Multipurpose Prevention Technologies for Reproductive Health

Accelerating Research on Multipurpose Prevention Technologies for Reproductive Health

HIV-1, STDs and RH situation in China and the need for MPT

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Sexual Transmission of HIV-1 has become the major route

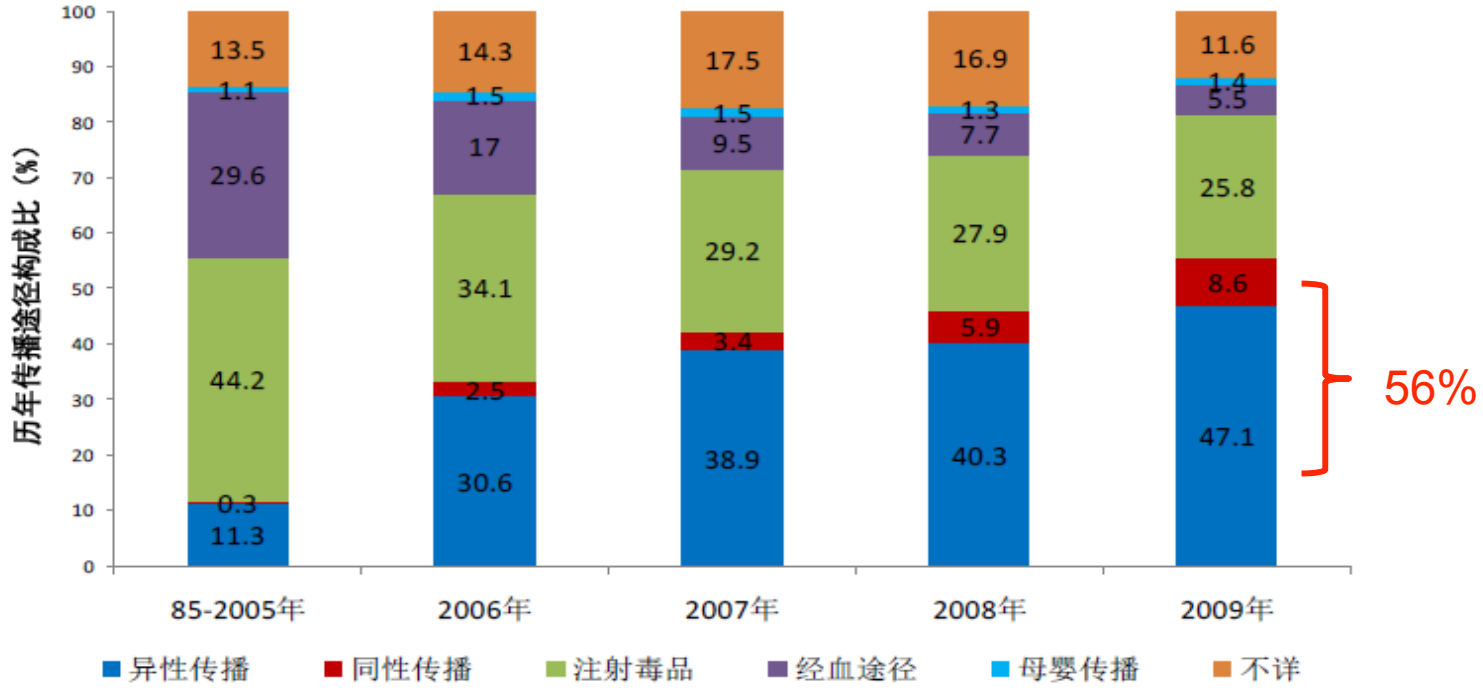

图3　病例报告艾滋病病毒感染者和病人传播途径构成

Data in 2009 showed that sexual transmission accounted for 56% of new infections. Heterosexual transmission increased from 40.3% in 2008 to 47.1% in 2009; MSM increased from 5.9% in 2008 to 8.6% in 2009

Some characteristics of HIV epidemic in China

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- **The overall prevalence in China is low but there are a number of high prevalence areas. In 2009 there were 5 counties with prevalence higher than 1-7%; , Yunnan, Guangxi, Henan, Sichuan, Xinjiang and Guangdong account for 77.1% of the total cases.**

- **In Guangdong, more than 50% new cases of HIV/AIDS were identified in the migrant workers. While in Dongguan where has the most migrant workers, over 90% of new cases were in the migrant population;**

- **Sexual transmission has seen a dramatic increase, particularly homosexual transmission. Many of MSM in China are not open homosexual and often have families.**

