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5th International Whey Conference

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# How health needs may create new markets for whey products in China?

**---Chen Lijun, Dr. Prof. VGM  
Beijing Sanyuan Foods  
Co.,Ltd.**

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# Chinese health and wellness



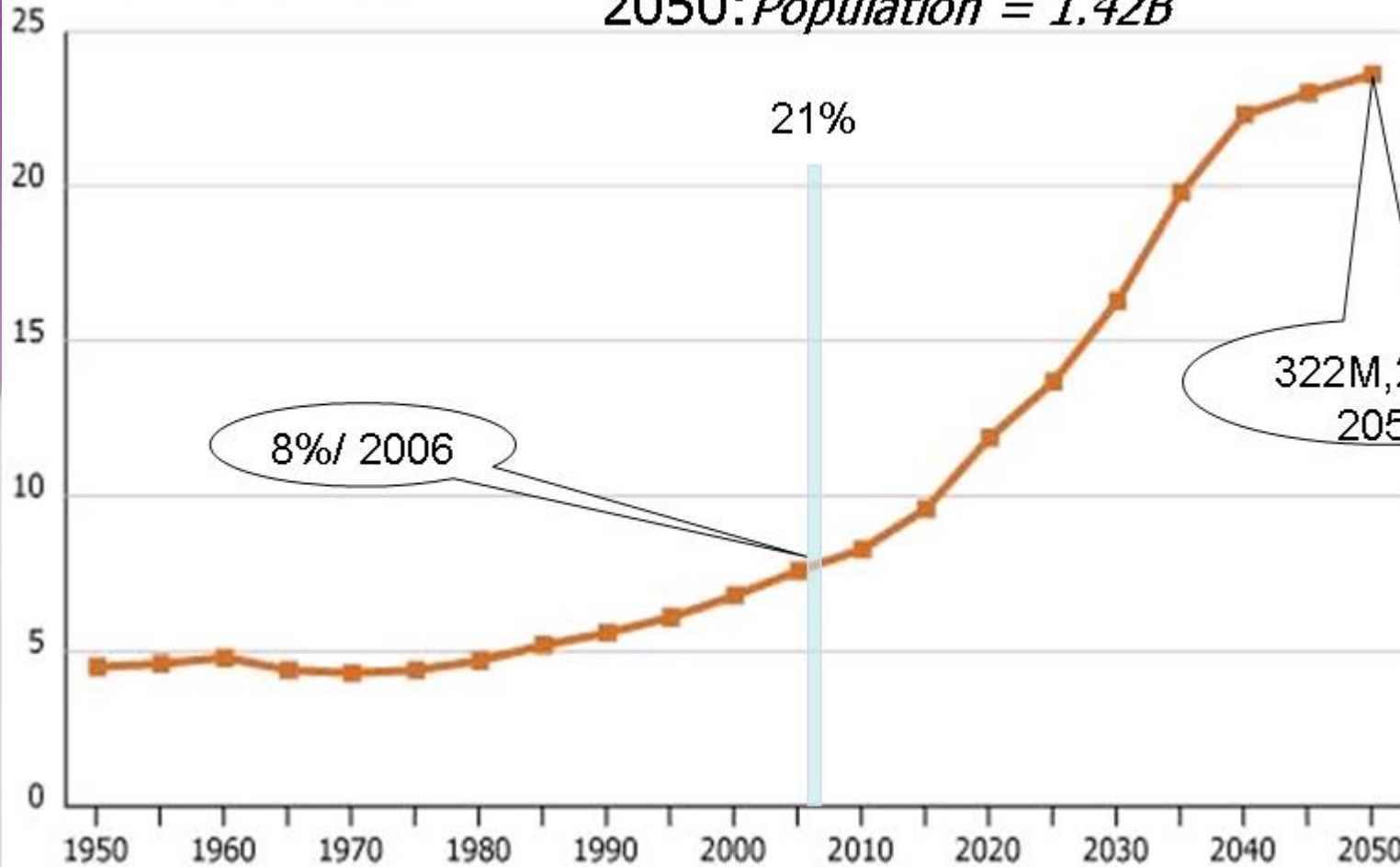
# Aging Population Increasing

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## Percentage of older adults (age 65+) in China, 1950-2050

Percent of total population

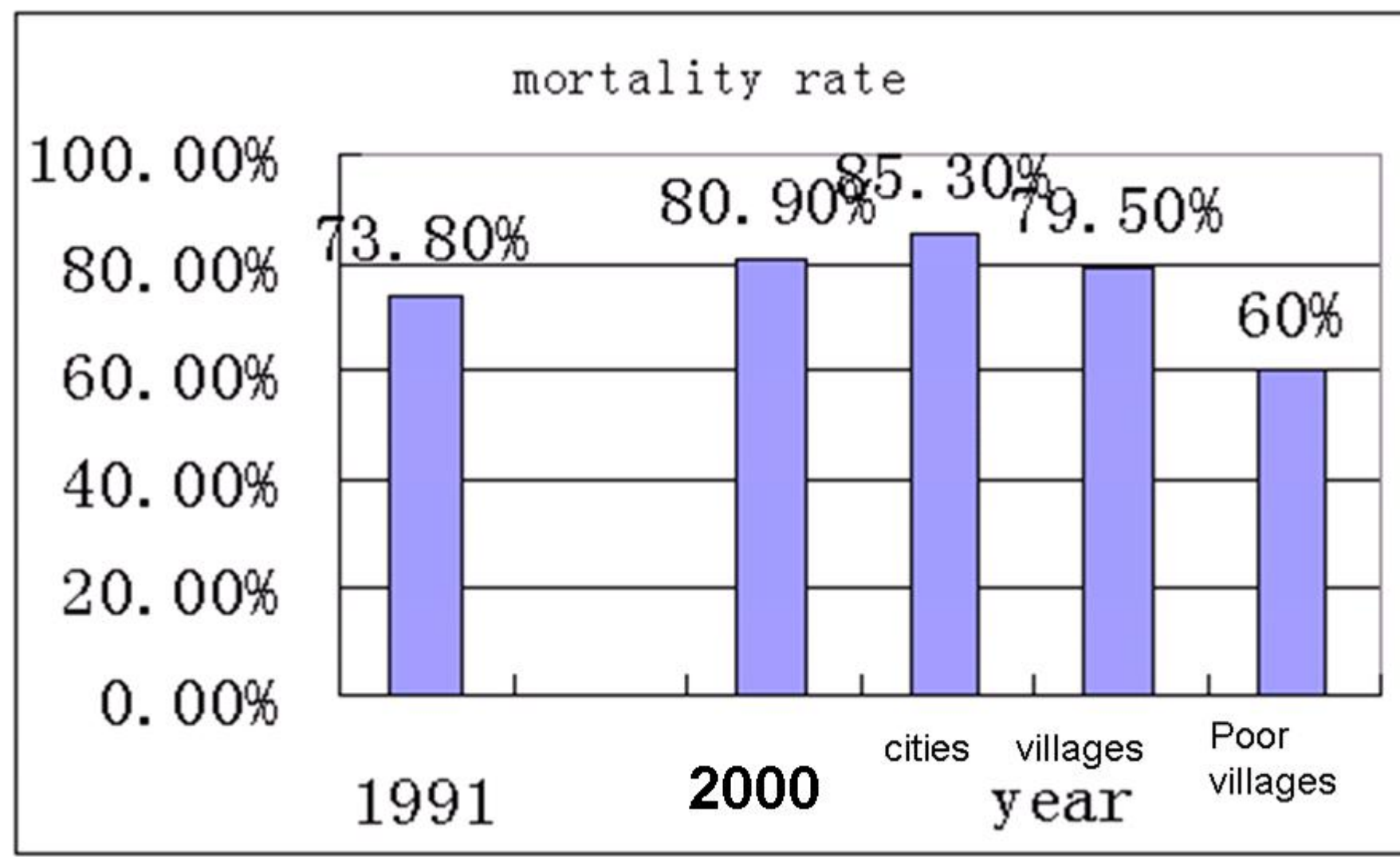
2050: *Population = 1.42B*



(World population prospects; The 2004 revision(2005))



