was 37 per 1,000 live births in 2001, 30% lower than the child death rate for the rest of East Asia and the Pacific region.

Conditions arising in the perinatal period (principally low birth weight and birth trauma and asphyxia), lower respiratory infections and diarrhea were the three leading causes of

Table 1
The Ten Leading Causes of Death, China and Low- and Middle-Income Countries, 2001

China		Low- and middle-income countries (including China)	
Cause	Percent of total deaths	Cause	Percent of total deaths
1 Cerebrovascular disease	17.9%	1 Ischemic heart disease	11.8%
2 Chronic obstructive pulmonary disease	13.9%	2 Cerebrovascular disease	9.5%
3 Ischemic heart disease	7.6%	3 Lower respiratory infections	7.0%
4 Stomach cancer	4.5%	4 HIV/AIDS	5.3%
5 Liver cancer	3.6%	5 Perinatal conditions	5.1%
6 Lung cancer	3.5%	6 Chronic obstructive pulmonary disease	4.9%
7 Perinatal conditions	3.2%	7 Diarrheal diseases	3.7%
8 Lower respiratory infections	3.0%	8 Tuberculosis	3.3%
9 Self-inflicted injuries	3.0%	9 Malaria	2.5%
10 Tuberculosis	3.0%	10 Road traffic accidents	2.2%

Source: Mathers, C. D., A. D. Lopez, and C. J. L. Murray. 2006. "The burden of disease and mortality by condition: data, methods and results for 2001." In *Global Burden of Disease and Risk Factors*, ed. A. D. Lopez, C. D. Mathers, M. Ezzati, D. T. Jamison, and C. J. L. Murray. 45-240. New York: Oxford University Press.

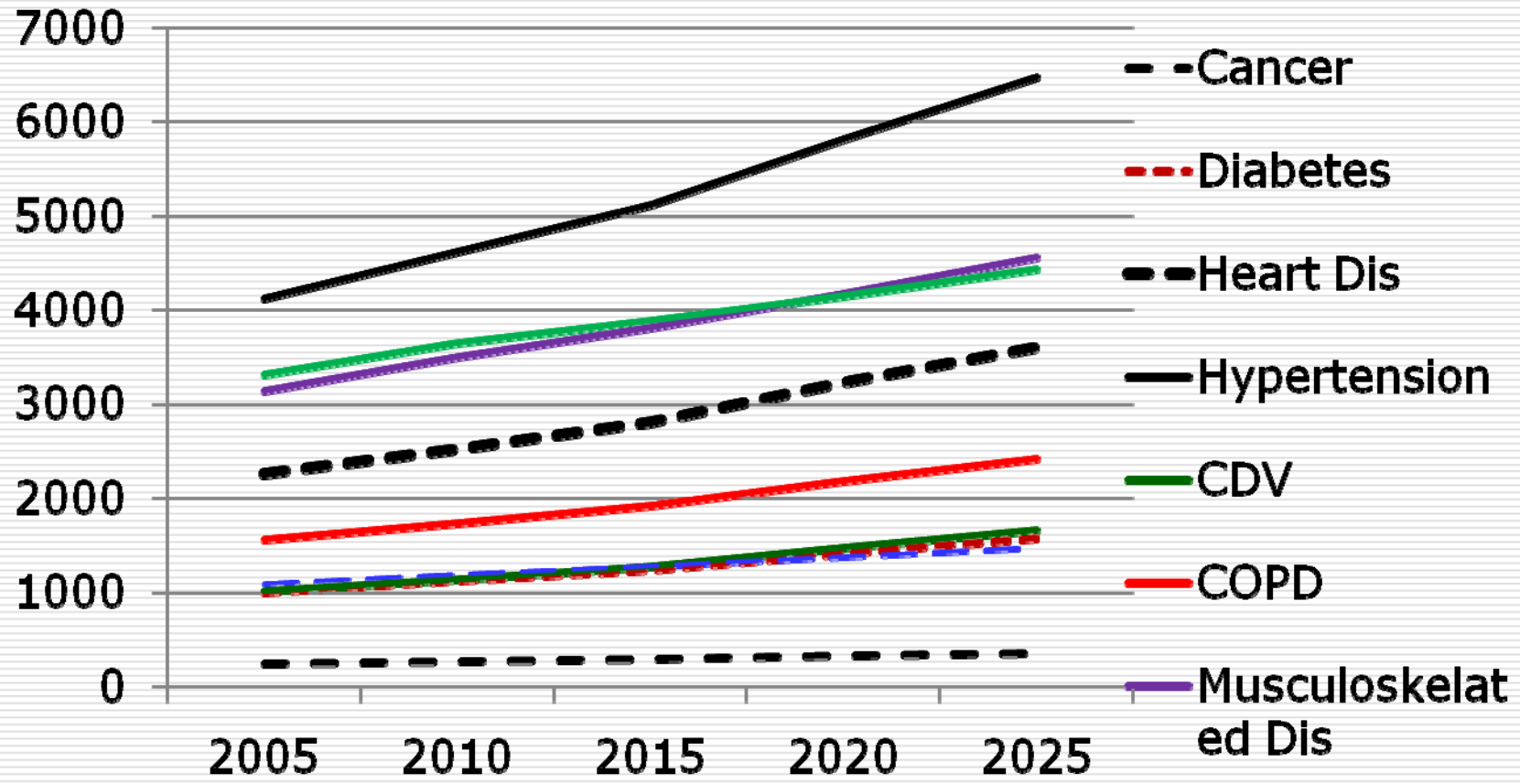
Ten Leading Causes of Death in China (2001)

