

## Research Team

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## Background

The Urban Health Study (UHS), at the University of California, San Francisco (UCSF), is the longest-running longitudinal study of street-recruited injection drug users (IDUs) in North America. Since 1985, UHS has collected interview data and serum specimens from over 12,000 individuals in over 27,000 sessions in nine San Francisco Bay Area neighborhoods. UHS currently interviews more than 1,000 IDUs every six months in San Francisco, Oakland, and Richmond. Combining research with services, UHS also provides community-based HIV testing, counseling, risk assessment, and guidance in harm reduction to IDUs. UHS is part of the UCSF Department of Family and Community Medicine, the Institute for Health Policy Studies, the Center for Health and Community, and the AIDS Research Institute.

UHS is committed to research and intervention to improve the health of drug users. Studies to date have focused on primary and secondary prevention of HIV infection and other infectious and non-infectious health conditions. UHS explores the effectiveness of harm reduction strategies and evaluates methods to improve them.

UHS has a tradition of innovation, from being the first to recruit IDUs from outside of treatment settings, to pioneering and evaluating street-based outreach, bleach distribution, and syringe exchange, to developing street-based models for integrated medical services.

### How is UHS Different?

Clients benefit from the experience and wisdom gained by the UHS research team over more than 15 years of uninterrupted field work with IDUs in their communities. The program has built strong rapport with substance-using communities through its consistent provision of reliable and respectful services. Before embarking on any new study, UHS staff members ask: How will individual clients benefit from participating in the research and how will the IDU community benefit from the knowledge gained in the study?

UHS uses the following strategies to reach high-risk IDUs:

- Easily accessible community field sites

- Same-day appointments
- Non-judgmental staff and service
- Client-centered, harm reduction focus
- Integrated street-based care and services
- Excellent phlebotomists
- Cash incentives

Counseling, testing, and data collection are conducted at community-based field sites in each neighborhood, such as churches and single-room-occupancy hotels, that are comfortable venues for drug users to enter. A large team of field staff is mobilized to provide services at each site, including intake workers, counselors, a phlebotomy team, and security staff. Working from this platform, UHS conducts an array of additional programs and studies, including hepatitis testing and vaccinations, abscess care, overdose prevention training, and peer interventions.

Using these methods, UHS succeeds in reaching a very diverse population of IDUs, and has achieved high rates of participation and follow-up. For example, in the first six months of 2000, 91% of clients tested for HIV returned for their test results.

## Urban Health Study Mission Statement

The Urban Health Study conducts qualitative and quantitative research on factors affecting the health of persons who use drugs. We develop strategies for expanding the options and opportunities for drug users to improve their health and well-being. We strive to conduct rigorous and compassionate science—action-research at the social and personal nexus of harm. We advocate for this population in the public policy arena, making a bridge between drug user and policy makers. We relay the reality of drug using populations to the scientific debate, while bringing information back to users and making accessible the latest findings that might impact their health. We improve access to education, health care, treatment, and other services available to drug users.

## Research

UHS research goals are to:

- Advance understanding of factors related to health and illness among IDUs in the San Francisco Bay Area, and
- Develop and evaluate policies and interventions to improve the health of IDUs and their communities.

The following examples reflect the diversity of UHS research:

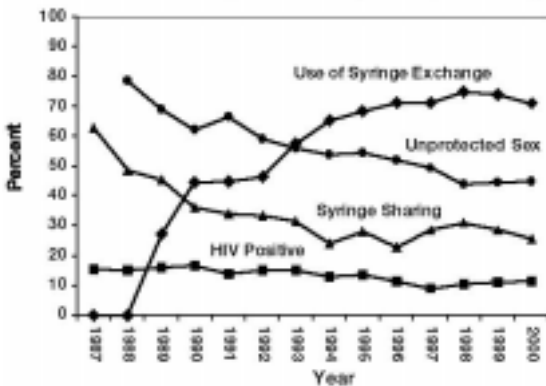
### Epidemiological

- HIV Epidemiology among IDUs: Incidence, Prevalence, Trends, and Risk Factors
- Incidence, Prevalence, and Risk Factors for Hepatitis B and Hepatitis C Virus Infection among IDUs
- Prevalence and Risk Factors for Abscesses and Cellulitis among IDUs

### Clinical

- Natural History of Hepatitis C in IDUs
- Hepatitis B Infection Status of IDUs with Isolated Anti-Core Antibody

Characteristics of Street-Recruited Injection Drug Users, San Francisco, 1987-2000 (N = 17,308 visits)



Social norms around syringe sharing changed dramatically in the late 1980s after the institution of harm reduction interventions, including needle exchange, and the prevalence of HIV remained stable. Sexual risk behavior has been harder to change. Data from the East Bay show similar findings (N=9,460 visits).

