



*The Epidemiology of
HIV/HCV
Co-infection in
Southeast Michigan*

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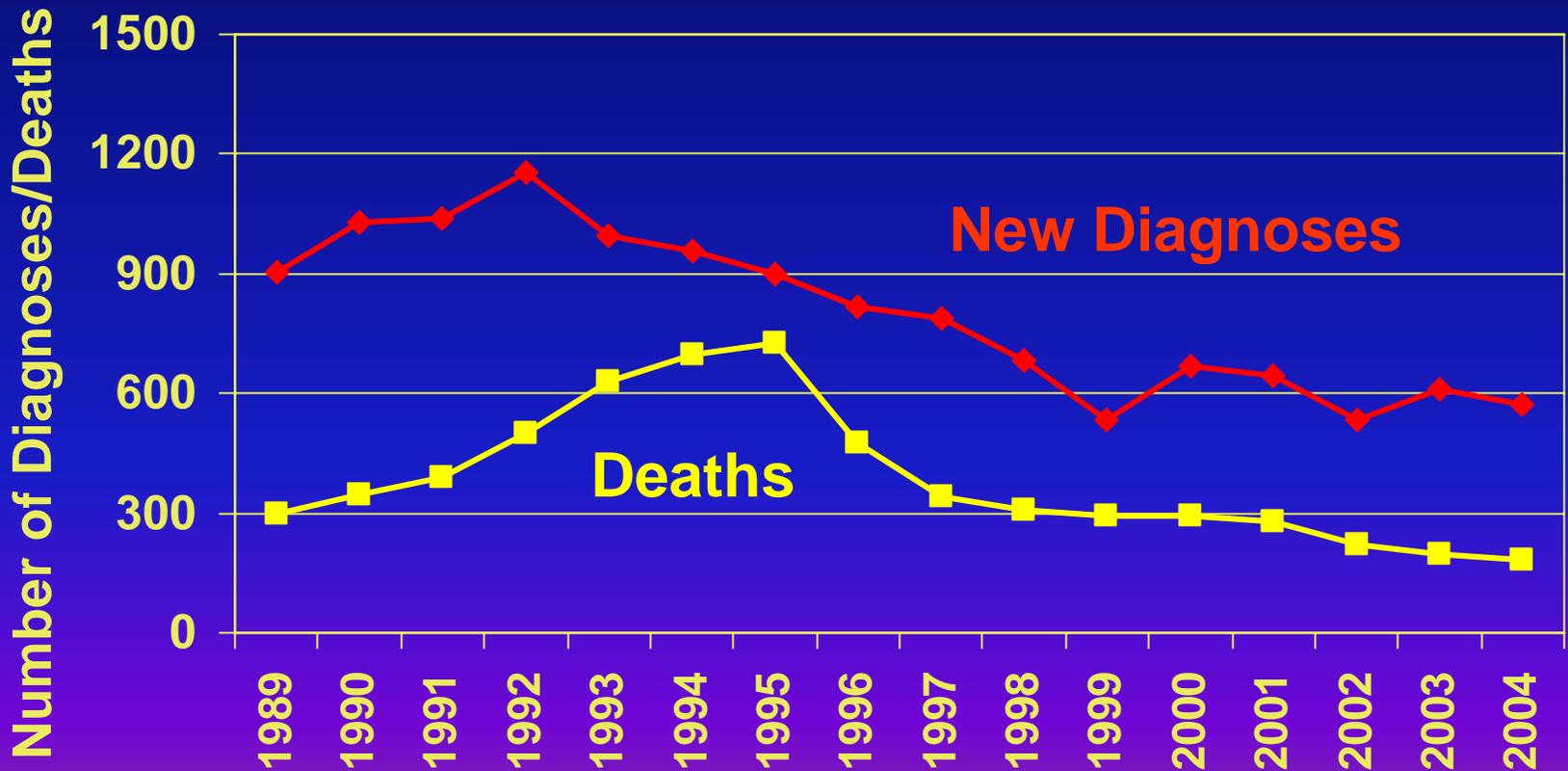
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Human Immunodeficiency Virus (HIV)

