

UFO Studies

HCV in young injectors in San Francisco

UFO STUDY



Kimberly Page, PH.D., MPH
Associate Professor



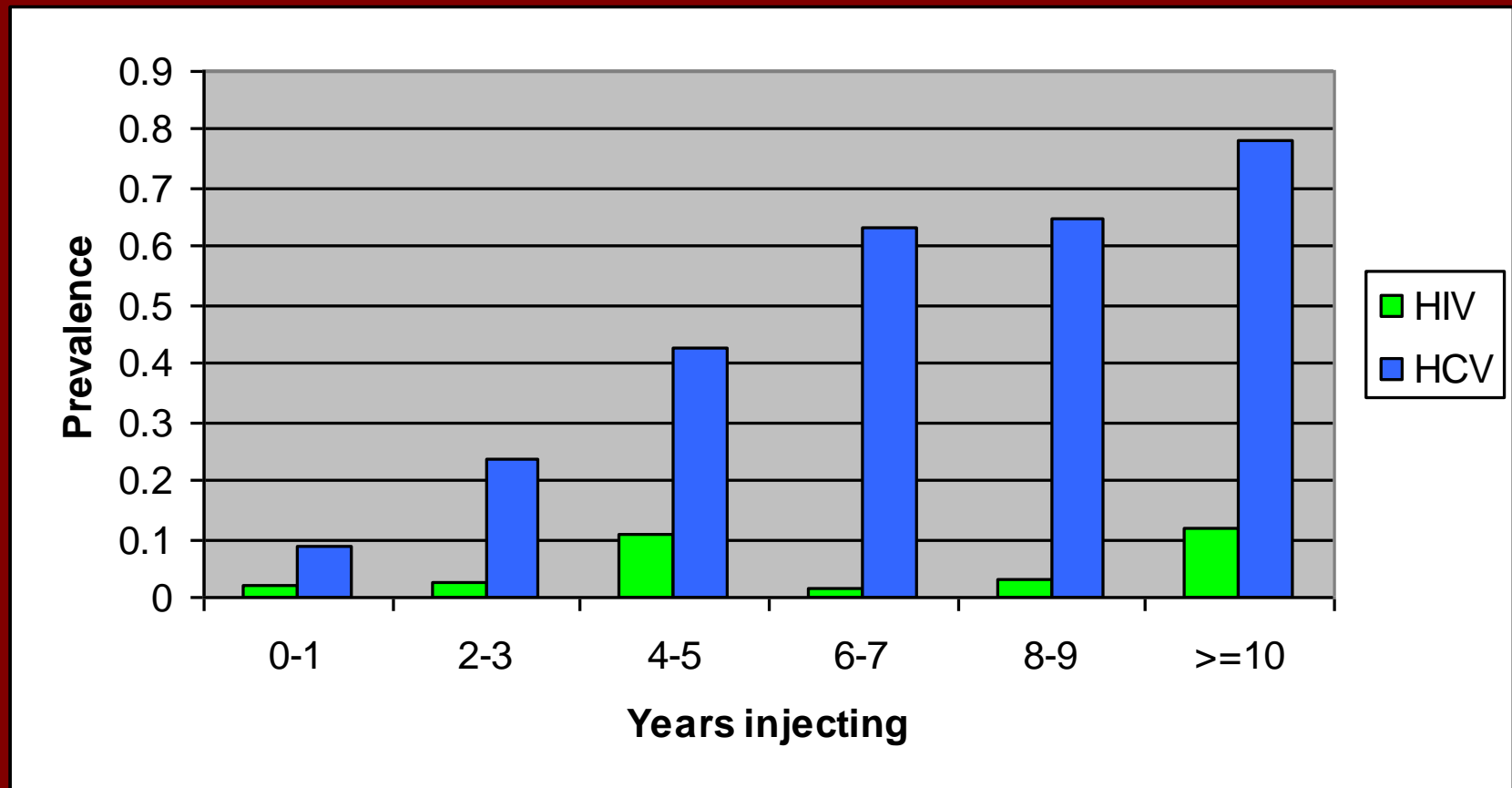
HCV prevalence among some populations in California

Population	HCV infection
Blood donors	0.05%
Women (18-29 yrs; low income)	2.5%
Men (18-35; low income)	0.4%
Homosexual men (SF) 1992	4.6%
Veterans (males)	18%
Male prison inmates (intake)	32.7%
Female prison inmates (intake)	38.3%
Parolees (recently released)	57.3%
Prison Staff	2.1%
Injection drug users (<30 yrs)	45%
Injection drug users (>=30yrs)	90%

