



Greater China Pharmaceutical Market

“The changing dynamics and opportunities”

Pauline Y. Lau, Ph.D.
President, Suntec Medical, Inc.
2008 Latin Pharma
Buenos Aires, Argentina

Agenda

- The dynamics and challenges of China market
- The unique distribution system and buying patterns
- Succeed in China
- The greater China – Taiwan

China: a country of great change

Shanghai City



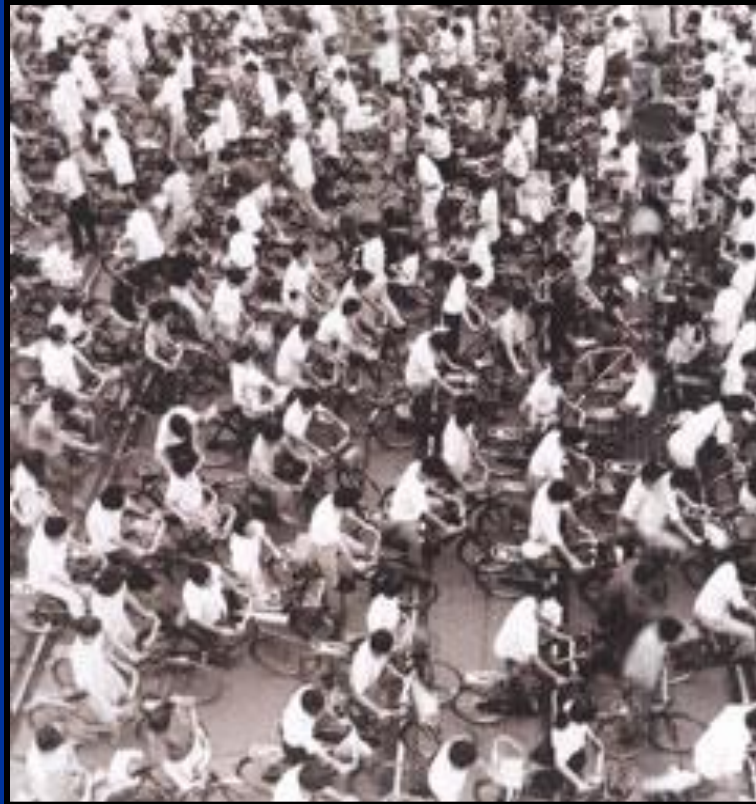
1980



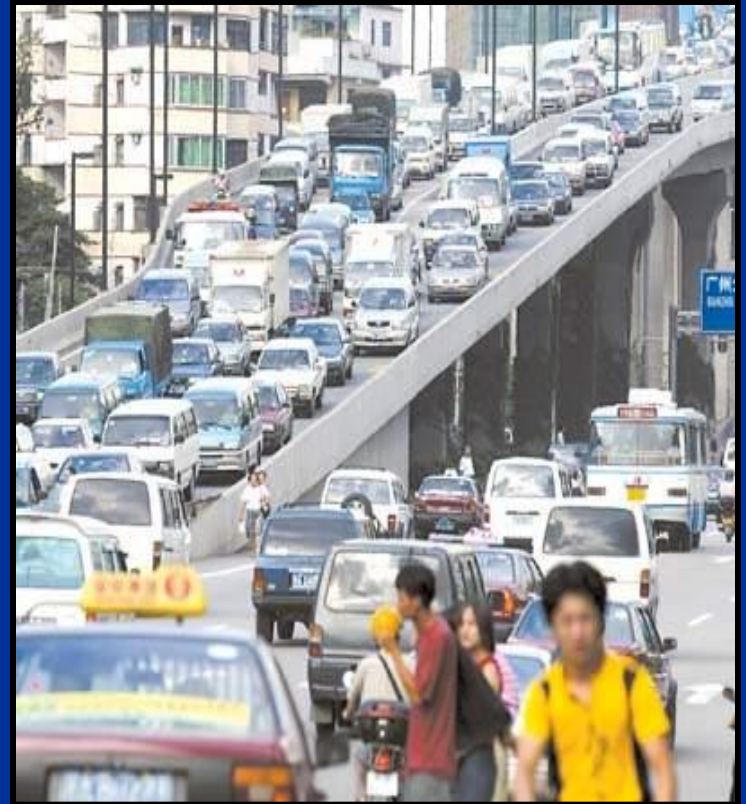
2008

China: a country of great change

Two to four wheels



1980



2008

China: a country of great change

Healthcare Facilities

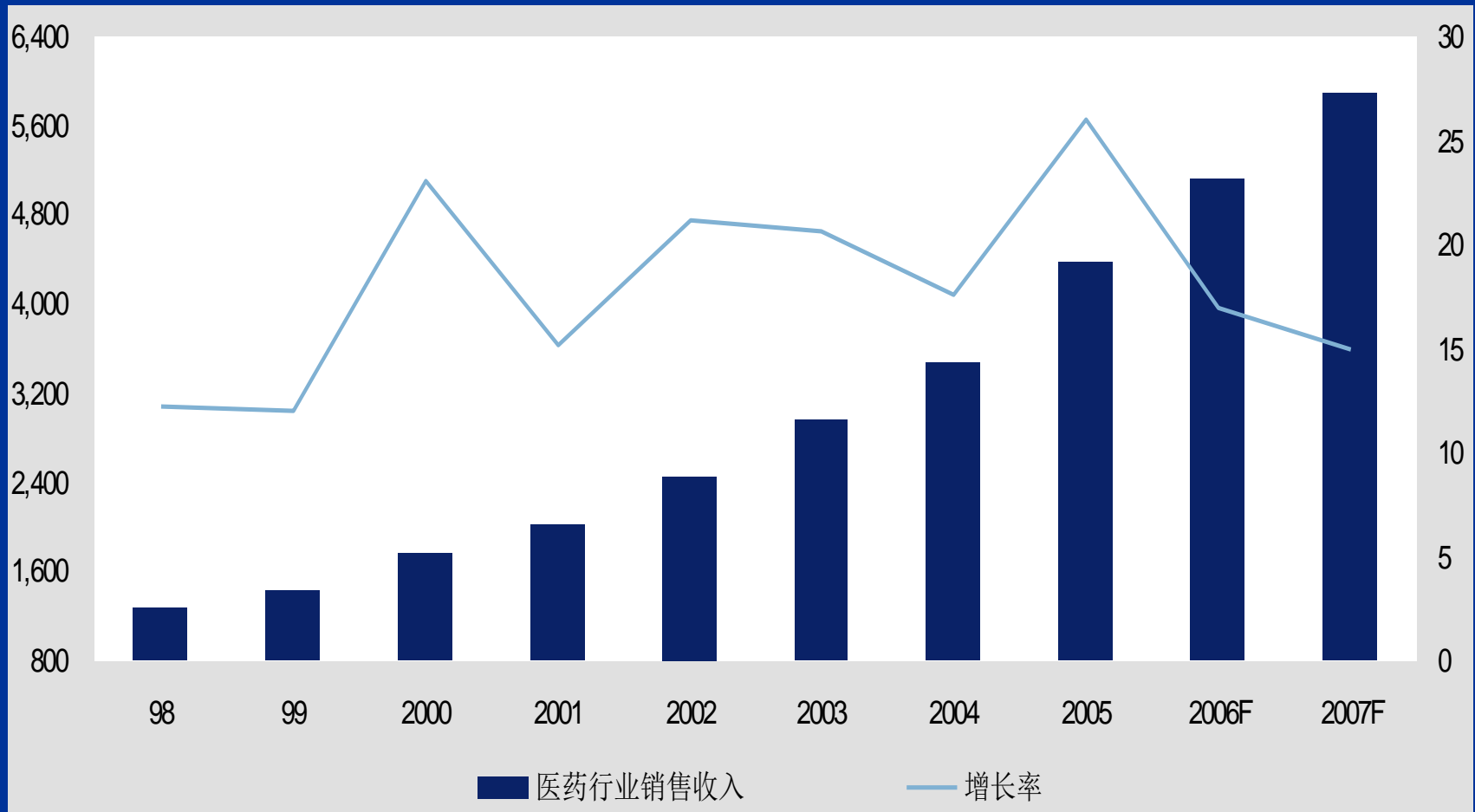


1980



2008

China health care expenditure growth at 15-17%/year



资料来源：南方医药经济研究所, 东方证券

By 2020, China will be the second largest pharmaceutical market worldwide

Estimated market size for prescription and OTC drug at ex-factory level
(US\$ Billions, Sept 2006)

1997 Top 13	2006 Top 9	2010 Top 6	2020 Top 2
1. US 103	1. US 275	1. US 330-380	1. US 693-798
2. Japan 47	2. Japan 64	2. Japan 67-77	2. China 100-114
3. Germany 18	3. France 34	3. France 37-43	3. Japan 89-103
4. France 17	4. Germany 32	4. Germany 37-43	4. France 60-70
5. Italy 10	5. Italy 21	5. UK 25-29	5. Germany 49-57
6. UK 9.4	6. UK 21	6. China 22-25	
7. Brazil 9.3	7. Spain 16		
8. Spain 5.7	8. Canada 16		
9. Canada 5.1	9. China 13		
10. India 4.2			
11. Korea 4.1			
12. Argentina 3.8			
13. China 3.7			

Why do foreign companies hesitate to enter China market

- Complex regulations
- Unique distribution networks
- Unenforceable IP laws
- Low expenditures on health care

Opportunities and challenges of medical market in China

- Opportunities

- Large and diverse populations (1.3 billion) with wide disease spectrum
- Nationwide public health and medical care systems
- Life expectancy grew from 35 yr in 1950 to 70+ today and continue to grow older
- Integration of western and Chinese medicines

- Challenges

- Complex disease profiles of both developed and developing worlds
- Incompleteness of system reform of social insurance
- Unsatisfactory and uneven allocation of healthcare resources

All these are changing now.....