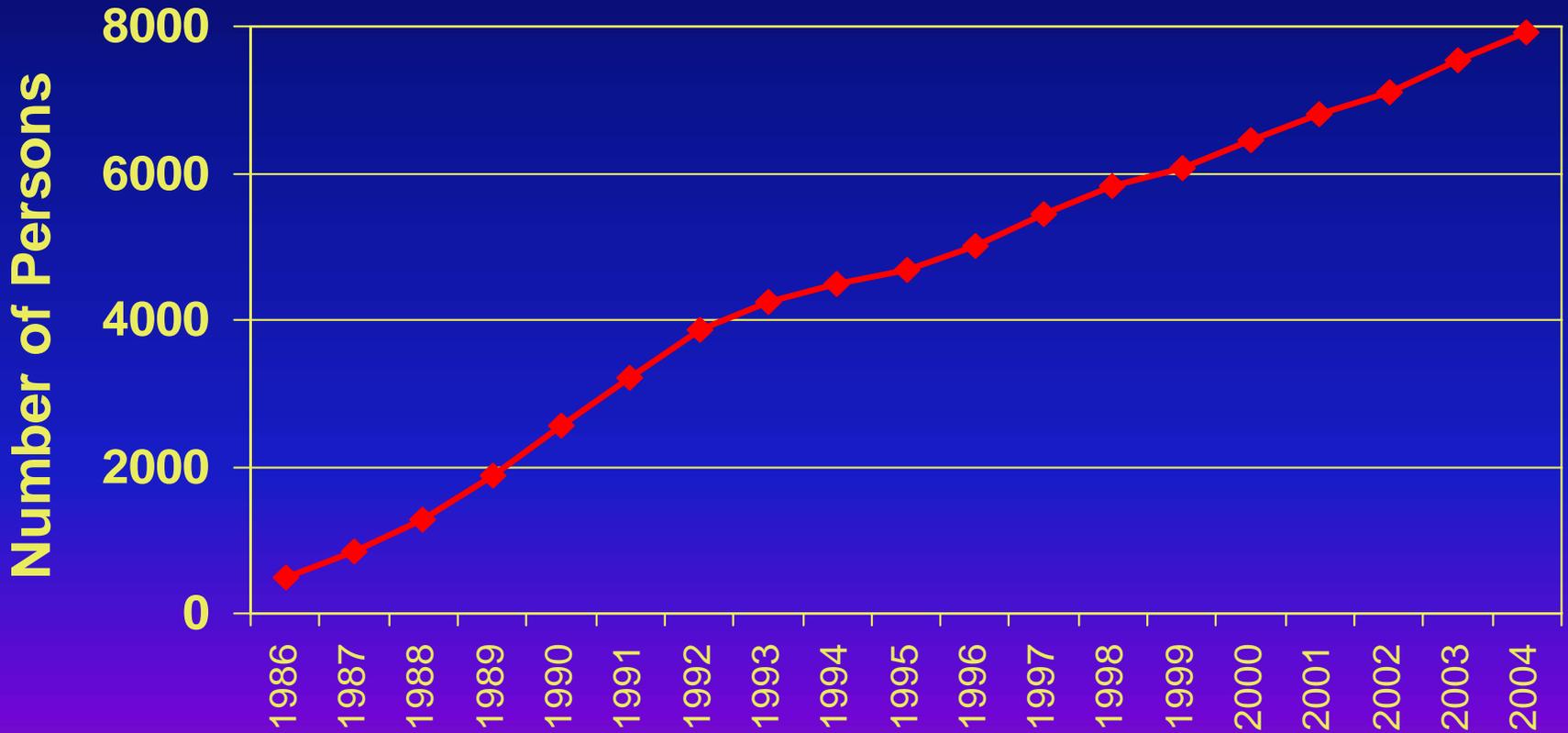


New Diagnoses of HIV/AIDS and HIV-Related Deaths, Detroit EMA





Prevalence of HIV, Detroit EMA





Hepatitis C (HCV) in Southeast Michigan

- **Estimated Prevalence**

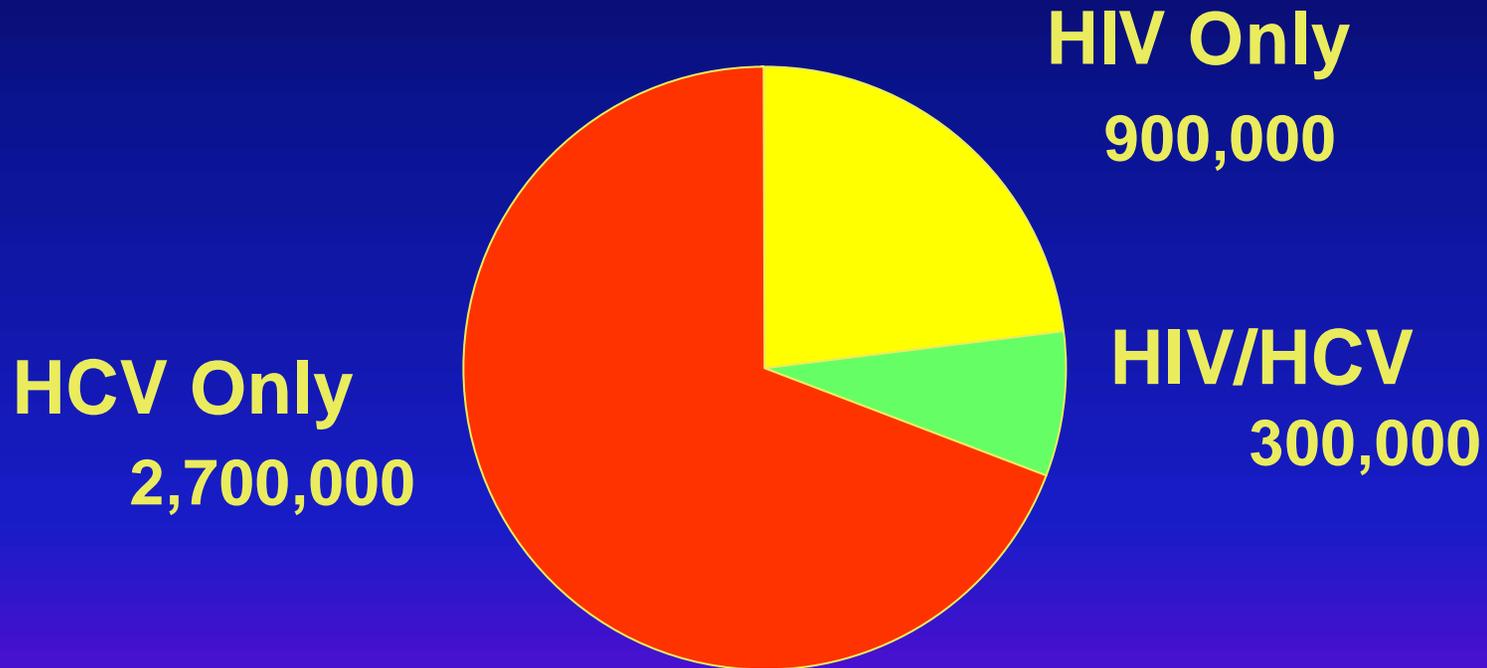
– Ever Infected	78,366*
– Chronic Infection	58,775**

*Based on the national estimate of 1.8% prevalence and the population of Southeast Michigan, 2000

**75% of persons ever infected



HIV/HCV Co-infection United States, 2003



Source: HRSA CareAction, September 2003



Adult and Adolescent Spectrum of Disease (ASD)

- **National, multi-site, CDC-Sponsored**
- **Longitudinal, observational project**
- **Michigan data from medical records of a sample of patients receiving care for HIV at the two major medical centers in Detroit, 1990-2003 (N>5500)**



ASD, continued

- **Data includes**
 - **Demographics, HIV risk**
 - **Opportunistic illnesses**
 - **Laboratory test results**
 - **Prescriptions**
 - **Substance abuse**
 - **Mental health**
 - **Health care utilization**



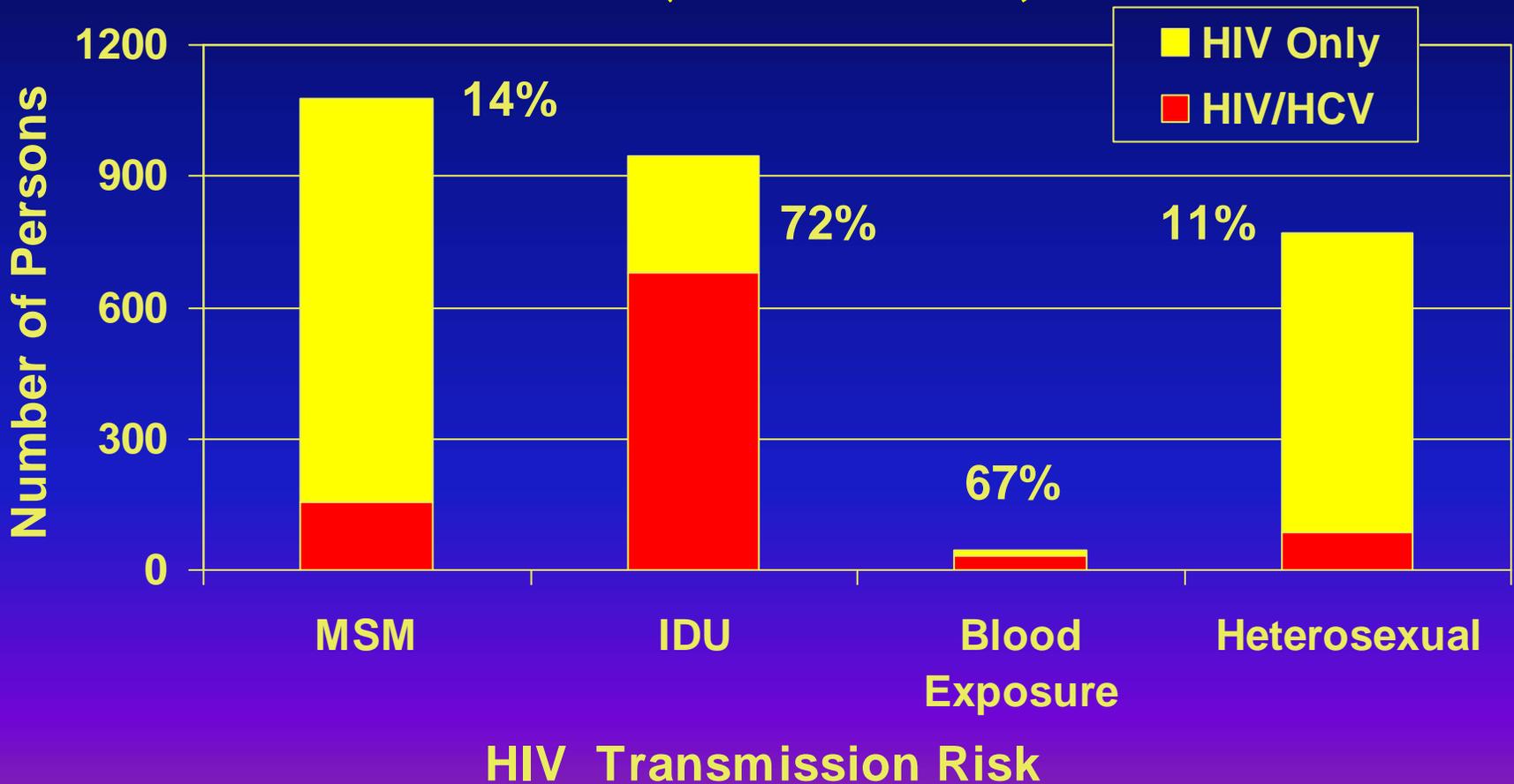
ASD in Southeast Michigan 1998-2003



- **2876 Persons in Care for HIV**
- **960 (33%) HIV/HCV Co-infected**



HIV/HCV Co-Infection by HIV Transmission Risk (N=2876)