HCV prevalence among some populations in San Francisco

Population	HCV infection
Women (18-29 yrs; low income)	2.5%
Men (18-35; low income)	0.4%
Homosexual men (SFMHS 1992)	4.6%
MSM repeat testing at HIV C&T (1997-2000)	2.5%
HIV-infected MSM (PHP)	35%
HIV-infected urban homeless	70%
Injection drug users (<30 yrs)	45%
Injection drug users (>=30yrs)	90%

HIV and HCV infection by years injecting among young IDU in San Francisco



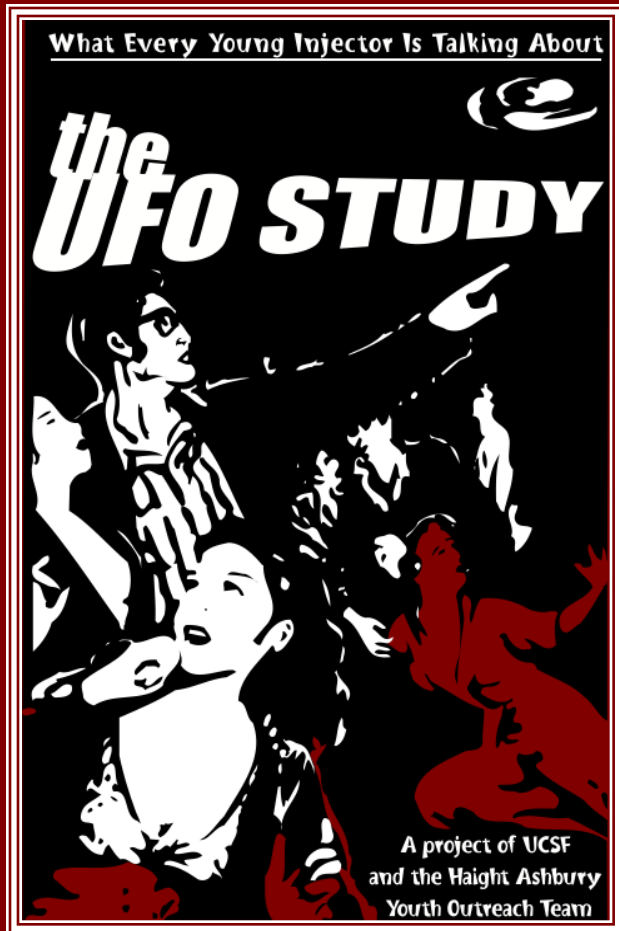
Injecting Drug Use and HCV Transmission

- **Highly efficient**
 - Contamination of drug paraphernalia, not just needles and syringes
- **Rapidly acquired after initiation**
 - 30% prevalence after 3 years
 - >50% after 5 years
- **Up to ten times more common than HIV**