China is fast becoming a major
opportunity that can't be ignored

Source: Boston Consulting Group

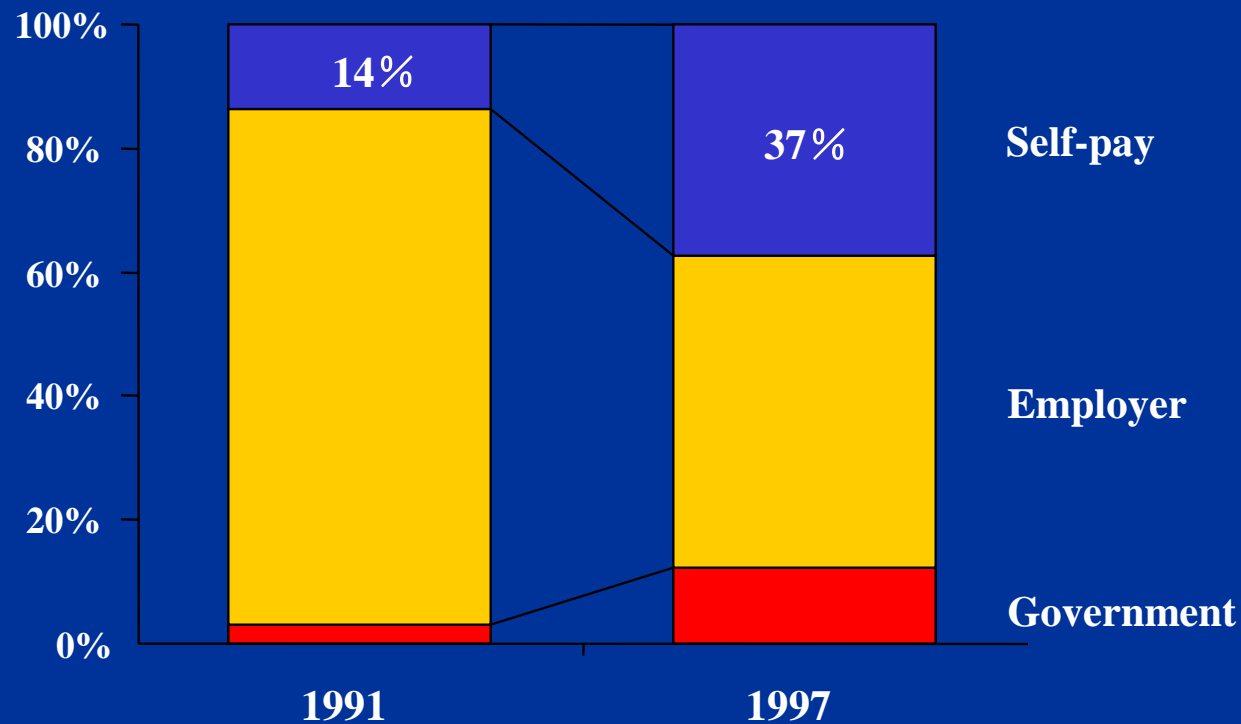
Changing health care environment in China

- China joins WTO
- Economic advances – GDP growth
- Growth in health insurance – private and public
- Population aging
- Chronic diseases replace acute infections

Impacts of WTO to drug market in China

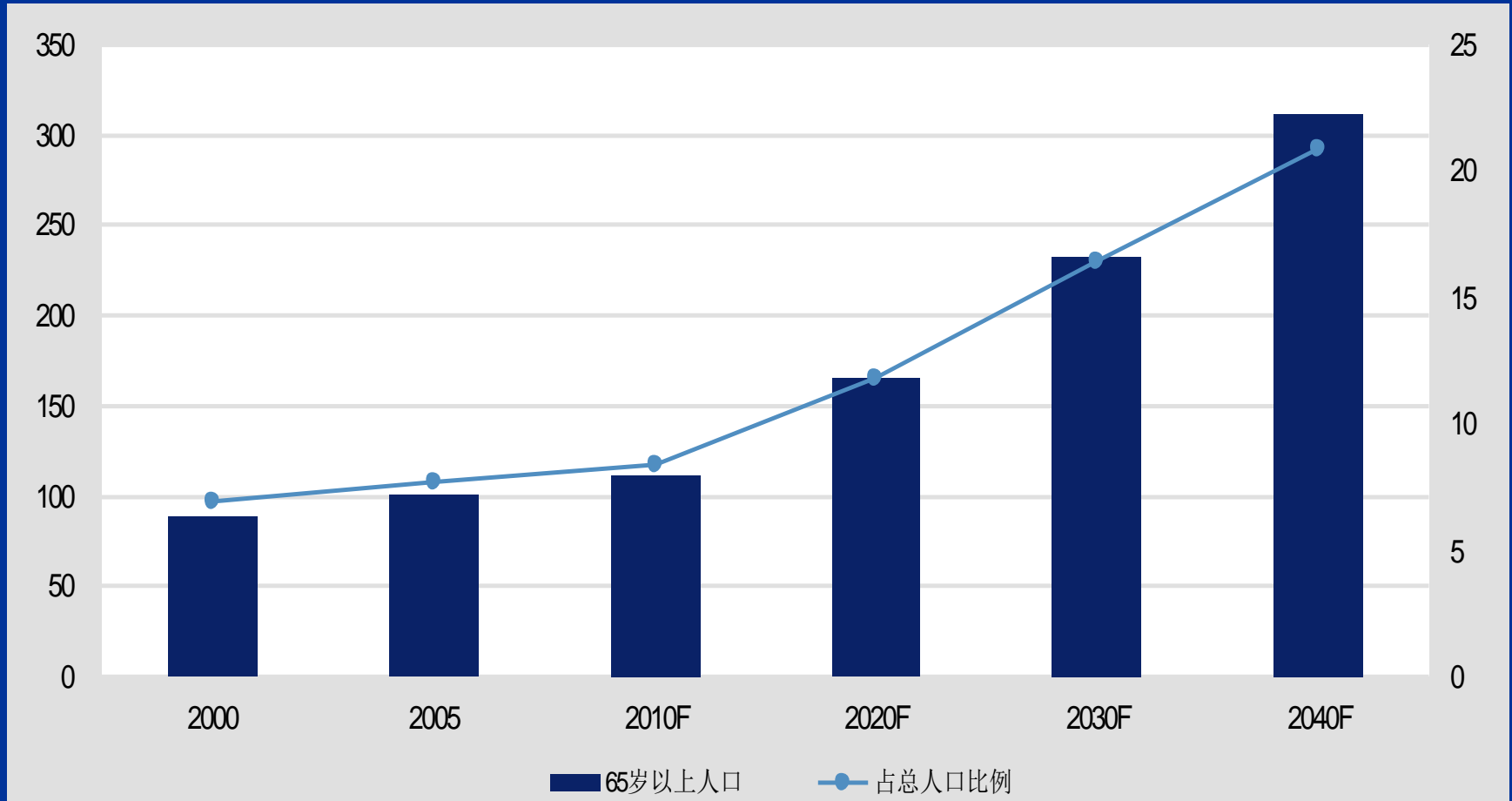
- Enhance Intellectual property protection
 - TRIPS is enforced (20 yr patent protection)
- Reduce import tariffs on Rx products
 - From 9.6% to 4.2%
- Increase foreign participation in the drug distribution
 - Allows retails for foreign companies
- Comply with global regulatory guidelines and standards
 - Enforces Rx GMP
 - Transparency on Rx decisions affecting pricing and availability

Increase in patient self-pay of medical expenses



Population aging

2005: 65+ yr segment >7.4%



Changes in medical insurance policies

- More and more subscribes
 - 8000 subscribed to medical insurance in 2002
 - Grows at 20%+ per year
 - Nearly 50% of city dwellers have medical insurance
- Medical insurance demands local medical facilities
 - Make medical care reachable and convenient for patients
 - High quality of service
 - Information/record maintenance

Group purchasing organization in China

- A new system initiated in 2001 to avoid bribery and under-the-table deals
 - Competitive bidding reduced drug prices
 - Mandatory for participating hospitals to only use the products selected by GPO
- 70% of city/provincial/national hospitals uses GPO today for hospital supplies/medicine purchases

