

**Top doc.** Zhang Fujie heads China's new drug treatment program.

country to make and export a cheaper fixed-dose combination, which he says could be "a major change for the world."

GSK says it is just about to ink a deal that will offer the Chinese government 3TC at "preferential prices." If the negotiations fail, Zhang says, China knows that it can invoke a compulsory license. "We have to get 3TC in the very near future," says Zhang. "We have no time to wait."

3TC isn't the only anti-HIV drug China



lacks, however. Similar problems have prevented it from importing or manufacturing several drugs available as generics elsewhere. China also has no formulations available for HIV-infected children. Says MSF's Marchandy: "We really are David facing Goliath, and we don't have a lot of stones."

More stones may come from the China AIDS Initiative, a project announced in November 2003 by ADARC's Ho and former

U.S. President Bill Clinton. The initiative joins ADARC with the Clinton Presidential

Foundation, leading Chinese universities, Yale University, and the Brookings Institution. The initiative hopes to help with AIDS advocacy, education, and treatment, with the Clinton Foundation now attempting to negotiate the purchase of low-priced AIDS drugs and monitoring tests.

China's new treatment program not only has few stones; the training and monitoring shortcomings mean it also has one hand tied behind its back. But in the next few months, the few anti-HIV drugs they do have should arrive at clinics across the country, including the one at Jile Township. And for HIV-infected people like Da, news of the existence of these drugs surely will overshadow concerns about their limitations.

—JON COHEN

## Changing Course to Break the HIV-Heroin Connection

Injecting drug users account for more than half of China's HIV infections. Authorities are now tentatively launching "harm-reduction" programs in hard-hit provinces

**YUNNAN PROVINCE AND GUANGXI ZHUANG AUTONOMOUS REGION**—When people cross the short bridge from Myanmar to China at the tiny city of Wanding, a quaint billboard greets them. It shows a couple supping on a beach as the sun sets. "Preserve your purity, keep off drugs, prevent AIDS," the billboard advises in the language of the Dai and Jingpo ethnic minorities, Mandarin, and even English. The billboard's flip side has a similar multilingual message but a less genteel image that reflects China's new resolve against the burgeoning HIV/AIDS problem in this region: It shows a fist.

HIV has established a beachhead here among injecting drug users (IDUs). Myanmar (formerly Burma) is the world's second largest heroin producer, and the border in this area is so porous that the Dai and Jingpo in many places freely cross the shallow stream that separates the two countries. "We don't have any natural or cultural border," says Li Fanyou, deputy director of Dehong Prefecture's Center for Disease Control and Prevention (CDC). Not surprisingly, pure Burmese heroin has become plentiful, and HIV has traveled with it.

In 1989, tests of Dehong IDUs found 146 infections—75% of the reported cases in all of China at the time. HIV raced through Dehong, infecting more than 80% of one IDU group tested in

1992. By 1996, HIV had spread to IDUs beyond Yunnan's borders, with Guangxi to the south and Xinjiang to the north especially hard hit. Today, Yunnan still has more HIV-infected people than anywhere in China, ac-



**Free trade.** A needle-exchange program in Ningming tracks syringes by printing an AIDS ribbon on them.

counting for one-fourth of the reported cases, and in Dehong the virus infects more than 1% of pregnant women, an indicator that the epidemic has spread to the general population. It is in these border regions that China's most crucial HIV/AIDS battles now are being fought.

Encouraged by political changes that give them new freedoms, AIDS workers finally can attack the problem head-on. "In the past 10 years, the central government has not provided enough policy support for needle exchange and methadone substitution programs," says Chen Jie, deputy director of the Guangxi CDC. Now, Chen and other health officials are scrambling to determine how best to scale up their efforts. And each locale has unique visions of how to proceed.

### Eyes wide shut

Ruili, a bustling city 20 kilometers from Wanding, is widely known as a place where cheap heroin and an abundance of sex workers can be found at "barber shops," massage parlors, and hotels. But it has another, less obvious, feature: "We have many people who have died from AIDS," says an HIV-infected IDU attending a seminar at the CDC in Ruili.

On 1 March, Yunnan Province issued Regulation 121, which calls for aggressively expanding education efforts. Freshly minted HIV/AIDS prevention banners already decorate the streets of Ruili and other cities. And, to the astonishment of many, the regulation explicitly promotes the distribution of clean needles, methadone, and condoms. Posters of Regulation 121 appear in the lobbies of hotels—which the government now says must offer condoms in the rooms—and in the infamous barber shops. It represents a radical turnaround.

For all the urgency, however, the provin-

cial health bureau is moving cautiously on some fronts. It will soon start several pilot projects for both needle exchange and methadone substitution, which Wang Yunsheng, deputy director of the HIV/AIDS office for the Yunnan Provincial Bureau of Health, says will run for 3 years. “We cannot be in too much of a rush, but we also cannot wait too long,” he says. With needle exchange, they have to overcome the widely held perception that distributing needles will increase drug use, he says. Methadone remains expensive and tightly controlled by the central government.