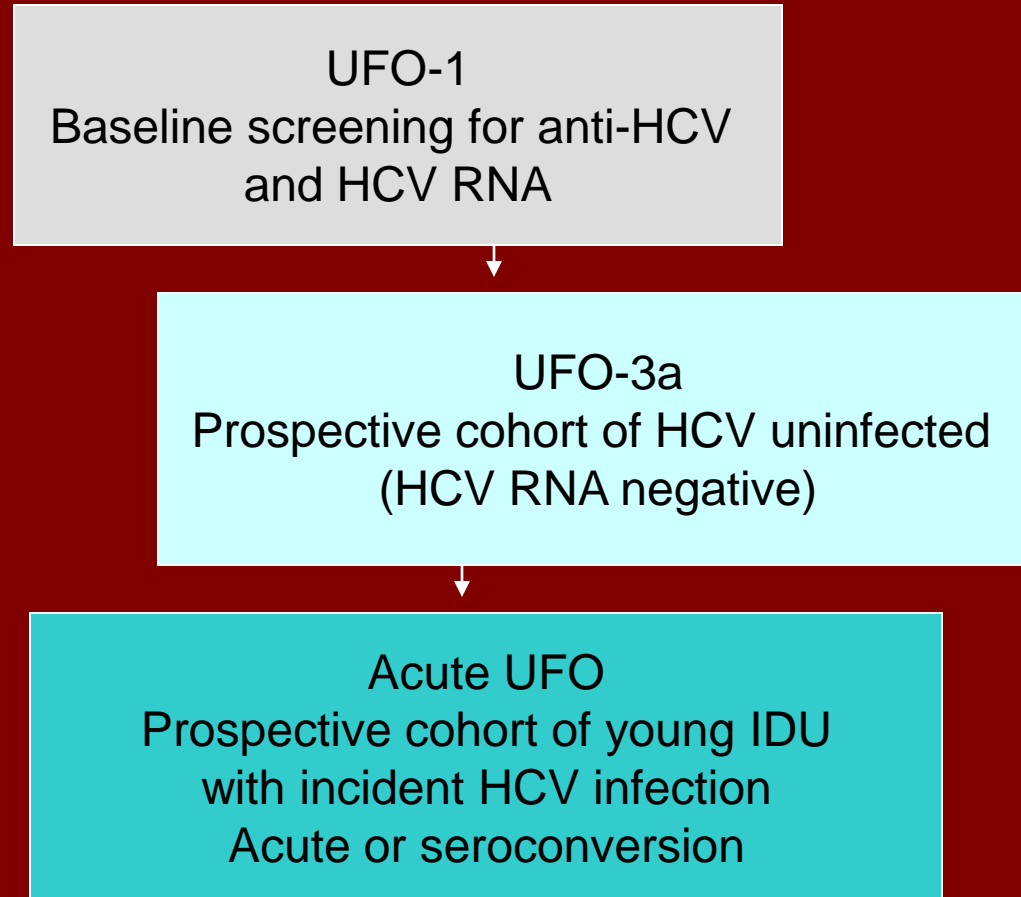
The **UFO** Studies:

community-based studies of HIV, HBV and HCV infections, health consequences of drug use, vaccine feasibility and adherence in young adult injectors in San Francisco since 1997



- ◆ HIV
- ◆ Hepatitis C virus (HCV)
- ◆ Hepatitis B virus (HBV)
- ◆ Co-infections
- ◆ Risk behaviors
- ◆ HBV immunizations
- ◆ Sexually transmitted infections
- ◆ Heroin-related overdose
- ◆ Intergenerational drug use
- ◆ IDU cessation and relapse
- ◆ Incarceration
- ◆ MSM-IDU

UFO Studies



UFO Acute HCV: study questions

UFO-1
Baseline screening for anti-HCV
and HCV RNA

UFO-3a
Prospective cohort of HCV uninfected
(HCV RNA negative)

Vaccine readiness

Acute UFO
Prospective cohort of young IDU
with incident HCV infection
Acute or seroconversion

Transmission in IDU
partnerships

Differences:
Males vs. females

Epidemiology and
Natural history

Genetic factors;
Especially assoc.
With lipids

Immune correlates
Of infection

Acute Treatment Candidacy

UFO Acute HCV: study questions

What are the differences in epidemiology and natural history of HCV incidence, reinfection, and reclearance between males and females? Are females less susceptible? Develop better protection?