- **In contrast to the global AIDS epidemic that the hardest hit regions tend to be the economically disadvantaged, economically well developed Guangdong is one of the highest epidemic provinces in China. Expert even termed it "Guangdong phenominon"**

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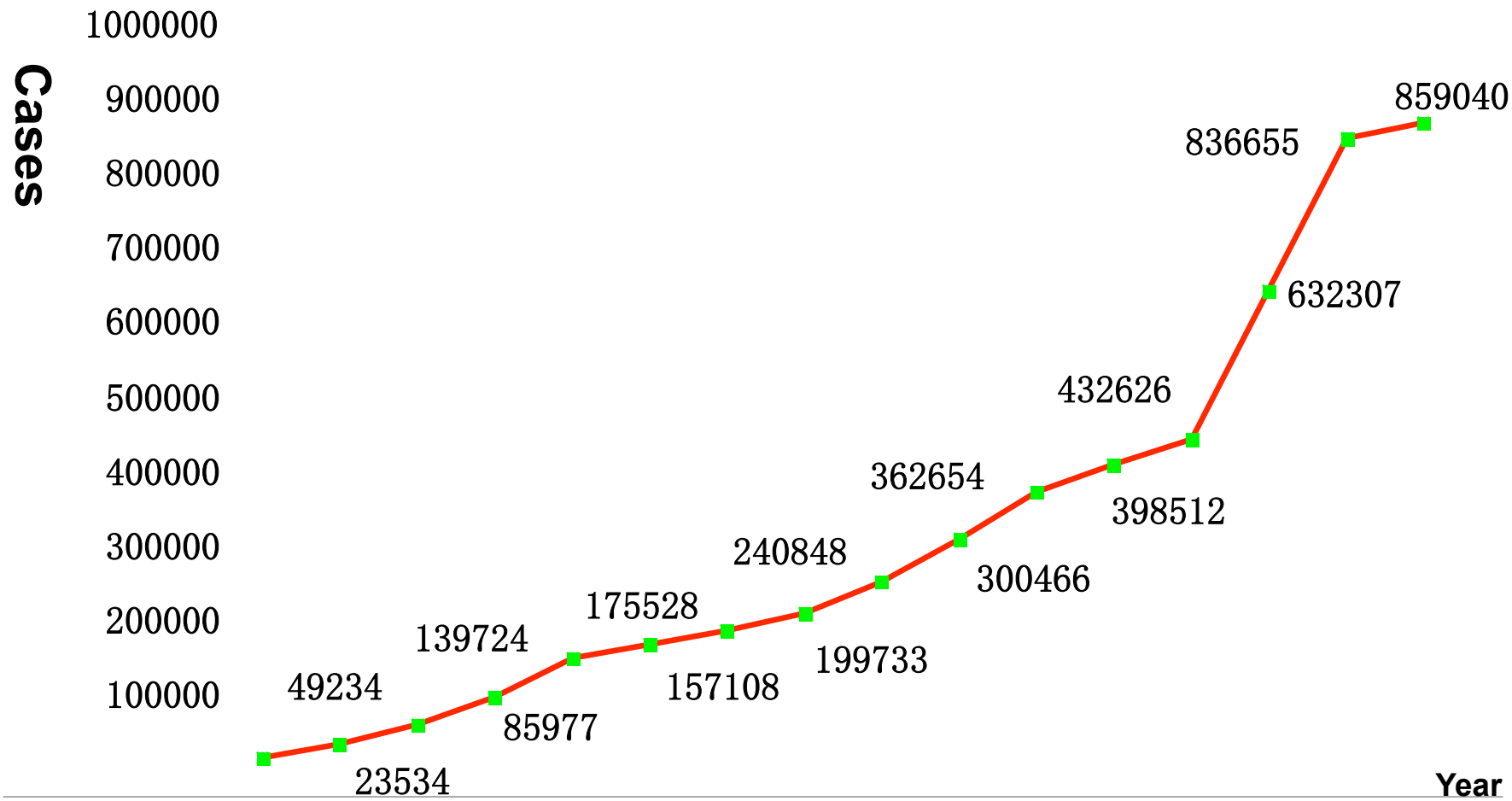
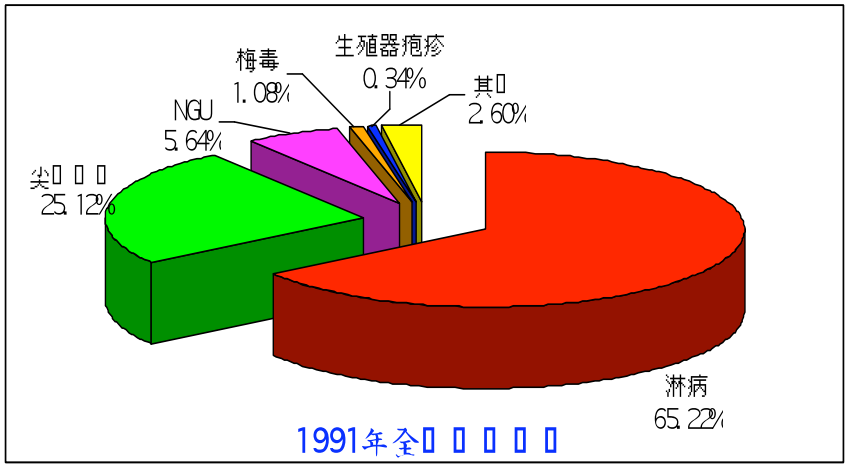
Annual Reported STDs in China, 1985-2000