Causes	Percent of total deaths (%)
Cerebra-vascular disease	17.9
Chronic obstructive pulmonary disease	13.9
Ischemic heart disease	7.6
Stomach cancer	4.5
Liver cancer	3.6
Lung cancer	3.5
Peri-natal conditions	3.2
Lower respiratory infections	3.0
Self-inflicted injuries	3.0
Tuberculosis	3.0

Ten Leading Causes of Burden of Disease in China (2001)

Cause	Percent of total DALYS (%)
Cerebra-vascular disease	9.7
Chronic obstructive pulmonary disease	6.4
Peri-natal conditions	4.9
Unipolar depressive disorders	4.5
Ischaemic heart disease	3.4
Road traffic accidents	3.1
Vision disorders age-related	2.6
Self-inflicted injuries	2.6
Stomach cancer	2.5
Lower respiratory infections	2.5

The Projection of Prevalence of Chronic Diseases in China



Household Survey Method

- The 3rd National Health Household survey study was conducted in 2003 in China
- Sample size covers 95 counties (cities, districts) 950 villages, 57023 households and 193689 individuals
- Data were collected on the prevalence of previous 2-week and hospitalization rate for 1-year
- Data collect on direct cost (including utilization and cost of outpatient visit and inpatient admission in different level of hospitals), then, calculated for annual direct cost

Leading Cause of Prevalence & Economic Burden of Disease Category in China (2003)

categories	No. cases	Accumulative (%)	categories	Cost (100-million)	Accum cost (%)
Cardiovascular diseases	7982	36.8	Cardiovascular diseases	1203.6	21.9
Digestive diseases	3354	52.3	Respiratory diseases	1000.0	40.1
Musculoskeletal diseases	3153	66.8	Digestive diseases	845.9	55.5
Respiratory diseases	2081	76.4	Musculoskeletal diseases	421.7	63.1
Endocrine disorders	1297	76.4	Injuries & poisonings	421.0	70.8
Genitourinary diseases	1120	82.4	Genitourinary diseases	365.0	77.4
Neurological diseases	522	90.0	Malignant neoplasms	223.9	81.5
Sense organ diseases	401	91.8	Endocrine disorders	202.4	85.2
Communicable disease	334	93.4	Maternal conditions	160.0	88.1
Injuries & poisonings	270	94.6	Communicable disease	117.0	90.2

Ten Leading Prevalence & Economic Burden of Disease in China (2003)

	Diseases	No. of cases (%)	Diseases	Total cost (%)
1	Hypertension	18.9	Ischemic heart disease	20.2
2	Ischemic heart disease	10.5	Respiratory infections	16.8
3	Respiratory infections	8.3	Injuries & poisonings	7.7
4	Acute & chronic gastroenteritis	6.1	Hypertension	5.9
5	Rheumatoid arthritis	5.1	Cerebra-vascular diseases	5.8
6	Cerebra-vascular diseases	4.7	Gallstone diseases	3.4
7	Diabetes mellitus	4.6	Maternal conditions	2.9
8	Gallstone diseases	3.7	Diabetes mellitus	2.5
9	Interverbral diseases	3.3	Interverbral diseases	2.0
10	Neurologic disease	2.9	Neurologic diseases	1.8
Total		68.1	Total	69.0 ¹⁵