# Non-communicable chronic disease mortality rate





# Estimated proportions of total deaths and DALYs lost for all ages in China, 2005

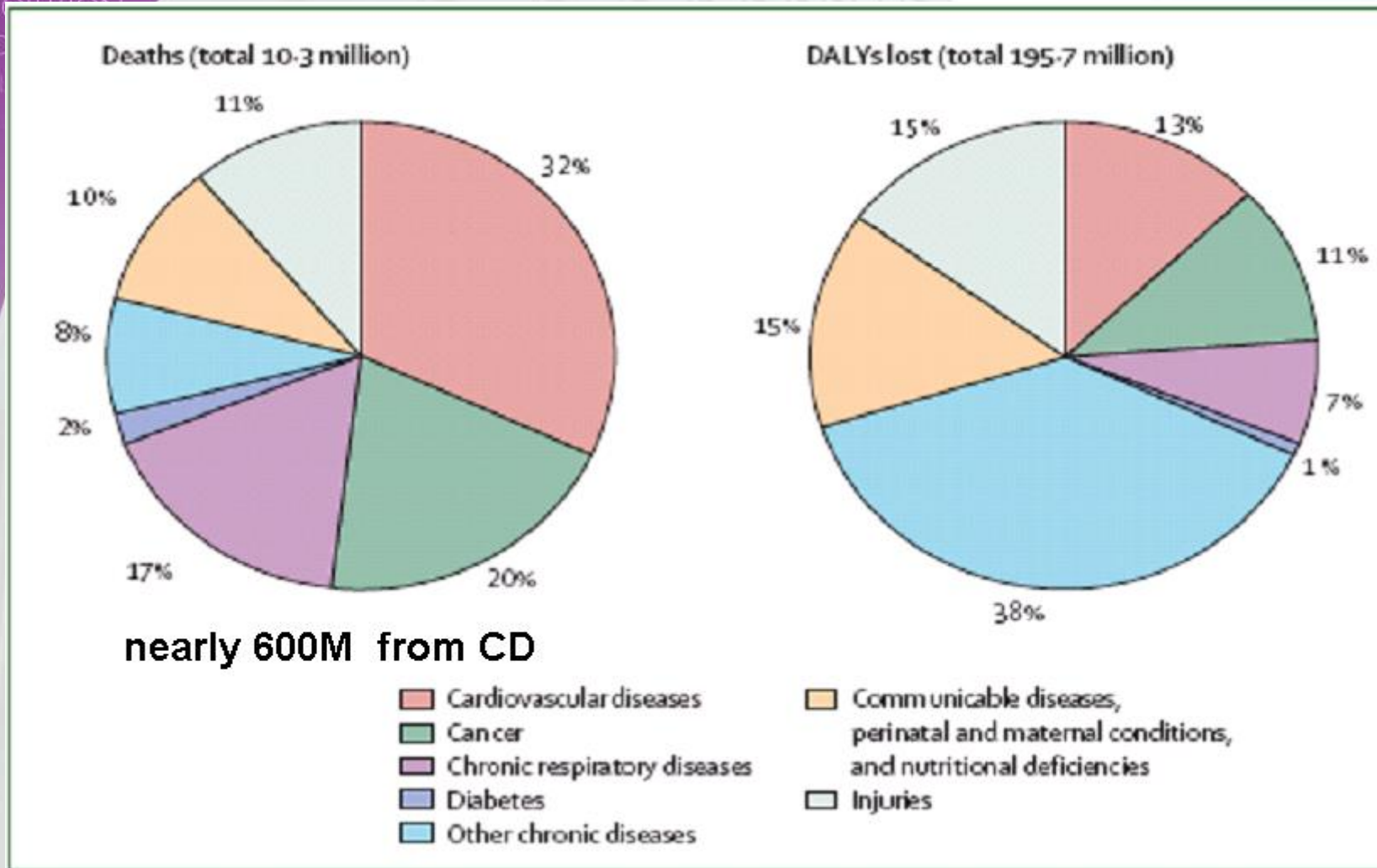
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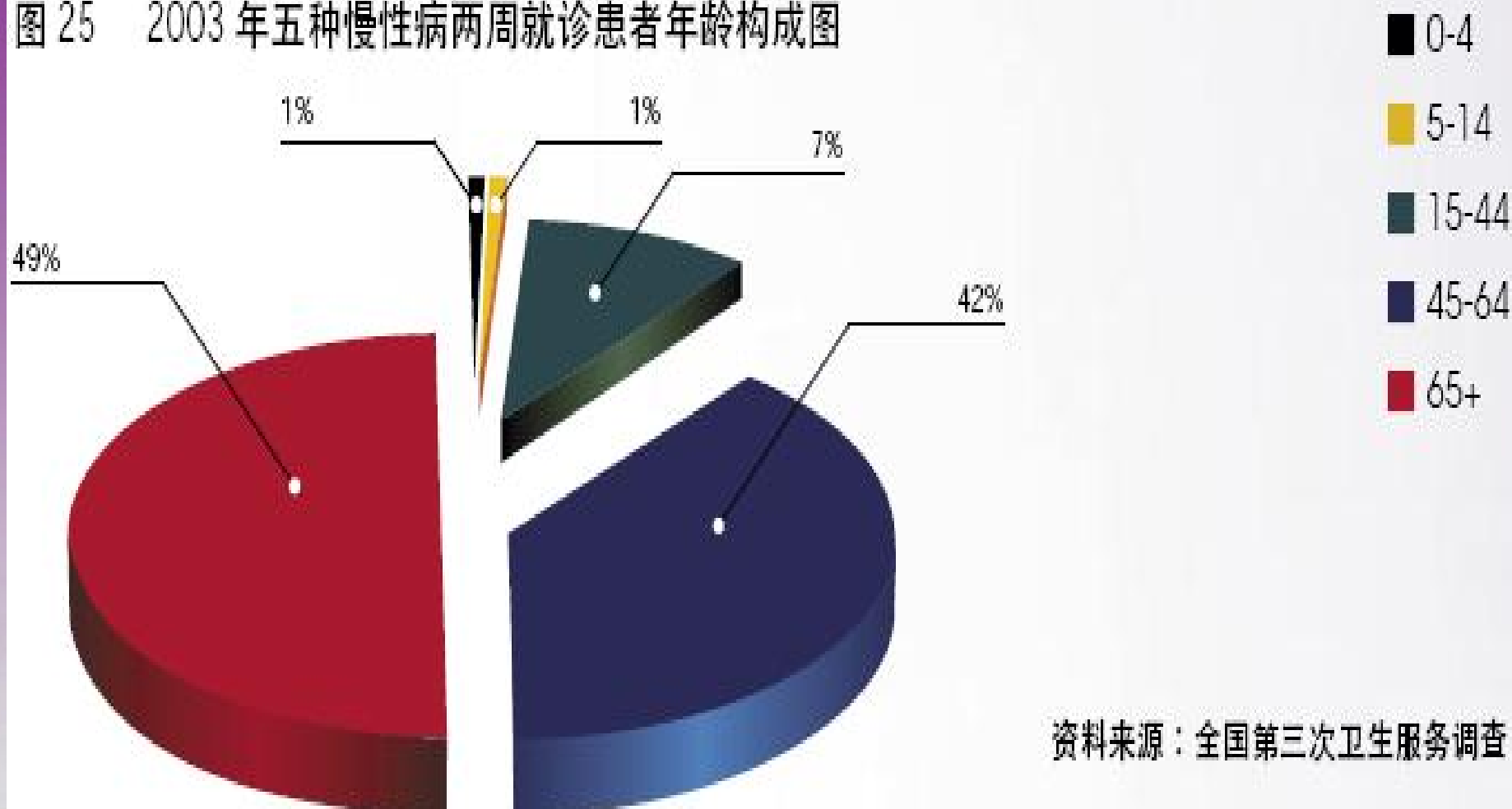
Longde Wang, Lingzhi Kong, Fan Wu, Yamin Bai, Robert Burton



