Initiation, Engagement, and Retention in Substance Use Disorder Treatment in HIV Infected and Uninfected Patients

Kevin L. Kraemer, MD, MSc
Professor of Medicine and Clinical & Translational Science
University of Pittsburgh

Background

- Substance use disorders (SUDs) are common among HIV-infected patients and can:
  - Decrease adherence to antiretroviral treatment
  - Increase transmission of HIV to others
  - Decrease quality of HIV care
- Effective SUD treatment may mitigate these adverse consequences

Objective

To compare the frequency of initiation, engagement, and retention in SUD treatment among HIV-infected and uninfected patients with SUDs

Methods – Veterans Aging Cohort Study "Virtual Cohort"

- Assembled from electronic national Veterans Affairs (VA) medical record data, January 2000 to October 2012
- Subjects
  - 43,116 HIV-infected Veterans identified at initiation of HIV care within VA
  - 94,253 uninfected controls (age, race, region matched 2:1), selected from same calendar year
- Data sources include:
  - Clinical Data Warehouse
  - Pharmacy Benefits Management

Methods – Definition of Index SUD Episode

An outpatient visit or inpatient/residential admission with associated primary or secondary substance use ICD-9 codes (series 291, 292, 303, 304, 305) following a "break in care" (5 months without SUD-related service or pharmacotherapy)

Methods – Definitions of Initiation, Engagement, Retention in SUD Treatment

- *Initiation* – second SUD service within 14 days of index SUD episode
- *Engagement* – 2+ SUD services within 30 days of index SUD episode
- *Retention*
  - 3 months – 7+ SUD services
  - 6 months – 13+ SUD services
  - 12 months – 25+ SUD services
- SUD treatment services required the substance use ICD-9 code to be the *primary* diagnosis

Methods – SUD Pharmacotherapy

- Within 12 months of Index SUD episode
- Opioid use disorder
  - Encounters in Opioid Agonist Clinic (code 523) for methadone
  - Dispensed prescription for buprenorphine
- Alcohol use disorder
    - Dispensed prescription for naltrexone or acamprosate

Methods - Analysis

- Descriptive and bivariate (t-tests and Chi-square) statistics to compare following among HIV-infected and uninfected Veterans:
  - Index SUD Episodes
  - Initiation/engagement/retention in SUD treatment
  - Pharmacotherapy trends over time

Index SUD Episodes among Total Sample

	HIV-infected (n=43,116)	HIV-uninfected (n=94,253)
	%	
Any Index SUD Episode*	37.6	34.4
New Alcohol Episode*	27.1	28.1
New Illicit Drug Episode*	30.9	24.4

