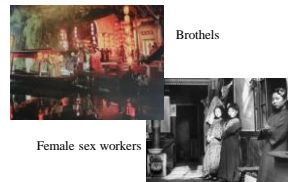


Syphilis “plague” (-1950)

- Syphilis spread into China through India, first appearing in Guangdong and was originally named **“Canton Boils”** in Chinese. (*Canton is the old English name for Guangdong)
- Syphilis spread quickly in China due to the booming brothel business and the lack of monitoring.



It's estimated that there were 10 million STD (mainly syphilis) cases in the post-liberation period. The estimated syphilis prevalence among key populations were:

FSWs (Beijing) = 84%
STD clients = 10%
Minorities = 10%
Some pastoral groups = 48%
Urban residents = 5%
Rural residents = 2-3%

Elimination (1950-1964)

Important Contributing Factors

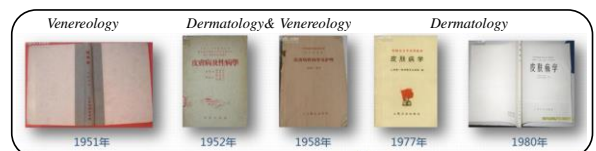
- Support from the leadership
- Strong STIs control network established;
- Free screening and treatment;
- Mass treatment of FSW;
- Strict migration control;

Beijing announced the elimination of syphilis nationally in 1964.



Vanished (1964-1979)

- Only sporadic cases reported
- Syphilis was even phased out of medical school **textbooks** during the 1960s





“I’m back!”

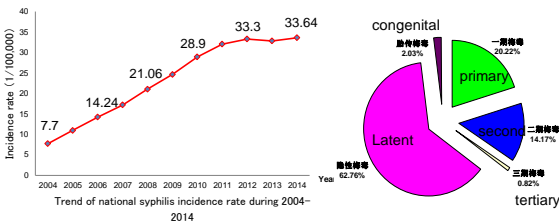
Resurgence of syphilis in 1979.



7

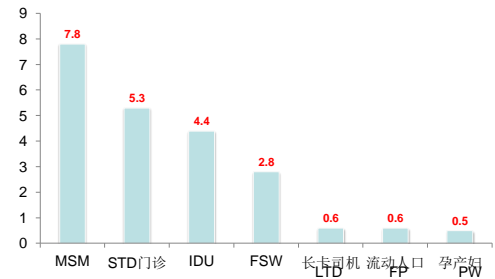
Epidemic trend

► The incidence of syphilis cases has increased rapidly



Data source: national case report system

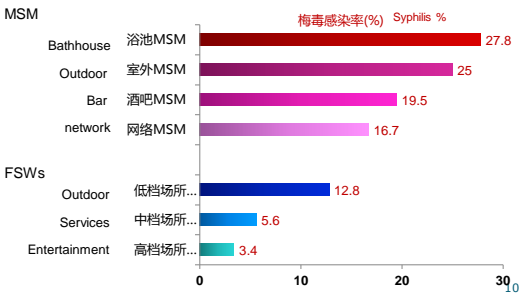
Seroprevalence of syphilis in different pops



LTD : Long distance truck drivers FP : floating population PW: Pregnant women

2011年全国HIV哨点监测资料(NCAIDS)

Prevalence of syphilis by subgroup MSM, FSWs



Estimates of Syphilis in China

At any point in 2008 in WHO South-East Asia Region, it was estimated that were infected 12.3 million with syphilis.