# Chronic disease patients structure

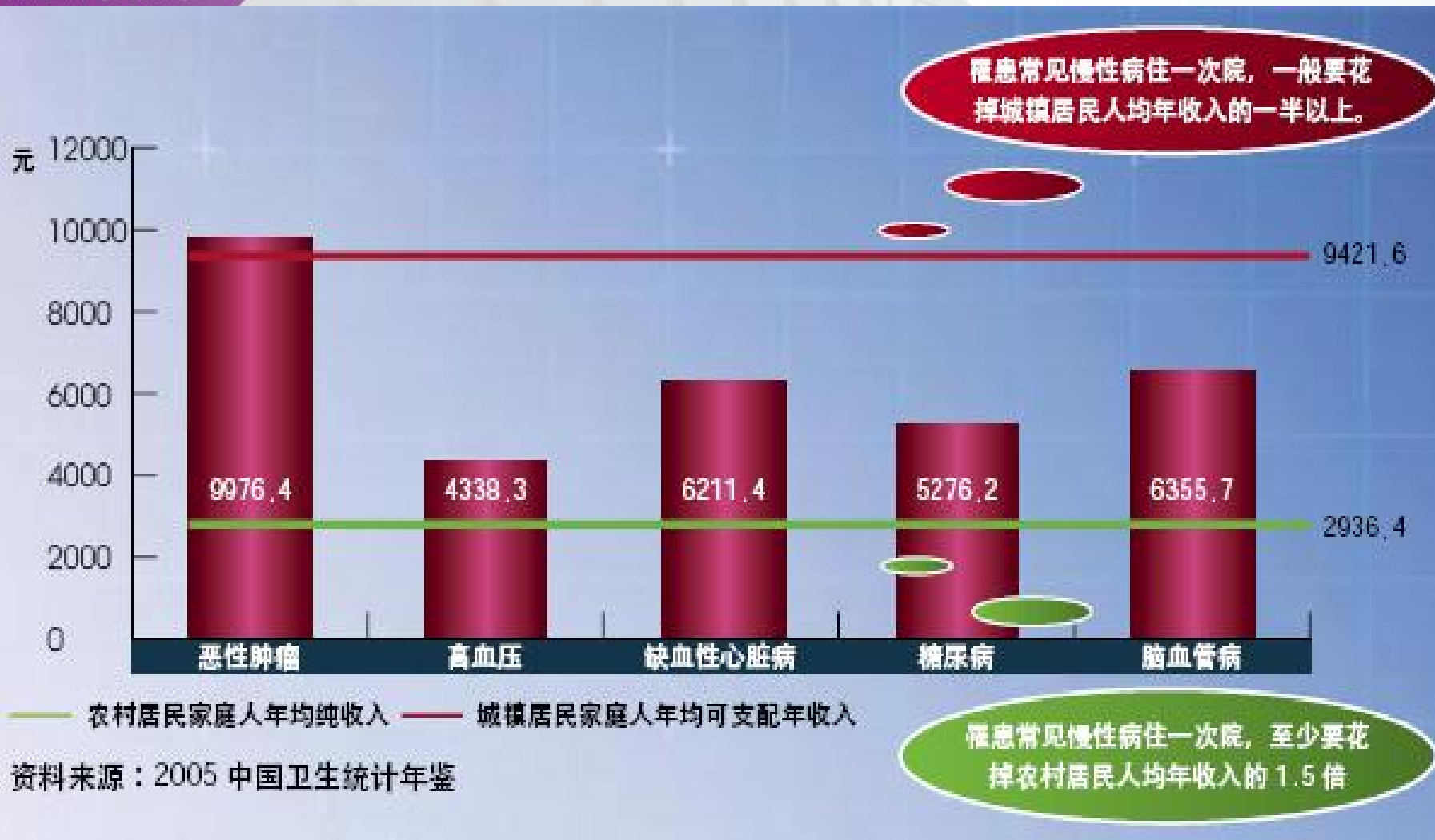
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图 25 2003 年五种慢性病两周就诊患者年龄构成图



# Heavy burden on the patients

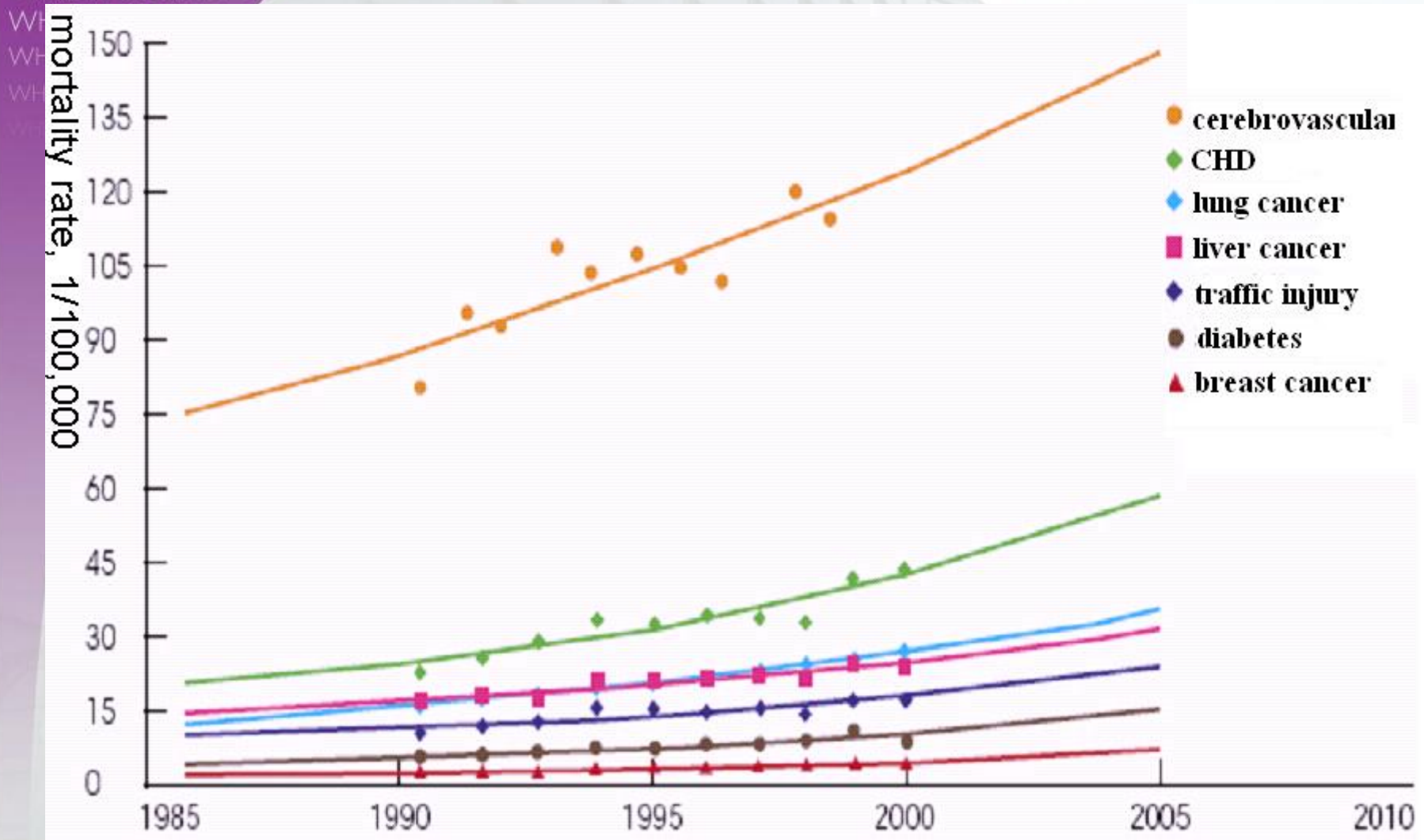
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# The mortality rate grows

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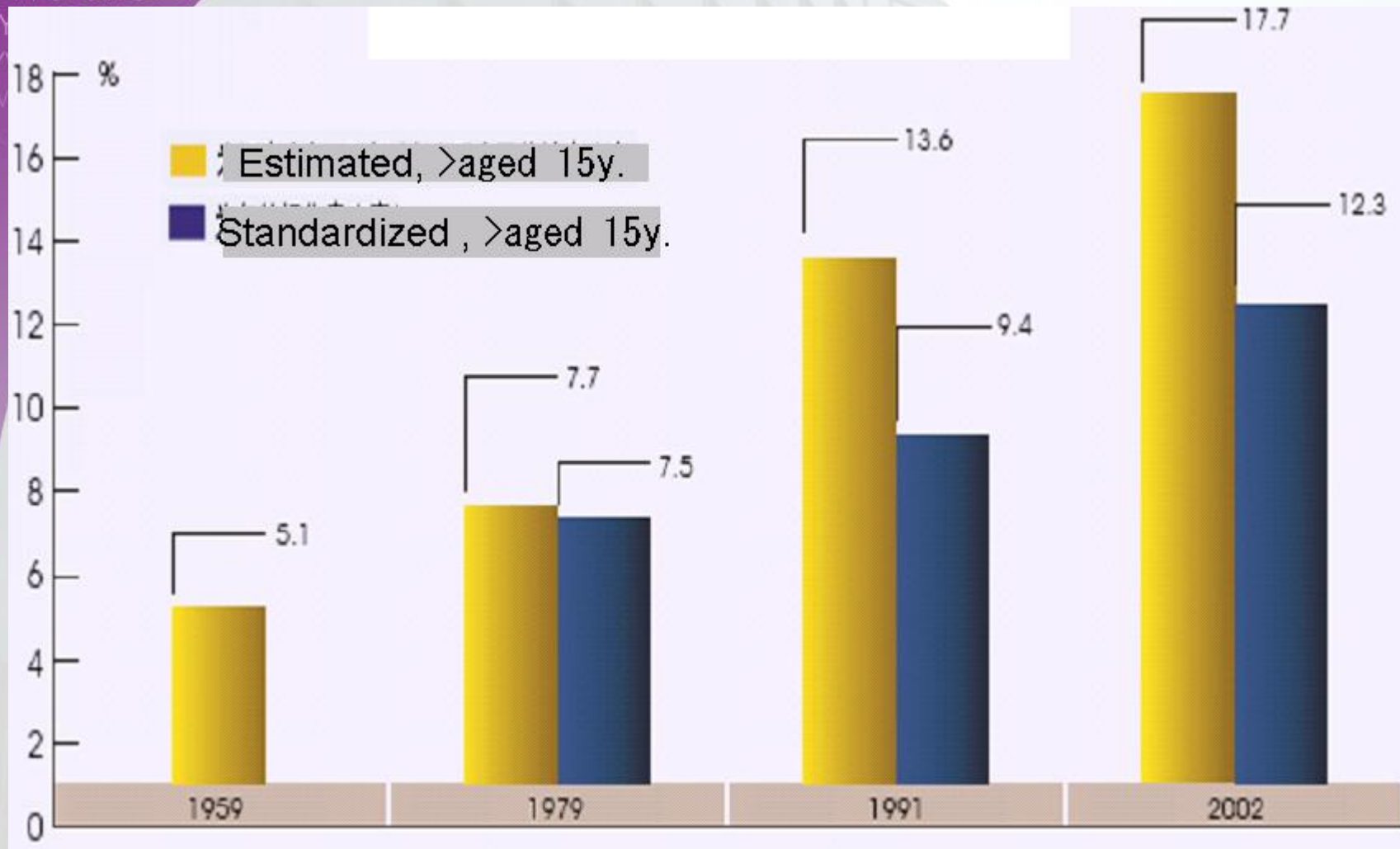




