Estimating the Number of Injection Drug Users in the United States to Calculate National Rates of HIV Infection

Amy Lansky, Teresa Finlayson, Christopher Johnson, Deborah Holtzman, Cyprian Wejnert, Andrew Mitsch, Deborah Gust, Robert T. Chen, Yuko Mizuno, Nicole Crepaz

National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, Centers for Disease Control and Prevention

Background

❑ **In the United States, injection drug users (IDUs) accounted for approximately 9% of all new HIV infections and 16% of persons living with HIV infection in 2009.**

❑ **The disparity in disease rates among IDUs compared to their population size has been difficult to quantify, as no census estimates exist for the number of IDUs in the U.S.**

Objectives

- To estimate the number and proportion of persons in the U.S. who are IDUs.

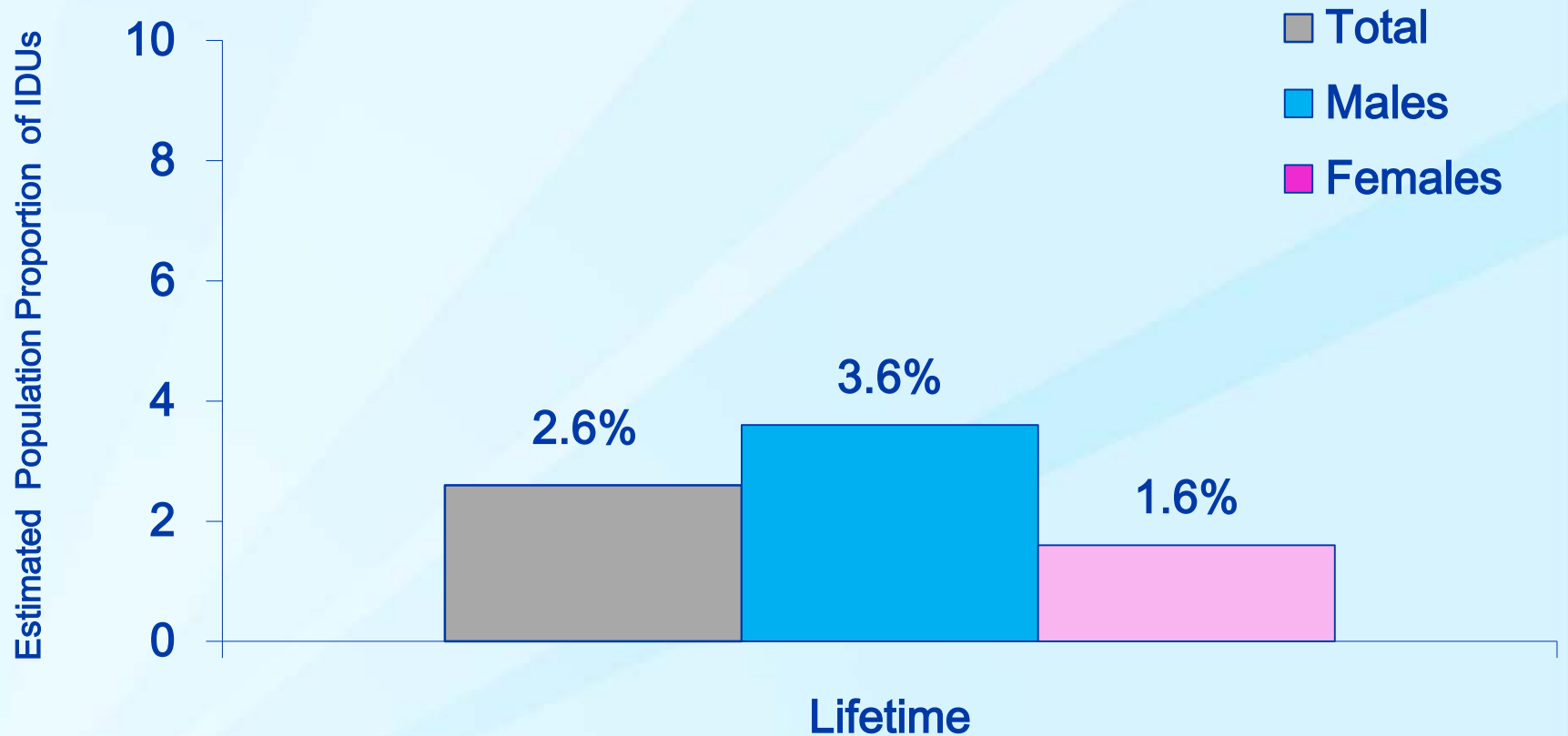- To calculate HIV diagnosis and prevalence rates for IDUs.

