

CHINA

## An Explosive Return of the 'Great Pox'

**NANJING, CHINA**—Examining a patient one day in the 1980s, newly minted doctor Chen Xiangsheng saw a pinkish rash covering the man's chest. He never imagined it could be syphilis, which was eliminated by an aggressive 1950s campaign that shut down brothels, screened sex workers, and administered penicillin. By the time Chen entered medical school in 1979, students were no longer trained to spot the disease. He thought his patient had *pyritriasis rosea*, a skin rash. Chen's supervisor corrected the diagnosis.

Chen has since become all too familiar with the telltale symptoms of a sexually transmitted disease (STD) once known as "the great pox." As breakneck economic development ushered in widespread migration, rising inequality, and evolving sexual mores, syphilis transmission spiked in China. It now holds the dubious title of the nation with the largest increase in reported cases in the penicillin era. (For half a century, the antibiotic has been the main defense against *Treponema pallidum*, the bacterium that causes the disease.) In response, China's health ministry has just embarked on a 10-year plan to combat what Chen, now vice director of the National Center for STD Control here, calls "a scourge lurking in the shadows."

China's troubles date to social and economic changes unleashed in the 1980s, when millions of farmers flocked to the cities. At the same time, restrictions on cohabitation and marriage were loosened or ignored. "Ideas and concepts came in from outside, and more people wanted sexual freedom," Chen explains. Prostitution grew along with inequality, and a swelling disadvantaged class had poor access to health care, says Francis Ndowa, lead specialist for controlling STD infections at the World Health Organization.

By the late 1990s, China's reported syphilis cases were rising by about **30% per year**. The annual increase has since slowed but remains high, at 8.4% in 2010, and reported **cases more than doubled between 2005 and 2009**, to 11.7 cases per 100,000 people—compared with 4.6 cases per 100,000 people that year in the United States. In 2008, **Guangdong Province reported more syphilis cases than the entire European Union**.

Scientists say those figures should be treated with caution. Underreporting may be

common in poorer provinces, some warn. Others dispute the extent to which syphilis is spreading. They point out that cases spiked after China switched to a Web-based reporting system in 2004. But everyone agrees that syphilis is rampant, especially in coastal cities with large migrant populations. In several major cities in China, it is now the leading reported infectious disease.

Some researchers suspect that China's elimination of syphilis in 1964, through limiting herd immunity, left the population unusually susceptible to *T. pallidum* infection. More critical may be the behavior of members of key risk groups. About 10% of urban Chinese men age 18 to 49 say they have hired a prosti-

Reported syphilis cases per 100,000 people



**Ancient scourge.** National Center for STD Control vice director Chen Xiangsheng (right) worries about the rapid spread of syphilis in China.

rate of 66.5 cases per 100,000 live births to under 15 per 100,000 by 2020. The central government has tagged \$3.2 million for syphilis prevention and control this year, a fraction of the budget for HIV control, but public health experts hope a separate \$140 million pool of funding for preventing mother-to-child transmission of STDs through screening and treatment will help tamp down congenital syphilis cases. "China has an advantage in its unique ability to act so definitively in public health," says Myron Cohen, an AIDS researcher at the University of North Carolina, Chapel Hill.

But much has changed since the war on syphilis a half-century ago. Cultural stigma



tute. Condom use is low, and **demand for commercial sex is fueled by a gender imbalance brought on by sex-selective abortion, which has left tens of millions of men with poor marriage prospects. Another sizable risk group is men who have sex with men, of whom roughly a third are married, meaning their wives may be at risk too.** Says Chen: "Many developed countries have a **syphilis epidemic among men who have sex with men**. Many developing countries have an epidemic among female sex workers. China has it in both groups."

According to figures from China reported in 2010, an estimated 8.4% of men who have sex with men, and 2.9% of sex workers, were seropositive for syphilis—compared with 1.1% and 1.6%, respectively, among the same groups in Vietnam in 2009. Also under surveillance are pregnant women, who can pass the disease to their babies. A 2007 study of half a million expectant mothers in Shenzhen found that one in 200 had syphilis. The trend is doubly worrisome, as **syphilis increases the risk of HIV acquisition and transmission**.

The health ministry's new initiative aims to halt the rise in adult syphilis cases and reduce congenital syphilis from the current reported

keeps many patients away from the clinic: Sex workers and gay men have been singled out for persecution and remain wary of testing and treatment efforts. That's one reason the health ministry is warming to non-governmental organizations, which have been viewed with suspicion in the past. "Civil society groups are quite well connected with the target group, and the community may be more receptive to them," says Loretta Wong, director of AIDS Concern, a Hong Kong-based group that does syphilis outreach with gay men and sex workers.

One source of hope is rapid tests that can be performed outside the clinic. Yin Yueping, a lab director at the national STD center, spreads a selection of test kits on a table. The tests cost less than \$1 each, require only a finger prick, and, as with over-the-counter pregnancy tests, results are fast and easy to read. Yin is working to get the kits into rural health centers. That won't be easy. But like it or not, these days Chinese doctors know their enemy when they see it.

—MARA HVISTENDAHL