Changes in medical product pricing policy

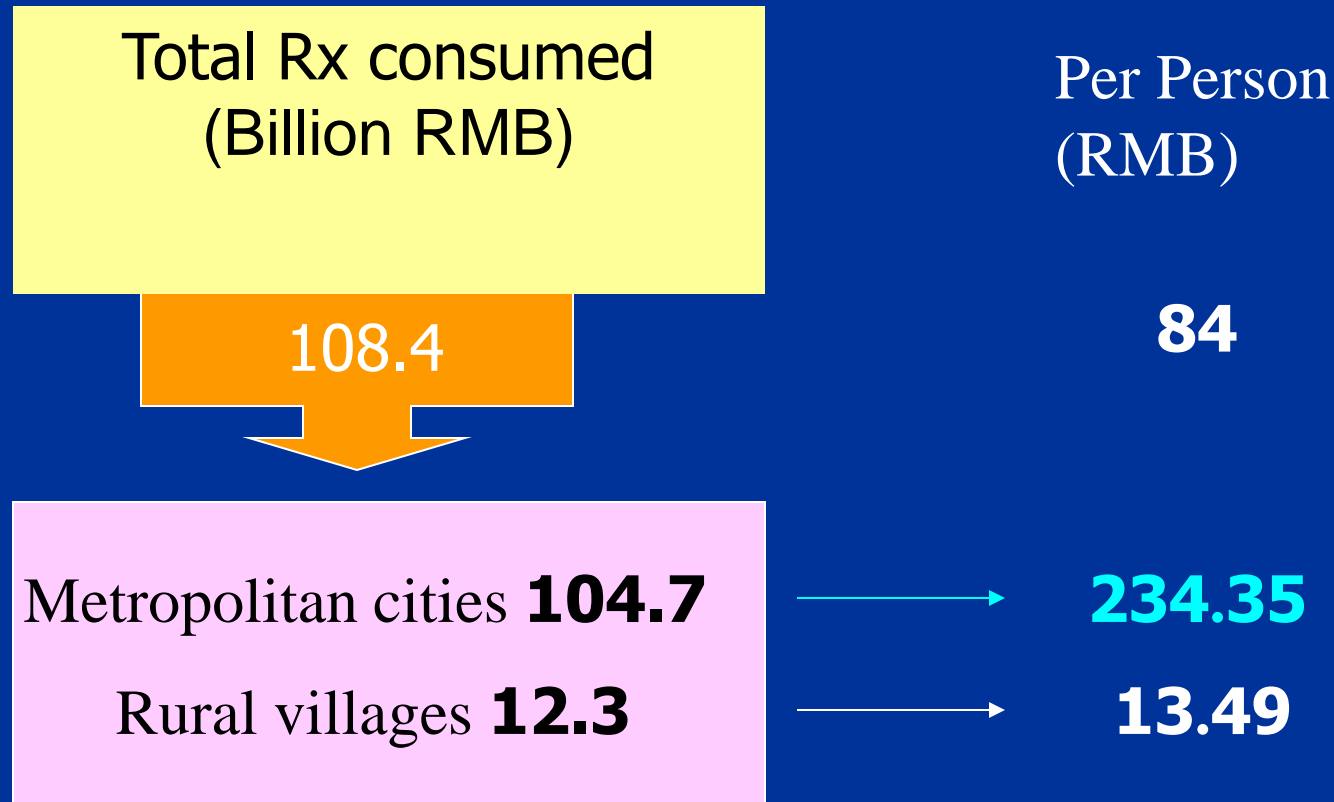
- Price is determined by the nature of the product
 - No difference in price between domestic and imported product
- Products manufactured under GMP is higher than non-GMP products
- Brand-name products is given higher prices than generic products
- Price differences reflects the efficacy superiority of the product

Comparison of US and China distribution system

	Market size (100M USD)	# med comp	Medical companies			
			Wholesaler	Retailer	Chain- store	# stores/chain
China	350	7,000	7,445	230,000	600	300
USA	1,600	30	<10, 3 owns >90% mkt	60,615	16	2,454

資料來源: 东方证券

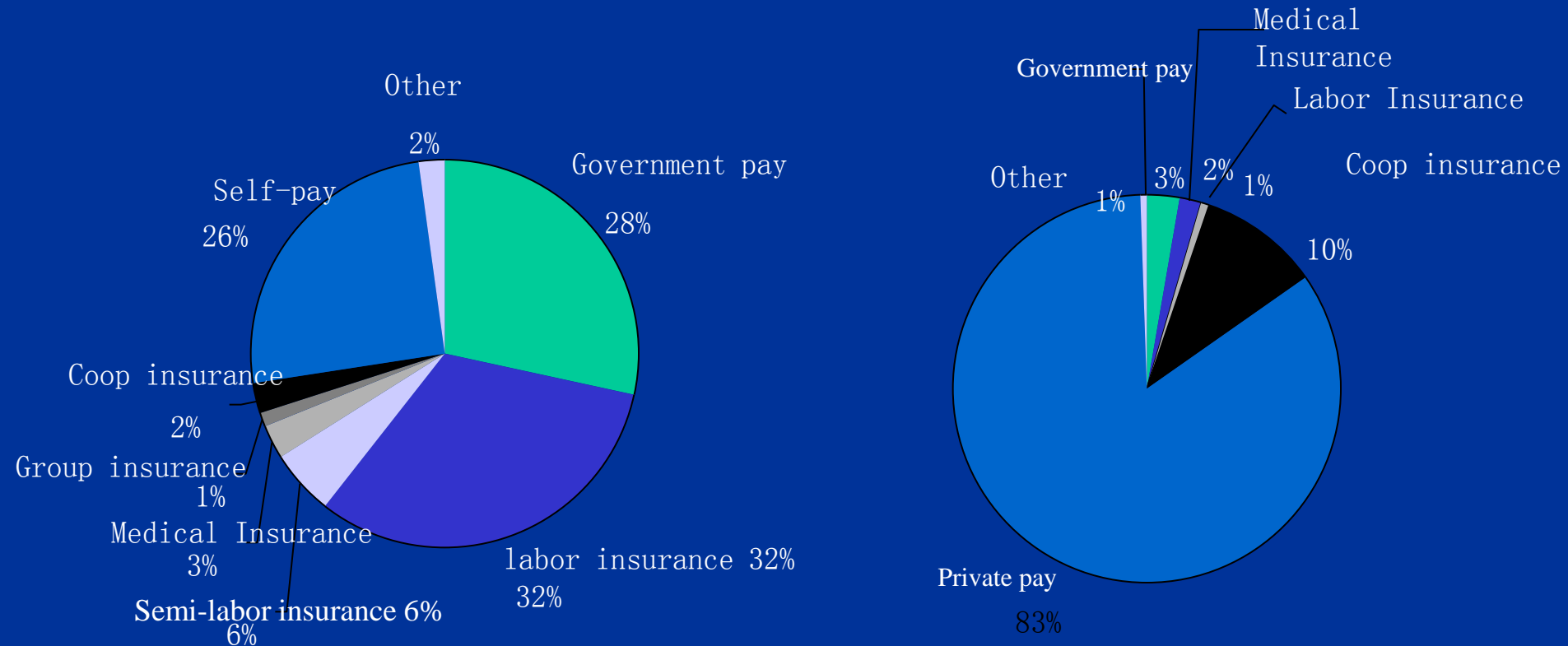
China Pharmaceutical Market



Top Pharmaceutical Manufacturers and Distributors in China (2005)