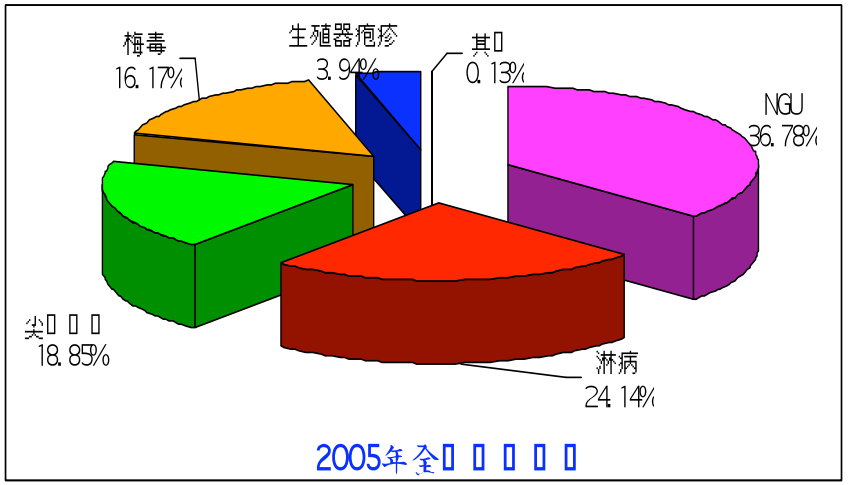


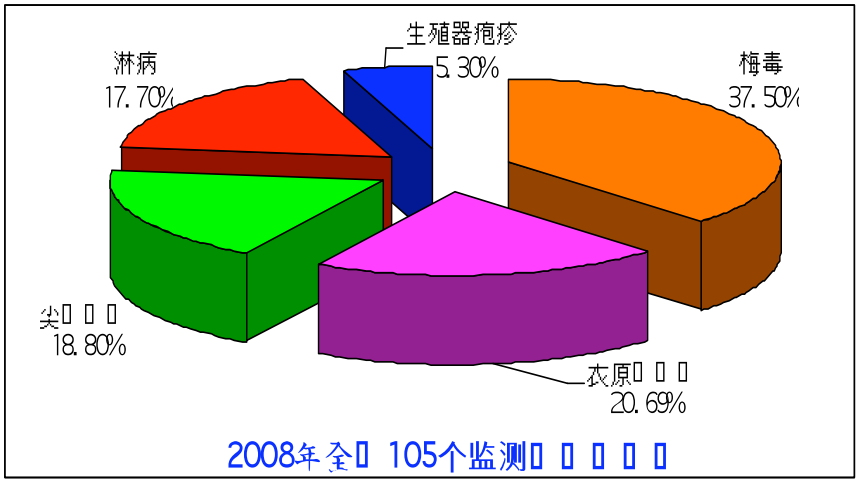
Changing STD Epidemic Profiles



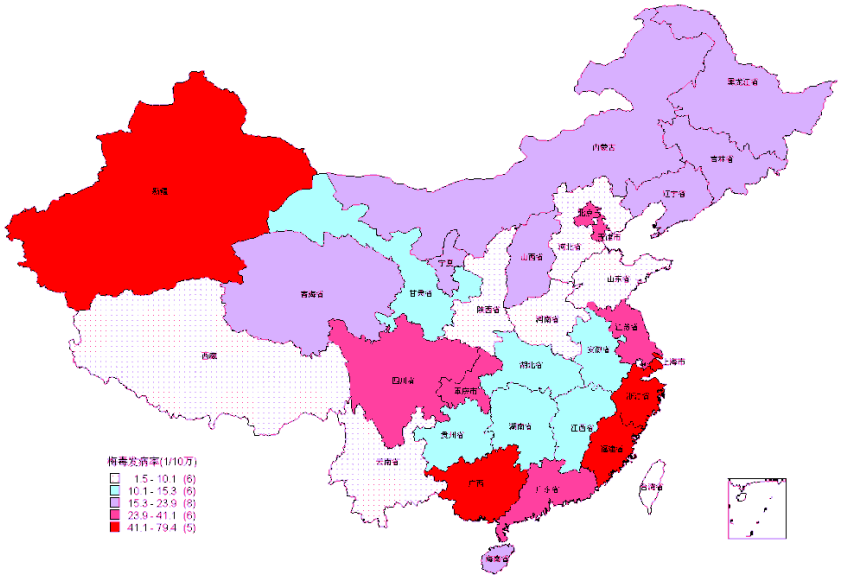
Characteristics

- **Before middle of 1990s：** Gonorrhea (red) and Genital warts (green) were the major STDs
- **Late 1990s to 2005:** NGU (pink) was the major STD, with Gonorrhea (red), Genital warts (green) and syphils (yellow) also widely spread;
- **After 2006:** syphilis became the major STD, with Chlamydia, Gonorrhea (red), and Genital warts (green) widely spread





Example: Reported cases of syphilis



2007—2008

>200000

2005-2006

100000-200000

1995-2004

10000-100000

1988-1994

1000-10000

1984-1987

100-1000

1979-1983

1979年

<100

1

The highly prevalent regions tend to be economically developed with high percentage of migrant workers

The HIV-1 and Syphilis prevalence have significant geographic overlaps