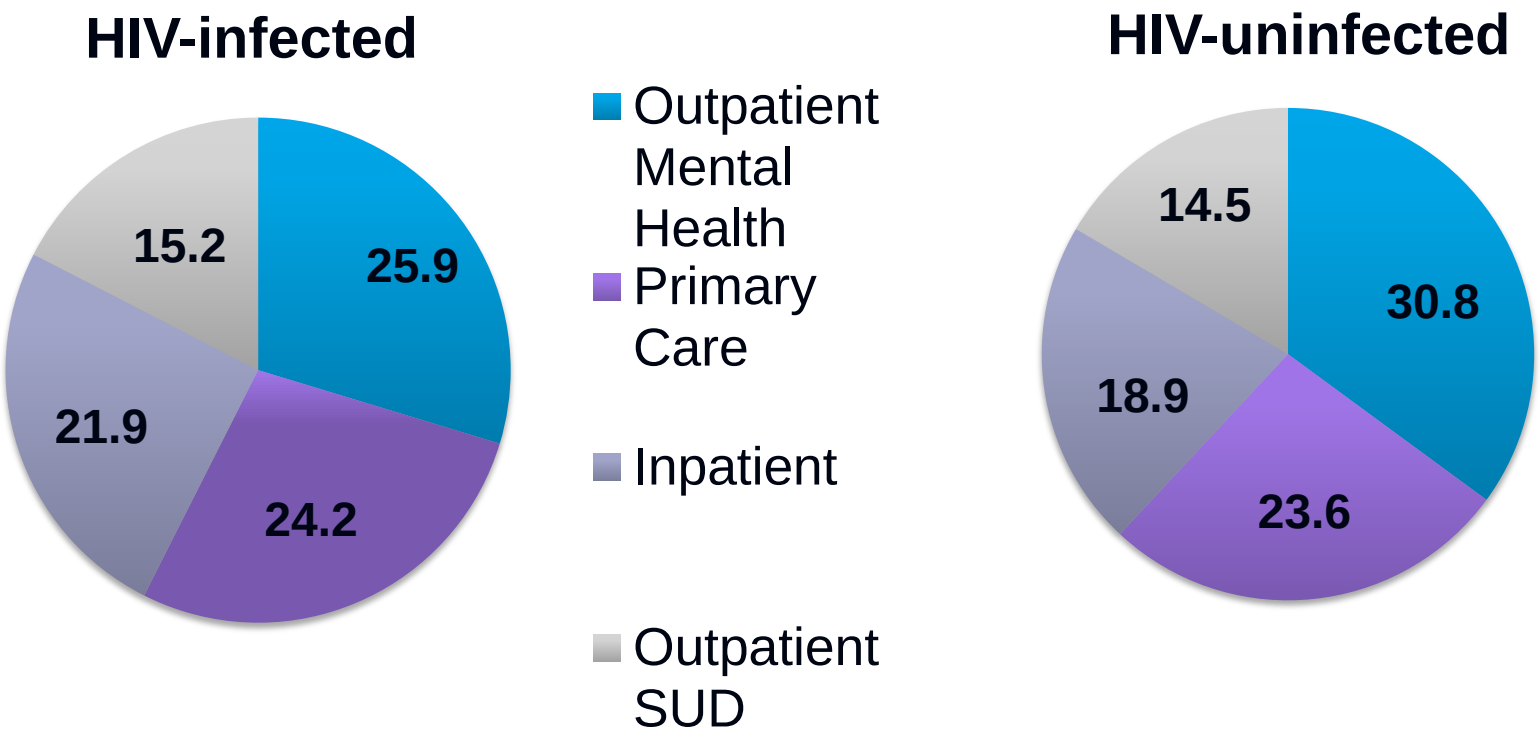
*P-value < .001

Characteristics of Subjects with 1 or more Index SUD Episodes

	HIV-infected (n=16,171)	HIV-uninfected (n=32,339)
Mean Age, *years*	49.6	50.5
Male gender, *%*	97.5	98.4
Race/Ethnicity, *%*		
Black	58.2	57.1
White	32.3	33.5
Latino	7.2	7.3
Other/Unknown	2.4	2.1
Alcohol*(dep and non-dep)	60.0	72.2
Illicit Drugs (1st episode only)		
Opioids*	16.6	11.4
Cocaine*	40.1	31.0
Amphetamine/Stimulant*	5.1	2.6
Sedative/Hypnotic	1.7	1.8
Cannabis	16.6	16.7
Mean # Index SUD Episodes	2.9	3.2