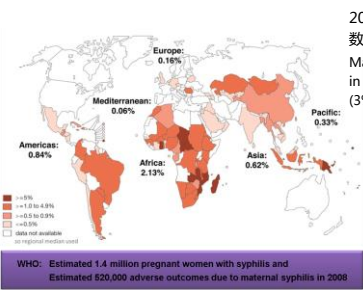
人群 (Population)	梅毒感染估计数 (Estimates)
嫖娼 (FSWs)	54,623
吸毒人群 (DUs)	94,247
男男性行为人群 (MSM)	265,452
性病就诊者 (STDP)	53,554
孕产妇 (ANC)	68,206
普通人群 (GP)	2,441,304
合计 (Total)	2,977,387

2011年：梅毒估计数=298万，
HIV估计数=78万 (3.8:1)
In 2011: syphilis estimate=2.98m
and HIV estimate=0.78m (3.8:1)

Data source: China STD control center

11

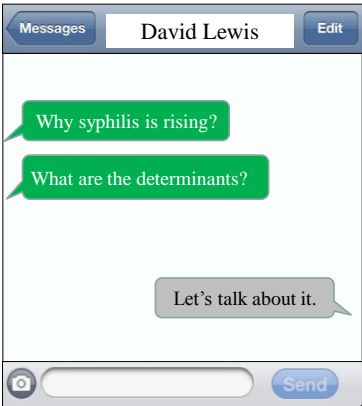
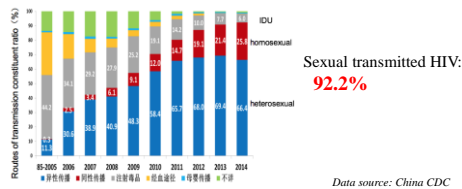
孕产妇梅毒及其不良结果的疾病负担 Disease burden of maternal syphilis & APOs



12

HIV/Syphilis co-infection

- **HIV/syphilis co-infection is also a big concern**
Among MSM, the prevalence of HIV and syphilis co-infection in 2008 is 2.6% (N=2936, Tang, W, 2014)
Sexually transmitted HIV increased from 30.6% in 2006 to 92.2% in 2014 (Data source: China CDC)



14

Determinants

- Social & Culture
- Biological factor
- Health service
- Policy
- Money

.....



Determinants: Social and Cultural

- Land Area: #3 in the world (9,596,961 km²)
- Population: #1 in the world (1.3 Bn)
- China GDP: #2 in the world

Uneven regional development

Big cities and coastal areas:
highly developed with more medical resources
Many parts of china still lack of medical resources

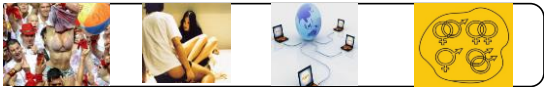


Determinants: Social and Cultural



Sexual Liberation

1. Social and cultural structures regarding sexual behaviors have become more complicated
2. High risk populations are still hard to reach



Determinants: Social and cultural

Population Mobility

The total migrants in 2014 was 0.25 billion, 16.67% of China's population.

- 78% moved from rural area to urban area



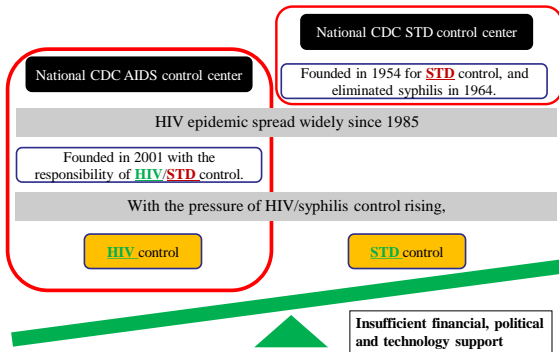
Large scale;
More males;
Ages 18-40;
Sexually active

Labor intensive;
Lower social status;
Informal employment;
Lack medical insurance

Hard to be covered by
the current health care
systems

Vulnerable and high-risk Group for STIs

Determinants: Health System



Determinants: Medical Service

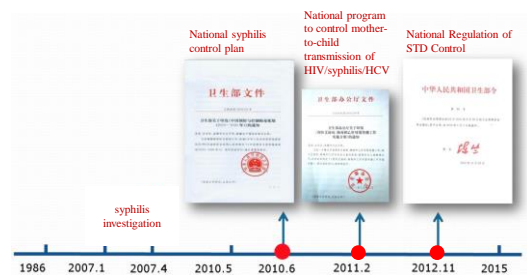
- Physicians lack time and willingness for preventative services
- STDs are not covered by medical insurance in some areas
- Stigma pushes patients to seek out private clinics (less supervision; lower quality)