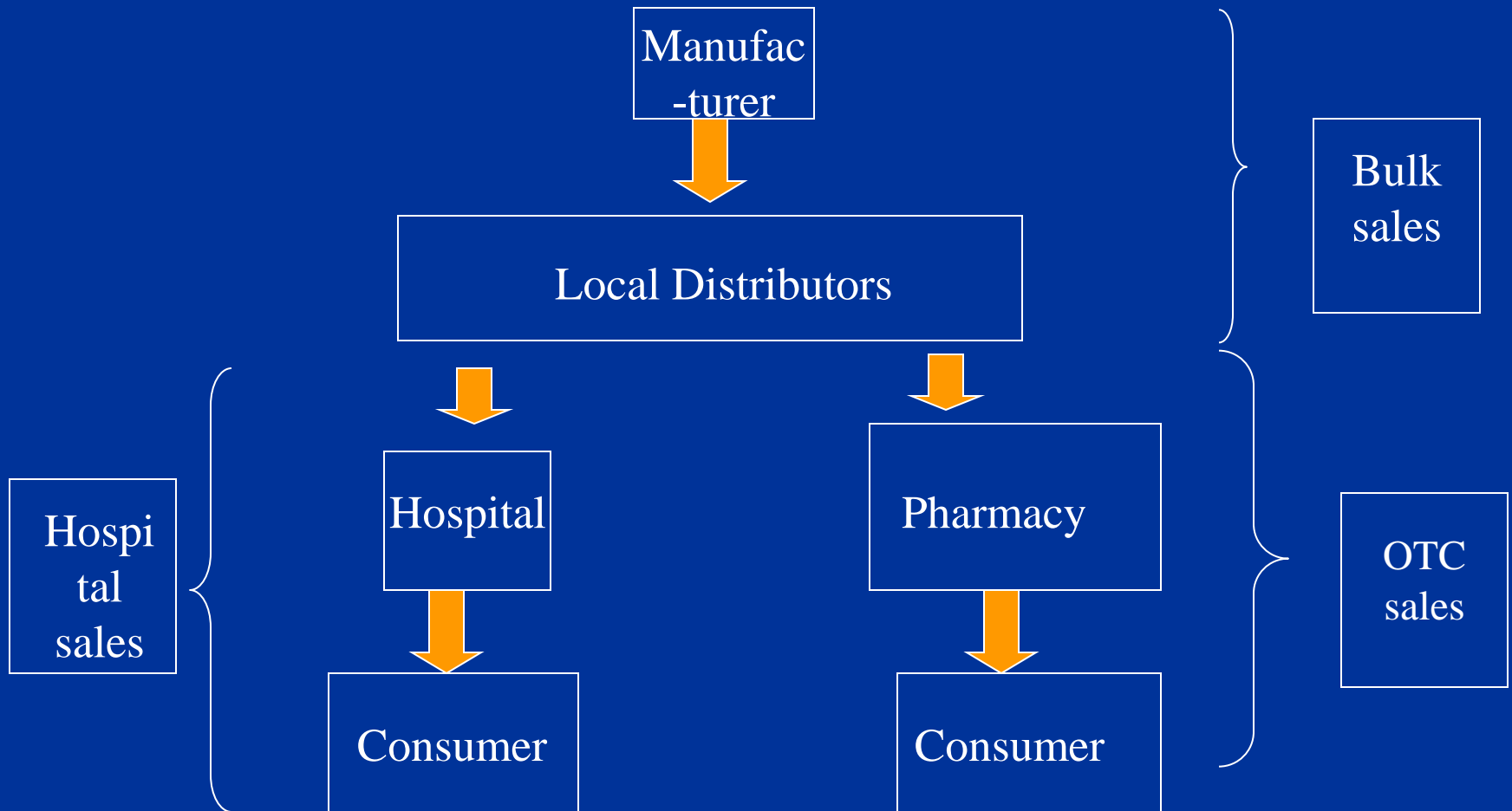
2005 Ranks	Manufacturers	Revenue (100M RMB)	Distributors	Revenue (100M RMB)
1	Yangtze River Pharmaceutical Group	101	China National Pharmaceutical Group Co.	272
2	Harbin pharmaceutical group holding co.,Ltd.	90	Shanghai Pharmaceutical Co .Ltd.	125
3	Shijiazhuang Pharmaceutical Group Co., Ltd.	61	Jointown Group Co., Ltd	111
4	North China Pharmaceutical Group Corp.	45	Anhui Huayuan Pharmaceutical Co., Ltd.	82
5	Tianjin Jin Yao Group Co	43	Guangzhou Pharmaceutical Co.	81
6	Northeast Pharmaceutical Group co.Ltd.	39	Nanjing Pharmaceutical Company Limited	81
7	Xinhua Pharmaceutical Company Co.,Ltd.	38	Chongqing Medicines co. Ltd	53
8	Tianjin Zhongxin Pharmaceutical Group	33	Chongqing Tongjunge Pharmaceutical Factory	52
9	Xiuzheng Pharmaceutical Co., Ltd.	31	Zhongxin Pharmaceutical Co.	44
10	Xian Janssen Pharmaceutical Ltd.	30	SHANDONG NEPTUNUS GALAXY MEDICINE CO.,LTD.	41
	資料來源：南方医药经济研究所, 东方证券	19		37

Sources of medical payment



2/3 medical expenses are self-pay
In rural area, 83% are self-pay

Drug Distribution Channel



How much parties in the distribution network get - for a drug of \$100 at wholesale and \$115 at retail value

Mfr \$7

Wholesale agency \$15

Hospital \$20

Pharmacy \$10

Physician \$20

Drug store\$5

Enter/gift \$5

Dealer exp's \$8

Dealer profit \$20



Top 10 causes for death

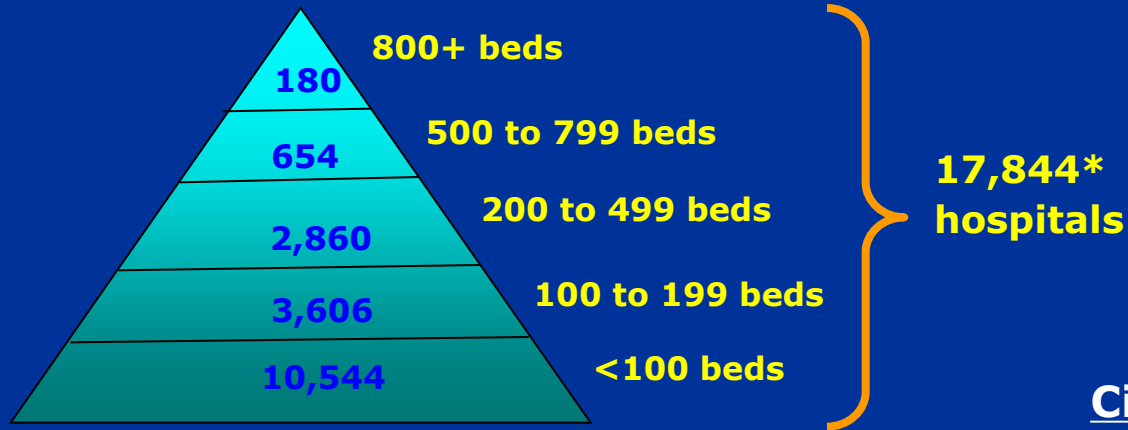
顺位 Rank	Cause	Death Rate	%
		1/100000	
1	Malignant Neoplasms	134.54	25.47
2	Cerebrovascular Disease	105.40	19.95
3	Diseases of the Respiratory System	77.29	14.63
4	Heart Disease	76.23	14.43
5	Injury & Poisoning	32.55	6.16
6	Diseases of the Digestive System	19.31	3.66
7	Endocrine,Nutritional & Metabolic Diseases	14.05	2.66
8	Disease of the Genitourinary System	7.08	1.34
9	Disease of the Nervous System	4.81	0.91
10	Disease Originating in the Perinatal Period	162.14	0.89
	Total		89.09

Top eight Rx products in China

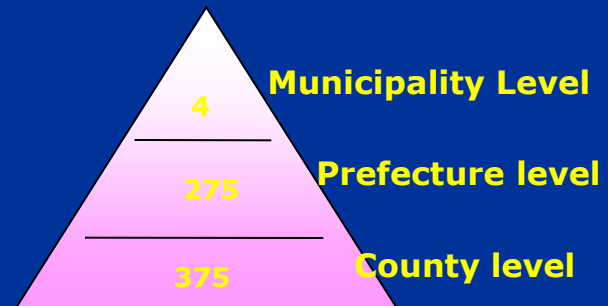
- Anti-infectious
- Anti-hypertension
- Anti-Diabetes
- Anti-hyperlipidemic
- IV solutions
- Reproductive health
- Digestive system
- Ages and relatives