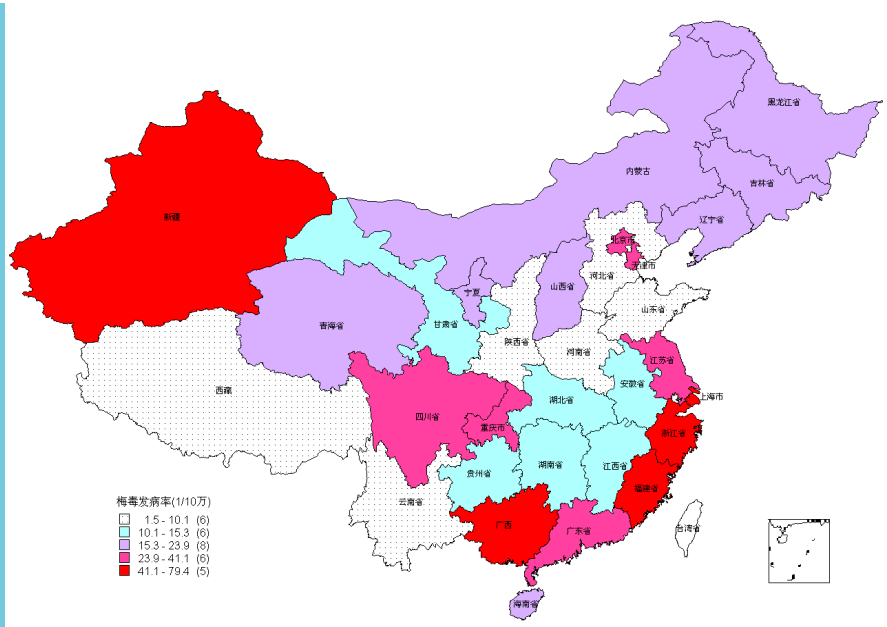


图6　全国累计报告艾滋病病毒感染者和艾滋病病人分布（截至2009年底）

In contrast to the global AIDS epidemic that the hardest hit regions tend to be the economically disadvantaged, economically well developed Guangdong is one of the highest epidemic provinces in China. Expert even termed it "Guangdong phenominon"

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Demography of syphilis sero-positivity

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MSM： Range: 10.6%-18.7%， Mean: 14.56%

FSW： Range: 4.95% - 17.8%， Mean: 12.49%

- Mid cost FSW： 4.0% - 8.8%
- Low end FSW： 32.2% - 33.1%

IVD： Range: 5.01% - 11.17%， Mean: 6.81%

FSW client： Range: 2.99% - 5.79%， Mean: 3.04%

Pre-marrige check: Range: 0.31% - 1.43%, Mean: 0.66%

Pregnant women： Range: 0.29% - 0.6%， Mean: 0.45%

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Syphilis surveillance at HIV sentinel sites, 2011