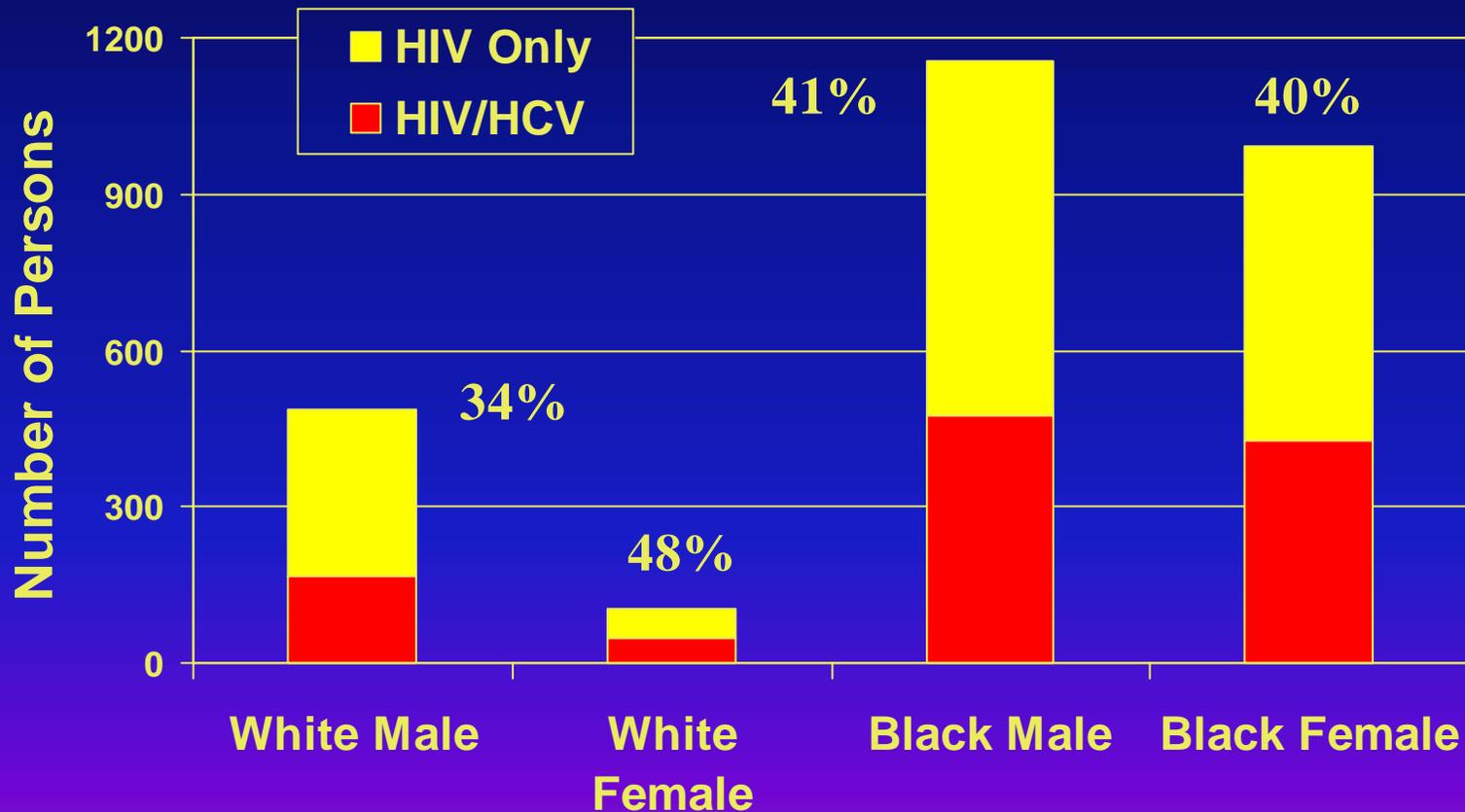


HIV Transmission Risk and HIV/HCV Co-infection

HIV Transmission Risk	% of All Persons in Care for HIV	% of HIV/HCV Co-infected Persons
IDU	33	71
MSM	37	16
Heterosexual	27	9

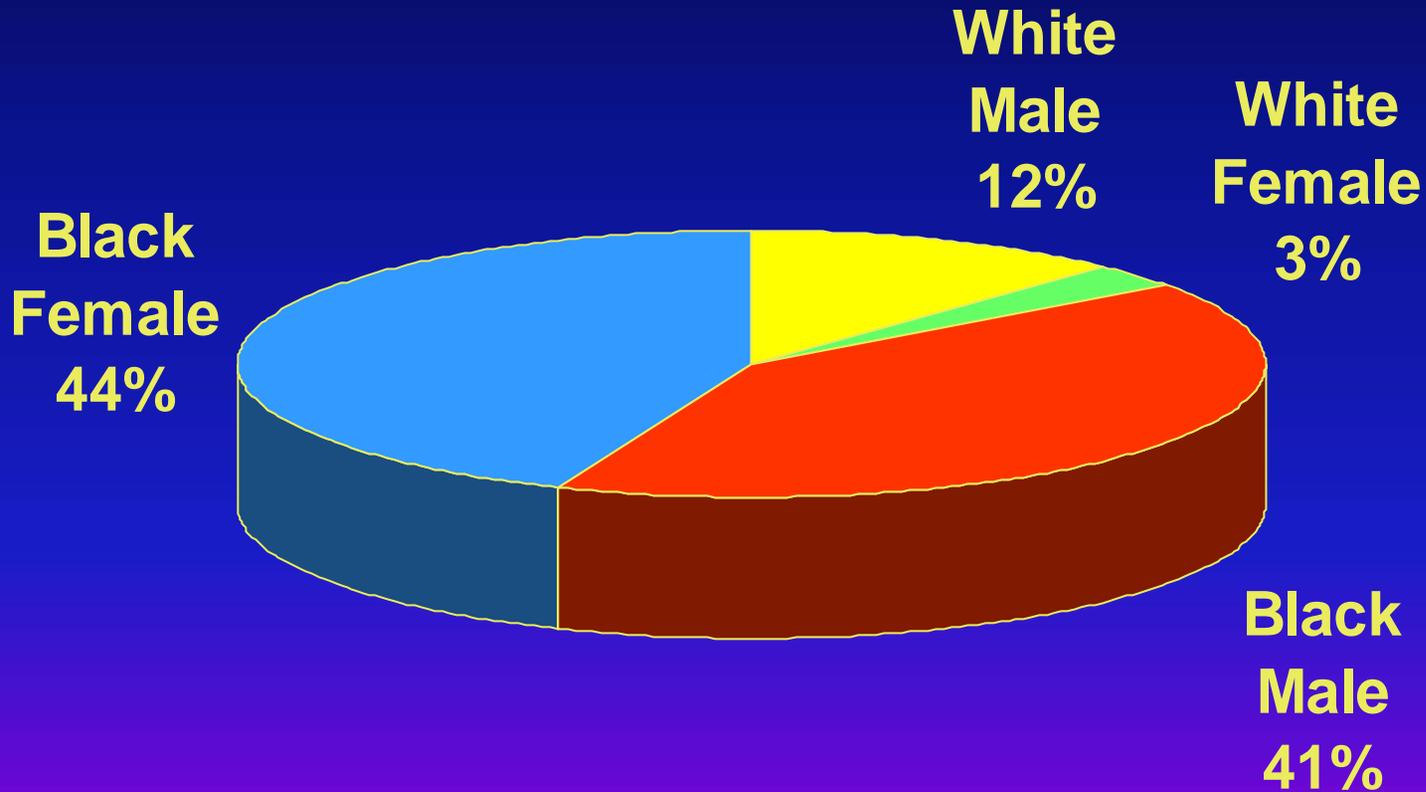


HIV/HCV Co-Infection by Race and Sex (N=2740)