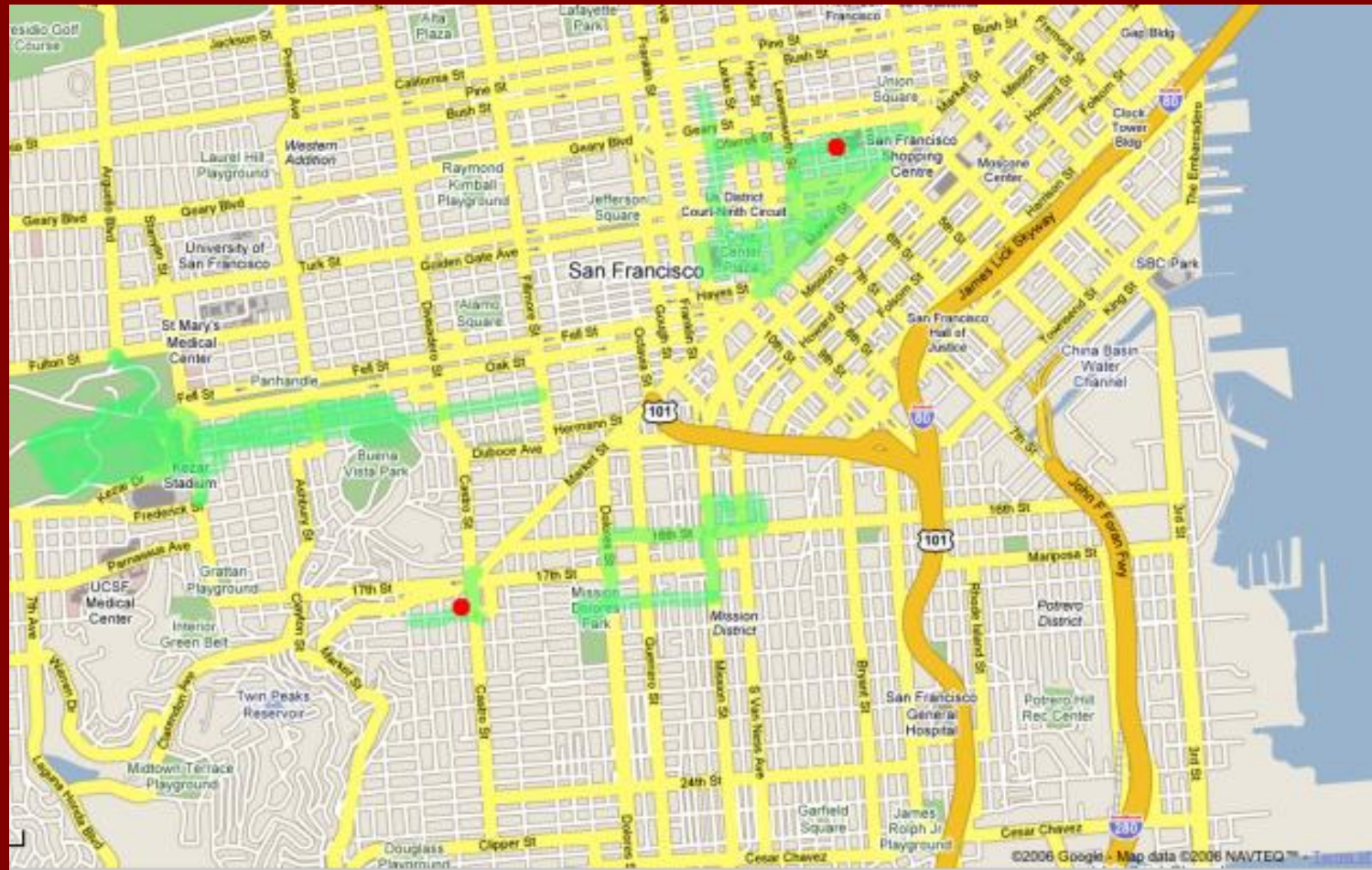
Transmission of HCV in IDU Partnerships: is HCV being transmitted more readily during Acute infection, when viremia is highest?

What are immune correlates of clearance and Reclearance of HCV infection?

Are there genetic factors, especially those associated with lipids, that are associated with the outcome of HCV infection: clearance vs. chronic

Vaccine readiness

Map of SF: sites, recruitment and outreach



UFO IDU

- Median age: 22 (IQR 20, 25)
- Under half (45.9%) had completed high-school
- Two-thirds (65.2%) male
- Most (76.8%) are white
- Median number of years injecting was 3.7 (IQR 1.3, 6.0)
- Median number of days injected in the past month was 20 (IQR 7,30)

Selected recent findings

- Incidence, clearance and reinfection
 - Continued high HCV incidence: 26.7/100 PYO (21.5-31.6)
 - Women are more likely to resolve HCV than men: 21% of young IDU clear infection, most within 6 months. 35% of women clear compared to 12% of men
 - High rate of HCV reinfection: 24.6/100 PYO, but also all re-cleared.
 - Page et al, JID 2009
- IDU cessation and relapse: 28% cease IDU, but 50% resumed; cessation is associated with participating in drug treatment and lower frequency of IDU. Younger age was associated with relapse.
 - Evans et al, Substance use and misuse 2009