20

Response

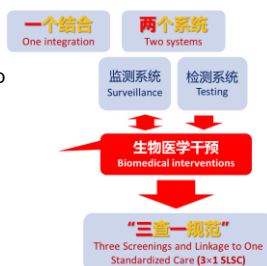
Response: Policy Support



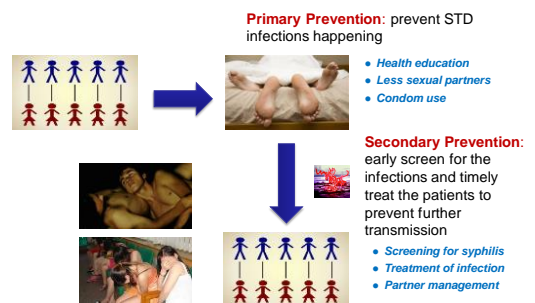
22

Strategies for syphilis control in China

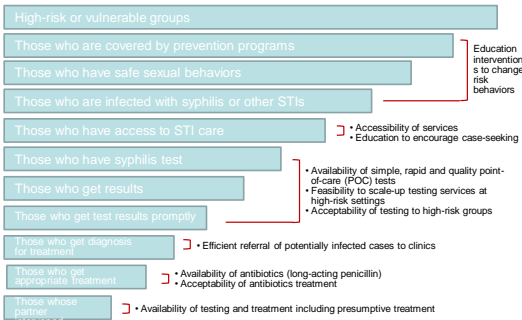
- Health education to increase awareness and knowledge
- Behavioral interventions to stop transmission
- Strengthening active screening to early detect infection
- Prevention of MTCT of syphilis
- Strengthening int'l cooperation and operational studies



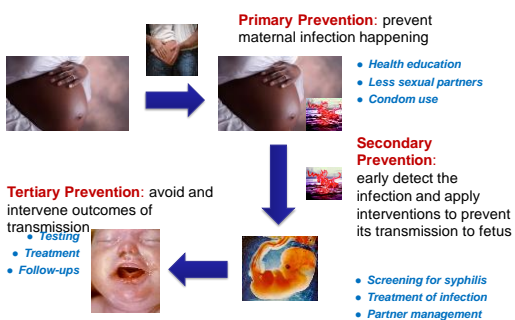
Intervention of STIs among high-risk groups



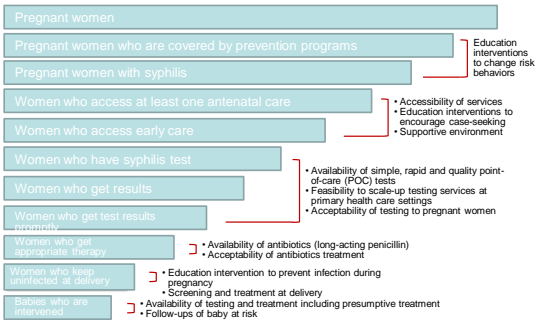
Implementation of STI interventions in high-risks