*P-value < .001

Location of Index SUD Episode

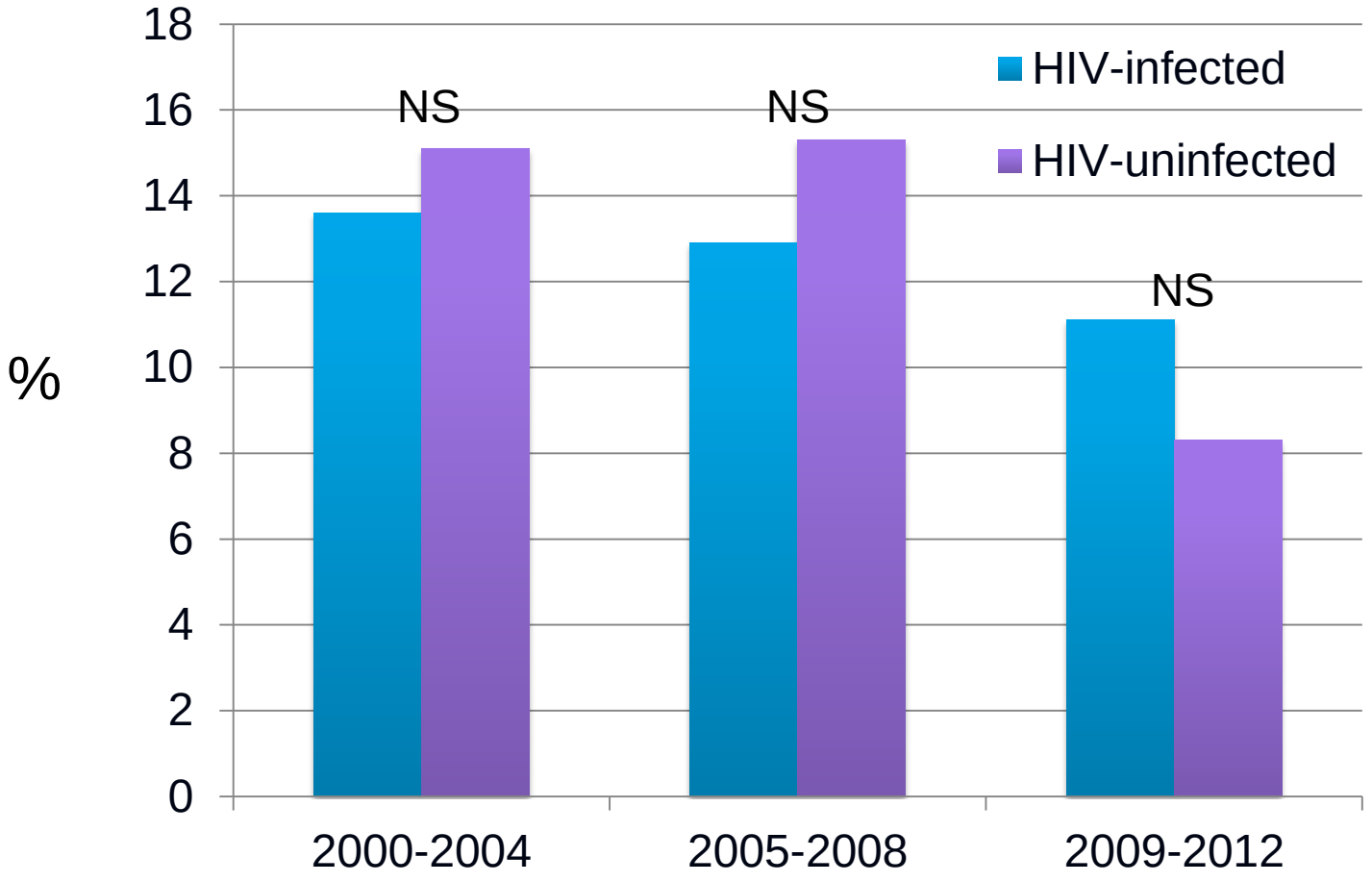


Initiation/Engagement/Retention in SUD Treatment Settings after Index Episode

	HIV-infected (n=16,171)	HIV-uninfected (n=32,339)
Initiated (1 service in 14d), %	16.2	15.8
Engaged (2+ services in 30d), %*	19.9	19.0
Retained in SUD Treatment at: 3 months (7+ services)* 6 months (13+ services)* 12 months (25+ services)	 17.3 14.5 10.1	 16.5 13.8 9.7
If initiated, mean # SUD visits	23.0	21.2