The market is fragmented: more than 17,000 hospitals in 650+ cities

Hospitals Classified by Bed Size



City Classified by Administration Level



* Ministry of Health 2002 statistics

Increased drug un-met needs in China

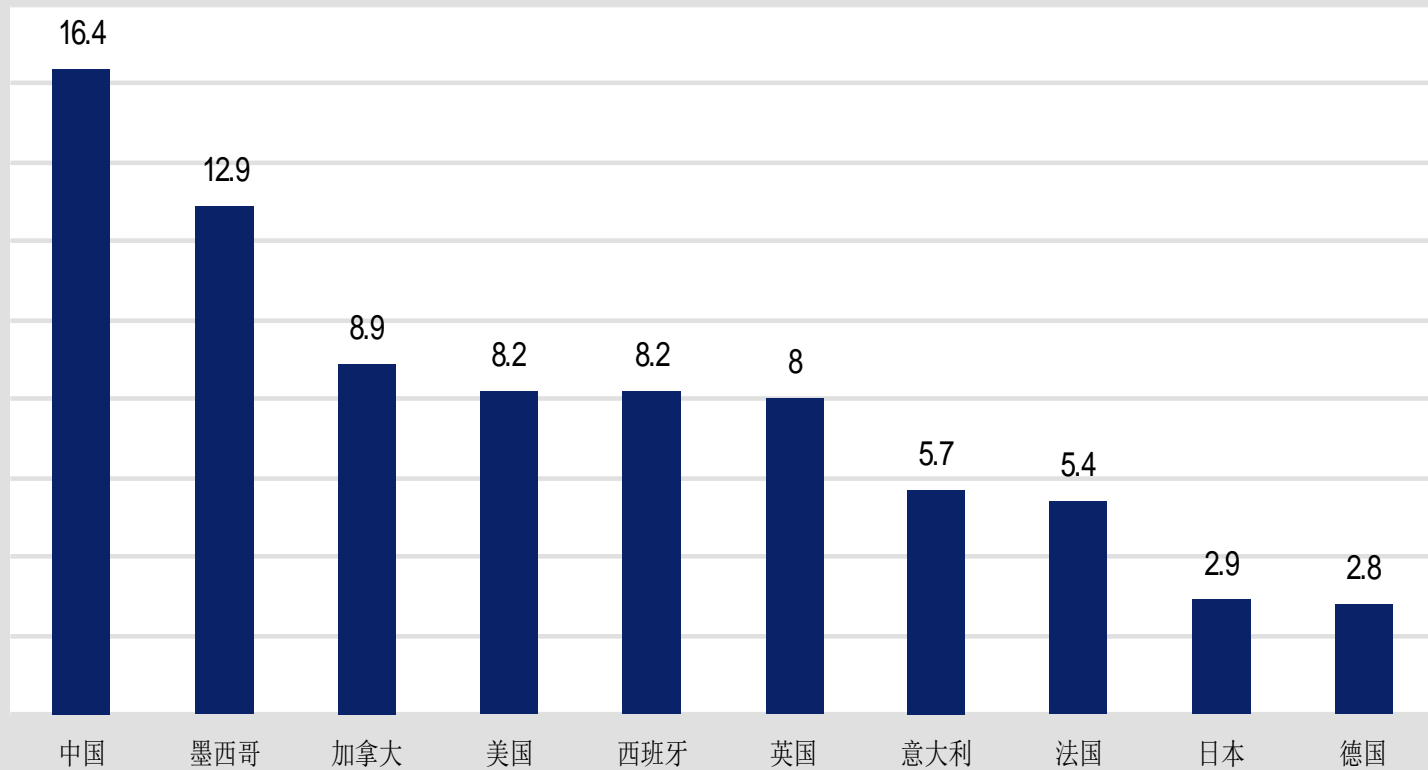
- HBV (100-150M carrier)
- Liver cirrhosis and liver cancer
- Head and neck cancer
- Lung cancer
- AIDS
- Chronic diseases
 - Hypertention
 - Hyperlipidemia
 - Diabetes
 - Depression
 - Osteoporosis
 - Arthritis

Chinese OTC market

- The potential is high
 - 3.0B USD in 2000
- 17% total drug market
- Annual growth at 30~36%

Comparative OTC market growth rate

Growth is 16.4% between 2004–2009



Marketing focus for OTC products

- OTC customers are self-pay patients and commercial insurers. Marketing capabilities to consumers impacts market penetration.
- Lack of such capability, buy or borrow them by merging, acquisition, licensing to others with such capability
- Build own HR with regulatory and marketing skills to support local distributors, or collaborate with

OTC in China

60 Billion USD

Class	Market Share%
Pain medicine	18
Cold medicine	17
Stomach upset	7
Vitamins	23
Food supplement	10
Others	25

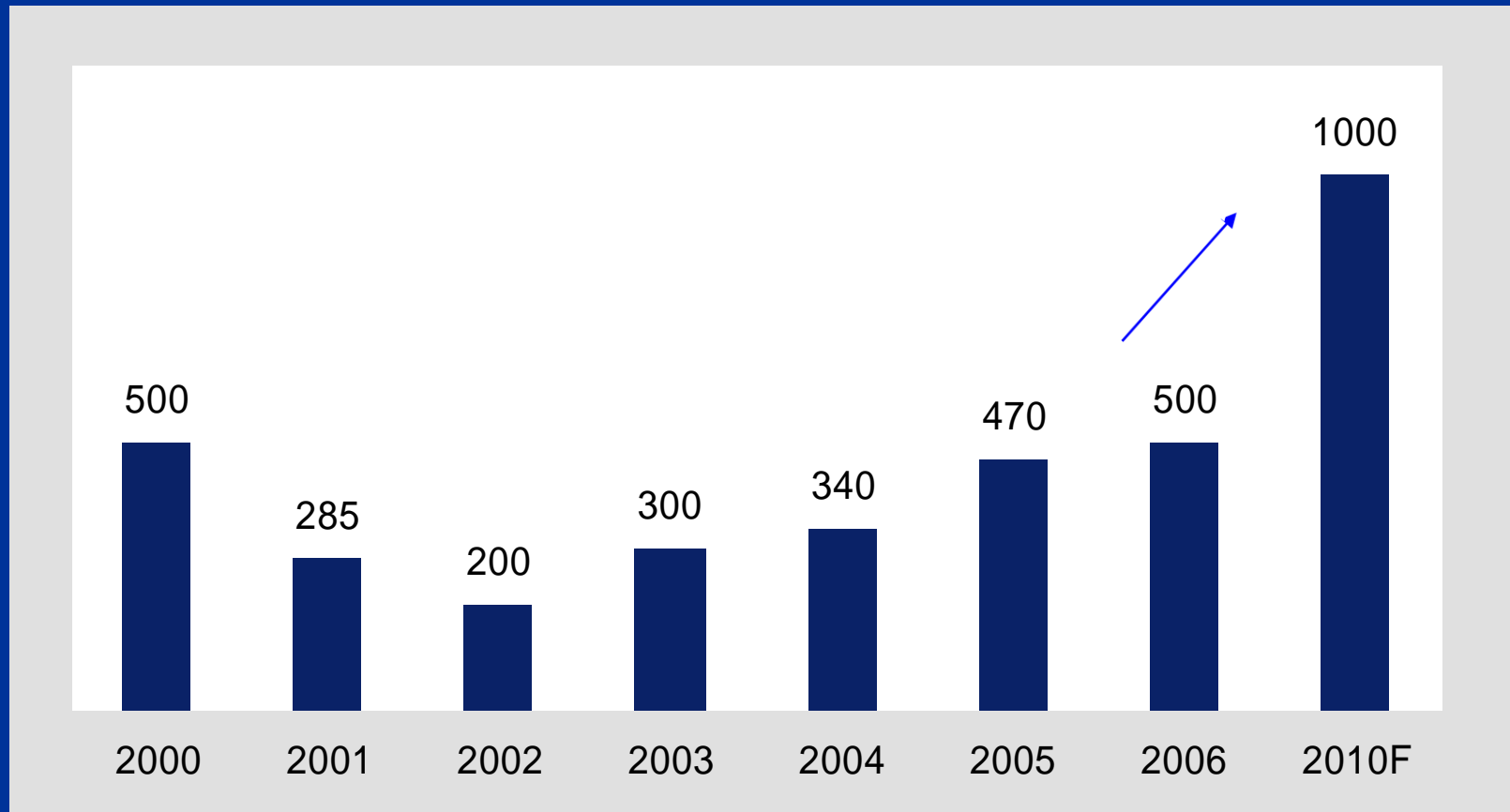


Bone and Joint Decade, USA, 2002-2011



Market growth of nutritional supplements

is 100M RMB



資料來源：中国保健品协会，东方证券

Health Food Supplements

Time			Manufacturers	Revenue	100M RMB
1980	–	1989	100	16	
1990	–	1994	3000	300	
1995	–	1997	1000	100	
1998	–	2000	3000	500	
2001	–	2002	848	200	
2003	–		1640	500	

麻黃湯

Ma-huang
Combination

麻黃 (Ma-huang,
Ephedra sinica)

味辛微苦，性溫；
歸肺、膀胱經。

炙甘草

味甘，性平；
歸心、肺、脾、胃經

(Baked licorice,
*Glycyrrhiza
uralensis*)