Prevention & elimination of MTCT of syphilis



Implementation of PMTCT of syphilis



National syphilis control plan (2010-2020) Targets Indicators

Variable	2015 benchmark	2020 benchmark
Primary and secondary syphilis cases	Less than 5% increase in new primary and secondary syphilis cases	Decreasing new primary and secondary syphilis cases
Incident congenital syphilis cases	Less than 35 congenital syphilis cases per 100 000 live births	Less than 15 congenital syphilis cases per 100 000 live births
Syphilis prevention and treatment knowledge (among 15-49-year-old population)	Urban residents - 75% Rural residents - 70% Floating population - 60% Unmarried prostitutes - 90% MSM - 90%	Urban residents - 80% Rural residents - 80% Floating population - 80% Unmarried prostitutes - 95% MSM - 90%
Health professional's mastery of knowledge and technical skills	Syphilis control and prevention in general - 85% Maternal to child syphilis control - 80%	Syphilis control and prevention in general - 100% Maternal to child syphilis control - 90%
Voluntary syphilis test physician offer rates and patient treatment acceptance rates	STI clinics - 80% offer and 80% accept treatment HIV VCT sites - 90% offer and 90% accept treatment Drug rehabilitation centres - 90% offer and 90% accept treatment	STI clinics - 90% offer and 90% accept treatment HIV VCT sites - 95% offer and 95% accept treatment Drug rehabilitation centres - 95% offer and 95% accept treatment
Pregnant women test coverage, mother treatment acceptance, child entry into care	Urban - 80% test coverage, 90% accept treatment, 90% children in care Rural - 80% test coverage, 70% accept treatment, 80% children in care	Urban - 90% test coverage, 95% accept treatment, 95% children in care Rural - 70% test coverage, 80% accept treatment, 85% children in care
Surveillance and laboratory quality control system	Establish an online monitoring system and laboratory quality control system	Continued improvements in surveillance and monitoring, including syphilis evaluations in HIV evaluations

Source: China News, Ministry of Health issued Planning, Prevention and Control of syphilis in China (2010-2020) June 22, 2010. Available online at <http://stock.sohu.com/20100621/n272941797.shtml>

How to translate national strategies into local implementation?

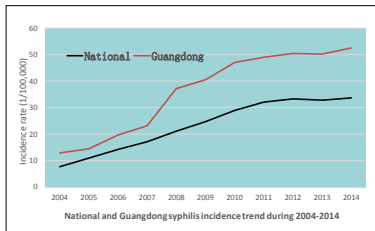


Guangdong is a microcosm of China

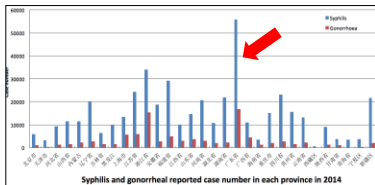


Land Area: **#15 in China** (179,800 km²)
Native Population: **#1** (0.16 Bn)
Migrants: **#1** (30 Mn)
GDP: **#1**
Pillar industry: **Manufacturing & trading**
Total import and export volume: **25% of national**





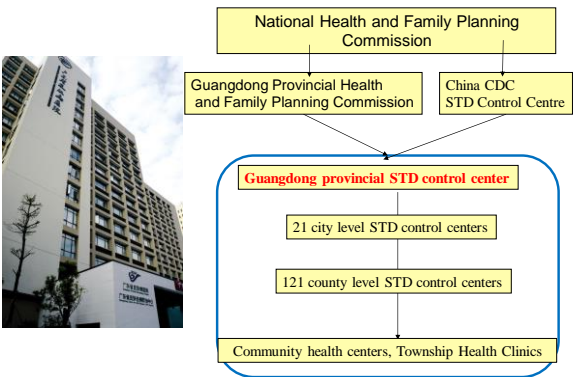
Syphilis incidence has been consistently higher than the national average



Total numbers of both Syphilis and Gonorrhea cases Ranked 1st.

Data source: national case report system

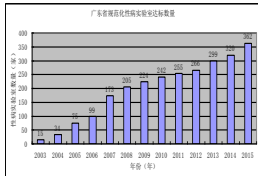
Guangdong STIs control network



Laboratory & clinical quality control Network

Laboratory

- Standardized management of STIs laboratory network building from 2003
- 362 laboratory within the network



Clinical management

- Set up provincial STIs clinical quality control center with panel group in 2013;
- Organize 4 clinical training courses in provincial level per year
- Strengthened MSM STIs management training from 2011.