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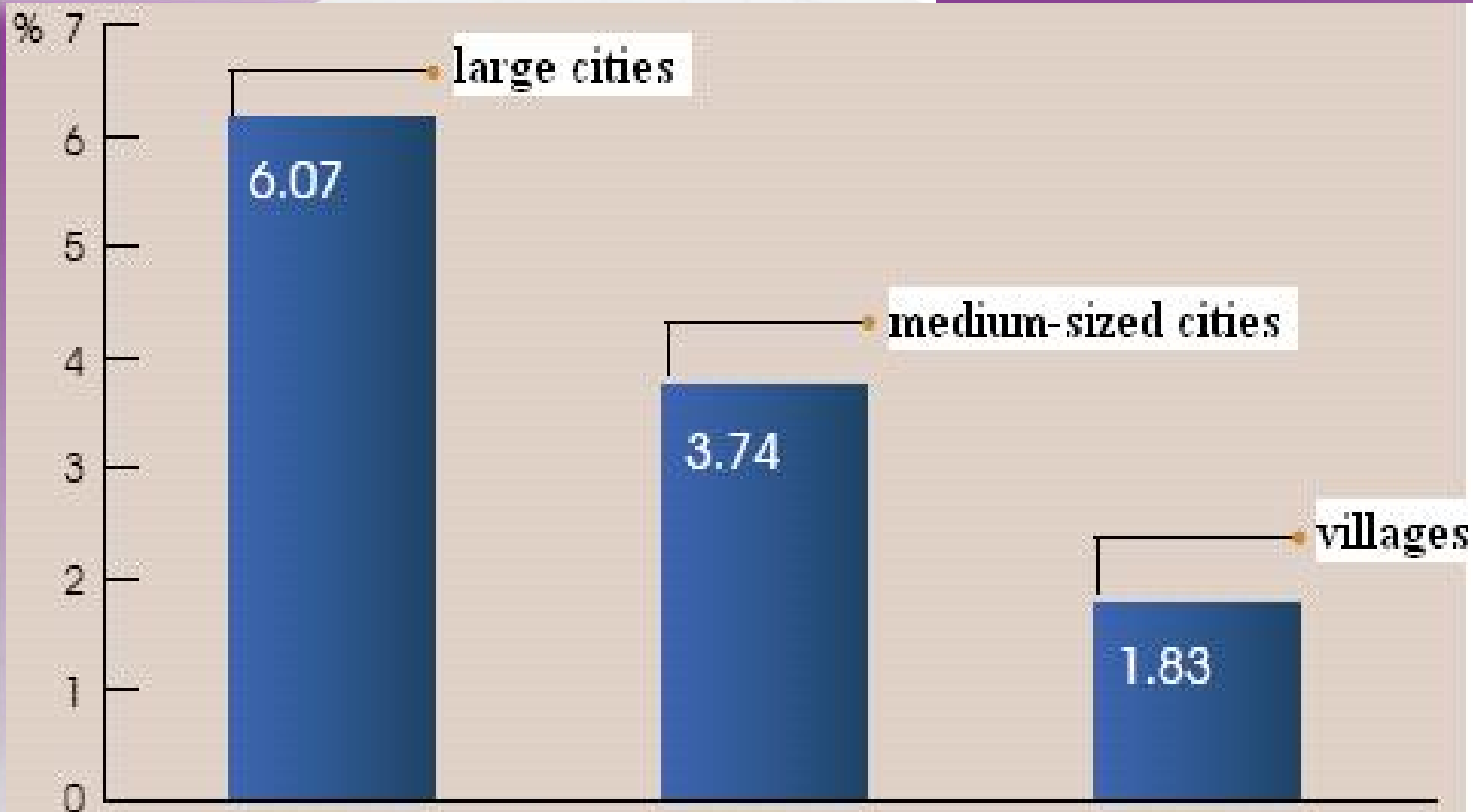
# Hypertension morbidity rate



Source: Wang LD, Report of Nutritional and health situation of Chinese residents, 2005, People's health Publishing House, Beijing