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表 3　各类人群监测哨点梅毒抗体阳性率分布

监测人群	设立哨点数	运行哨点数	分析哨点数	未检出		<1%		1%～5%		≥5%	
				点数	%	点数	%	点数	%	点数	%
HIV 哨点											
吸毒者	303	302	300	28	9.3	27	9.0	126	42.0	119	39.7
男男同性性行为者	108	107	105	1	1.0	5	4.8	33	31.4	66	62.9
暗娼	520	520	519	60	11.6	128	24.7	251	48.4	80	15.4
男性 STD	370	370	370	35	9.5	67	18.1	132	35.7	136	36.8
男性长卡司机	58	58	58	23	39.7	23	39.7	12	20.7	0	0.0
流动人口	87	87	86	28	32.6	43	50.0	15	17.4	0	0.0
孕产妇	376	376	376	144	38.3	185	49.2	44	11.7	3	0.8
青年学生	66	65	65	49	75.4	16	24.6	0	0.0	0	0.0
小计	1888	1885	1879	368		494		613		404	

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FSW at various locations and their risks of infections

Location	Syphilis infection		HIV-1 infection	
	No of people	%	No of people	%
A	2179	3.4	2183	0.05
B	2808	5.6	2797	0.18
C	1295	12.8	1302	1.08
Total	6282	6.3	6282	0.32
χ^2		P<0.001		P<0.001

A：Karaoke、 Disco、 Teahouse、 star-rated hotel

B：hair salon、 massage parlor、 beauty salon、 foot massage、 roadside guesthouse, etc.

C：roadside call girl、 rental apartment、

The economic migrants are of particular concerns with respect to HIV and STDs

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2009 data showed that there were 211m migrant population, 16.5% of the total population; mean age 27.3yr old;

78.7% of the migrants were from countryside with agriculture "Hu Kou"(registered residence) and poorly educated (<20% have any skill training);

Most of the migrants do not have adequate health insurance and do not use medical facilities (52% do not have any Insurance policy)

They mostly worked in manufacture, retail and service industries, and concentrated in low pay and high risk businesses;