Response: National Syphilis Plan (2010-2020)

2012: Guangdong issued syphilis control implementation scheme
2013: Guangdong initiative for Pilot Study of comprehensive control of syphilis

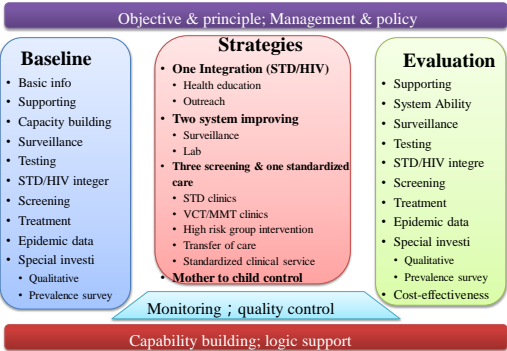


Policy support

Areas	Syphilis Incidence	Economic	Capacity
Zhuhai city	56/100,000	※※	※※
Yingde county	73/100,000	※	※
Nanshan district	65/100,000	※※※※	※※※※



Pilot Study: Comprehensive Syphilis Control Program (2013- 2016)



Syphilis Control Projects (domestic funding)

Year	Program	Focus	Funding
2009-2012	国家重大专项: 防治性病对预防艾滋病的研究	STI treatment to prevent HIV	Mega Project of China National Science Research for the 11th Five-Year Plan
2009-2012	农村梅毒控制项目	Syphilis screening among pregnant women in rural area	Health department of Guangdong province
2014-2015	性病门诊就诊者PITC项目	Syphilis/HIV PITC in STD clinic	National CDC
2013-2016	广东省梅毒综合防治示范区项目	Comprehensive control for syphilis	Health department of Guangdong province
2014-2016	梅毒血清固定项目	Syphilis serofast	Health department of Guangdong province
2015-2017	三期梅毒报告病例横断面调查	Investigation of tertiary syphilis cases reported during 2009-2014	Health department of Guangdong province



Syphilis Control Projects (International funding)

Year	Program	Funding
2007-2010	Studies on introduction of rapid syphilis tests into antenatal care and outreach services of high risk groups in China.	WHO
2010-2011	Strengthening of HIV testing, surveillance and interventions through providing syphilis screening	CAHMF
2010-2014	Plum Blossom(integrating syphilis and HIV testing in south china)	NIH Fogerty
2011-2012	Five Goats(syphilis, gonorrhea and chlamydia among HIV infected individuals in Guangzhou)	UNC
2012-2017	SESH (Social entrepreneurship for sexual health)	UNC
2012-2017	R01(Using crowdsourcing to spurring new ways to expand HIV testing)	NIH

37

STIs Clinics based intervention targeting low tier FSWs

(Cohort study, Jiangmen, 2009-2012)

Interventions:

- 1) HIV/STDs risk-reduction counseling
- 2) Point of care service
- 3) Free STIs testing and treatment



STIs Clinics based intervention targeting low tier FSWs

(Cohort study, Jiangmen, 2009-2012)

Results:

- 701 participants
- HIV prevalence: 0.6%
- Syphilis prevalence: 8.1% (14.2% VS 6.1% for low tier and middle tier FSWs)
- Overall incidence of syphilis: 5.3/100 person-years (95%CI 1.8-8.8)
- Condom use improved
 - Used condom during last intercourse: Increased from 40.2% to 72%
 - Consistent used condom in last 3 months:Increased from 30.4% to 65%

Provider Initiative in Testing and Counseling (PITC) in STD clinics to increase syphilis and HIV screen testing (Jiangmen, 2014)

Intervention:

- 1) Policy support;
- 2) Propaganda in and out of clinics;
- 3) **Free testing;**
- 4) Supervision and quality control;
- 5) **Testing promotion for both providers and clients**

HIV & syphilis screening rate pre- and post intervention

	Pre-intervention		Post-intervention	
	N	%	N	%
HIV	398	28.35	699	61.31
Syphilis	560	39.89	854	73.68
Total	1404	--	1159	--