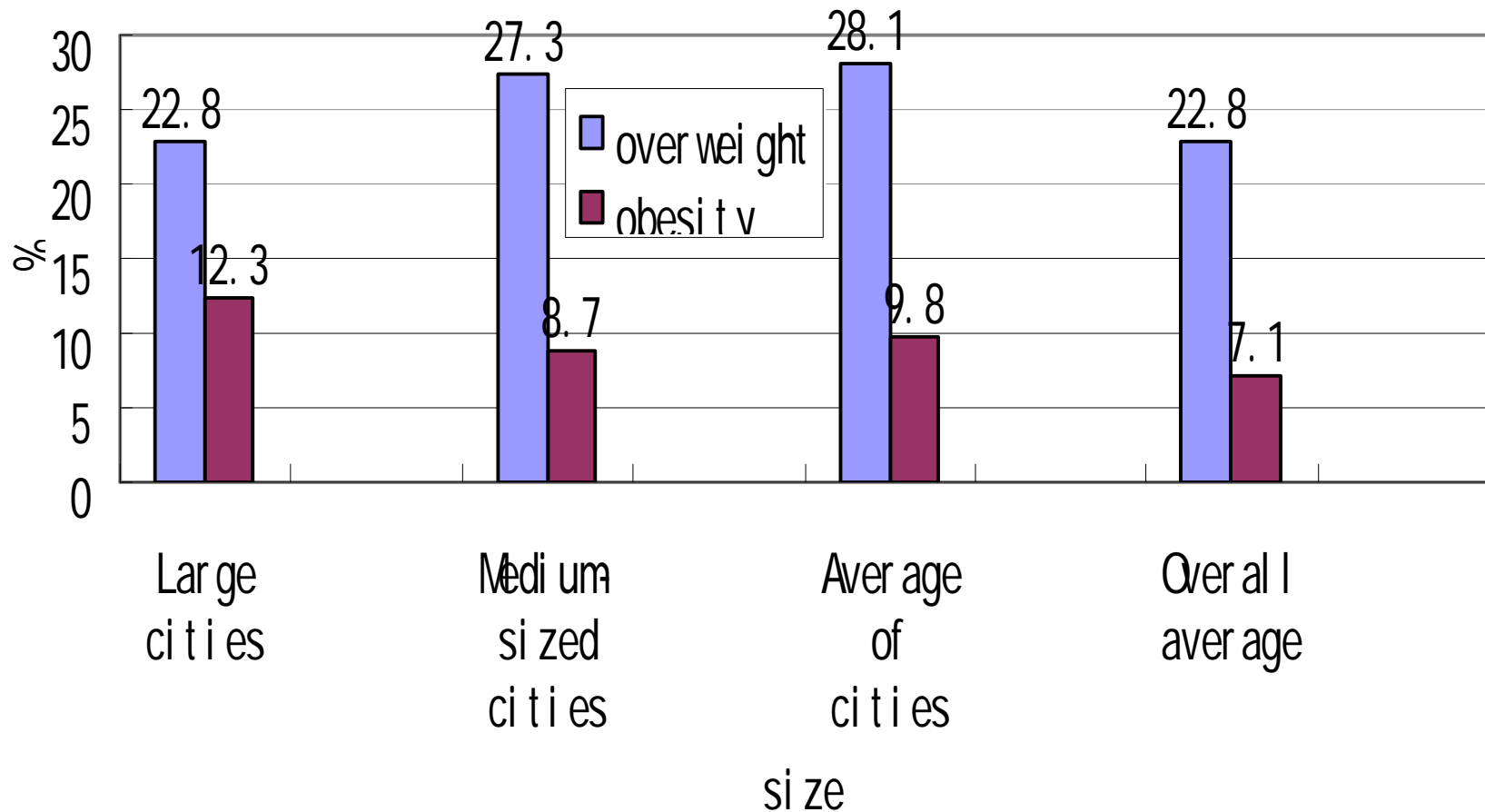
## Diabetes mellitus increase



资料来源：2002 年中国居民营养与健康状况调查综合报告



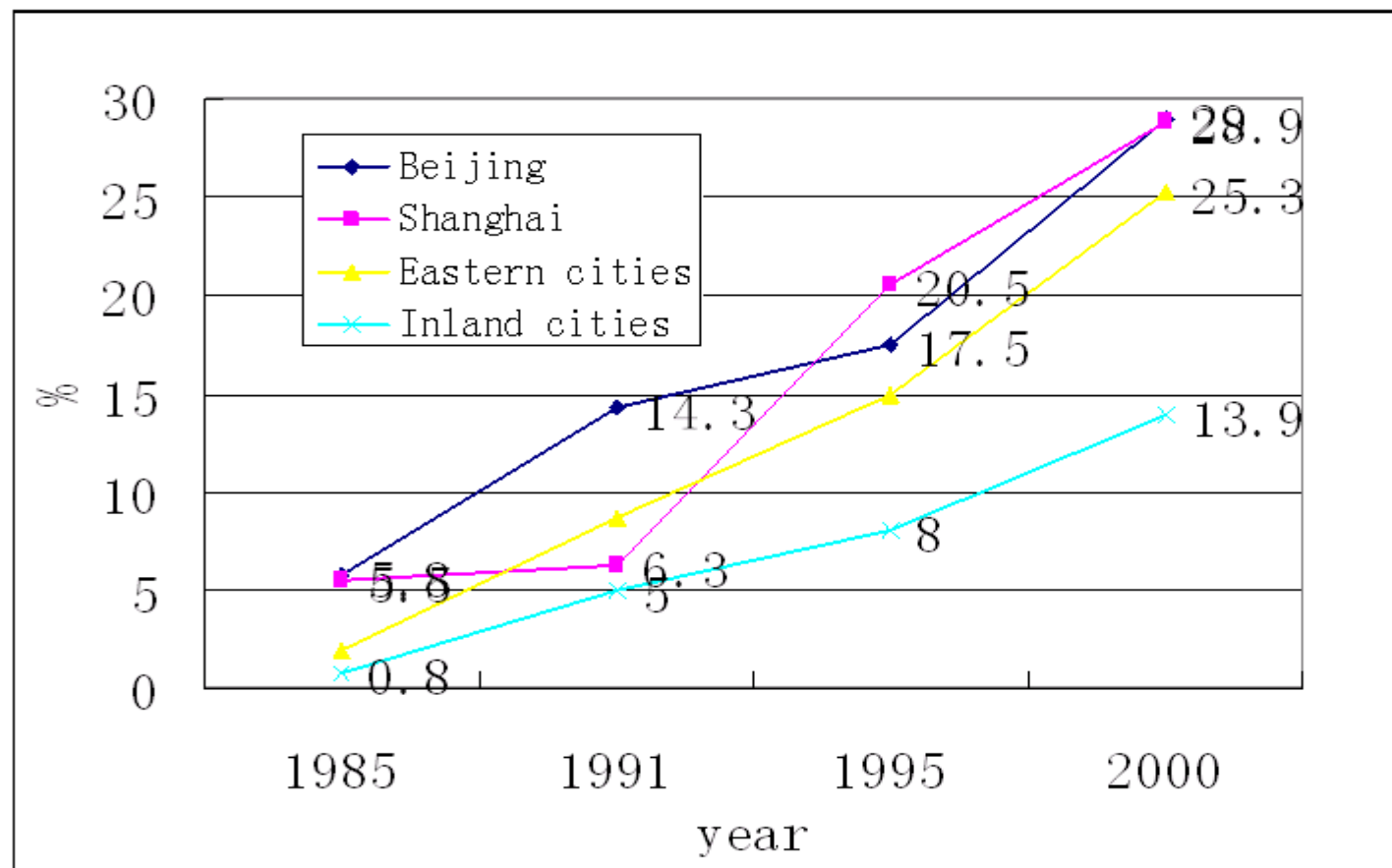
# Prevalence of overweight and obesity of adult in China



Source: Wang LD, Report of Nutritional and health situation of Chinese residents, 2005, People's health Publishing House, Beijing



## Trend of prevalence of overweight/obesity of boys aged 7-12 in cities during 1985-2000



**In 2002, aged 7–17, 13% O.W. and 8% OB. In cities to 2% O.W. and less than 1% OB. in rural sites**



## Direct disease burden of 4 diseases attributable to overweight and obesity in 2003

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Disease	Attributable direct burden (Billion USD)		Total (billion USD) ( % Of total burden)
	Overweight	Obesity	
<b>Hypertension</b>	<b>6.05</b>	<b>5.91</b>	<b>11.96 ( 37.4 )</b>
<b>Diabetes</b>	<b>2.02</b>	<b>1.37</b>	<b>3.40 ( 34.2 )</b>
<b>CHD</b>	<b>1.76</b>	<b>1.24</b>	<b>3.01 ( 11.3 )</b>
<b>Stroke</b>	<b>7.53</b>	<b>2.24</b>	<b>9.77 ( 23.3 )</b>
<b>Total</b>	<b>17.36</b>	<b>10.76</b>	<b>28.14 ( 25.5 )</b>

(based on data from the National Health Service Survey)



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# New risk factors still exist

- ~ Industrialization has led to Chronic Disease
- ~ Risk factors:
  - è Smoking
  - è Pollution
  - è Automobiles
  - è Diet
  - è Sedentary lifestyle
- ~ Urbanization
- ~ Aging population increasing



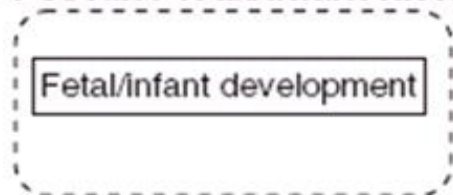
# The reality brings about change

- ~ The major forces to drive the epidemic of chronic disease still exist and some even increasing, which brings about a not so good prospect that we have to face!
- ~ Changes also happen! An increasing number of people in China are becoming more health conscious and the health expenditure percent in GDP has been continuously increasing, almost 30% from 1987 to 2006, which is a biggest market