Methods

- **Systematic literature search**

- **Meta-analysis to combine data for each recall period to create population proportion estimate**

- **Applied lifetime population proportion estimates to census data to produce population size estimates**

- **Lifetime population size estimate used to calculate HIV rates among IDUs**
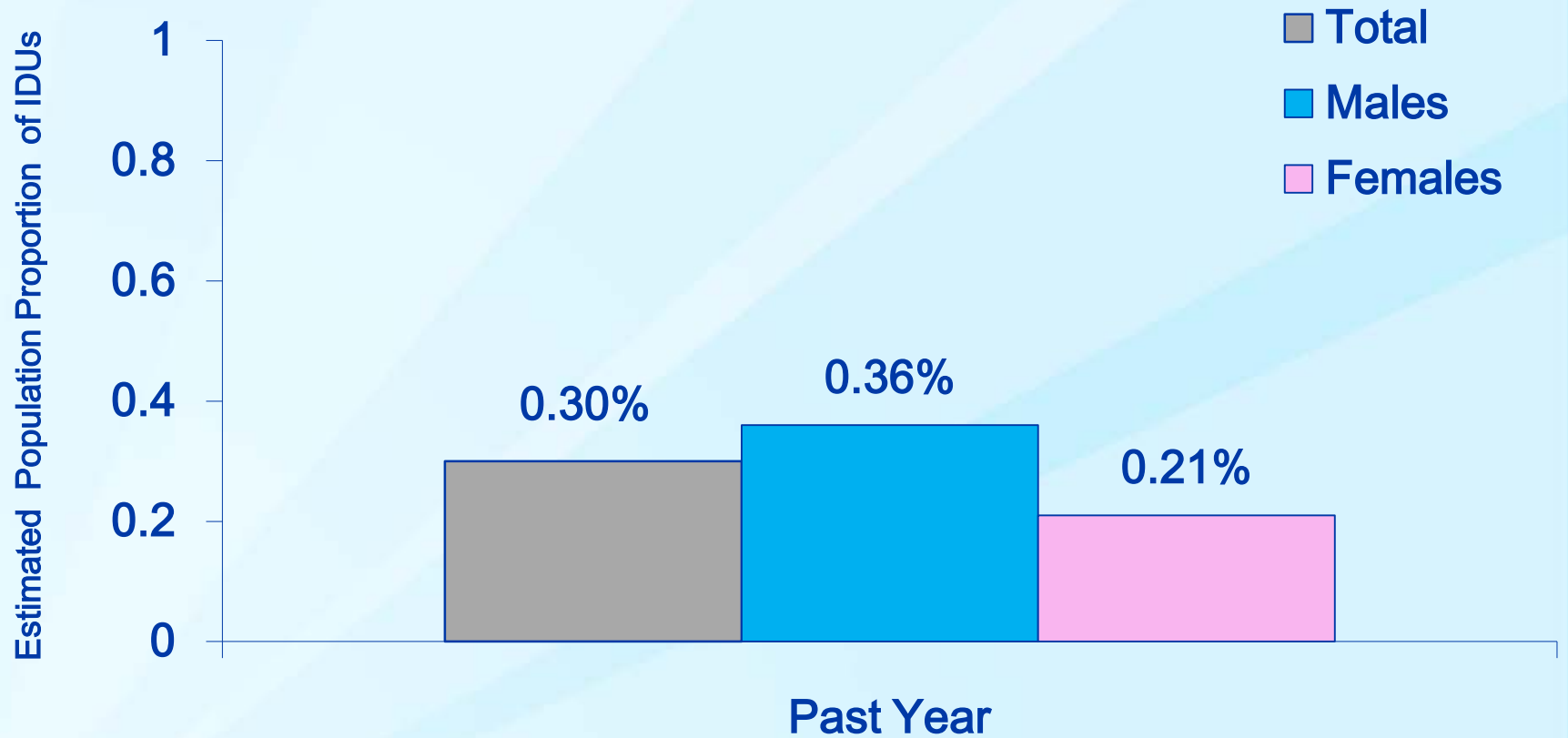
Data Sources for Meta-Analysis