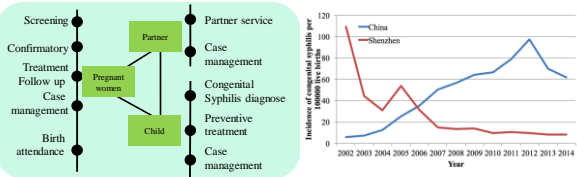
HIV (+) 15 , 1.88%
Syphilis (+) 81 , 8.39%



Program of Prevention of Mother-to-Child Transmission of Syphilis. (Shenzhen, 2002-)

Intervention: “Prevention, Treatment and Case management integration”

This project is funded and driven by the local government. Starting in 2002, in about 88 hospitals, they provide free screening and package standardized syphilis service, contain free screening, treatment and case management for pregnant women, partners and babies.



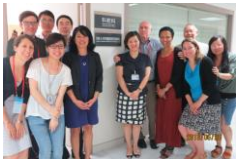
Hong FC, et al. Sexually Transmitted Diseases, 2014

South China-UNC project (2012-)

South China-UNC STI Research Training Center

Main Goal:

Foster development of skills among junior Chinese investigators to conduct productive interdisciplinary STD (including HIV) research



Major activities

- STI/HIV training course per year
- Short, medium and long-term training opportunities for junior investigators
- Multiple research programs
- Postdoctoral fellow positions (involve field work in China and training at UNC)
- Biweekly STD/HIV journal club



Productivity 2014-2015

- 14 abstracts at international conferences ;
- 25 research manuscripts;
- 2 UJMT Fogarty Global Health Fellowships;



Dr. Ngai Sze Wong
(PhD Public Health,
Chinese University of
Hong Kong, started July
2015)



Dr. Lai Sze Tso
(PhD Sociology,
University of Michigan,
started Jan 2015)



Dr. Songyuan Tang
(PhD, Epidemiology,
UCLA, started August
2015).



Dr. Weiming Tang
(PhD, Epidemiology,
UCLA, started Jan 2014)

SESH Project (2012-)

Social Entrepreneurship for Sexual Health

Goal: To create more engaging and effective sexual health services using crowdsourcing and other social entrepreneurship tools.

- Introduce and translate international new concept and technology to China, and localize them;
- Through research projects, strengthen personnel training and team building.



Activities

1. Crowdsourcing HIV Test Promotion Using Short Videos (Greater China)
2. "Sex + Health" Image Crowdsourcing Contest (Guangzhou, Hong Kong)
3. Condom Contest (Guangzhou, Beijing)
4. Crowdsourcing HIV Testing and Linkage (Guangzhou, Foshan)
5. Sticky Rice Love Sexual Health Education (Hong Kong)
6. HIV Testing Kit Social Enterprise (Wuhan, Chengdu, Kunming, Shanghai, Wuxi)

SOCIAL INNOVATION IN HEALTH INITIATIVE 2013
Innovative healthcare delivery solutions in the
Global South

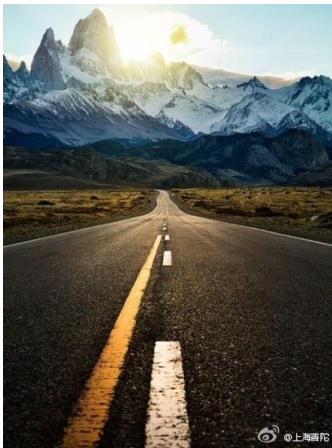
SESH was selected as one of 25 top innovators
in a global competition, Social Innovation in Health
Initiative, organized by the WHO/TDR, and UCT.



Challenges

- Better translating strategies into practice
- Better integration of STDs and HIV control
- New technologies and approaches
- Broaden cooperation

.....



千里之行，始于足下

A journey of a
thousand miles begins
with single step

---Lao Tzu

Acknowledgements

- Guangdong STD control team
- South China-UNC project team
- Dr. Cheng Xiangshen
- Dr. Mike Cohen
- Dr. Rosanna Peeling

.....



***Thanks for
your attention !***

Website: <http://www.gdvdc.com>