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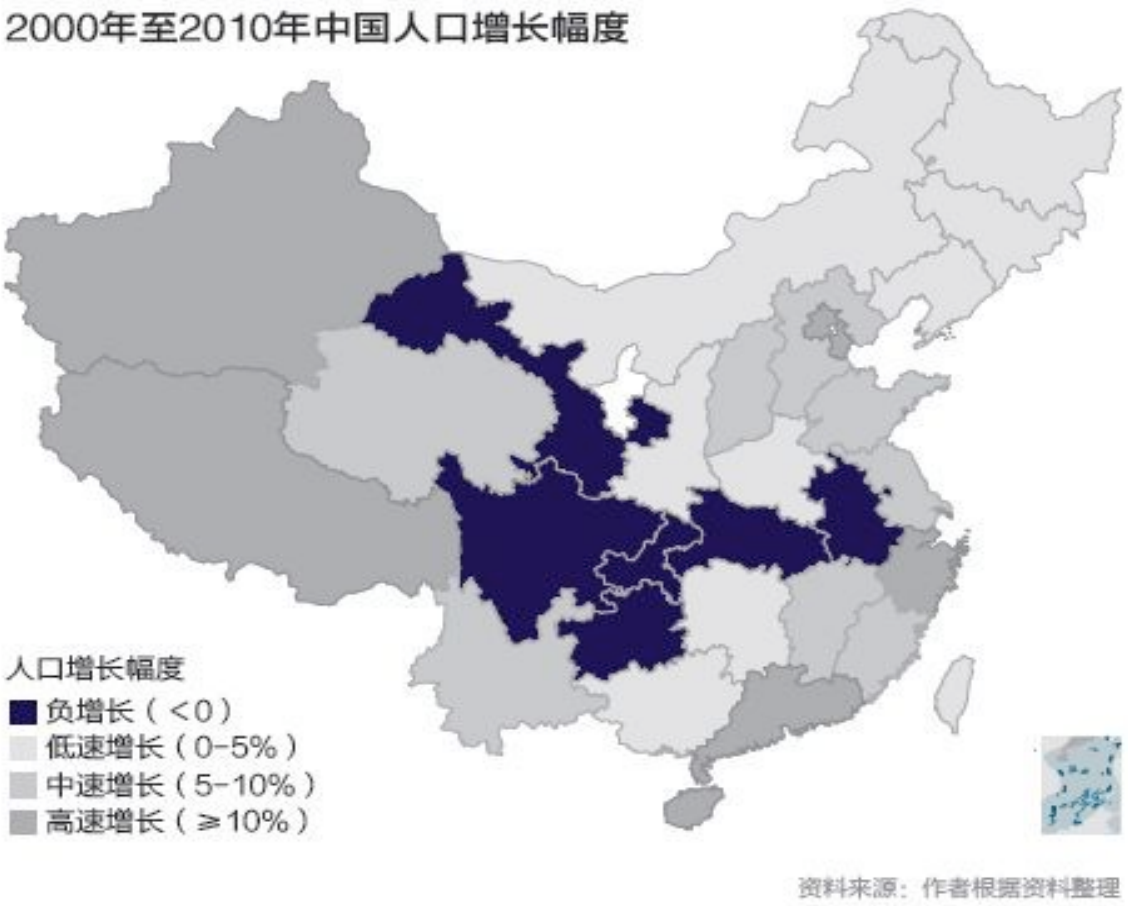
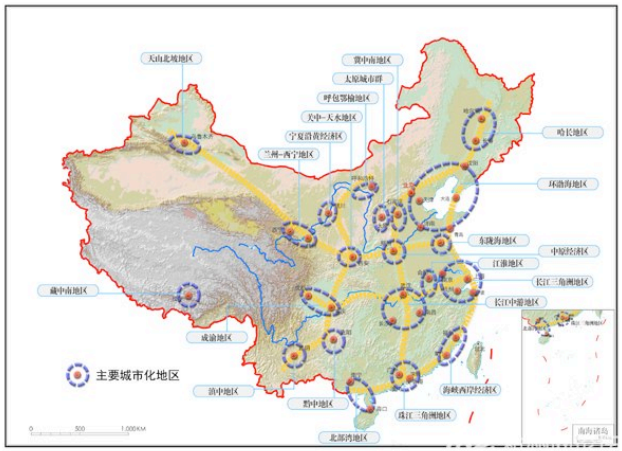
Population changes during 2000-2010



The coastal regions have the highest growth

The central regions have negative growth

Most of the population growth concentrates at the economically developed provinces



Floating population constitutes a significant portion of the population in many cities

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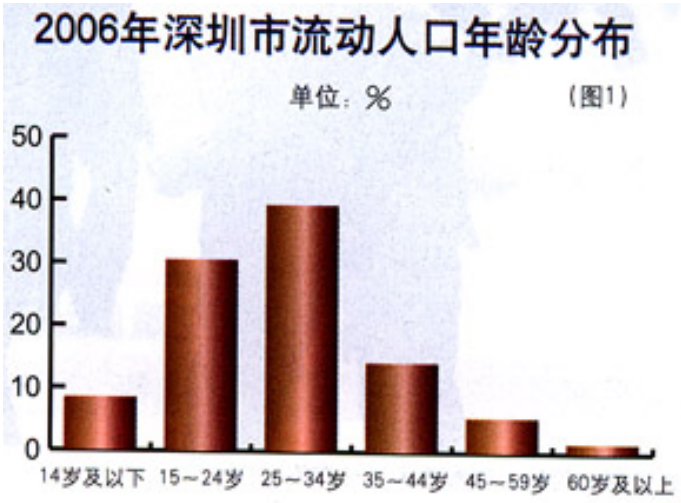
表1 我国2003年流动人口在50万人以上的26个城市名单(按流动人口总数排列) 万人

城市名称	总人口	户籍人口	流动人口
东莞	599.41	158.96	440.45
深圳	557.41	150.93	406.48
北京	1407.00	1079.22	327.79
上海	1434.90	1141.89	292.96
广州	865.12	588.26	276.86
佛山	550.86	344.24	206.62
杭州	535.51	393.19	142.32
温州	271.32	134.65	136.67
武汉	896.19	781.19	115.00
中山	240.38	137.86	102.52
南京	591.77	489.76	102.01
宁波	300.18	206.91	93.27
苏州	306.71	216.87	89.84
天津	848.39	758.78	89.61
无锡	302.20	219.60	82.60
厦门	214.06	141.76	72.30
湛江	144.25	74.75	69.50
沈阳	504.20	440.60	63.60
西安	573.78	510.26	63.52
成都	514.96	452.57	62.39
常州	274.65	213.41	61.24
济南	394.30	334.80	59.50
青岛	305.84	246.77	59.07
大连	329.93	274.78	55.15
昆明	263.56	210.81	52.75
重庆	1060.70	1010.12	50.61