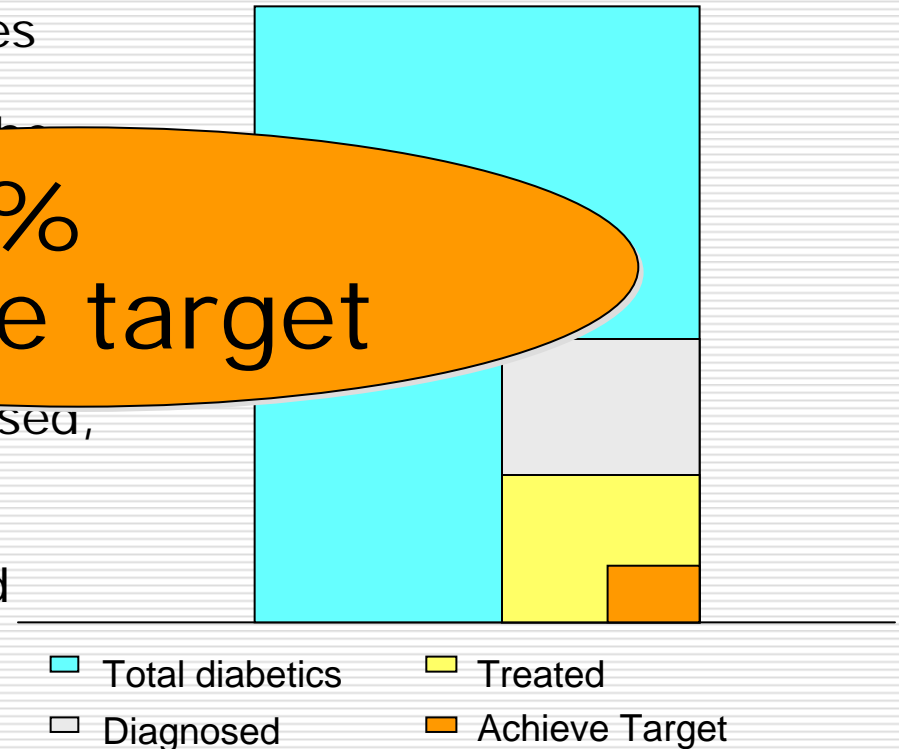
The Economic Burden of Diabetes in China

- In 2003, the direct cost of diabetes was 13.8 billion Yuan (RMB) , the share of 2.5% in total medical expenditure
- From 11 cities survey in 2002, the direct cost of diabetes and its complications was estimated 18.8 billion, 3.94% of total expenditure
- The direct medical cost in different countries at the range of 2.5%-15% health budget

Epidemiology of Diabetes

- China has 39.8 million diabetes patients in 2007, which is the second largest population in the world¹.
- Diabetes patients in China are 1.2 million, 95% are type 2.
- 76% of patients are undiagnosed, half of the diagnosed are not treated³.
- Only one quarter of diagnosed patients achieve treatment target⁴.

only 3%
achieve target



¹ Diabetes Atlas Third Edition, IDF, 2007

² People's Daily Online.

http://english.peopledaily.com.cn/200011/14/eng20001114_55162.html

³ Gu D, et al. Diabetologia, 2003,46:1190.

⁴ Pan C, et al. Diabetologia, 2007, 50(suppl1): s422.

Economic Burden of Diabetes

- Direct cost: accounts for 7.57% of total healthcare cost
- Indirect cost: 0.04% GDP in 2003¹