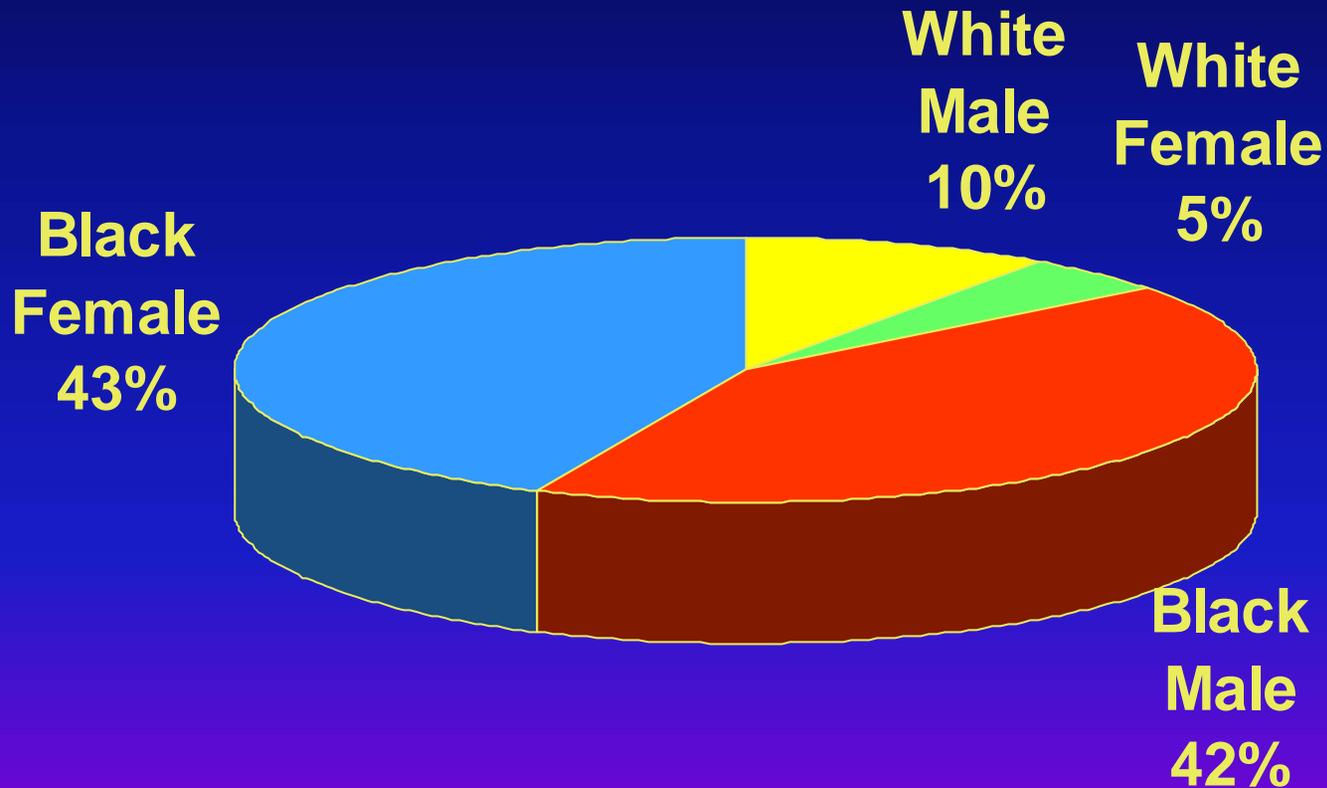


Race-Sex Among HIV Mono-infected



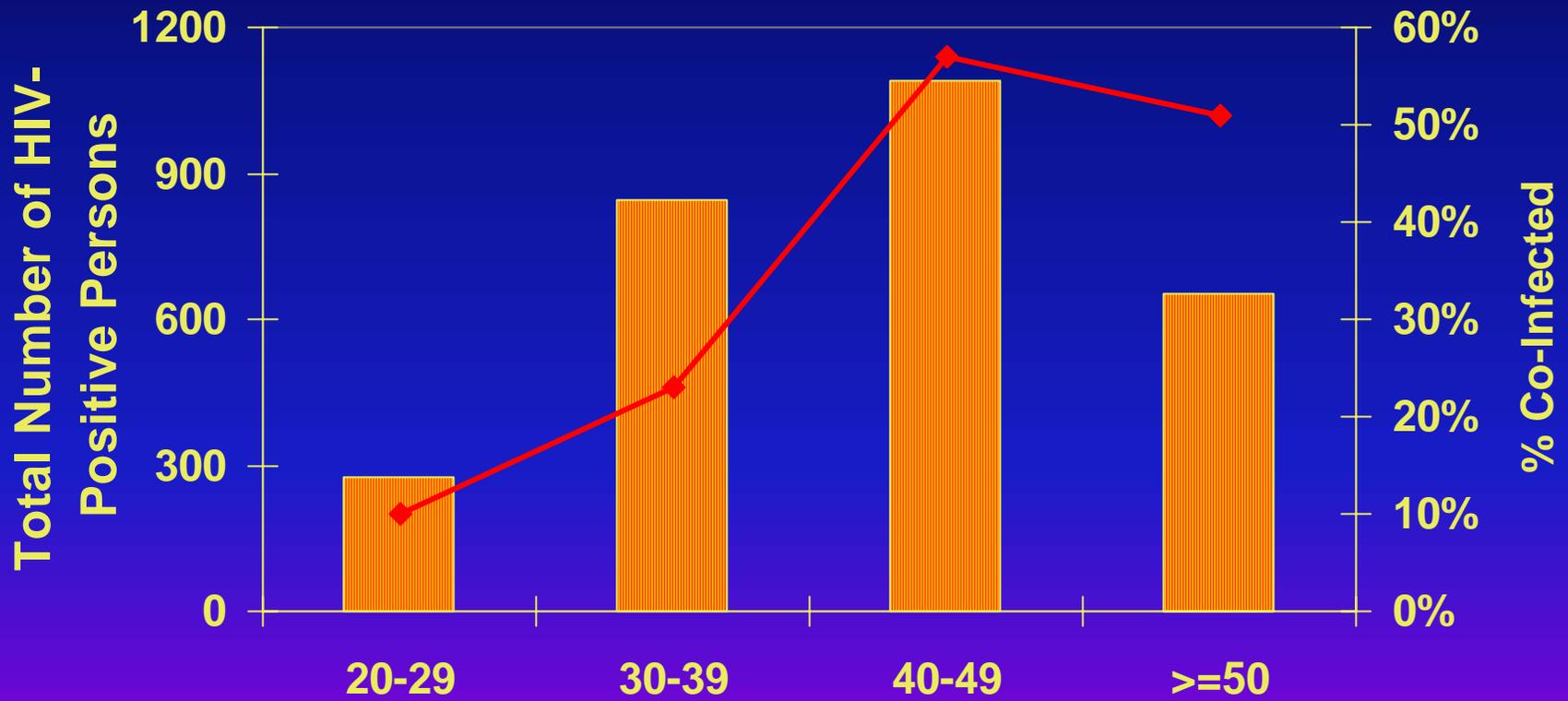


Race-Sex Among HIV/HCV Co-infected



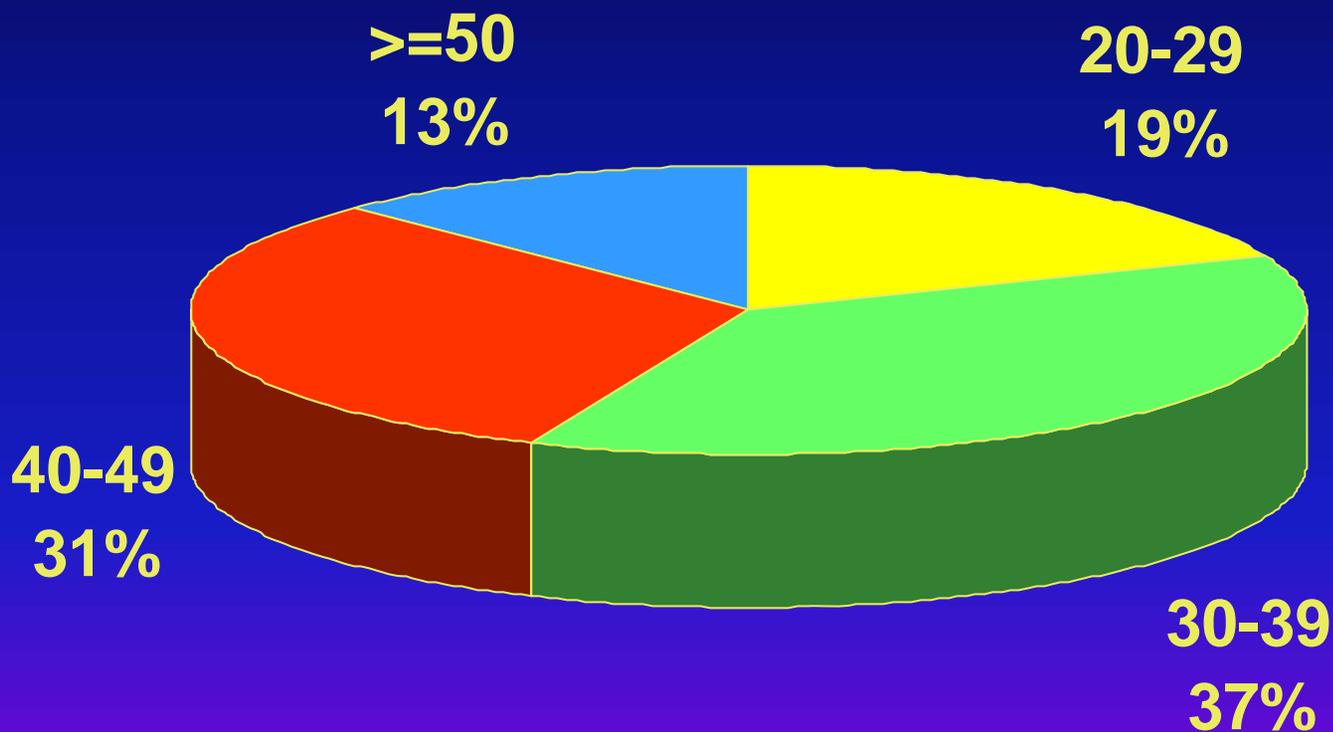


HIV/HCV Co-Infection by Age Group (N=2876)