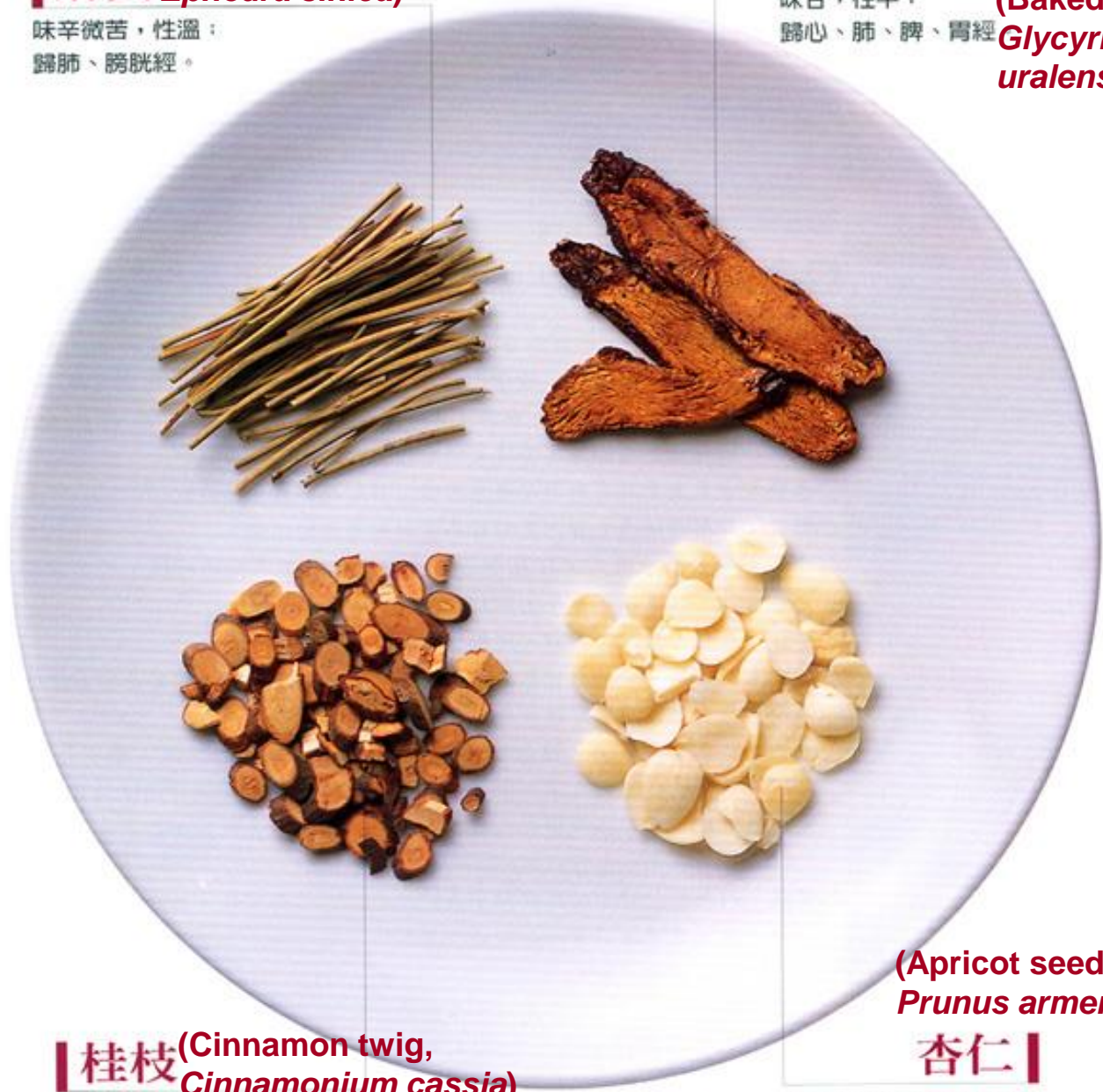
桂枝 (Cinnamon twig,
Cinnamomum cassia)

味甘辛，性溫；
歸心、肺、膀胱經。

杏仁

(Apricot seed,
Prunus armeniaca)

味苦，性微溫，有小毒；
歸肺、大腸經。



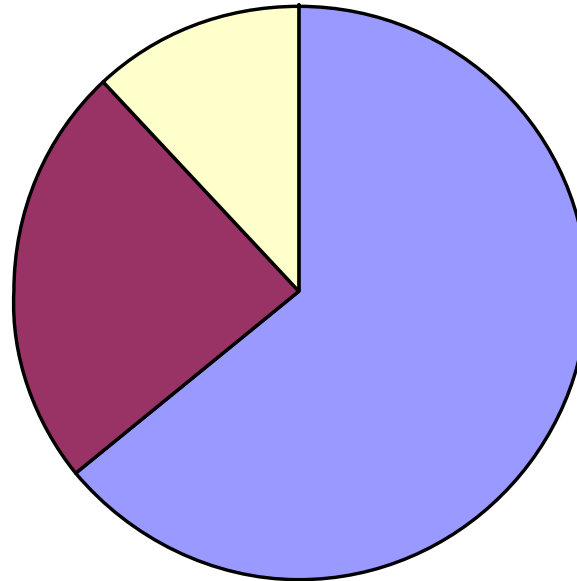
Top nutrition supplements

- Enhance immunity
- Anti-oxidants
- Enhance memory ability
- Anti-hypertension
- Helps sleeps
- Anemia supplements

Traditional Chinese Medicine (TCM)

- 3009 TCM hospitals - >16% of all hospitals in China.
- 35,053 TCM outpatient clinics – 17% percent of all outpatient clinics in China.
- 75 percent of the 40,907 town hospitals have TCM departments.
- 50 percent of the 58,209 village clinics provide TCM services.
- Among the 864,168 rural doctors, 267,305 practice some combination of TCM and western medicine.
- 234 million people were treated in TCM outpatient departments
- Over 6 million people were discharged from TCM hospitals making up nearly 13 percent of all discharges in China (No indication of time period).

The Global Herbal Market



64% Pharmaceutical



24% Spices and Herbs



12% Cosmetics

Consortium for Globalization of Chinese Medicine

- Academia Sinica (Taiwan)
- China Academy of Traditional Chinese Medicine
- Chinese Academy of Medical Science & Peking Union Medical College
- The Chinese University of Hong Kong
- Hong Kong Baptist University
- Hong Kong University of Science & Technology
- National Health Research Institutes
- Peking University
- Phyto Ceutica, Inc
- Shanghai Innovative Research Center of Traditional Chinese Medicine
- Shanghai Institutes for Biological Sciences, Chinese Academy of Sciences
- Shanghai Research Center/Standardization of Chinese Medicine
- Shanghai University of Traditional Chinese Medicine
- Tsinghua University
- The University of Hong Kong
- Yale University (*Prof. Yung-chi CHENG*)

Taiwan: 5-Year Master Plan of modernizing TCM. (*K. H. Lee, UNC*)

Hong Kong: 10 year plan to make HK “International Center for Chinese Medicine”

Top 5 Health Food Supplement Distributors

AVON PRODUCTS (CHINA) CO.LTD

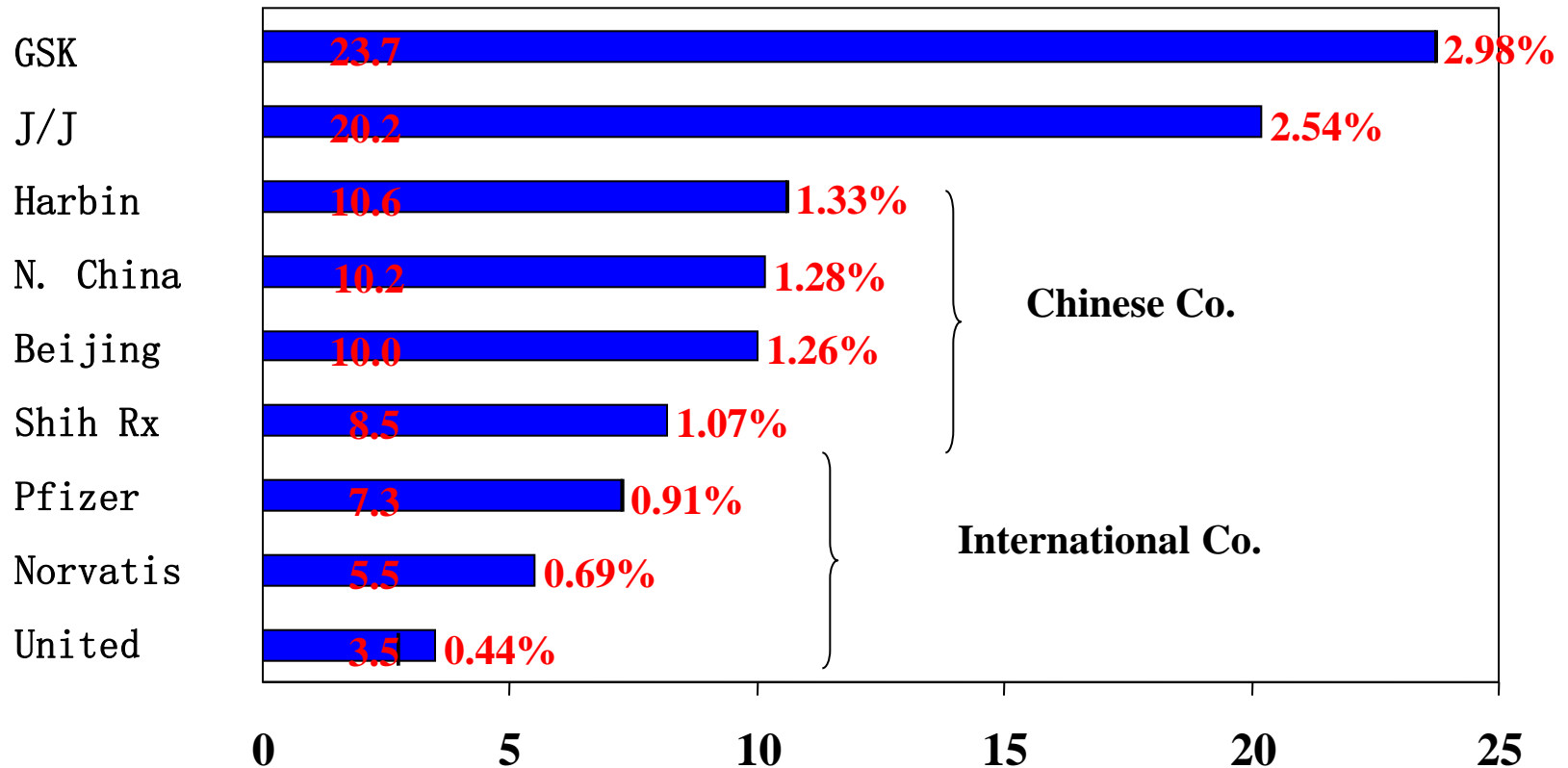
NU SKIN (CHINA)CO.LTD

Beijian (china) Household Commodities Co., Ltd.