Direct cost as % of GDP in China, 1993-2003

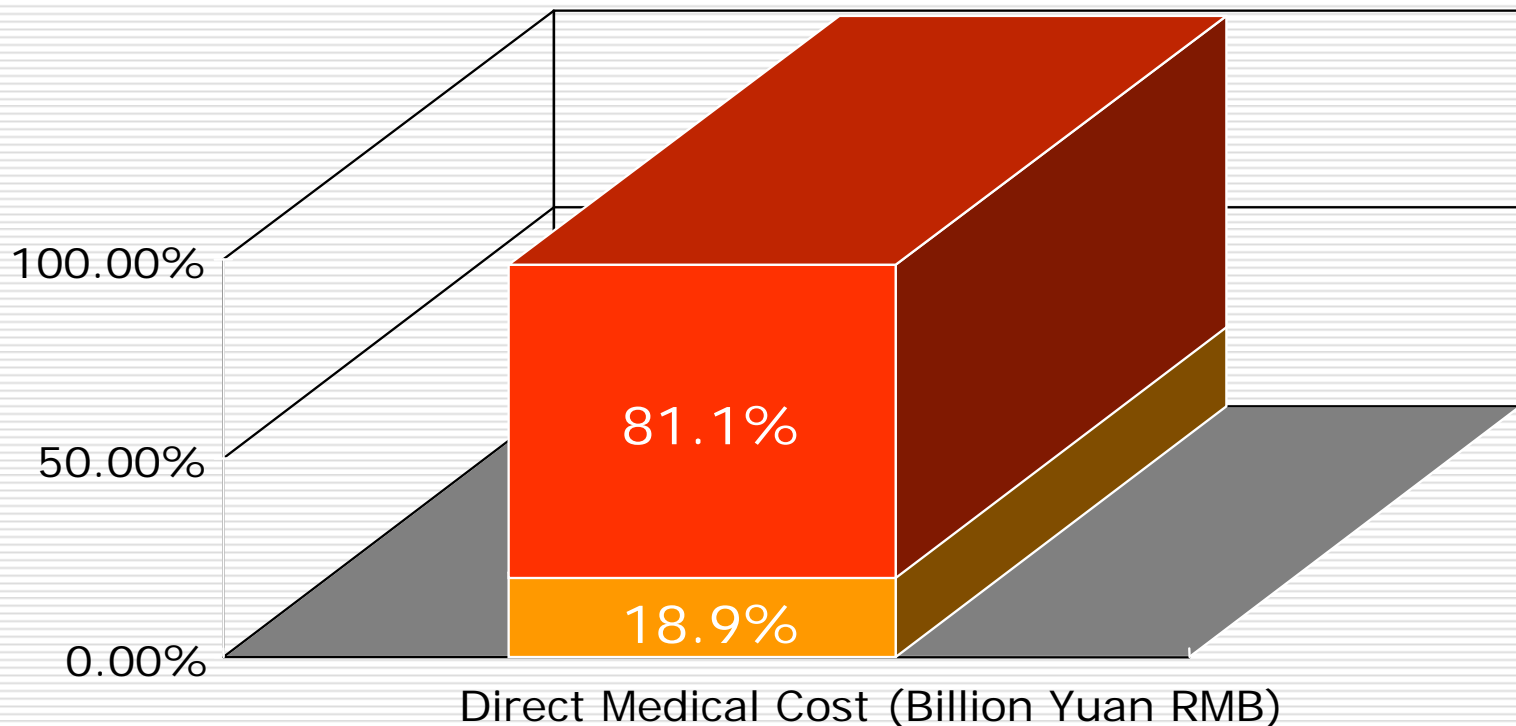
Year of study	Direct cost (billion CNY)	Percentage of GDP (%)
1993 ²	2.22	0.07
2002 ³	10.71	0.10
2003 ¹	17.59	0.15

¹ Hu JP, et al. Chinese Journal of Prevention and Control of Chronic Non-Communicable Diseases, 2007, 15(3): 189.

² Shen HB, et al. Shanghai Journal of Preventive Medicine, 1998, 10(9): 387.

