



**HPTN**

HIV Prevention  
Trials Network



# The Relationship Between Alcohol Use and HIV in MSM

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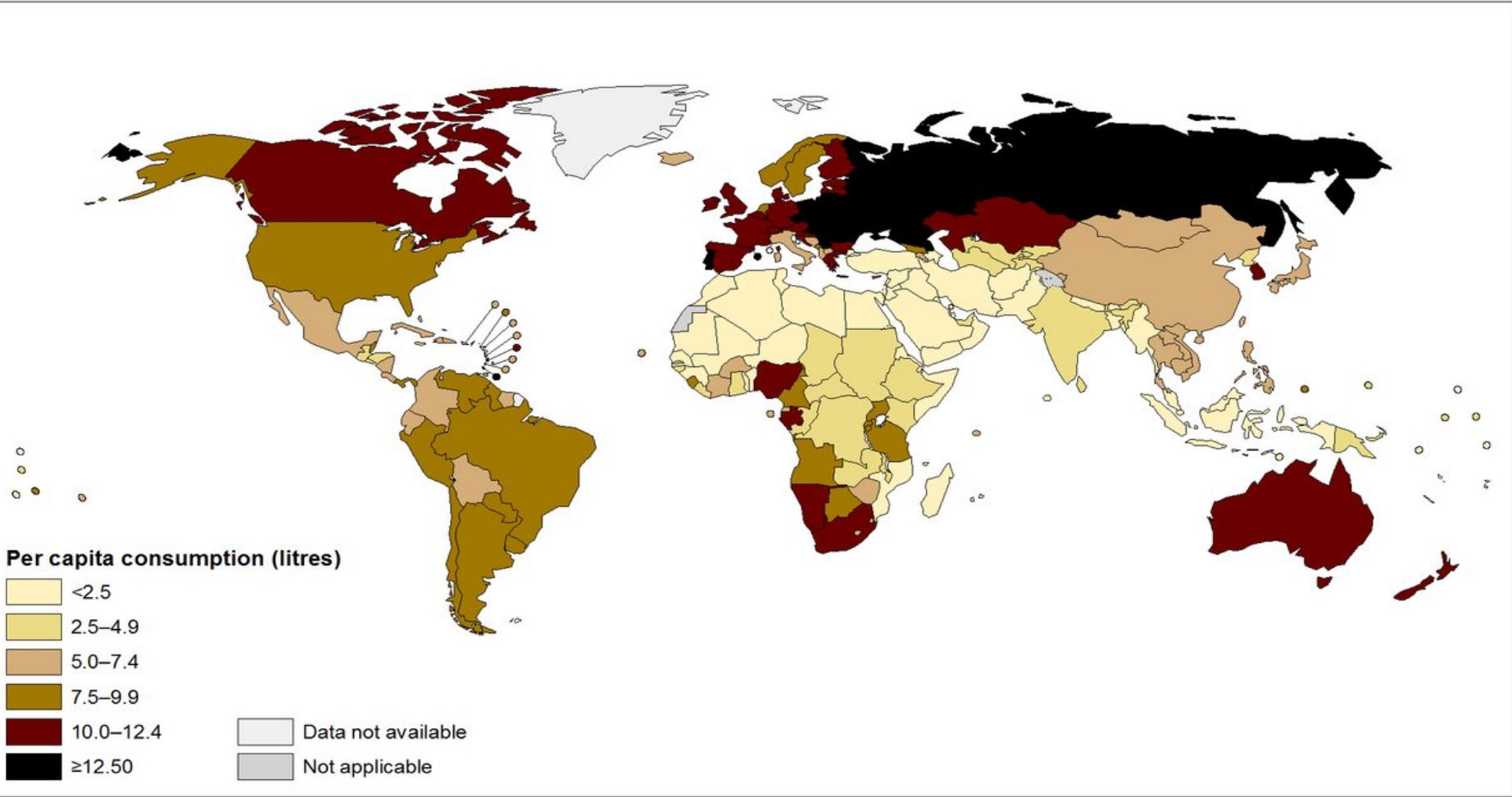
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  - Javier Lama (Impacta)
  - Pedro Gonzalez (Impacta)
  - Sandra Springer (Yale)

# Alcohol Consumption Levels (15+ years)



The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: World Health Organization  
 Map Production: Health Statistics and Information Systems (HSI)  
 World Health Organization



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# DSM-V: Alcohol Use Disorders Represent a Spectrum of Conditions