>70%

20-31%

And, most of the floating population are Sexually active young adults



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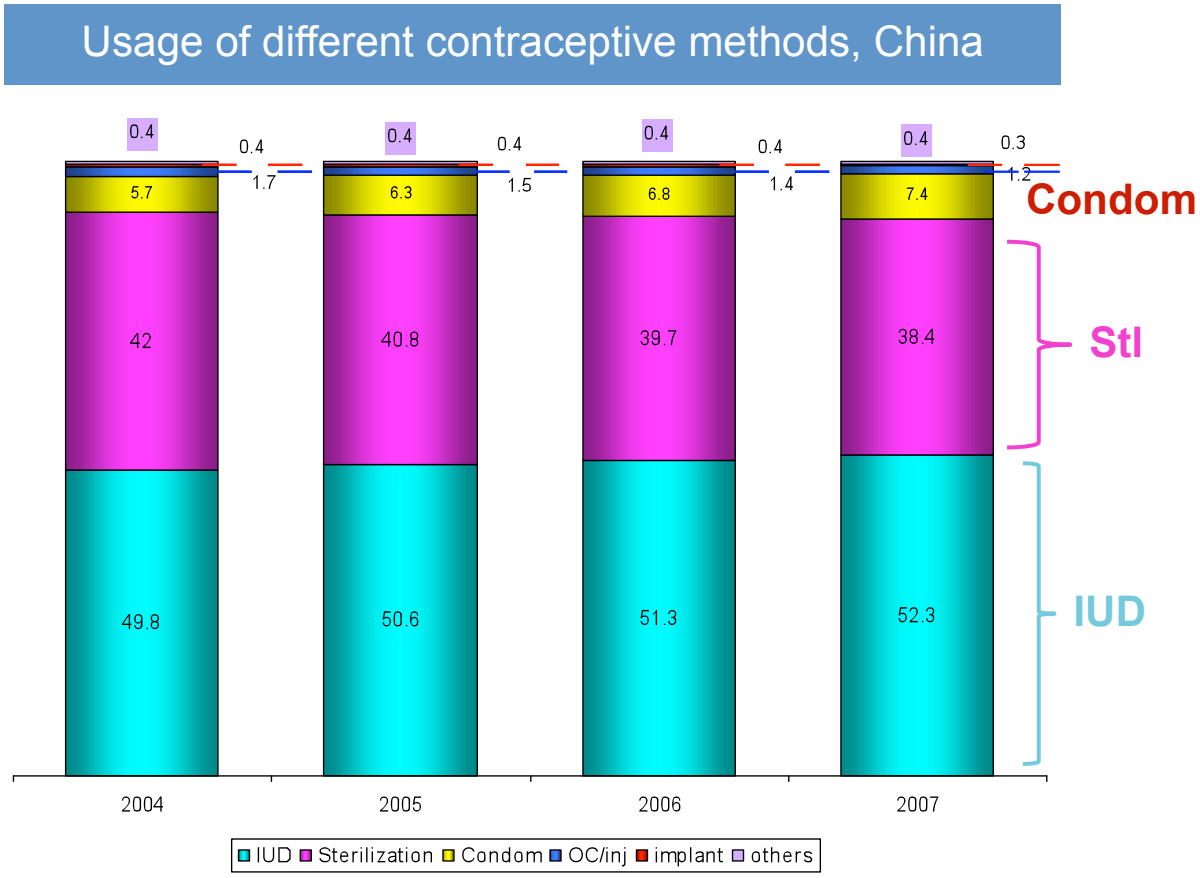
IUD and sterilization are the dominant contraceptive methods



Key observations

- IUD gaining in popularity – low cost and difficult to remove after installation
- Condom usage increased with urbanization, increased income and easy access
- OC/Inj. usage decreased due to SE and decreased Govt. purchased
- Implant – local Govt. replaced Implant with IUD