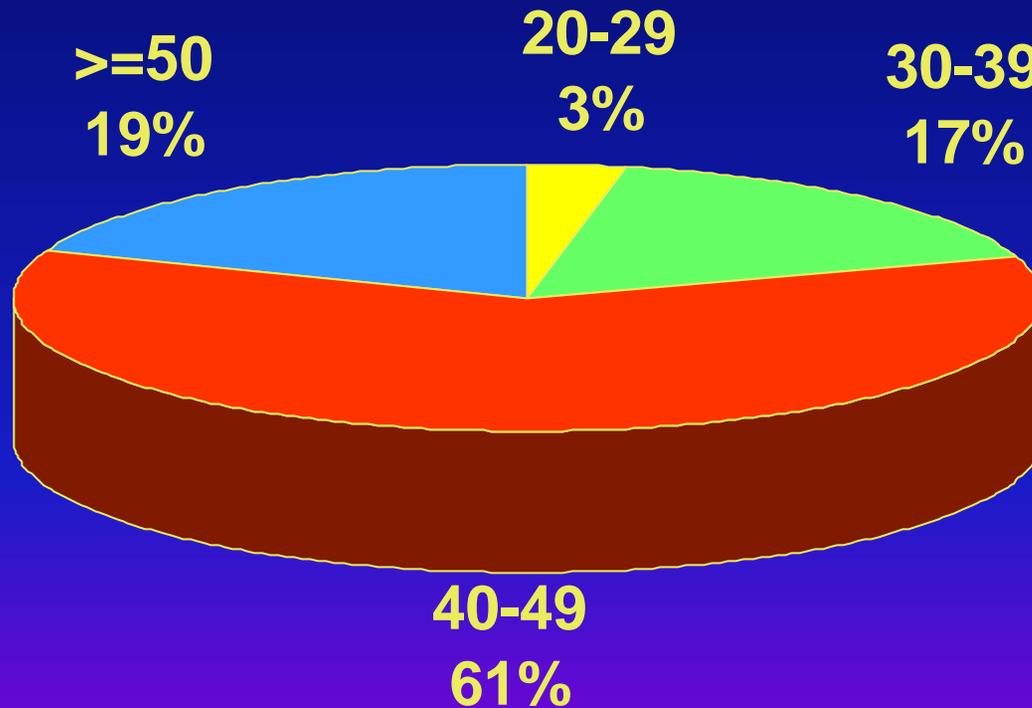


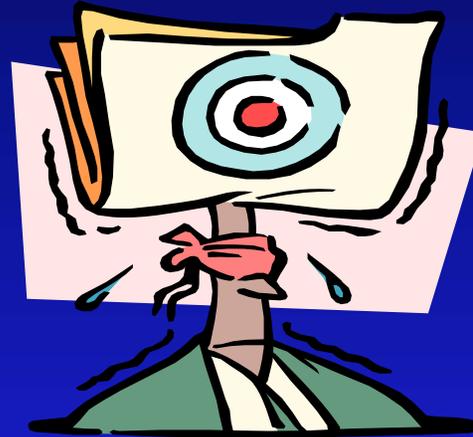
Age Groups Among HIV Mono-infected





Age Groups Among HIV/HCV Co-infected





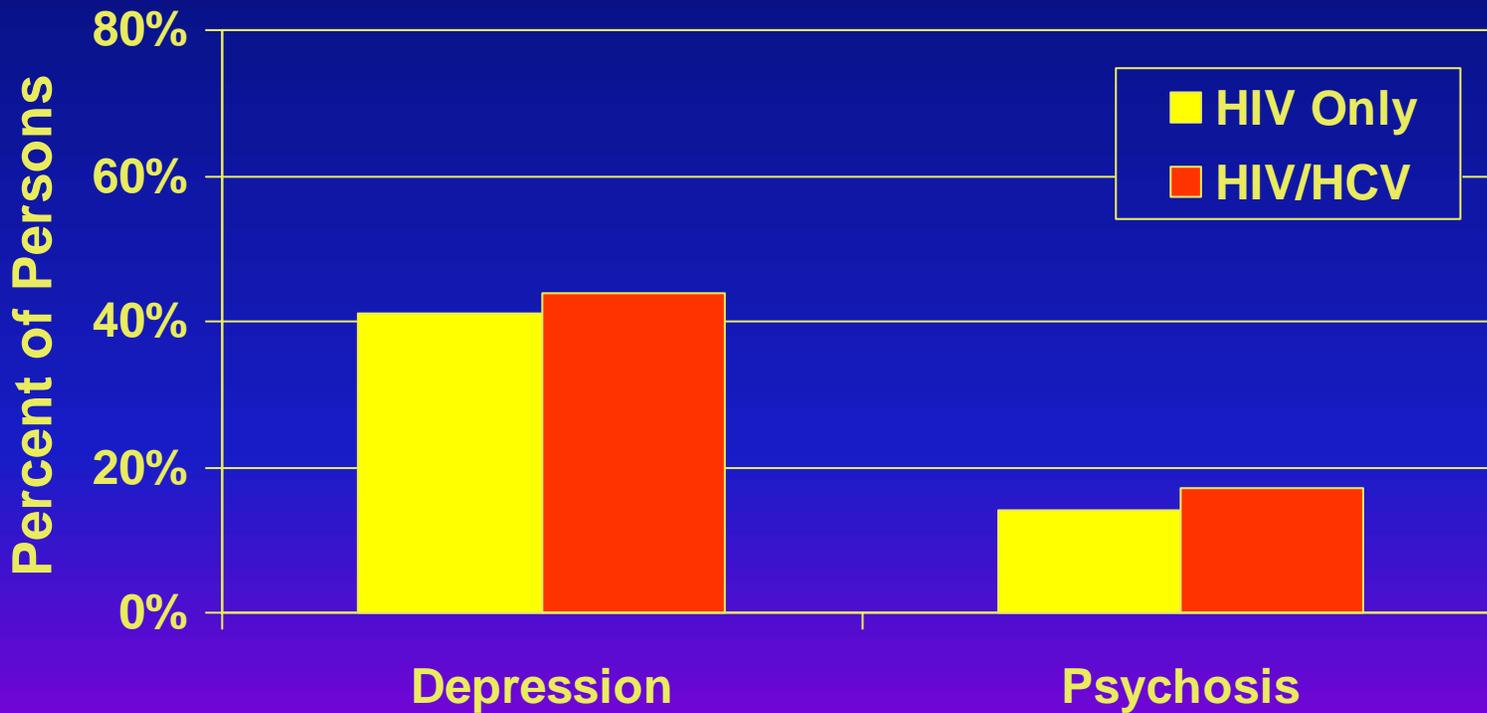


Mental Health and Substance Abuse

	HIV Only	HIV/HCV	P
Severe Mental Illness	44%	47%	0.33
Substance Abuse	52%	75%	<0.001