YOFOTO CO, LTD.

ORIFLAME (CHINA) Co.

Market shares of top selling Rx companies in China



资料来源：德勤管理，石药制剂公司访谈

Total # of Rx is about 7,000. Competitions are high.

Top Foreign Rx Companies in China

Foreign Rx Companies				
Rank	Company	\$ M USD	Share %	Growth +
	Total mkt	10768	100	28.4
1	Pfizer	206	1.9	28.2
2	Roche	166	1.5	17.6
3	Astra-Zeneca	165	1.5	30.5
4	Norvatis	159	1.5	19.0
5	Glaxo-Smith-Kli	155	1.4	-0.3
6	Johnson/Johnsor	118	1.1	13.7
7	Merck	116	1.1	14.6
8	Lilly	113	1.0	14.7
9	Bayer	109	1.0	28.4
10	Sanofi	100	0.9	25.3
Total Top 10		1407	13.1	18.7

How to position competitive advantage in China

- Assemble and prioritize the portfolio for China market
 - Understand China market needs and fill the gap
 - May need to license-in/collaborate-as-a-group products to fill any product gaps
 - Enter China market with a portfolio of products
- Most promising product areas
 - Chronic diseases (CVD, diabetes, HTN, CNS,,,)

Taiwan/Hong Kong

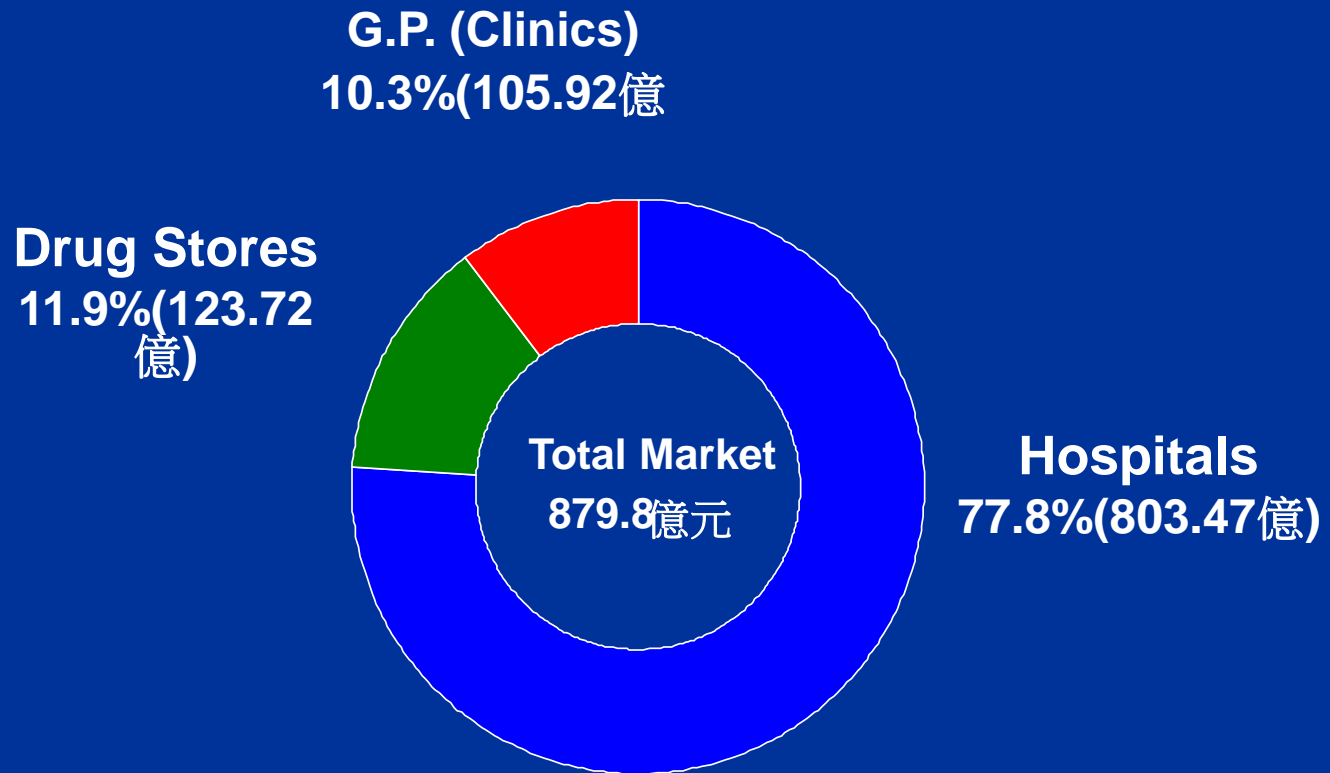
Similar in drug market

Map of Taiwan

Taiwan's most prominent physiographic feature is its 270-kilometer central mountain range, which boasts more than 200 peaks with an elevation over 3,000 meters.