Courtesy: Dr. Chandiok

Condom use is less frequent in low income groups

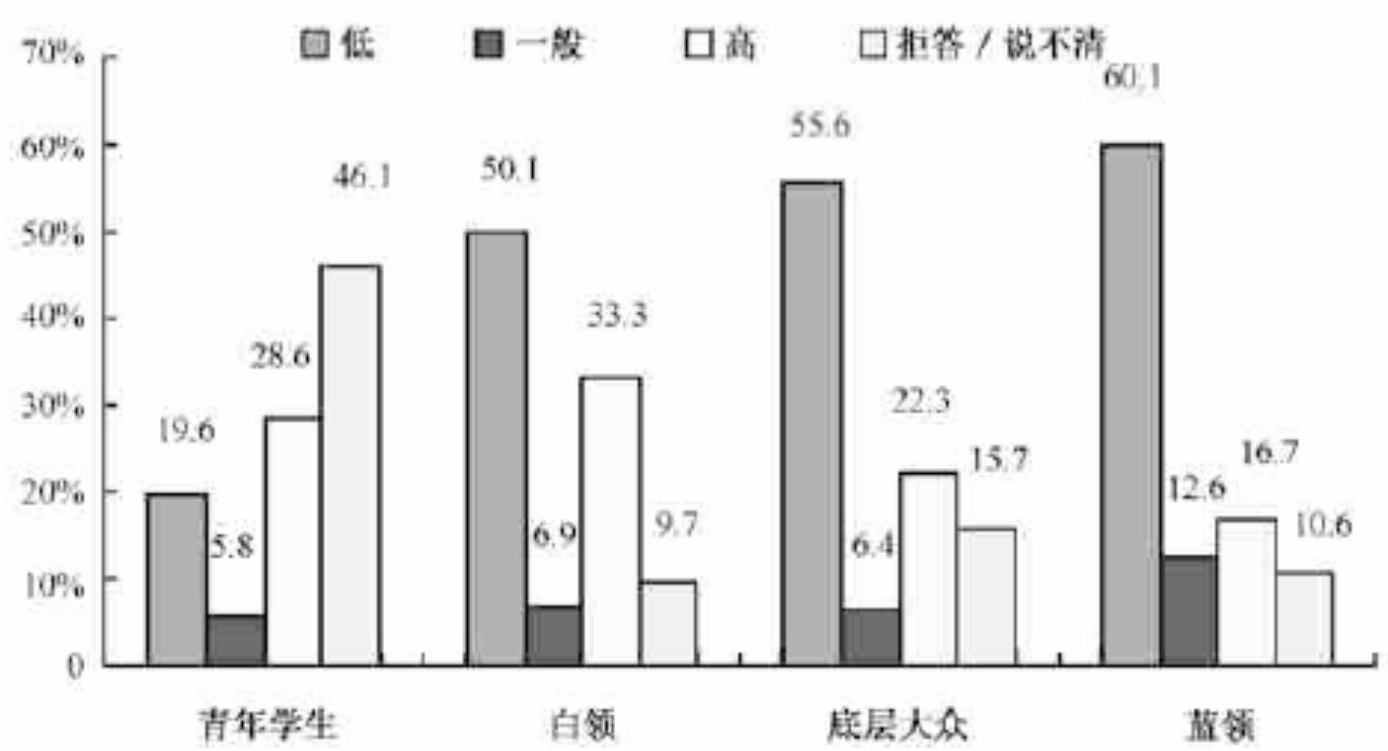


图 6　不同群体性生活中安全套的使用情况

Why does China needs MPTs ?

- HIV continues to spread, mainly through sexual transmission and homosexual transmission is on the rise in recent years;
- STDs has emerged as one of the major public health concerns, both as diseases and as risk factors for HIV; Some of the pathogens are known to have significant overlaps in the affected population;
- Huge floating population that may facilitate HIV and other STDs spreading;
- Inadequate public health infrastructure and approach to identify, monitor, and intervene;
- Insufficient healthcare coverage, social welfare, particularly for people at low income sector, to receive medical service.

What should be the initial focus for MPTs in China ?

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Indications:

- HIV & STIs
- STI & Pregnancy
- HIV & Pregnancy

There are significant knowledge gaps on the end users' perspectives, preferences and acceptability

Dosage Forms:

- Sustained release
- Topical over oral
- Pericoital over daily

Opportunities and Challenges

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Opportunities:

- Improving the quality of reproduction is a national priority
- Control of HIV spreading has become a key national research and development focus
- Significant investment has been made to accomplish goals outlined in the prioritized areas
- An existing service network for reproductive health, and the leadership aims to provide quality reproductive service to 60% of the areas in the next 5 years

Challenges:

- There are many knowledge gaps
- The research, development, public health and the end users remain fragmented
- Regulatory pathway is unclear
- The policy makers need education on MPTs

Thank You

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