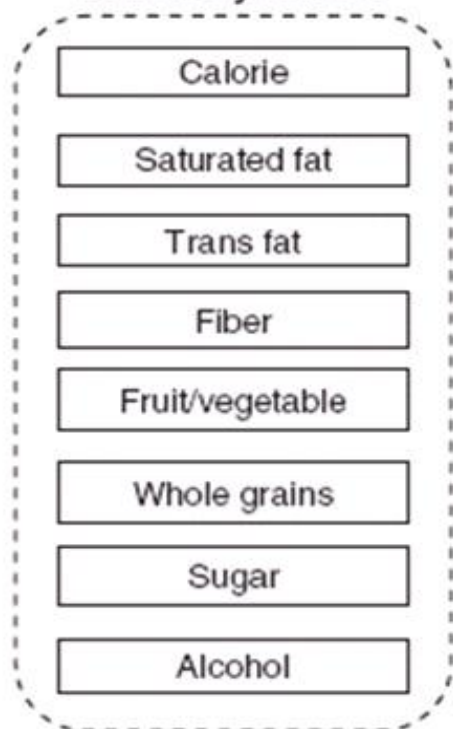


# Key pathways on chronic diseases

## A. Possible fetal/infant factors



## B. Dietary factors

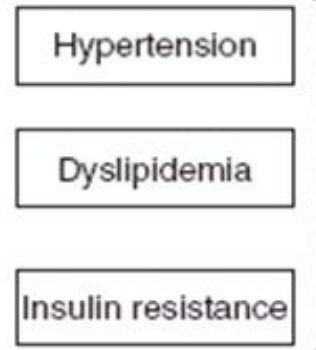


## C. Physical activity

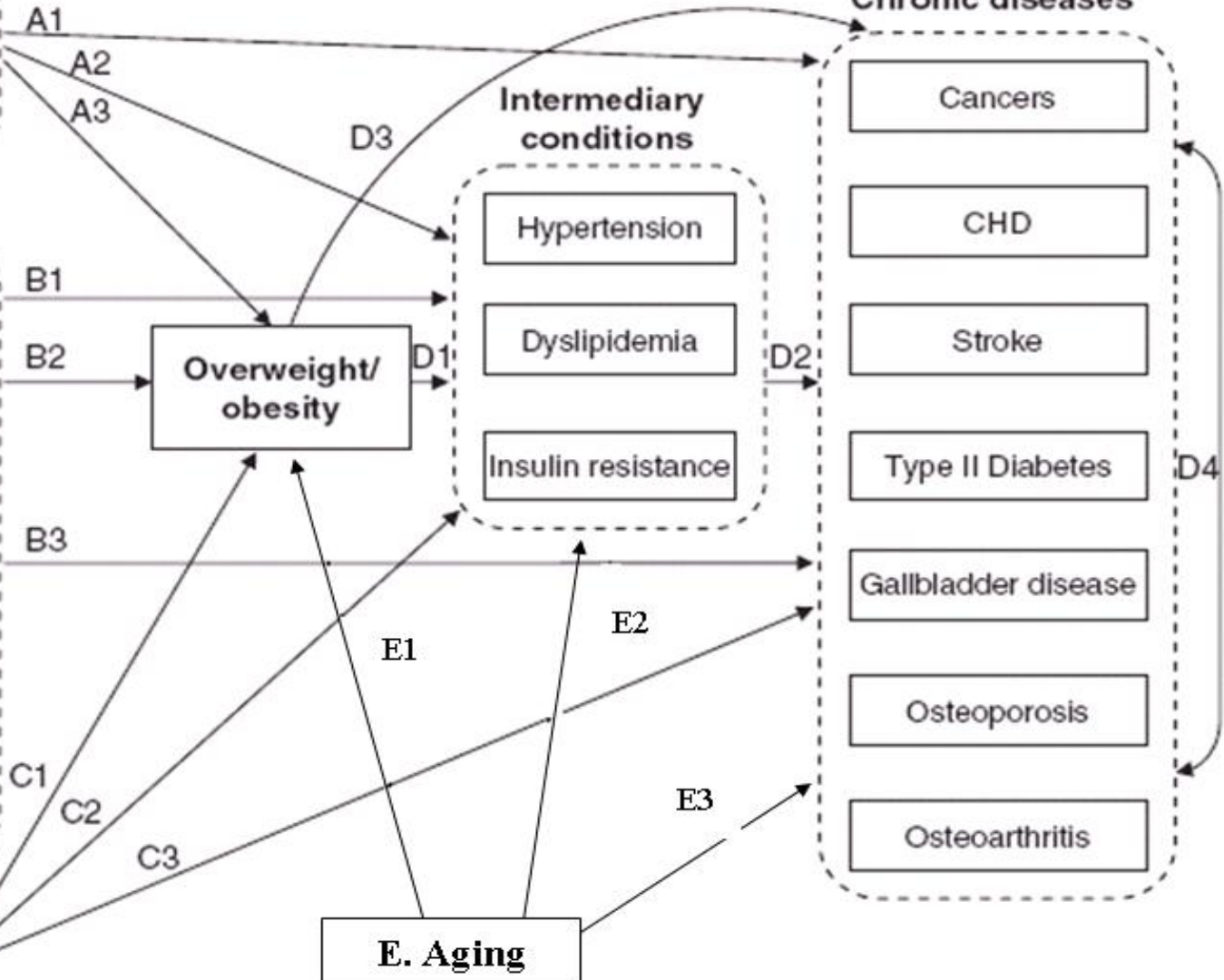
## E. Aging

Overweight/  
obesity

## Intermediary conditions



## Chronic diseases

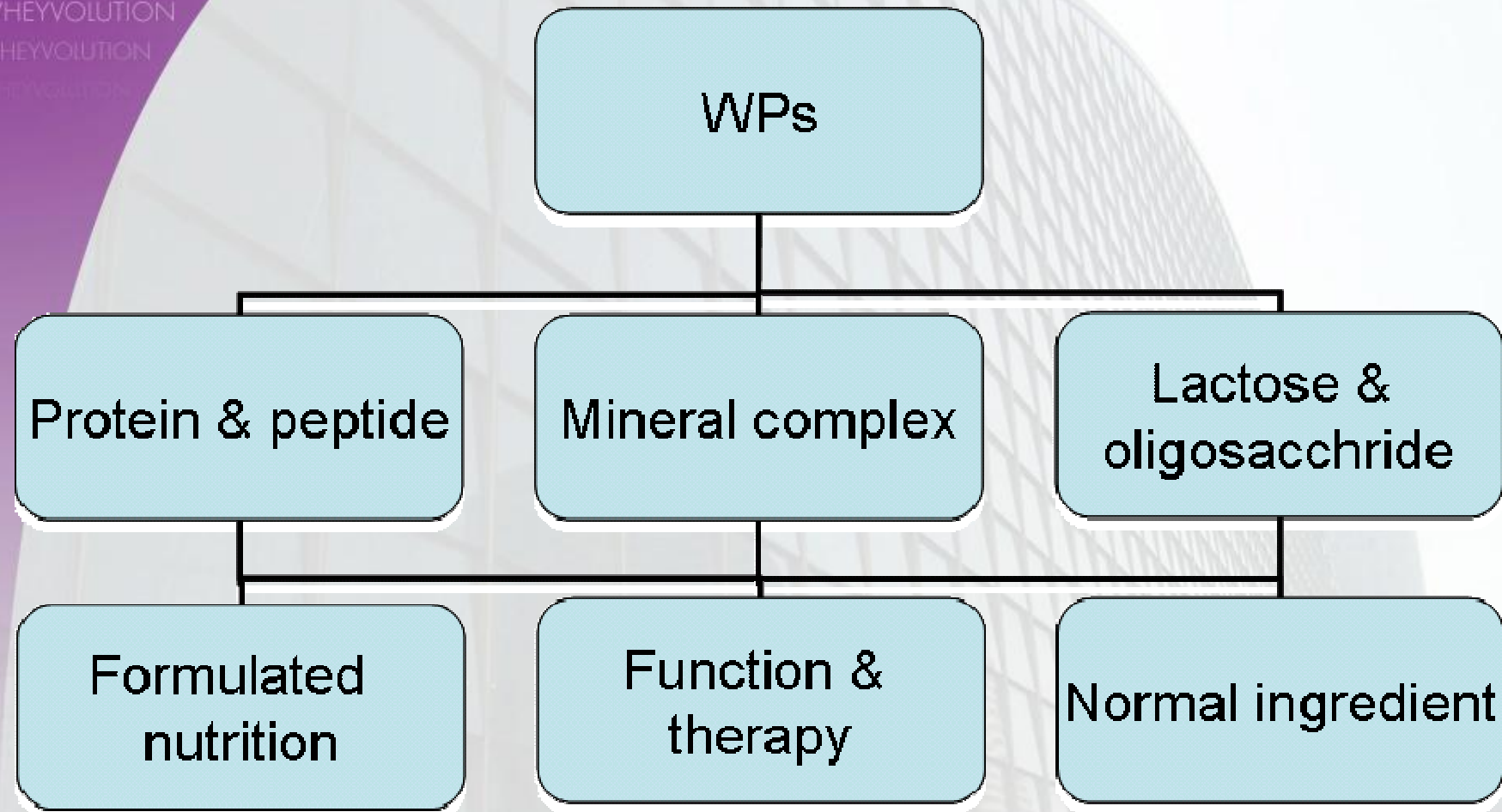


Based on S. Kim and B. M. Popkin with modification





# WPs constituents and their specification



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# Formulated nutrition

- ~ Sports nutrition
- ~ Infant formulae
- ~ Others, e.g. the pregnant women,  
the aged  
----usually in powder



# Normal food ingredient

- ~ With dairy source: milk as ingredient
- ~ Lower cost brings higher product quality in organoleptic, structure and protein or total solid
- ~ Compete with substitutes in price and quality