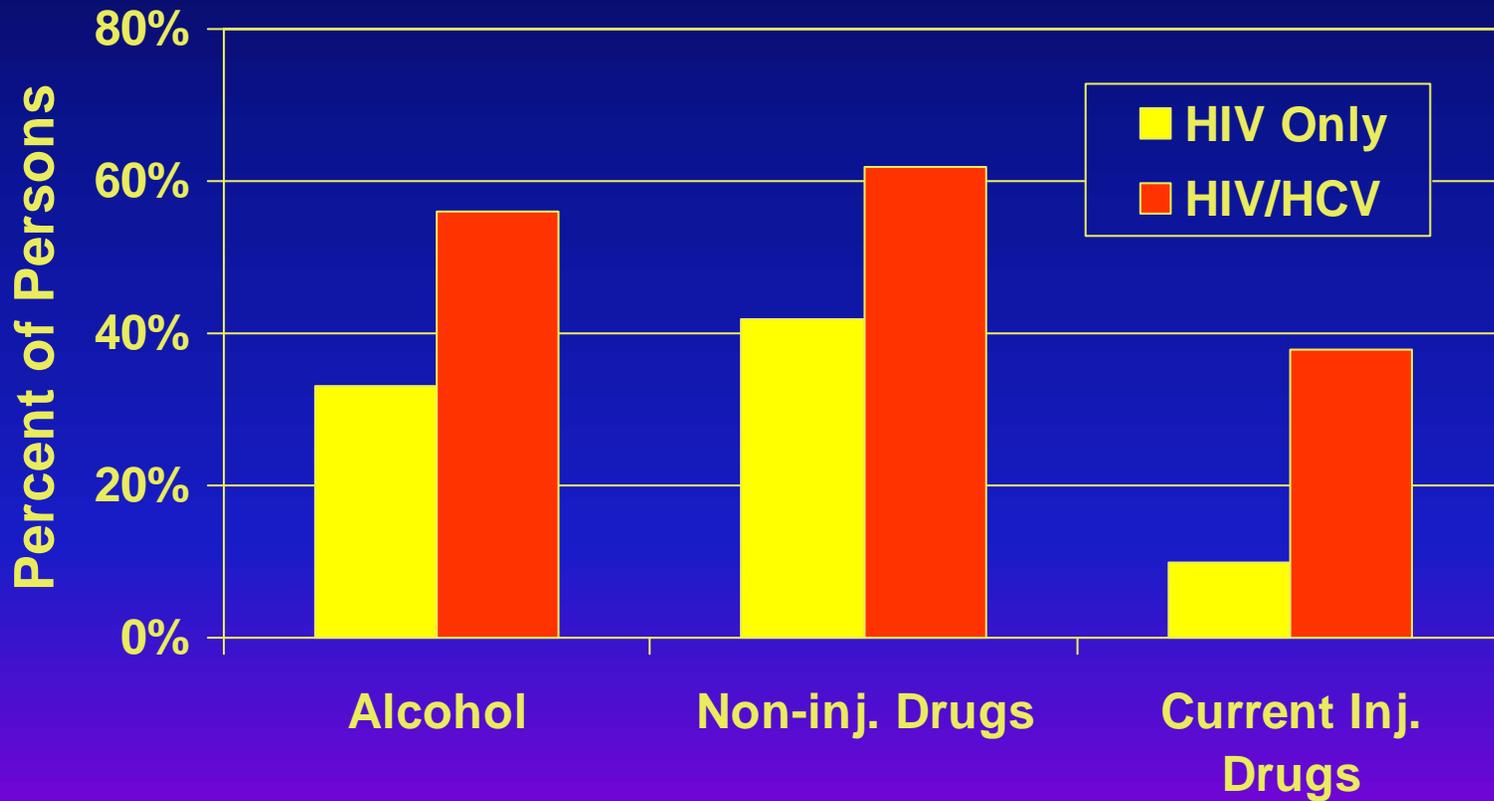


Mental Health





Substance Abuse



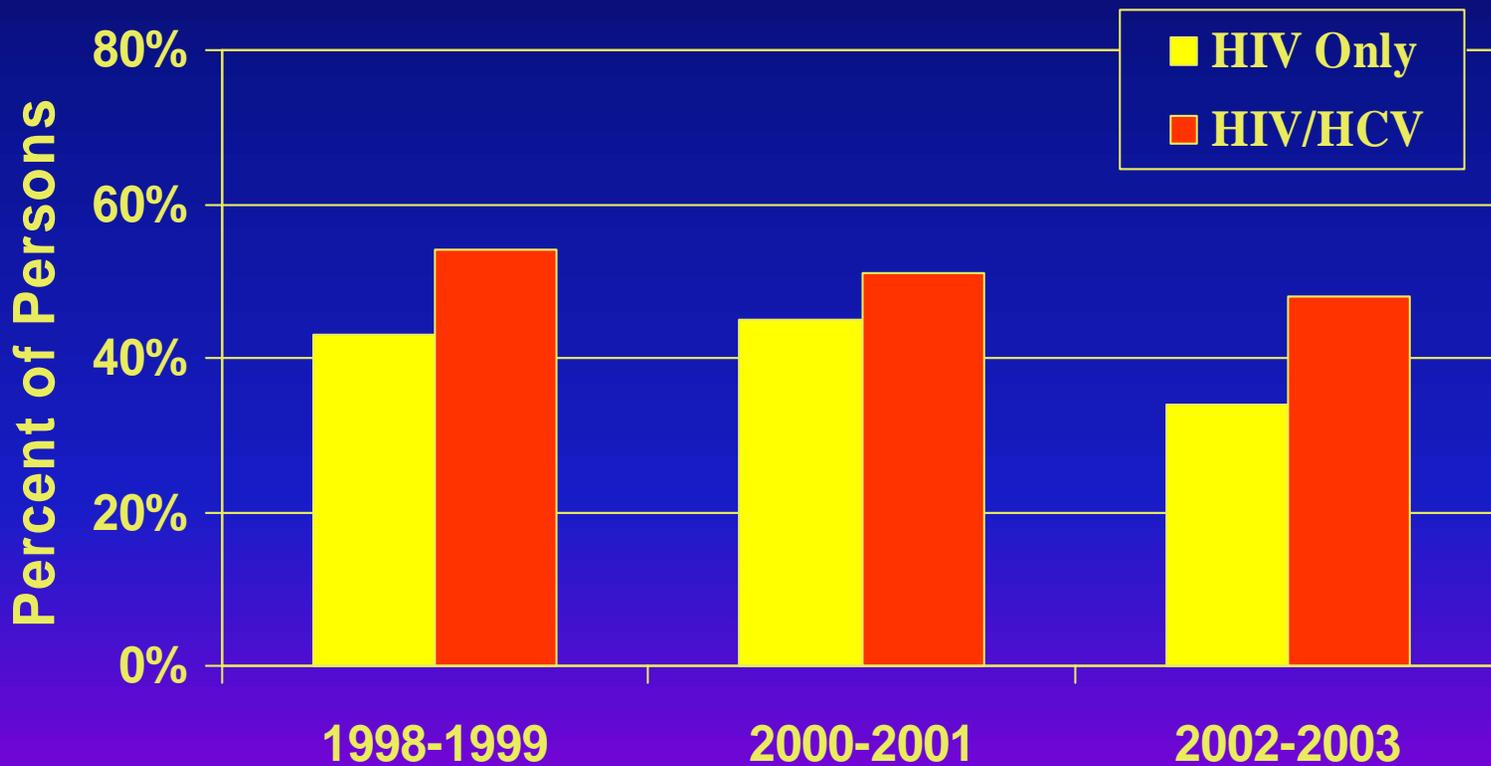


Health Care Utilization, 2002-2003

	HIV Only	HIV/HCV	p
Hospitalized ≥1	34%	48%	0.002
ER Visits ≥1	47%	59%	0.003
Clinic Visits >5	63%	63%	0.09