³ Wang J, et al. Chinese Journal of Preventive Medicine, 2007, 41(3): 186

Direct Medical Cost of Diabetes in Urban China

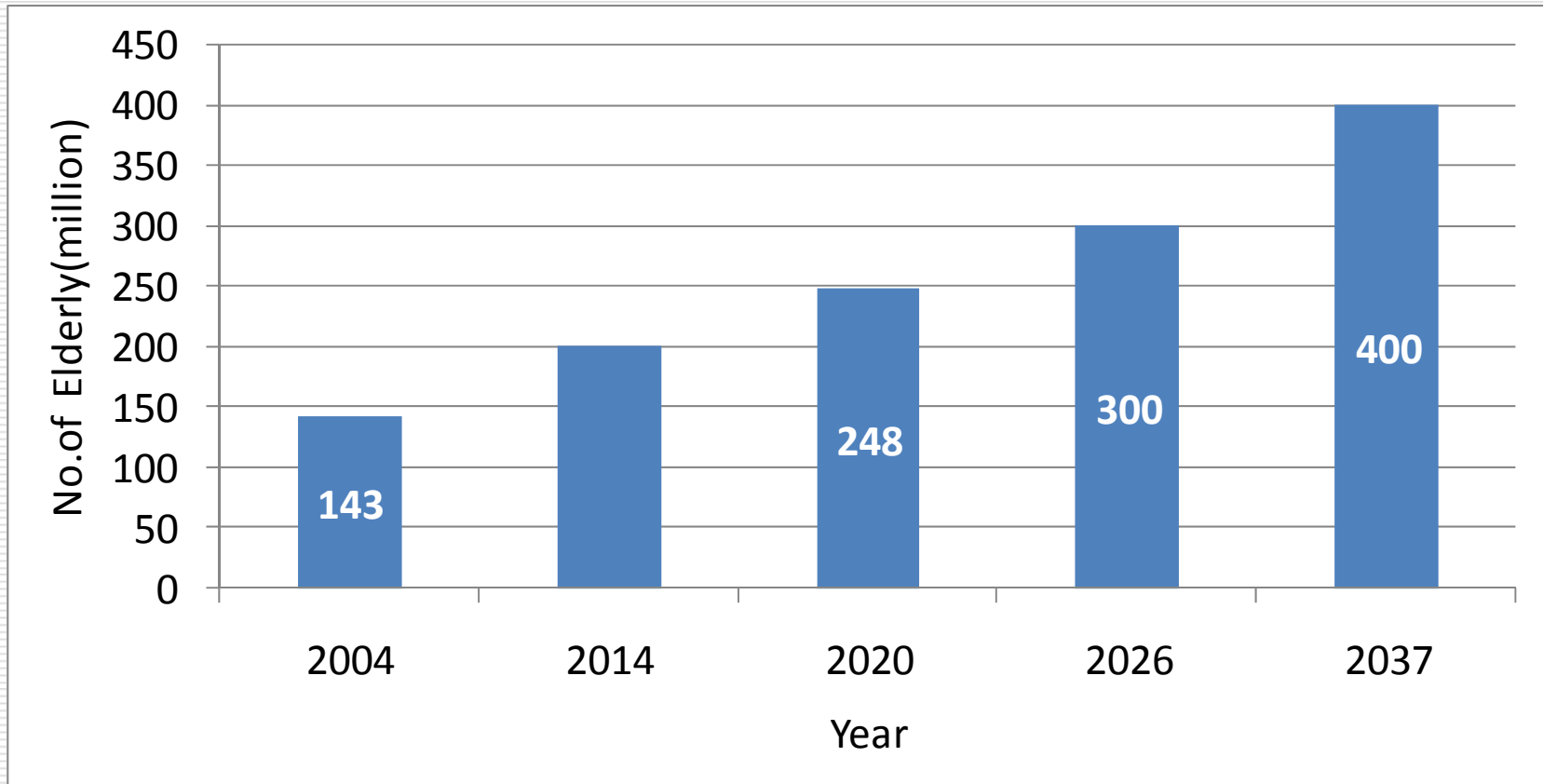


- patients with complications
- patients with no complications

Fast Growing of Aging Population in China

- 1% sampling population survey in 2006, the number of elderly aged over 65 years was 100.55 million, 7.7% of total population in China
- Annual growth rate of elderly was 3.2%
- The elderly living alone was 49.7% in city and 34.3% in rural areas
- Low income and low coverage of health insurance

The Trend of Aging Population in China



Shanghai Has Approached to the Elderly Society

- 19.3% Shanghai population have approached to elderly in 2004
- 36% employees who have medical insurance in 6.8 million formal sector's workers are retirees (36%)
- Retirees aged over 60 waive medical insurance premium and 50% less paid out-of-pocket than employees while searching medical services in hospitals

International Experience on Long-term Care Insurance

- ❑ Germany introduced nursing care insurance in 1995 (1.7% payroll tax)
- ❑ Japan established long-term care insurance since 2000, which was compulsory for the population over age 40 and eligible for elderly aged ≥ 65
- ❑ Singapore introduced ElderShield for the elderly and disabled people aged >40 in 2002

-
- 7.81% elderly have not covered by any health insurance scheme in Shanghai
 - 80% cost of home care are paid by medical insurance pooled fund and remaining 20% cost paid by MSA or out-of-pocket

Conclusion (1)

- Consensus building on reaching universal coverage of basic health services in China is needed
- Medical direct cost is a proxy indicator to estimate the economic burden of disease
- Investing health resource in the leading 10 diseases will solve the problem of 70% direct medical cost and prevalence rate (70/70)

Conclusion (2)

- ❑ Demographic transition causes the change of disease pattern, the cost of chronic diseases becomes heavy economic burden
- ❑ The aging population in China has caused a series of problems, such as medical cost escalation and sustainability of pension and health insurance system
- ❑ Division of medical and nursing care through long-term care insurance needs to be considered in the future

Health Reform is a Slow Process & Should be Tailored to Chinese Situation



**Thank You for Your
Attention**