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# Function & therapy

**1. Prevention**

**2. Adjunct  
therapy**

**3. Recovery**



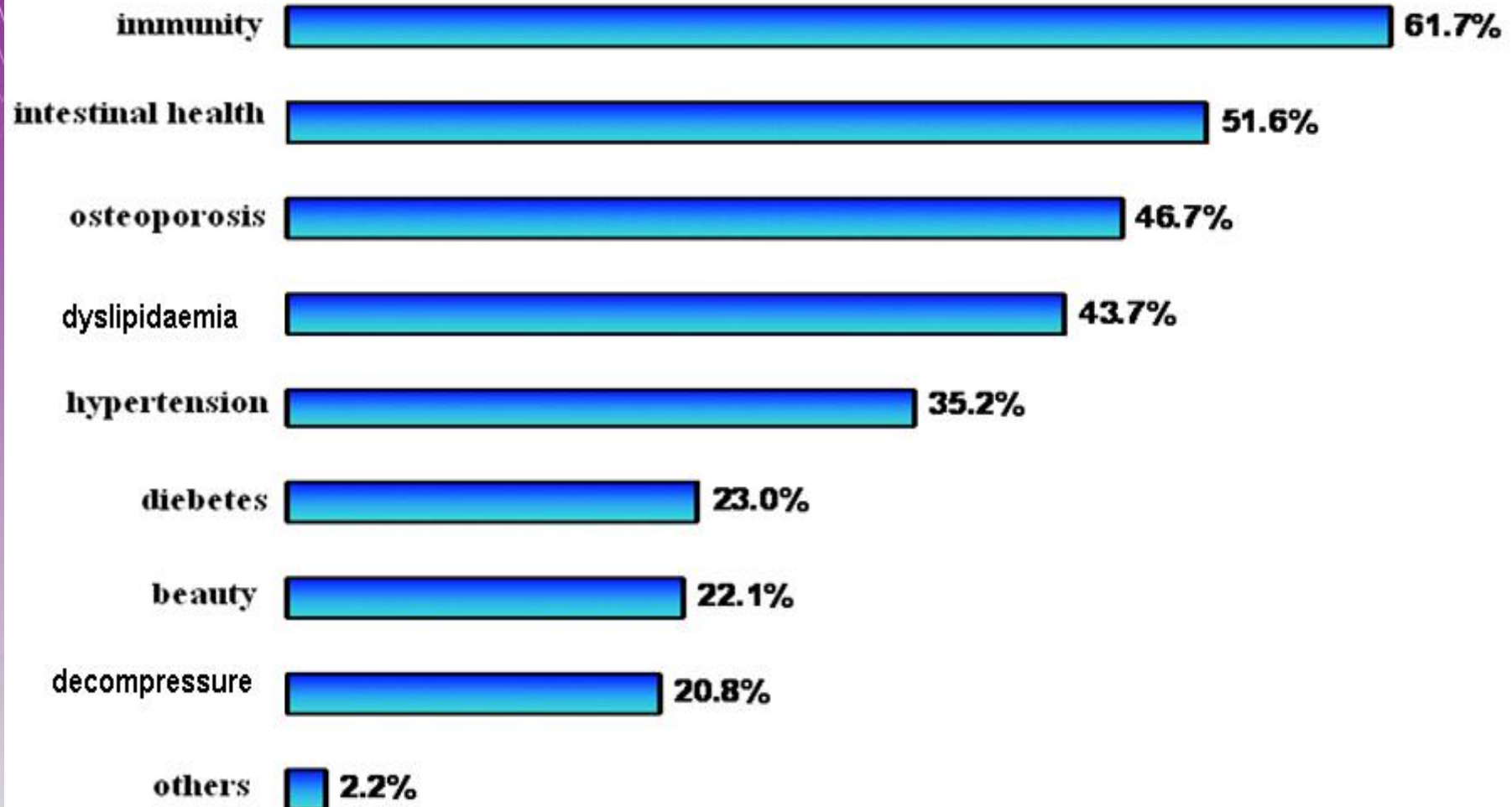
**1. Overweight/  
Obesity**

**2. Intermediary  
Condition**

**3. Chronic  
diseases**



# Market Survey: Dairy products' function



Report on Requirement Analysis of Functional Dairy Products Development and Its Technical Selection. From specific project study on "Requirement analysis and technical selection in 2008", Soft Science Dept., Beijing Municipal Sci.&Tech. Committee



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# Market survey

- ~ Functional dairy products concept well-accepted
- ~ Biggest potential market
- ~ Function claim
- ~ Suitable higher price
- ~ Advertisement is necessary.

**Function is more important!**





# Dairy industry transforming

- ~ Single products structure
- ~ More than 10 years continuous rapid growth bring out growth rate lowering
- ~ Potential market requirement for functional food with additional value to keep the industry growing
- ~ A very little liquid product developed but with more than 50% growth rate



# Dairy products structure

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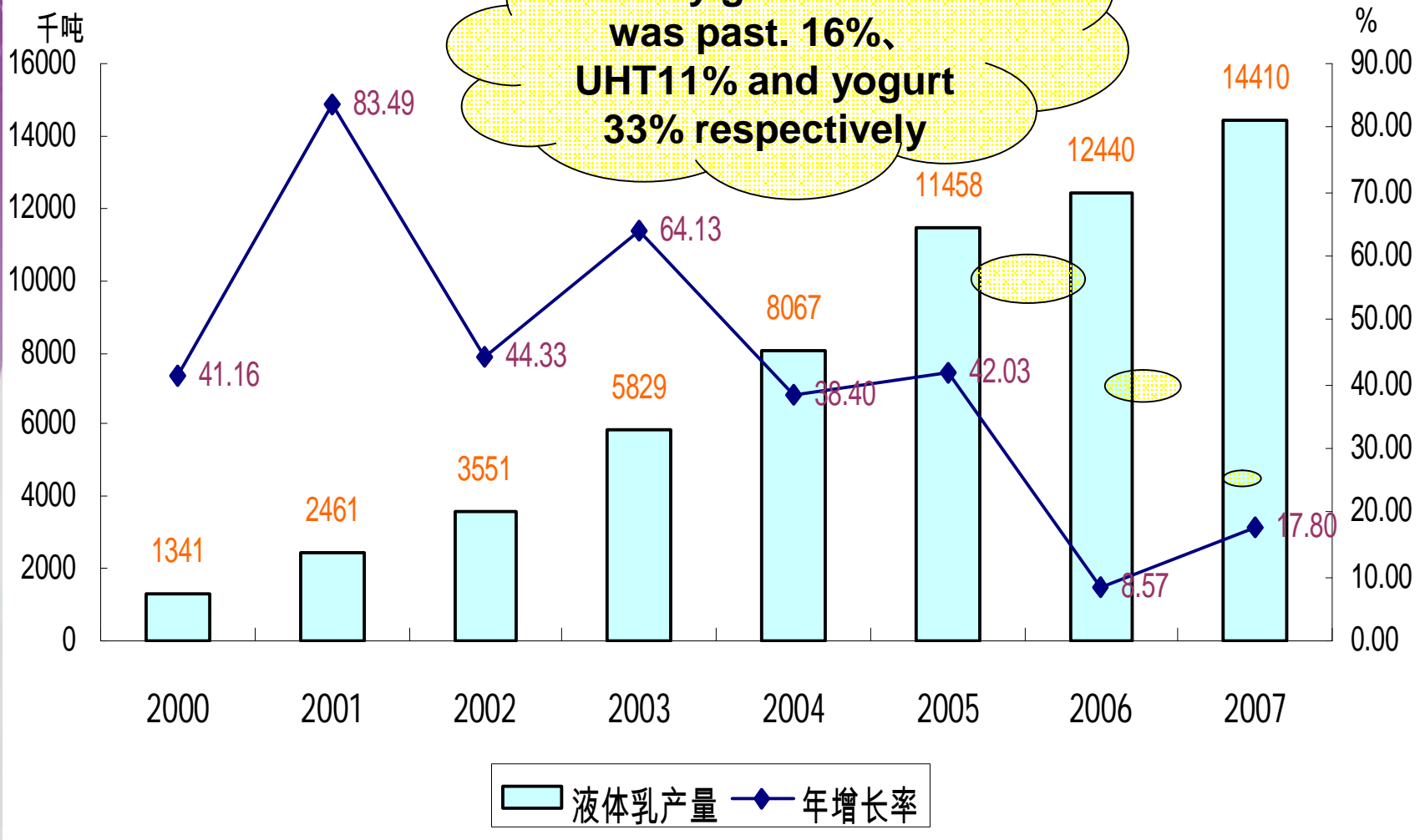
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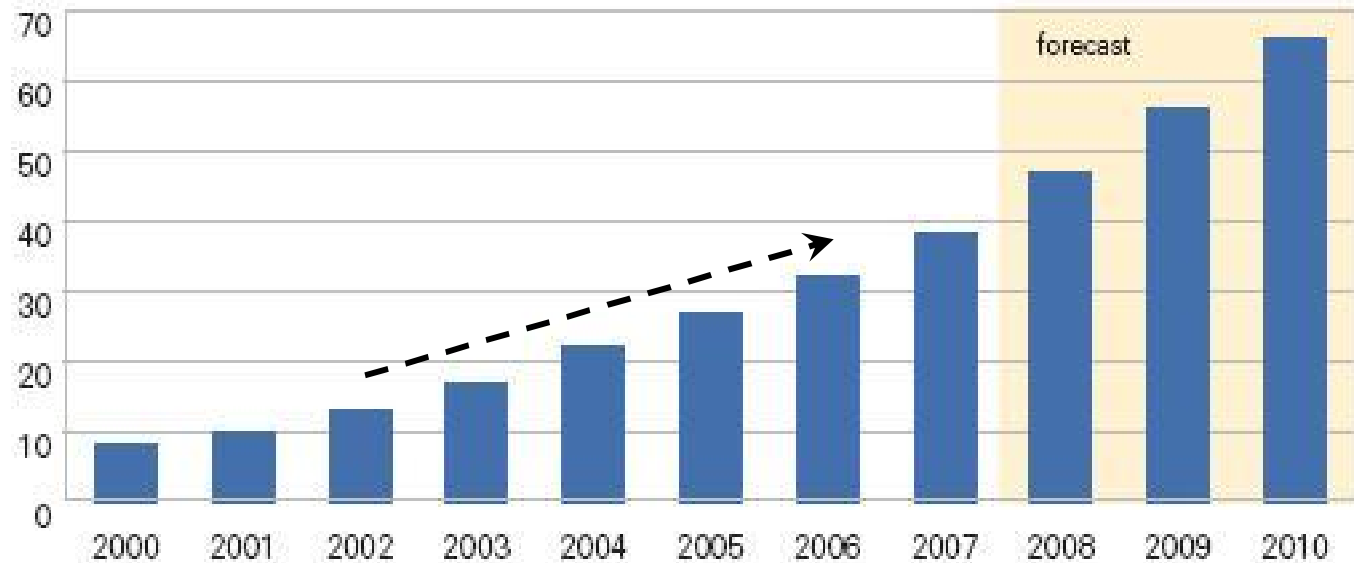
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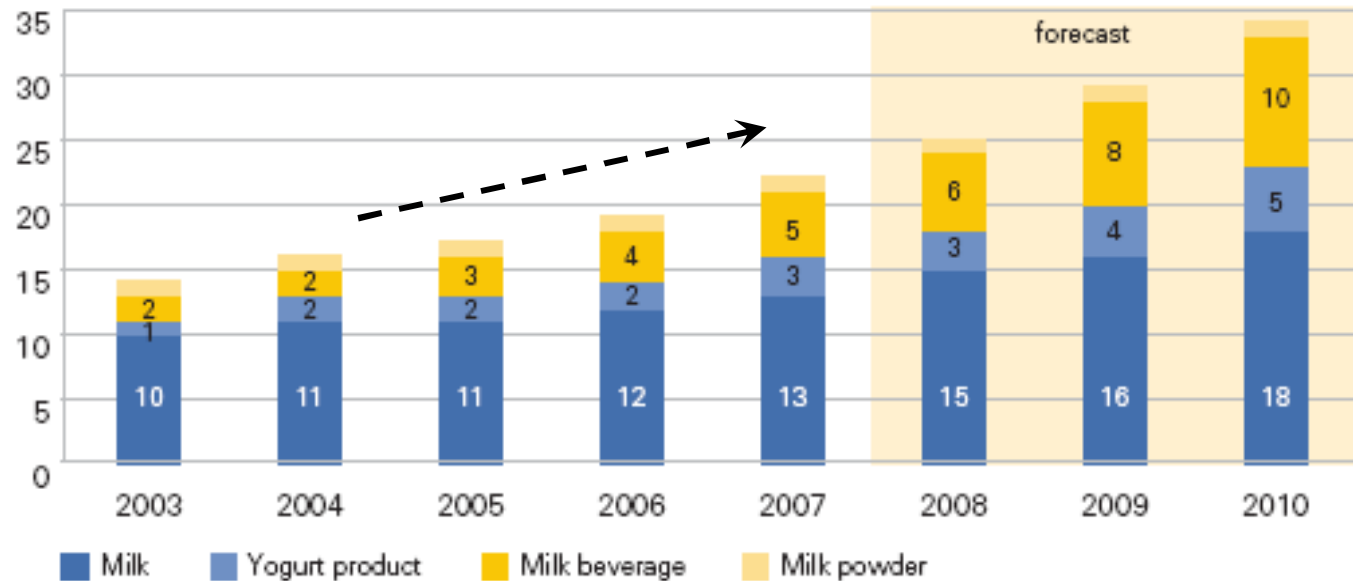
Raw milk  
production