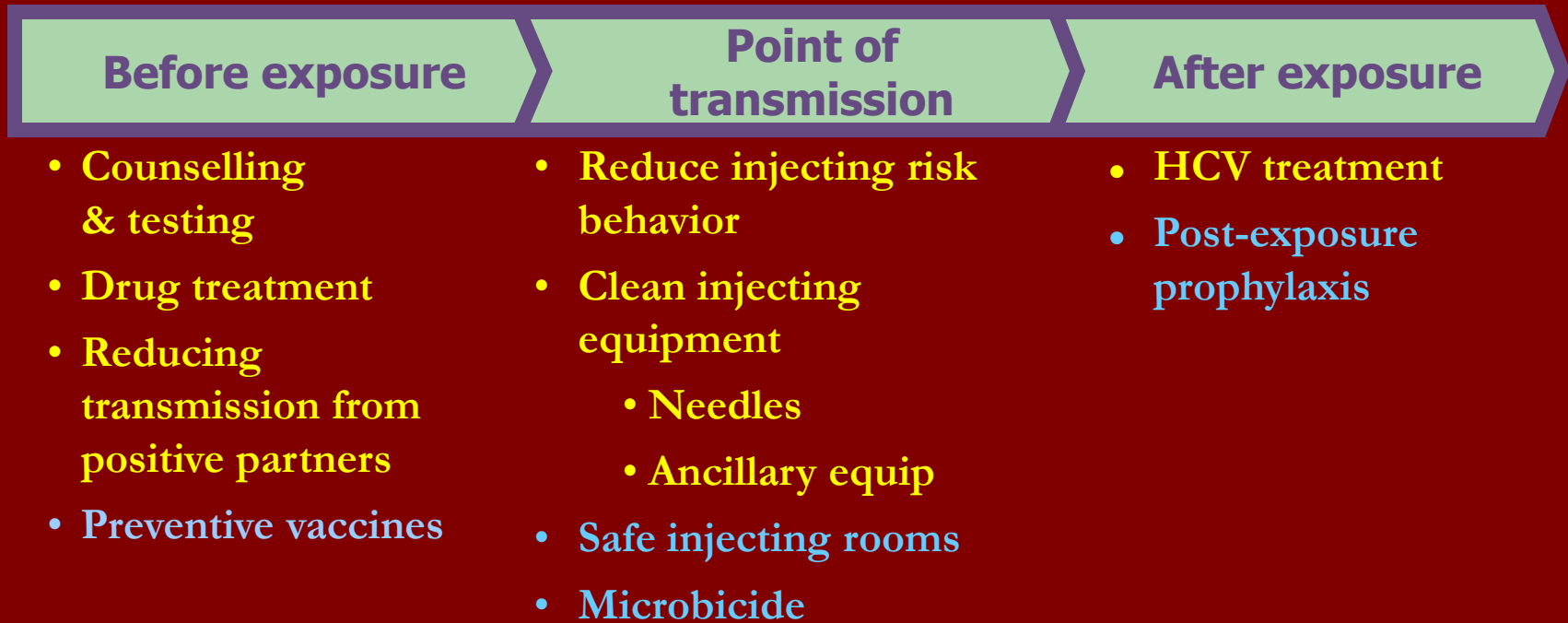
Selected recent findings

- Behavior change after HCV infection: alcohol consumption, non-injection drugs immediately after disclosure, however, results were not sustained over time.
 - Tsui et al, Drug & Alc Dep 2009
- Traveling young IDU are at high risk for HCV: alcohol use, poly-substance use, sexual and IDU partners, sharing needles, drug preparation equip, backloading, pooling money, and HCV infection
 - Hahn et al, Drug & Alc Dep 2007

Selected recent findings

- 88% of young IDU would participate in HCV vaccine trials: WTP decreased with increasing trial duration: 67% would be in a 1 year trial, but only 43% in a 4 year trial. Knowledge of vaccine trial concepts was low. More education is needed to ensure understanding of trial concepts, and protocols to maximize participation.
 - Levy et al, Vaccine 2010
- Perception of injecting partner's HCV status is associated with risk behavior: Among IDU partners, 23% report receptive needle sharing (RNS) and 64% ancillary equipment sharing (AES - in the absence of RNS) in last 30 days. RNS was significantly lower in relationships in which the partner was perceived as HCV positive. AES was lower in IDU who did not know their IDU partner's HCV status. As perception of one's partner's HCV status is associated with decreased risk, increased HCV testing and partner disclosure may be warranted.
 - Hahn et al, Addiction 2010

What's in the 'tool box' for HCV prevention for IDU?





How you can help

Do you..

- Work with young adults at risk for HCV?
- Know or work with young adults who might benefit from HAV/HBV vaccines?
- Know or work with young adults who might benefit from HCV education?
- Would your program benefit from services specific to young IDU?
- Finally, do you offer STI screening and/or Mental health services?

- **Kimberly Page:** KPage@psg.ucsf.edu
- **Alice Asher:** Alice.Asher@ucsf.edu