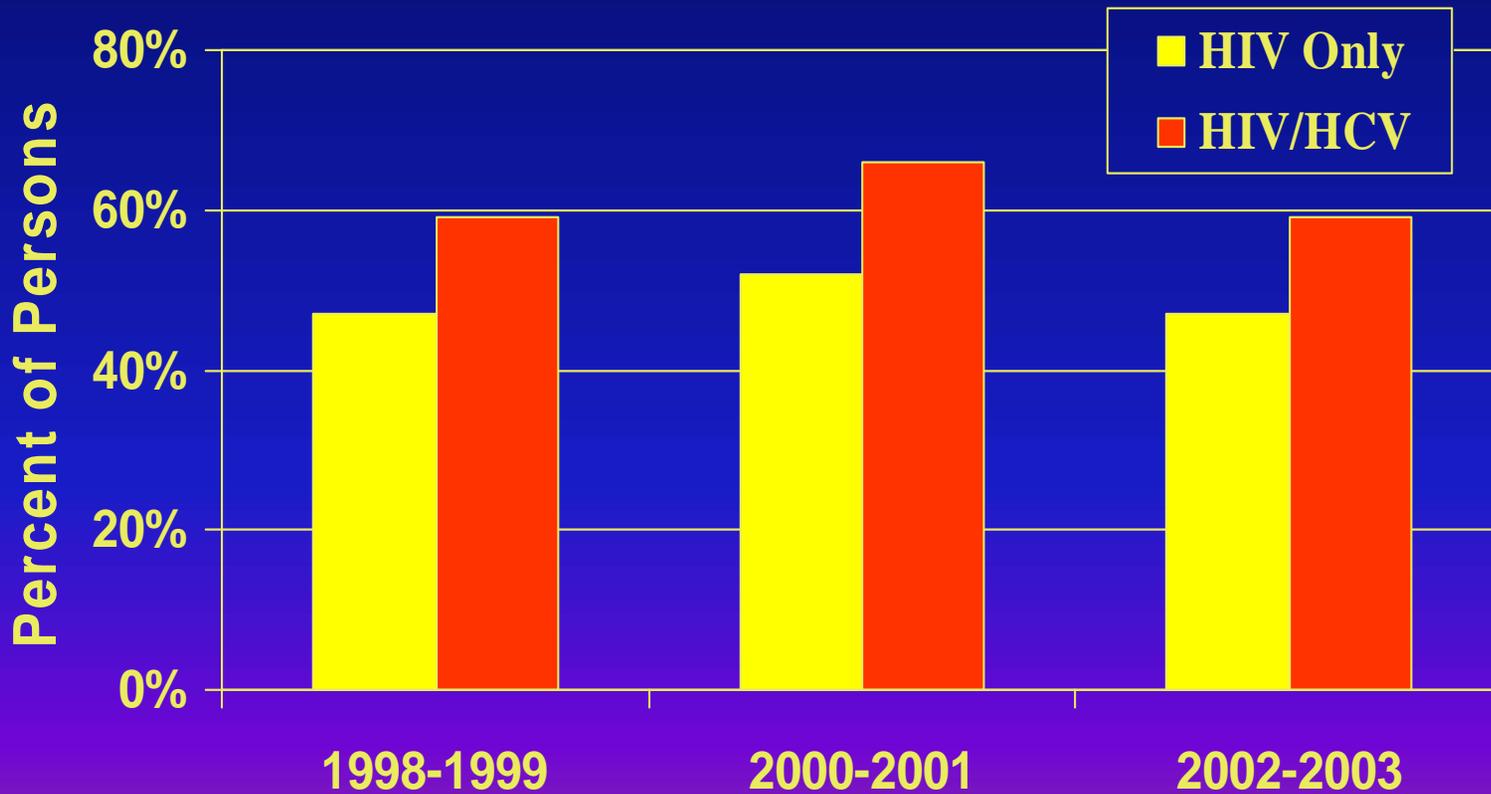


One or More Hospitalizations



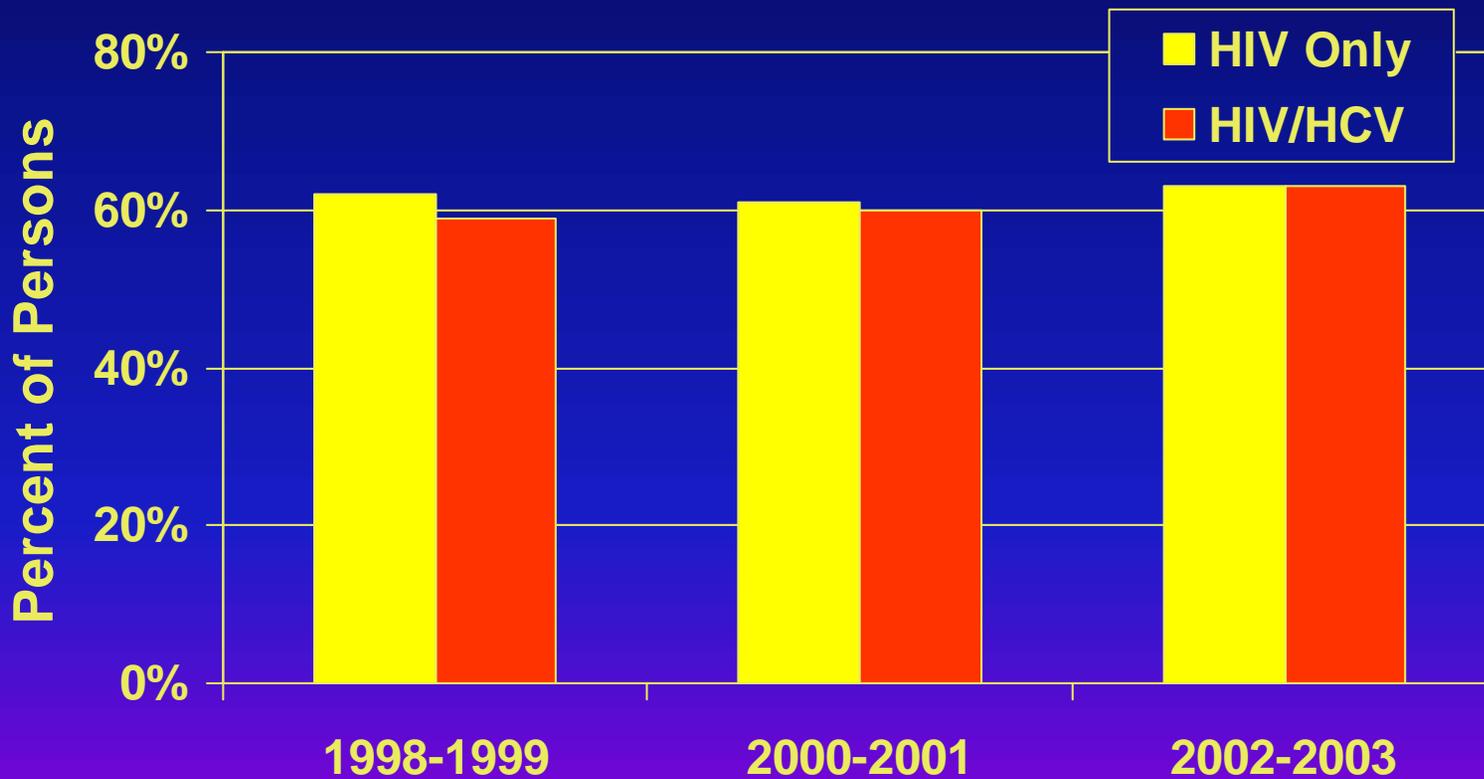


One or More ER Visits





Five or More OP Clinic Visits





W. Hamilton

“And it was so typically brilliant of you to have invited an epidemiologist.”



Limitations

- All ASD data was collected by medical record **review**
- Persons in ASD may be at a more advanced stage of HIV disease than other HIV-positive persons in Southeast Michigan
- HCV testing was recorded for only 42% of persons in ASD, 1998-2003



Observations in Southeast Michigan ASD, 1998-2003

- HCV co-infection (33%) of HIV-positive persons was most strongly correlated with a history of IDU or other blood exposure, and also occurs in persons with sexual exposure without IDU.
- 40-49 year olds had a higher rate of HCV co-infection than any other age group of HIV-infected persons

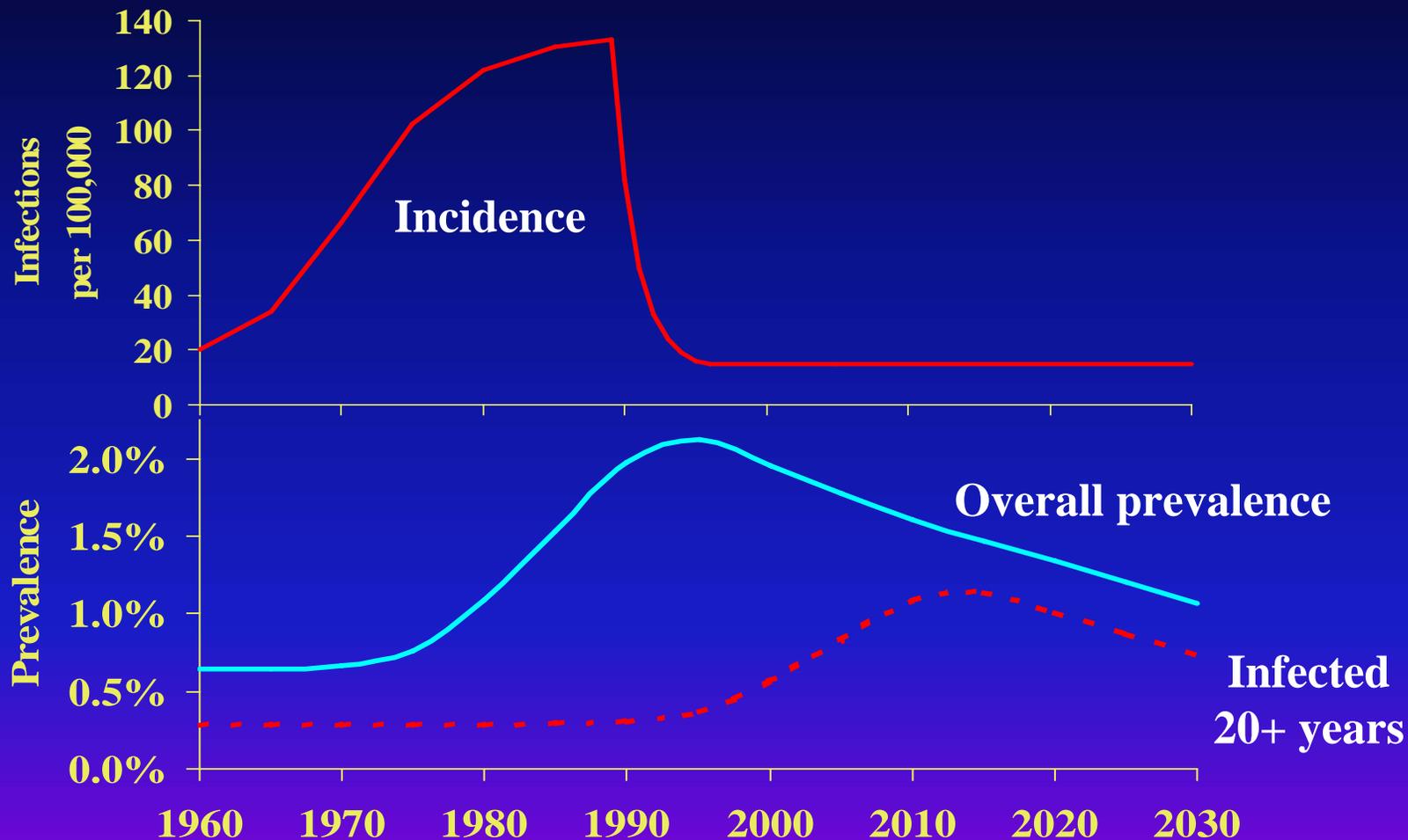


Observations (2) in Southeast Michigan ASD, 1998-2003

- Current IDU and other substance abuse were more prevalent among co-infected than HIV mono-infected persons, while the prevalence of mental illness was similar.
- Hospitalizations and ER visits were more frequent among co-infected than HIV mono-infected persons, while the number of clinic visits was similar.

HCV Infection in the U.S.

Estimates of Past Incidence and Future Prevalence



Source: Armstrong GL et al. Hepatology 2000;31:777



Conclusions

- HCV/HIV co-infection will be an increasingly important public health problem for at least the next 2-3 decades.
- Co-infected persons will require a higher level of medical care services than is currently available, especially for
 - Infectious disease
 - Substance abuse
 - Mental health





Websites for HIV/HCV Co-Infection

- **CDC, Link to HRSA CARE ACTION, September 2003**
 - www.cdc.gov/ncidod/diseases/hepatitis/c/coinfection.pdf

HIV/HCV Co-infection Center for Excellence

– www.mpaetc.org/coel/



Website for Hepatitis A, B, and C

- **CDC Resources on viral hepatitis**
 - www.cdc.gov/ncidod/diseases/hepatitis/resource



Detroit Staff, HIV/AIDS Surveillance Office



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