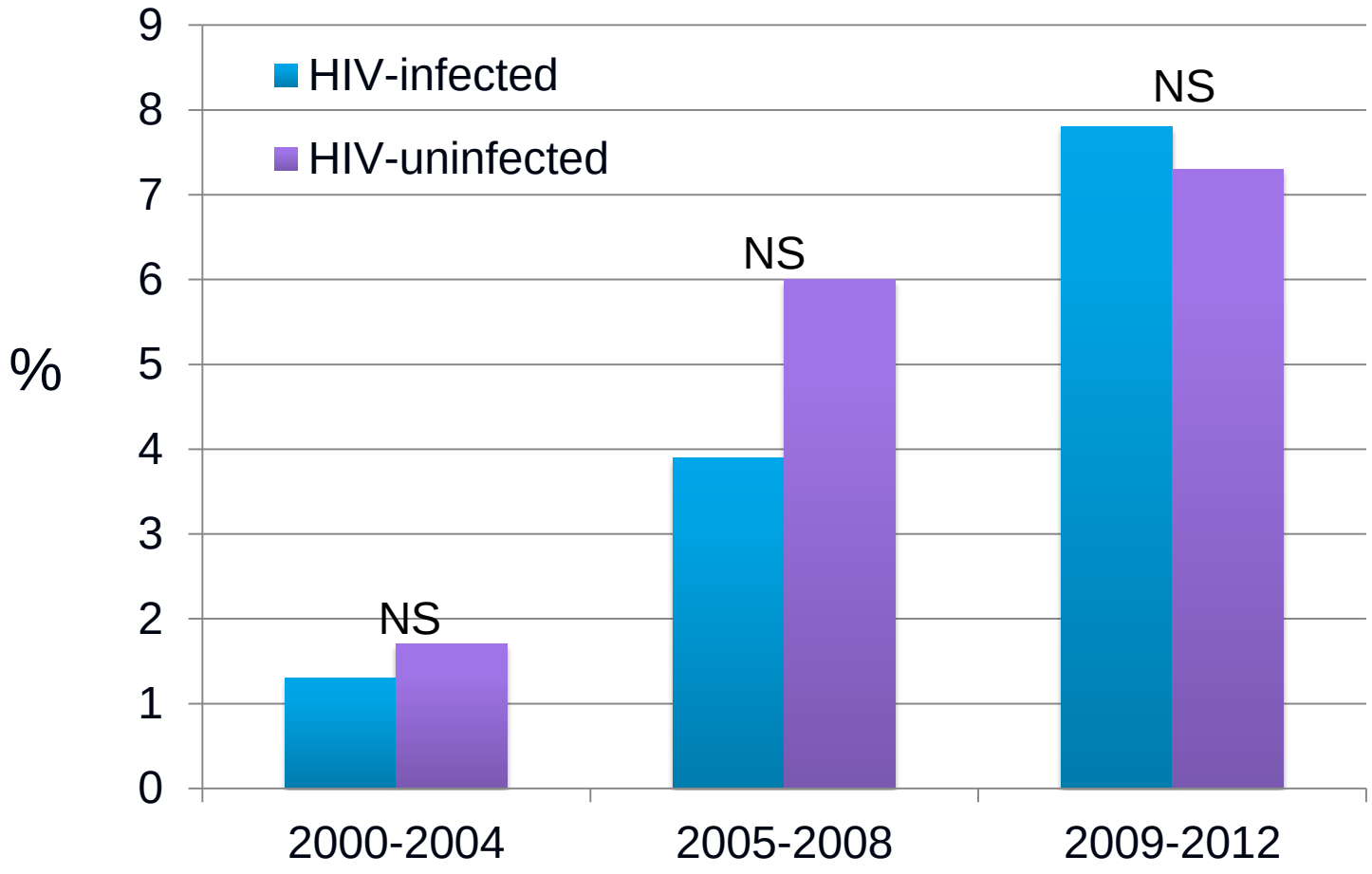
* $p < .05$
** $p < .01$

Trends in Methadone Use following Index Episode for Opioid Use Disorder