Million tonnes



(China dairy yearbook, 2008)

Million tonnes

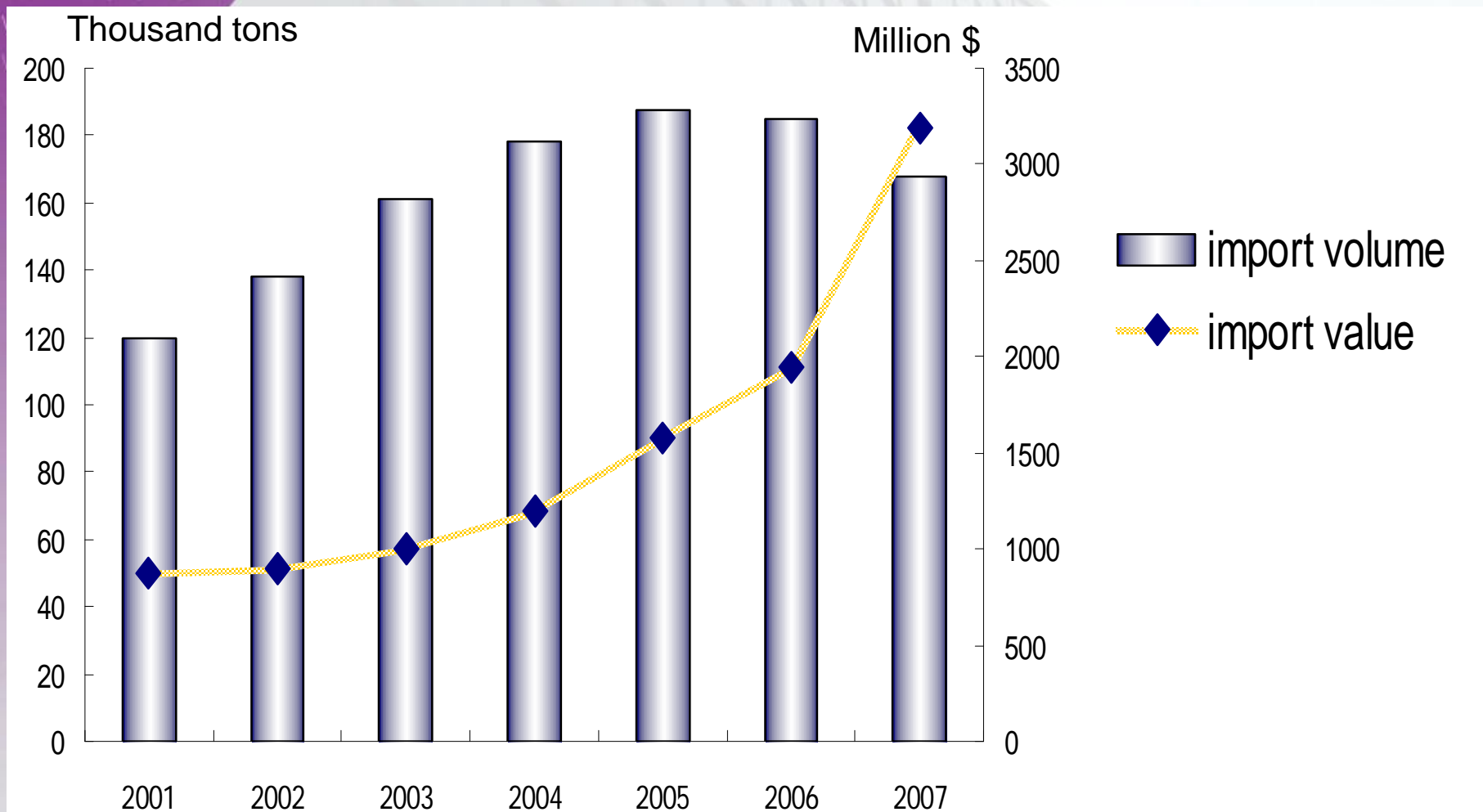


(China Dairy Statistical Yearbook, 2006)

Dairy  
consumption



# Import volume and value of WPs





## Outlook and challenge

- ~ Big group of population suffering disorder or chronic disease support biggest potential market requirement for functional dairy products
- ~ WPs supply the manufacture bioactive ingredients with same source to meet dairy industry and its market requirement
- ~ Function claim should be verified by domestic authority

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**THANKS!**