Survey (Data Year)	Ever/ Lifetime IDU	Past Year IDU	ACASI	Age Range of Eligible Participants	Website
NHANES (1999-2008)	✓	✓	✓	12-69	http://www.cdc.gov/nchs/nhanes.htm
NSFG (2002, 2006-2008)		✓	✓	15-44	http://www.cdc.gov/nchs/nsfg.htm
GSS (2000-2008)	✓		CAPI	≥ 18	http://www3.norc.org/GSS+Website/
NSDUH (2000-2009)	✓	✓	✓	≥12	http://oas.samhsa.gov/nhsda.htm

All surveys used complex, multi-stage sampling design to select a household-based sample.
NHANES: National Health and Nutrition Examination Survey; NSFG: National Survey of Family Growth; GSS: General Social Survey; NSDUH: National Survey of Drug Use and Health

Meta-Analysis Results: Estimated Proportion of Lifetime (ever) IDU, by Sex

Meta-Analysis Results:
Estimated Proportion of Past Year IDU, by Sex

Estimated proportion of persons in the United States who are injection drug users (IDUs)

	% IDUs	(95% CI)
Race/Ethnicity		
Black/African American	2.5	(1.3 – 3.7)
White	2.7	(2.1 – 3.3)
Hispanic/Latino	1.6	(1.0 – 2.2)
Other	1.7	(1.0 – 2.4)
Age Group (years)		
18 - 24	1.3	(0.9 – 1.6)
25 - 34	2.4	(1.4 – 3.4)
35 - 49	3.0	(2.2 – 3.9)
50 - 64	2.5	1.7 – 3.3)
Total	**2.6**	**(1.8 – 3.3)**

CI = Confidence Interval

Estimated number, rate, and rate ratio of <u>diagnoses of HIV infection</u> among injecting drug users (IDUs), 2009

	Est. No. IDU cases*	Rate†	95% CI		Rate Ratio	95% CI	
Race/ethnicity							
Black	2159	330	224	624	14.7	7.6	34.4
White	848	22	18	29	1.0		
Hispanic/Latino	826	213	156	334	9.5	5.3	18.5
Other††	100	62	43	109	2.8	1.5	6.0
Age at diagnosis							
13-24	323	63	50	87	1.0		
25-34	731	94	67	160	1.5	0.8	3.2
35-49	1743	113	89	155	1.8	1.0	3.1
50-64	1135	60	45	88	0.9	0.5	1.8
Total	3,933	77	59	111			

* From National HIV Surveillance System
† Per 100,000 IDUs
†† Other race includes American Indian/Alaska Native, Native Hawaiian/Other Pacific Islander, Unknown race/ethnicity, and multiple races

Estimated number, rate, and rate ratio of injecting drug users (IDUs) <u>living with a diagnosis of HIV infection</u>, 2008

	Est. No. IDU cases*	Rate†	95% CI		Rate Ratio	95% CI	
Race/ethnicity							
Black	67,499	10,425	7,085	19,719	16.0	8.3	37.5
White	24,537	651	525	855	1.0		
Hispanic/Latino	28,042	7,446	5,460	11,704	11.4	6.4	22.3
Other††	2,760	1,762	1,232	3,096	2.7	1.4	5.9
Age at diagnosis							
13-24	1,160	228	180	311	1.0		
25-34	8,484	1,111	789	1,878	4.9	2.5	10.4
35-49	57,377	3,691	2,912	5,039	16.2	9.4	28.0
50-64	55,814	3,011	2,276	4,447	13.2	7.3	24.7
Total	**122,838**	**2,429**	**1,859**	**3,505**			

* From National HIV Surveillance System

† Per 100,000 IDUs

†† Other race includes American Indian/Alaska Native, Native Hawaiian/Other Pacific Islander, Unknown race/ethnicity, and multiple races

Conclusions

❑ **We quantified the disproportionate impact of HIV among IDUs nationally, overall and by sex, race, and age.**

❑ **The estimated number of IDUs in the U.S. and the burden of disease among IDUs are important for planning and optimizing the allocation of resources to programs serving disproportionately affected populations and addressing health inequities.**

❑ **Rates are important additions to cost effectiveness and other data used to make critical decisions about resources for prevention of HIV and other bloodborne infections among IDUs in the U.S.**

Acknowledgments

❑ **Participants in the webinar consultation *Population Estimates of Injection Drug Users in the U.S.*, 2010**

❑ **Dan Lentine, CDC, for organizational support.**

Contact Information

Amy Lansky, PhD

Division of HIV/AIDS Prevention, CDC

Email: Alansky@cdc.gov

Phone: 404.639.5200

The findings and conclusions in this presentation are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.