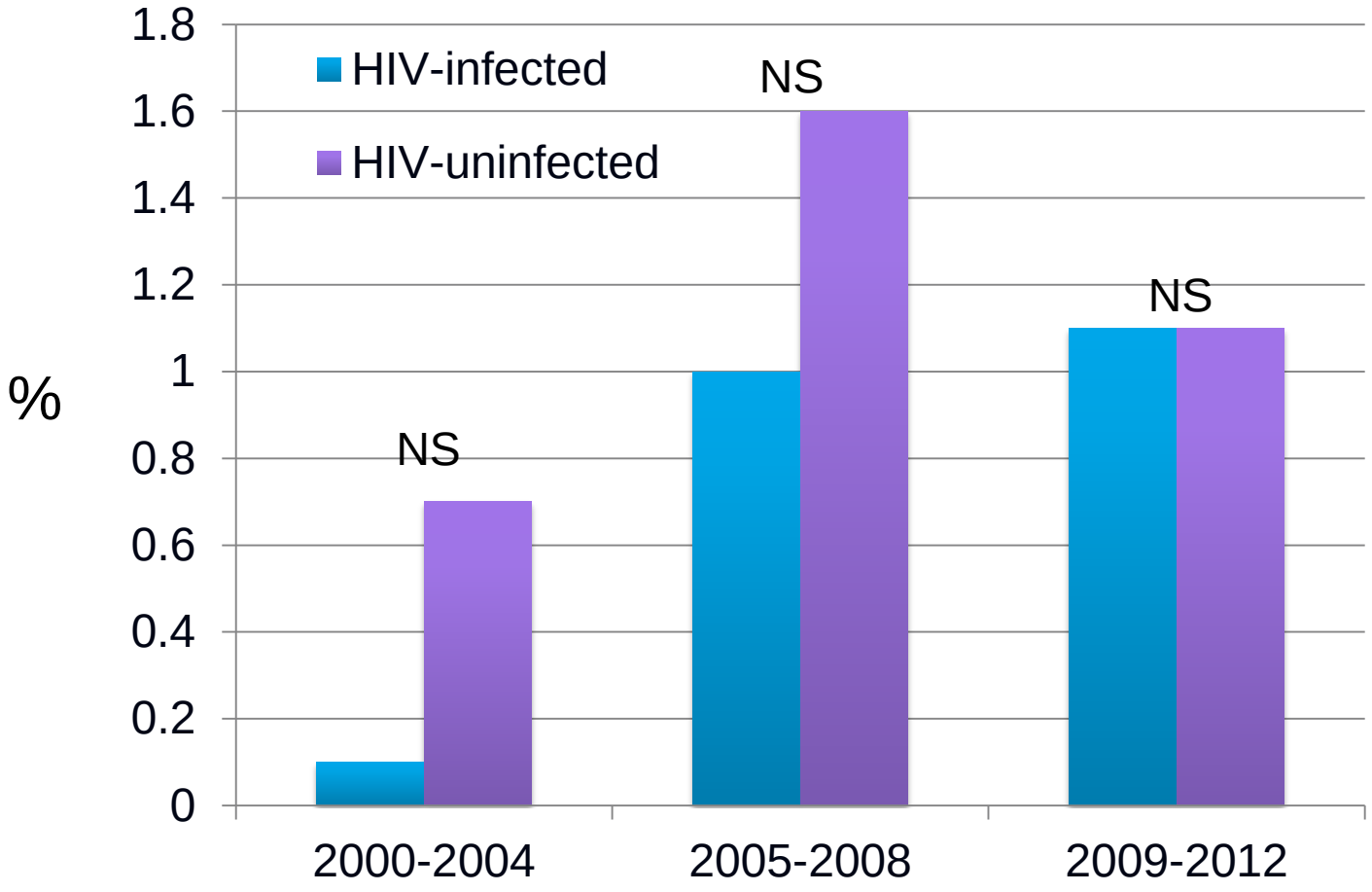
*Test for trend is statistically significant for uninfected (p<.001), but not for HIV-infected