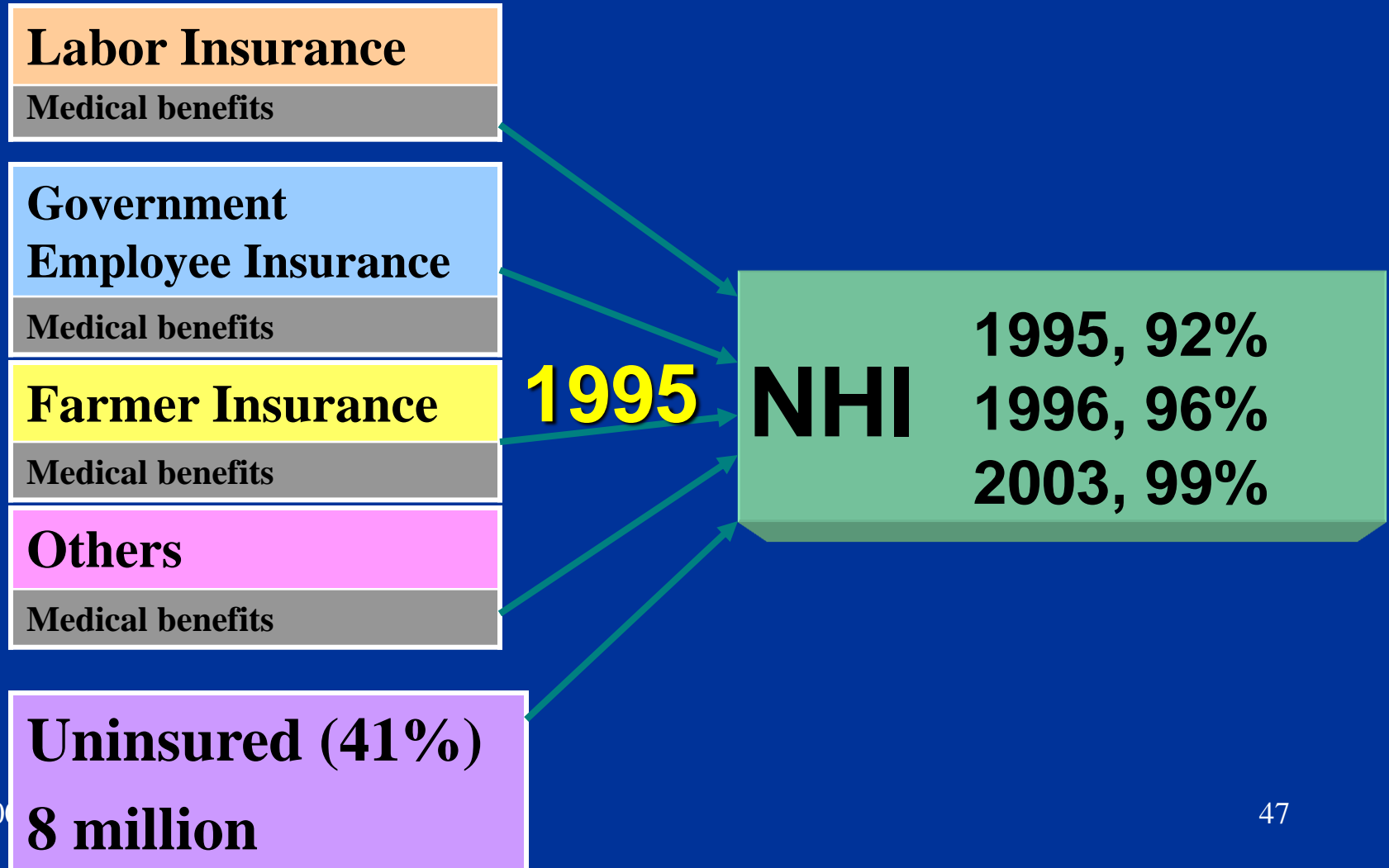


Market Segmentation

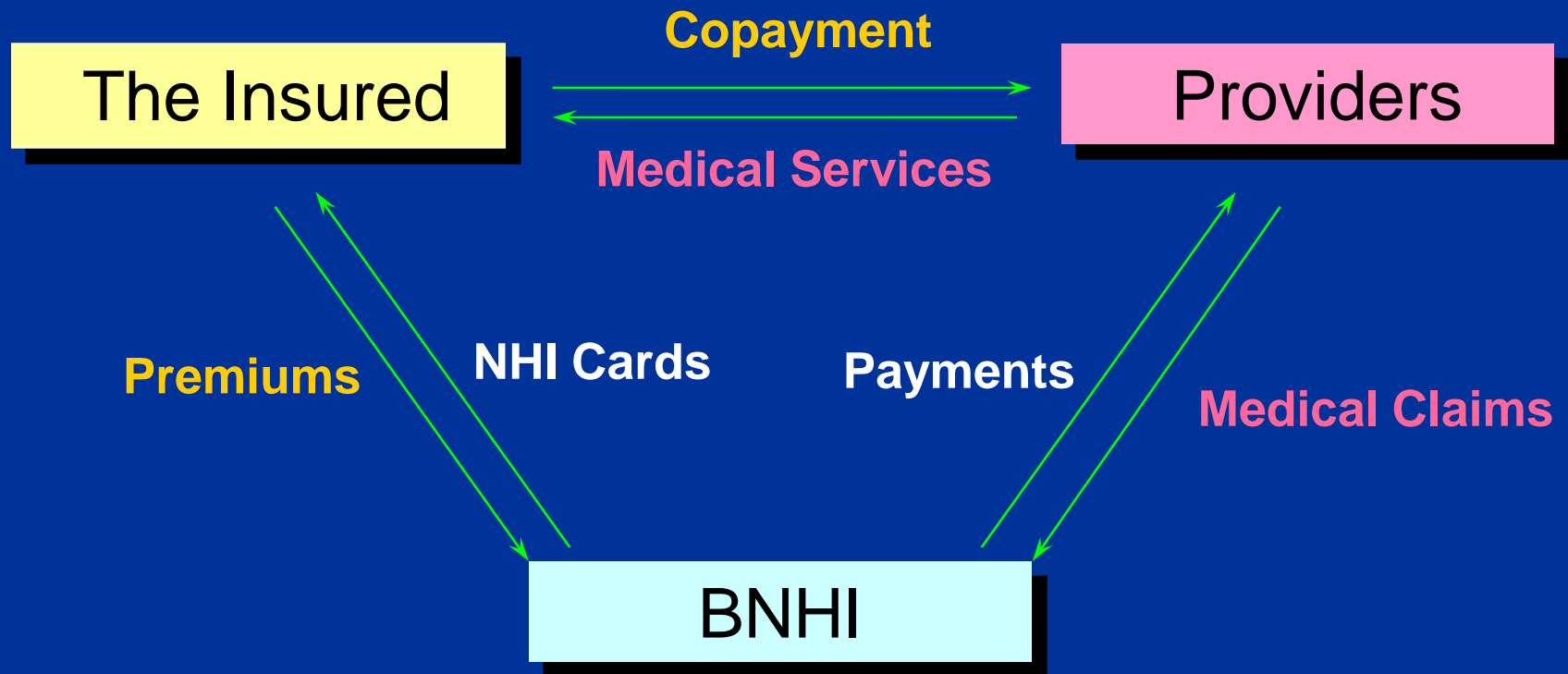


資料來源：IMS；生技中心ITIS計劃整理(2004年)

Integration of Social Health Insurance in Taiwan



Flow of Healthcare System under the NHI



Characteristics of the Healthcare System in Taiwan

- Dominated by the private sector
- Closed-staff system for hospitals (Hospitalist)
- No gate-keeper system
- High service volumes in outpatient department in most hospitals
- Mandatory enrollment
- Government-run, Single-payer system
- Comprehensive benefit package
- Co-payment for ambulatory care, inpatient care, and drugs
- **Broad coverage, OTC included, and herbal medicines**
- **Brand-name based pharmaceutical reimbursement**

Sales volume of pharmaceutical products



Top 10 prescription drugs in Taiwan

	Class		
		Revenue (1000 NTD)	Market Share (%)
1	Sodium channel blocker	4,523	4.8
2	Oral diabetic	3,859	4.1
3	Cephalosporin	3,562	3.8
4	COX 2	3,473	3.7
5	Anti-lipidemia	6,473	3.0
6	Angiotens-II antagonist	2,814	2.9
7	Ulcer	2,723	2.8
8	Anti-depressant	2,653	2.2
9	β -block antagonist	2,115	2.0
10	ACE inhibitor	1,919	2.0

- Top selling drugs by brand name

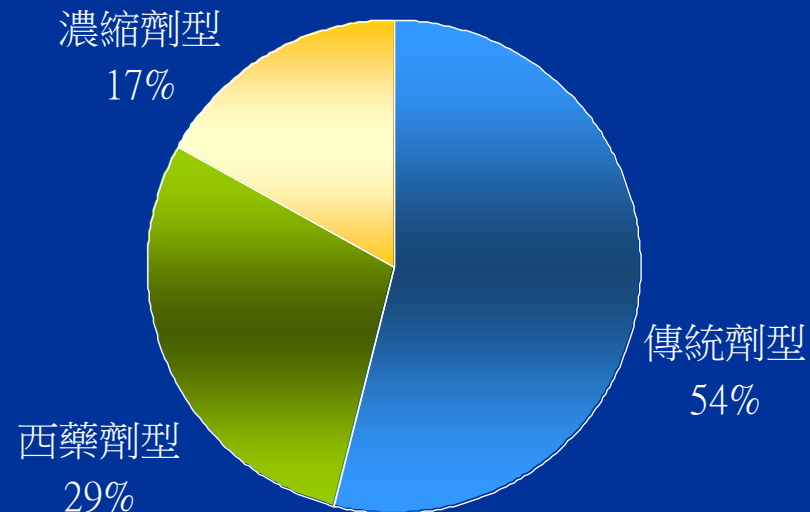
2003年		2004年	
排名	產品	排名	產品
1	NORVASC	1	NORVASC
2	DIOVAN	2	DIOVAN
3	COZAAR	3	LIPITOR
4	LIPITOR	4	COZAAR
5	AVANDIA	5	AVANDIA
6	CIPROXIN	6	PLENDIL
7	PLENDIL	7	CIPROXIN
8	DILATREND	8	AMARYL
9	VIAGRA	9	AUGMENTIN
10	ZOCOR	10	DILATREND
11	RECORMON	11	CELEBREX
12	PLAVIX	12	REDUCTIL
13	ZYPREXA	13	APROVEL
14	AUGMENTIN	14	TAXOTERE
15	AMARYL	15	VIAGRA
16	TARGOCID	16	RISPERDAL
17	RISPERDAL	17	ZOCOR
18	STILNOX	18	PLENDIL
19	ADALATOROS	19	TARGOCID
20	CELEBREX	20	ZYPREXA

Taiwan OTC market

- Around 10% of total pharmaceutical market are OTC
- 20~30% for some branded products
 - Erectile function drugs
 - Weight loss drugs
 - Hair loss drugs
 - Vitamins
 - Glucosamine
- Frequently found best-seller drugs
 - Anti-ulcerants
 - Anti-Hypertension
 - Topical Corticosteroid
 - Hypnotics

Chinese Herb Medicines

(Market distribution by different dosage forms)



1. 中藥製劑廠數：171家
純中藥廠：26家
中西藥混合廠：34家
傳統中藥廠：18家

2. 生產製劑：傳統劑型
濃縮劑型
西藥劑型

3. 市場規模：新台幣150~250億元
(20% 疾病治療；80% 食補)

Supply-demand analysis of Chinese herb medicines

單位:新台幣億元

	2000	2001	2002	2003	2004
Revenue	43.6	42.8	46.1	50.3	46.22
Import	0.24	0.1	0.3	0.35	4.3
Export	1.79	1.30	2.20	2.56	6.46
Needs	42.05	41.60	44.20	48.08	44.06
% export	4.1%	3.0%	4.8%	5.1%	14.0%
Import and keep	0.57%	0.24%	0.68%	0.73%	9.76%

資料來源：工業生產統計月報；進出口貿易統計月報；生技中心 ITIS 計畫整理

**It's a small world
China is only an arm's length away**



Suntec Corp., USA, China, Taiwan
Email: lau@suntecmedical.com

2008 Latin Pharma