The TIJUANA RIVER CANAL, A CONCRETE edifice that abuts the Mexican side of the border here, has a sidewalk along its upper ridge that sports a view of what to many locals represents both heaven and hell. Heaven is the opulent Land of Plenty, which stretches as far as the eye can see to the north. Hell is immediately below in the canal’s basin—a fetid, garbage-strewn horror that has become home to heroin addicts, many of them deportees from the United States, some infected with HIV.

Breaching borders. Steffanie Strathdee left and Thomas Patterson track regional spread of HIV.

Men gather in clumps along the sidewalk, putting lighters to spoons that hold the local heroin known as black tar, burning off the impurities in this version of the opiate. They cook and inject openly, despite the border guards on the San Diego side, who, stationed on a hill in an SUV to deter fence jumpers, watch them through binoculars. Some of the heavily tattooed men have ink on their faces, and several wear syringes balanced behind their ears like pencils. But when they see Susi Leal, a health promoter who stopped shooting up herself 12 years ago, they smile wide, and there is nothing unsettling about them at all. Leal works with a U.S.-government-funded HIV/AIDS research study in which these men are participating, and it has shown how readily the virus makes a mockery of the border and creates one regional epidemic.

The 8-year-old project, El Cuete—slang for both syringe and being high—is run by a binational team of researchers from the University of California, San Diego (UCSD), located less than 50 km north. “The epidemics of HIV, TB, and syphilis are linked between San Diego and Tijuana,” says UCSD epidemiologist Steffanie Strathdee, principal investigator of the project. “You can’t just draw the line and say it’s their problem, it’s not ours.”

Strathdee and her husband, UCSD psychologist Thomas Patterson, have published a flood of studies that take a cross-border perspective on HIV examining the histories and viral status of 3000 injecting drug users (IDUs) in Tijuana, including the canal dwell-

ers. A second, overlapping study they run has done similar work with more than 1000 sex workers in Tijuana. And Patterson conducted a third study that has involved 800 men who buy sex in Tijuana, half of whom live in San Diego. A common theme in all of their studies—which they review in a policy forum that they co-authored for the June Annals of Epidemiology—is that many of these people, by force or free will, go back and forth between Tijuana and southern California, sometimes carrying the virus with them.

Their studies have shown that more than half the male IDUs in Tijuana were deported from the United States. In the canal, several men say they went to America as toddlers and were kicked out in their 20s or 30s after being arrested, most on drug-related charges. “I think more in English than in Spanish,” explains one man, who says he was a San Diego resident for 28 of his 30 years. Another says he was a pastor in Los Angeles for 10 years. Most feel the pull of children and wives back in California; several have multiple deportations on their records. A comparison of male IDUs who had been deported to those who had not found a fourfold higher risk of HIV infection among the deportees, underscoring that mobility and the attendant social upheaval puts people at risk.

Patterson says deported women engage in higher risk behavior, too, including sex work. “They get down here in the middle of the night and don’t have any language skills or context to work,” he says.

Strathdee and Patterson have found that fewer than half of the sex workers and IDUs in Tijuana had been tested for HIV before they joined one of their studies—a huge missed opportunity both to treat and prevent spread (see p. 168). Female IDUs who sold sex and had a sexually transmitted infection such as syphilis have the highest prevalence documented, 12%, which dropped to 10% if they only injected drugs. IDU sex workers said they shot up with clients more than half the time. Patterson’s study of male clients from San Diego and Tijuana found a 5% prevalence in both groups. Interestingly, in the largest study they did of male IDUs, only 4% of them tested positive for HIV which is high, but not for IDUs. (They suspect that female IDUs in their study had much higher prevalence primarily because they have higher syphilis rates.)

Although sharing needles is the norm in Tijuana, Daniel Ciccarone, a clinician and researcher at University of California, San Francisco, notes in the May 2009 International Journal of Drug Policy that users of black tar heroin—the most popular form of the drug throughout the western United States—have a lower prevalence of HIV than that of those who shoot white or brown versions. He contends that the main factor likely slowing HIV’s spread is that black tar gums up needles and syringes, which frequently have to be cleaned before reuse or thrown out.

SAN DIEGO, CALIFORNIA, AND TIJUANA, MEXICO

My Virus Is Your Virus

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Strathdee notes that there were more than 40 million legal crossings from Tijuana to San Diego last year—it is the world's busiest land border—and she says the two countries have to stop pointing fingers at each other when it comes to HIV/AIDS. She hopes her team's research will help end the “blame game” and lead both countries to develop a more coordinated approach for treatment and prevention. “We're absolutely sitting on a time bomb,” Strathdee says. “All of these people are going to fall through the cracks, and it's going to blow back to both countries. If we don't do something soon, it's really going to get out of control.” —JON COHEN