HIV epidemic in Asia

- General Population
- Family
- Bridge Population
  - Sex workers
- Source Population
  - Drug Users
  - Children

2
HIV epidemic in China

China is a huge country with multicultural and multiethnic characteristics accompanied by wide geographic and socio-demographic variations. China’s large and ethnically diverse population, its geographic expanse, rapid economic growth, institutional transition from a planned to an open economy, and the evolution of social norms, have all shaped the growing HIV/AIDS epidemic.
HIV epidemic in China

Source Population
- Drug Users
- Sex workers
- commercial blood and plasma donors
- Family
- Children

Bridging Population
- General Population
Objectively understanding the Image of epidemics—prevalence vs. incidence? Under knowledge/skills of public health sciences rather than wishful thinking—public health sciences.

- Estimated HIV positives
- Prior to 2003 1,000,000 (?)
- 2003: 840,000
- 2005: 650,000
- 2007: 700,000
- 2009: 740,000
- 2011: 780,000
• HIV Prevalence

• 1985

• First case

• By the end of Sep. 30, 2009

• Accumulative positives 315630

• AIDS patients 100185

• Death 48585
随着检测力度的加大，全国新发现艾滋病病毒感染者和病人数逐年增加。
Can incidence decline but annual reported HIV cases continually increase?

<table>
<thead>
<tr>
<th>Year</th>
<th>2005</th>
<th>2007</th>
<th>2009</th>
<th>2011</th>
<th>2013</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>New HIV</td>
<td>70,000</td>
<td>50,000</td>
<td>48,000</td>
<td>48,000</td>
<td>36,000</td>
<td></td>
</tr>
</tbody>
</table>
The trend of increase of new cases (through BED) has started to slow down, as the result of positive impact of intervention

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2007</th>
<th>2009</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated number</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In total</td>
<td>650,000</td>
<td>700,000</td>
<td>740,000</td>
<td>780,000</td>
</tr>
<tr>
<td>Newly infected</td>
<td>70,000</td>
<td>50,000</td>
<td>48,000</td>
<td>48,000</td>
</tr>
</tbody>
</table>
Geographic distribution of cumulative reported HIV positives in China

As of 2012年10月31日
Characteristics of epidemic

• In general, HIV prevalence for the whole nation remains LOW 0.57/1000 (740,000/1.3 billion), but clusters of high prevalence exist, both geographically and among specific sub-group populations.

• However, the situation is CRITICAL:

• The epidemic is developing among sex workers, pregnant women, drug users and MSM to different extent.

• The number of AIDS-related deaths is increasing with the proportion of female HIV cases as well.
Distribution of sexual and IDU transmissions of HIV from web-based reporting

- 1985-2003
  - Homosexual transmission: 0%
  - Heterosexual transmission: 10%
  - IDU: 55%

- 2004
  - Homosexual transmission: 0%
  - Heterosexual transmission: 10%
  - IDU: 30%

- 2005
  - Homosexual transmission: 0%
  - Heterosexual transmission: 10%
  - IDU: 30%

- 2006
  - Homosexual transmission: 0%
  - Heterosexual transmission: 20%
  - IDU: 30%

- Jan-Oct, 2007
  - Homosexual transmission: 0%
  - Heterosexual transmission: 30%
  - IDU: 30%
Modes of transmission among cumulative reported HIV/AIDS cases by the end of December, 2009

- Blood Transfusion: 3.8%
- Blood products: 0.5%
- MTCT: 1.1%
- Other: 18.3%
- Former illegal blood donor: 22.0%
- Heterosex: 13.2%
- Homosex: 0.6%
- IDU: 40.5%
性传播所占比例持续增高
• 男男性行为人群感染明显上升
低档暗娼、高年龄组暗娼HIV抗体阳性率和梅毒抗体阳性率均较高

数据来源：艾滋病哨点监测

- 低档暗娼HIV抗体阳性率（0.6%）明显高于中档（0.2%）和高档暗娼（0.1%）。
- 50岁及以上年龄组暗娼HIV抗体阳性率（2.5%）明显高于24岁及以下（0.2%）和25~49岁年龄组暗娼（0.4%）。
- 低档暗娼梅毒抗体阳性率（4.6%）明显高于中高（1.9%）和高档暗娼（1.5%）。
- 50岁及以上年龄组暗娼梅毒抗体阳性率（8.7%）明显高于24岁及以下（1.8%）和25~49岁年龄组暗娼（3.1%）。
• 60岁以上男性感染者明显增多
15-24岁年龄组青年及青年学生艾滋病感染者
每年新报告数逐年增加
2009 newly infected (by modes of transmission)

- IDU: 24.3%
- Homosexual: 32.5%
- MTCT: 1.0%
- Heterosexual: 42.2%
Injecting drug users (IDUs)

- Injecting drug use has been the dominant route for HIV infection in China. Currently, there are one million drug users in China. Sixty-one percent are injecting and over 50% share needles.
- HIV/AIDS transmission through injecting drug use is associated with 43.9% of HIV infections in China.
- MMT program has been greatly promoted.
Former plasma donors(1)

- Commercial plasma donation with unhygienic re-fusion of red blood cells (RBC) was common in rural communities in the early 1990s.

- Donation procedures reused unsterilized equipment that allowed blood-borne infections to spread rapidly through the local donor population. The rate of FPDs infected with HIV was between 10% (the lowest area) and 60% (the highest area).
Former plasma donors(2)

- The 2003 estimated figure was 199,000 FPDs living with HIV. In 2005, the estimated numbers of infected former plasma/blood donors fell from 199,000 to 55,000.