Outreach to sex workers—who in Yunnan still have an HIV prevalence below 3%—is limited to the training of peer educators and brothel managers. “We’re not distributing condoms to sex workers because prostitution is illegal in China,” says Wang. As one Yunnan sex worker says, “The government keeps one eye open and one eye shut.”

#### Guangxi’s garrote

Driving through the craggy mountain range of Guangxi that borders Vietnam, Chen Jie of the provincial CDC explains why it’s necessary to move carefully before launching wide-scale programs for IDUs and sex workers. But like his counterparts in Yunnan, he feels the pressure mounting.

Guangxi did not diagnose a case of HIV in an IDU until 1996. But for the past 3 years, says Chen, the number of HIV infections has risen faster in Guangxi than in any other province. Chen’s incidence data are among the best in China: In collaboration with Johns Hopkins University, which hopes to stage AIDS vaccine tests here, they have followed a cohort of more than 400 uninfected IDUs for 5 years and seen an annual new infection rate of 5%.

Given Guangxi’s large number of IDUs, Chen questions whether the province could ever afford to supply free needles to all of them. And he says the harsh laws against drug users make their job more difficult.

In Pingxiang, a town a few kilometers from the Vietnamese border that also has a flourishing sex trade, the local CDC has cut a deal with police not to harass IDUs who seek help. That in itself is a remarkable change: Li Ronghe, a 25-year-old IDU the CDC works with, says police have put him in a compulsory rehabilitation camp nine times.

Li, a user for 10 years who imports Vietnamese goods to China, speaks frankly

about the limits of AIDS education. Most IDUs have learned that sharing needles can spread HIV, he says. But late at night or in a rural area where clean needles don’t exist, things change. “We have to share,” says Li.

In Ningming, an hour’s drive from Pingxiang, the local health bureau since October 2002 has run a massive needle exchange with the cooperation of local police. Supported by the Ford Foundation and Abt Associates in Boston, Massachusetts, local CDC officials have hired IDUs as peer educators to collect used needles and distribute new ones. A sister program operates just across the border in Vietnam (*Science*, 19 September 2003, p. 1657). So far, the Ningming project has handed out 200,000 needles. According to lo-



**Cut above.** Residents at Daytop’s progressive drug treatment program in Kunming move through a hierarchy of jobs as part of the rehab program.

cal CDC surveys of 300 IDUs, the percentage who report sharing needles has dropped from 70% to less than 10%. “My biggest hope now is that they’ll provide methadone maintenance,” says IDU Nong Yanling, a peer educator with the program.

#### Future is now

Methadone and needle exchange play central roles in “harm reduction,” which treats addiction as a disease and makes preventing HIV’s spread the goal. China, to date, has hardly embraced the strategy: It has more than 700 “compulsory rehabilitation centers,” which incarcerate IDUs “without trial or any other semblance of due process,” said Human Rights Watch in a September 2003 report. Li, speaking from personal experience, says the camps are of “no use.”

At the Pingxiang camp, IDUs go through detoxification and then a rigorous program of outdoor activity and education, says Zhuang Huande, director of the center. Zhuang has no problem with methadone, but needle ex-

change contradicts drug laws, he says. “After so many lessons we’ve received from the CDC, I’m confused myself,” says Zhuang. He also subscribes to the oft-repeated national goal of eradicating drugs. “To eliminate drug use is a much more effective way to eliminate HIV spreading than needle exchange,” he says. “It’s a fundamental solution.”

Harm reduction has, however, secured a foothold in Kunming, Yunnan’s capital. Psychiatrist Yang Maobin started a voluntary treatment program called Daytop in 1996 that relies on methadone, needle exchange, and other harm-reduction tools. “At that time, the doctors here knew nothing about drug addiction,” says Yang, who had become frustrated working in government-run detoxification

centers. Today, Daytop, which is modeled on a program in New York, houses 100 people, 20% of whom are infected with HIV. The China-UK AIDS Prevention and Care Project—a \$28 million effort by the U.K. Department for International Development—funds Daytop, but it also charges residents nominal fees.

Little distinguishes Daytop from similar programs in more developed countries—which is why it’s so remarkable in China. Daytop has a hierarchy of jobs from cooking and cutting hair to running the organization. Graduates move to a

reentry center, where they wash and repair cars to learn basic work skills before leaving. Some 2000 people have passed through, and although 70% start using again, Yang says only 40% of those who complete the 18-month program relapse.

Wang Xiaoguan, Daytop’s vice director, is one of the success stories. After graduating from university in 1989, Wang found an accounting job and opened a restaurant. He soon started using heroin and, after a few years, lost both jobs. Wang, 34, sometimes shared needles, only learning of the dangers in 1998 at Daytop. “There was really a lack of education then,” says Wang, who remains HIV-negative.

Wang urges his government to do away with compulsory camps. “They’re like jails,” he says. “They are jails.” He also thinks the Daytop model already has proven that harm reduction works in China and questions the need for so many pilot programs. And although he appreciates the government’s rapid changes, he says, “it’s not fast enough.”

—JON COHEN