### Behavioral

- Trends and Predictors of Injection and Sexual Risk Behavior: Syringe Sharing, Paraphernalia Sharing, Giving and Receiving Injections, Unprotected Sex
- Attitudes and Experiences with Drug Overdoses and Take-Home Naloxone among Medical Providers and IDUs

### Intervention

- Peer Intervention with Secondary Syringe Exchange Providers
- Adherence to Isoniazid Preventive Therapy for

Tuberculosis Infection among Street-Recruited IDUs: A Randomized Trial of Cash Incentives vs. Outreach

- Adherence to Hepatitis B Vaccination among Street-Recruited IDUs: A Randomized Trial of Accelerated vs. Conventional Dosing Schedules
- Adherence to Combination Antiretroviral Therapy among Urban Poor: Evaluation of a New Program

- Take-Home Naloxone: A Pilot Heroin Overdose Prevention Program

### Cost Analyses

- Cost Effectiveness of Incentive-Based Adherence Programs for Tuberculosis Preventive Therapy and Hepatitis B Vaccination

### Policy

- Social Impact of Withdrawal of Supplemental Security Income Benefits for Drug and Alcohol Addiction on IDUs in the San Francisco Bay Area
- Diffusion of Benefits from Syringe Exchange Programs
- Impact of California State Assembly Bill 136 Legalizing Syringe Exchange

### Basic Biological

- Genetic Susceptibility to Bloodborne Viral Infections among IDUs
- Cellular Immunity to Hepatitis B and C Viruses among Highly Exposed, Uninfected IDUs
- Hepatitis C Viral Genetic Diversity and Multigenotype Superinfection
- HIV-1 Superinfection among IDUs
- Molecular Epidemiology of Drug-Resistant *Staphylococcus aureus* Dissemination

## Selected Key Findings

- Syringe exchange programs enable IDUs to make substantial reductions in their HIV risk behaviors.
- Fear of being arrested for possession of drug paraphernalia keeps many IDUs from practicing safe injection.
- New HIV infections are occurring at a rate of about 1% per year among IDUs in San Francisco, and are mainly associated with sexual risk behaviors.
- The rate of acquiring HIV infection is reduced by 44% among IDUs who have participated in the Urban Health Study, declining by 26% each subsequent time they participate. This translates into 21 HIV infections averted per year.
- Most HIV-infected IDUs in San Francisco are not taking protease inhibitors.
- More than 90% of IDUs have been infected with hepatitis C virus.
- Duration of injection drug use affects the likelihood of hepatitis C virus infection, but not viral persistence.

- Soft tissue infections are a significant cause of morbidity among IDUs in San Francisco. Abscesses account for 8% of admissions to San Francisco General Hospital (at a cost of \$9.9 million per year), and 19% of IDUs have evidence of an active soft tissue infection at any given time.
- Nearly half of IDUs have experienced at least one non-fatal heroin overdose.
- IDUs are more likely to overdose after getting out of jail or completing a 21-day methadone detox program.
- More than half of street-recruited IDUs in San Francisco are now homeless.
- High rates of adherence to medical interventions, such as tuberculosis preventive therapy and hepatitis B vaccination, can be achieved by IDUs in community-based programs using cash incentives.
- Secondary syringe exchange is a naturally occurring practice among IDUs. IDUs get syringes from exchange programs and provide them to other IDUs with whom they have long-standing relationships, in order to help them and prevent disease transmission. These secondary exchange providers can readily be mobilized to provide prevention education and support for risk reduction to other IDUs.

## Lessons Learned

### HIV Infection

- When given the means to reduce their risk, IDUs will readily adopt healthier behaviors. Syringe sharing among IDUs in San Francisco, Oakland, and Richmond declined dramatically after the institution of street-based outreach, testing and counseling, and syringe exchange programs.
- Sexual risk behavior has been slower and more difficult to change than injection behavior.

### Adherence

- When programs are structured to account for clients' life circumstances and offer cash incentives, IDUs can achieve high rates of adherence to complex medical regimens.

### Working with IDUs

- IDUs can readily be reached and retained in programs offering respectful, reliable, street-based services.

### Secondary Syringe Exchange

- IDUs can take responsibility for their own health and the health of the community. IDUs

who provide new sterile syringes to other IDUs are motivated to help prevent the spread of disease among their peers and are already acting on that motivation.

- IDUs can be effective in transmitting disease prevention messages to their peers. Secondary exchange providers can be recruited as peer educators, and they can and will help develop and pass along risk reduction messages to their peers.

### Overdose

- IDUs can be trained to save lives by preventing overdoses, performing rescue breathing and CPR, calling 911, and administering naloxone.

## Recommendations

- IDUs suffer a disproportionate burden of health problems. They need access to respectful, non-judgmental health care, treatment for substance use, and social services. Integrated street-based harm reduction services are an effective model.
- Injection paraphernalia laws should be repealed.
- Syringe exchange programs and legal access to syringes should be expanded.
- Treatment for substance use should be available and accessible to all drug users desiring it.
- To control HIV and hepatitis, treatment and vaccine regimens that will be effective among persons who use illicit drugs must be developed, tested, and implemented. IDUs should not be excluded from clinical trials of treatments or vaccines and should not be barred from receiving them when they are found to be effective.
- Public health approaches to substance use, especially those employing harm reduction methodology, have been shown to be effective when criminal justice approaches have failed.

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### For More Information

Please visit the UHS web site at <http://itsa.ucsf.edu/~uhs/>. For further details on current UHS studies, please contact Cindy Changar, [cinuhs@itsa.ucsf.edu](mailto:cinuhs@itsa.ucsf.edu) or 415/476-3400.

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