- This group is now reaching a stage of high mortality. It is estimated that there were at least 10,000 deaths in 2005 alone.
Commercial sex workers(1)

- HIV infection among heterosexual groups are rising because of flourishing commercial sex services, despite China’s abolition of brothels in 1955. The national estimate of the number of Commercial sex workers (CSWs) in 2001 was about 4 million.

- Large numbers of CSWs in coastal area and big cities doing transient sex work is now common in hotels, pubs, hairdressing salons, bathing centers, massage parlors, song bars and ballrooms, or from the streets.
Commercial sex workers (2)

- Along with the growth of commercial sex and continued low rate of condom use, sexually transmitted diseases (STDs) have increased sharply.
- CSWs have an important bridging role in transmitting HIV from core groups to the general population.
Men who have sex with men (1)

- There are up to 8 million MSM with a 1%–4% rate of HIV infection in China. Unprotected sexual activities, including group sex, anal sex, casual sex and commercial sex are prevalent among Chinese MSM. While homosexual activities are not illegal in China, they are not considered socially acceptable. Homosexual or bisexual men still hide their sexual orientation and often marry women. Married MSM may acquire HIV from their high risk male sexual partner and transmit it to their wives.
Men who have sex with men (2)

- MSM has become a rapidly growing group in the HIV epidemic in China and they are at high risk of HIV infection and contribute to the spread of HIV to women and the general population. In addition, groups of male commercial sex workers have appeared in large cities. A survey show that 38% of MSM investigated in four cities in China had paid for sex.
Sex topic

• Sex continues to be a relatively taboo topic in Chinese society, and prostitution is illegal and considered a moral and social issue, making sex education and condom promotion more difficult.

• The government has recently pledged to provide free condoms for all HIV/AIDS patients as part of a larger strategy to ensure 50% of members of high-risk groups are using condoms and provide knowledge for preventing HIV and STD to high-risk groups.
Despite recent efforts to de-stigmatize HIV/AIDS, entrenched discrimination towards people who are affected by HIV/AIDS still exists. A difficult ethical issue is laws prohibiting prostitution and drug use in China which force prostitutes and intravenous drug users underground, giving them no chance to access information, education and the services needed to protect them.
• The stigmatization is dangerous, as it discourages people from adequately learning about the disease, and discourages them from disclosing that they are infected. It also silences the dialogue between people, dialogues that could be as effective as government policies in HIV prevention.
“Four Frees and One Care” Policy

1. Free ARV drugs to AIDS patients who are rural residents or people with financial difficulties living in urban areas;
2. Free Voluntary Counselling and Testing (VCT);
3. Free drugs to HIV infected pregnant women to prevent mother-to-child transmission, and HIV testing of newborn babies;
4. Free schooling for children orphaned by AIDS;
5. Care and economic assistance to the households of people living with HIV/AIDS.
Since ART launch in 2002, AIDS mortality dropped significantly.

Further have mortality DROP.

We need Implementation Sciences.
Annual Reported AIDS Mortality

Q1: Why ART $\uparrow$, but Mortality $\uparrow$?

Q2: When and how to get Mortality $\downarrow$?

80% Deaths without ART
# Late Diagnosis Still an Issue

<table>
<thead>
<tr>
<th>year</th>
<th>Newly Identified</th>
<th>AIDS at 1st test</th>
<th>Proportion of late (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>56362</td>
<td>10790</td>
<td>19.1</td>
</tr>
<tr>
<td>2009</td>
<td>61626</td>
<td>13433</td>
<td>21.8</td>
</tr>
<tr>
<td>2010</td>
<td>64338</td>
<td>16089</td>
<td>25.0</td>
</tr>
<tr>
<td>2011</td>
<td>74517</td>
<td>20760</td>
<td>27.6</td>
</tr>
</tbody>
</table>
Losses along the Continuum of HIV Care

<table>
<thead>
<tr>
<th>Step</th>
<th>Number of Individuals (1,000)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screened HIV-Positive</td>
<td>22,825</td>
<td>100%</td>
</tr>
<tr>
<td>Confirmed HIV-Positive</td>
<td>9,091</td>
<td>40%</td>
</tr>
<tr>
<td>Notified HIV-Positive</td>
<td>7,754</td>
<td>34%</td>
</tr>
<tr>
<td>Received CD4 Test</td>
<td>4,830</td>
<td>21%</td>
</tr>
<tr>
<td>Received ART</td>
<td>2,691</td>
<td>12%</td>
</tr>
<tr>
<td>Received VL Test</td>
<td>732</td>
<td>8%</td>
</tr>
</tbody>
</table>
New vs. existing strategies

Use New Strategies

• TEST as Prevention
• TREATMENT as Prevention

Continue Use Traditional ones

Education
Condom promotion
Harm reduction
Counseling
STD management
Who Working with?

Prevention by Working with

• HIV Positives
• HIV Negatives
ART vs. PrEP

ART
HIV +

PrEP
At risk

Population size

Population size
## New strategies

<table>
<thead>
<tr>
<th>Strategies</th>
<th>Implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Testing</td>
<td>✓ ✓ ✓ ✓ ✓ ✓</td>
</tr>
<tr>
<td>Treatment as Prevention</td>
<td>✓ ✓ ✓ ✓ ✓ ✓</td>
</tr>
<tr>
<td>PrEP</td>
<td>?</td>
</tr>
<tr>
<td>Male circumcision</td>
<td>?</td>
</tr>
<tr>
<td>Microbicides</td>
<td>?</td>
</tr>
</tbody>
</table>
Conclusion

• Fully Implement Existing Approved Strategies

• Adopt new strategies positively
谢谢