Trends in Buprenorphine Use following Index Episode for Opioid Use Disorder



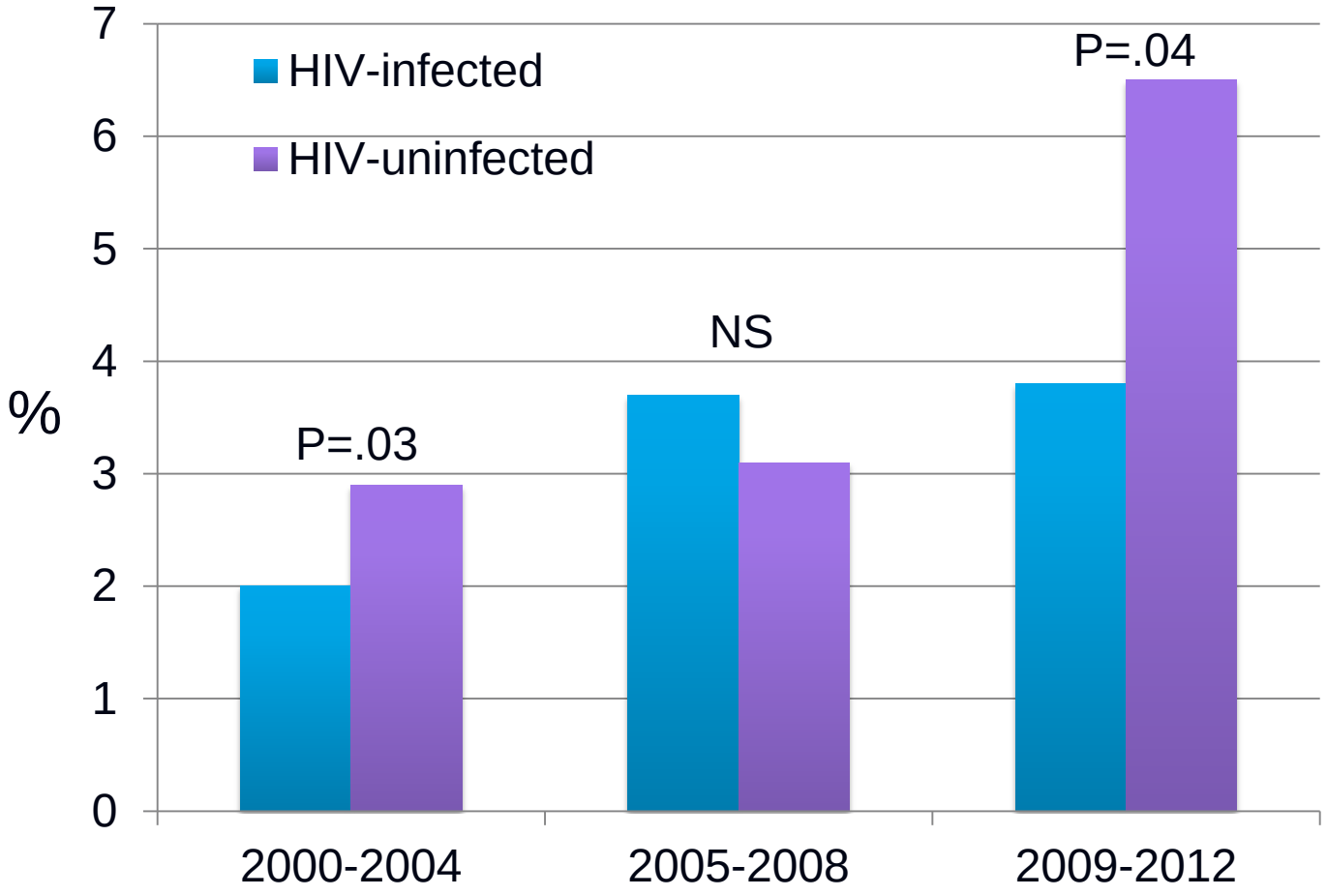
*Test for trend is statistically significant for both HIV-infected and uninfected (both p<.001)

Trends in Acamprosate Use following Index Episode for Alcohol Use Disorder



*Test for trend is statistically significant for both HIV-infected and uninfected (both p<.001)

Trends in Oral Naltrexone Use following Index Episode for Alcohol Use Disorder



*Test for trend is statistically significant for both HIV-infected and uninfected (p=.006 and p<.001)

Limitations

- Of “SBIRT,” only addresses the “T”
- Does not include non-VA services use
- Coding errors/absence
- Correlated data (non-independence of observations for repeat Index SUD Episodes)

Conclusions

- HIV-infected Veterans were more likely to have an index SUD episode than uninfected controls
- Initiation, engagement, and retention in SUD treatment and use of pharmacotherapy was low for both HIV-infected and uninfected Veterans
  - But engagement and retention slightly better in HIV-infected
- Buprenorphine and naltrexone use has slowly increased in both HIV-infected and uninfected

Implications

- Although we could not assess the “SBI” component of SBIRT in this dataset, our findings suggest the “referral-to-treatment” (RT) component is sub-optimal for both patient groups
- Interventions to improve referral-to-treatment and access to SUD treatment are needed for both HIV-infected and uninfected

Acknowledgements

- *Team*: Kathleen McGinnis, David Fiellin, Melissa Skanderson, Adam Gordon, Jonathan Robbins, Susan Zickmund, Todd Korthuis, VACS investigators
- *Funding*: Supported by R01 AA022886 "Comparative Effectiveness of Alcohol and Drug Treatment in HIV-Infected Veterans" (PI – Kraemer) and U01 AA020790 "Alcohol and Multi-substance Use in the Veterans Aging Cohort Study" (PI – Justice)

Questions?