**None**

**Mild**

**Moderate**

**Severe**

**Chronic**

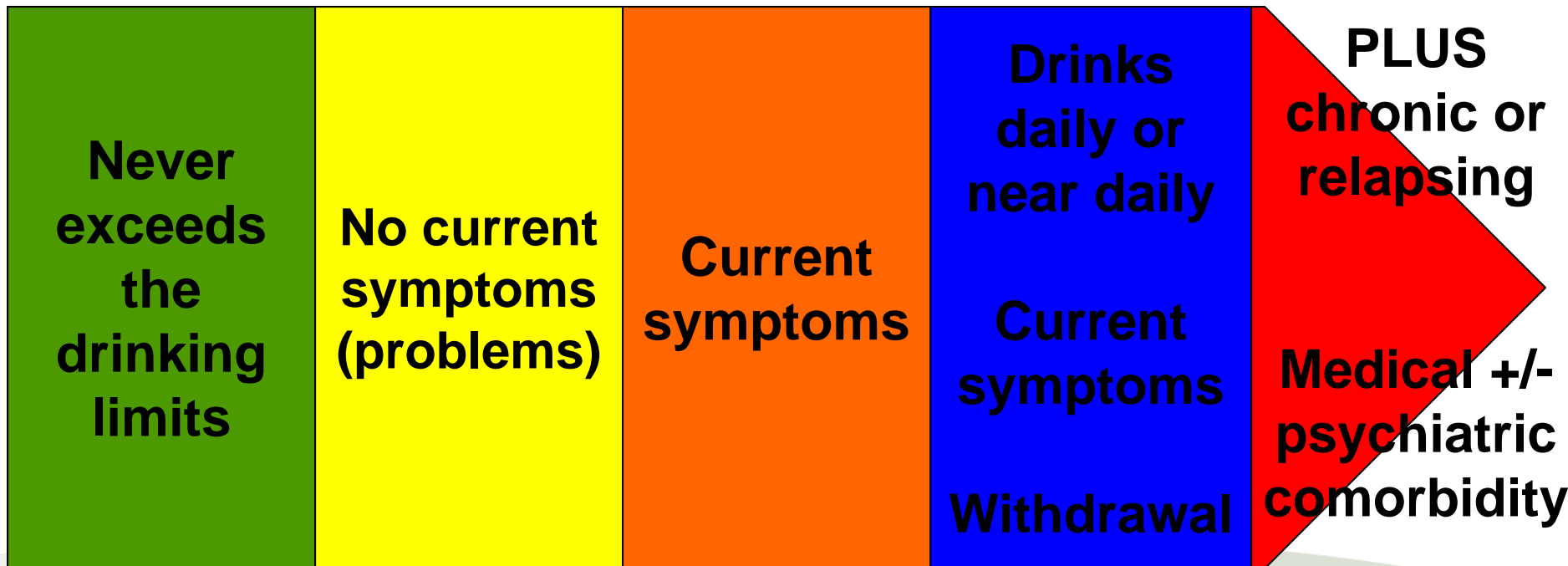
“Hazardous”  
“At Risk”

“Harmful  
use”

“Dependence”

**Dependence**

**Exceeds Daily Drinking Limits**



# **Alcohol Use and HIV Risk**

# A systematic review of alcohol use and sexual risk-taking in Latin America

*Panagiotis Vagenas,<sup>1</sup> Javier R. Lama,<sup>1</sup> Kaysia T. Ludford,<sup>1</sup>  
Pedro Gonzales,<sup>2</sup> Jorge Sanchez,<sup>2</sup> and Frederick L. Altice<sup>1</sup>*

**Rev Panam Salud Publica  
2013**

**An explanatory factor analysis of a brief self-report scale to detect neurocognitive impairment among HIV-positive men who have sex with men and transgender women in Peru**

**Damian Weikum, Roman Shrestha, Enrico G. Ferro, Panagiotis Vagenas,  
Michael Copenhaver, Serena Spudich, Michael D. Alpert, Robinson Cabello,  
Javier R. Lama, Jorge Sanchez & Frederick L. Altice**



alcohol use and HIV risk-taking

- Levels of neurocognitive impairment often not assessed as contributing to risk outcomes\*

# Alcohol, HIV and the Peruvian Context

## Screening for Drug and Alcohol Use Disorders and Their Association with HIV-Related Sexual Risk Behaviors among Men Who Have Sex with Men in Peru

Kaysia T. Ludford<sup>1</sup>, Panagiotis Vagenas<sup>1</sup>, Javier R. Lama<sup>2</sup>, Jesus Peinado<sup>2</sup>, Pedro Gonzales<sup>2</sup>, Rene Leiva<sup>3</sup>, Monica Pun<sup>3</sup>, Jorge Sanchez<sup>2</sup>, Frederick L. Altice<sup>1,4\*</sup>, for the Peruvian HIV Sentinel Surveillance Working Group

*PLoS One, 2013*

## Being Unaware of Being HIV-Infected is Associated with Alcohol Use Disorders and High-Risk Sexual Behaviors Among Men Who have Sex with Men in Peru

*AIDS Behav, 2013*

Panagiotis Vagenas · Kaysia T. Ludford · Pedro Gonzales · Jesus Peinado · Cesar Cabezas · Fernando Gonzales · Javier R. Lama · Jorge Sanchez · Frederick L. Altice · for the Peruvian HIV Sentinel Surveillance Working Group

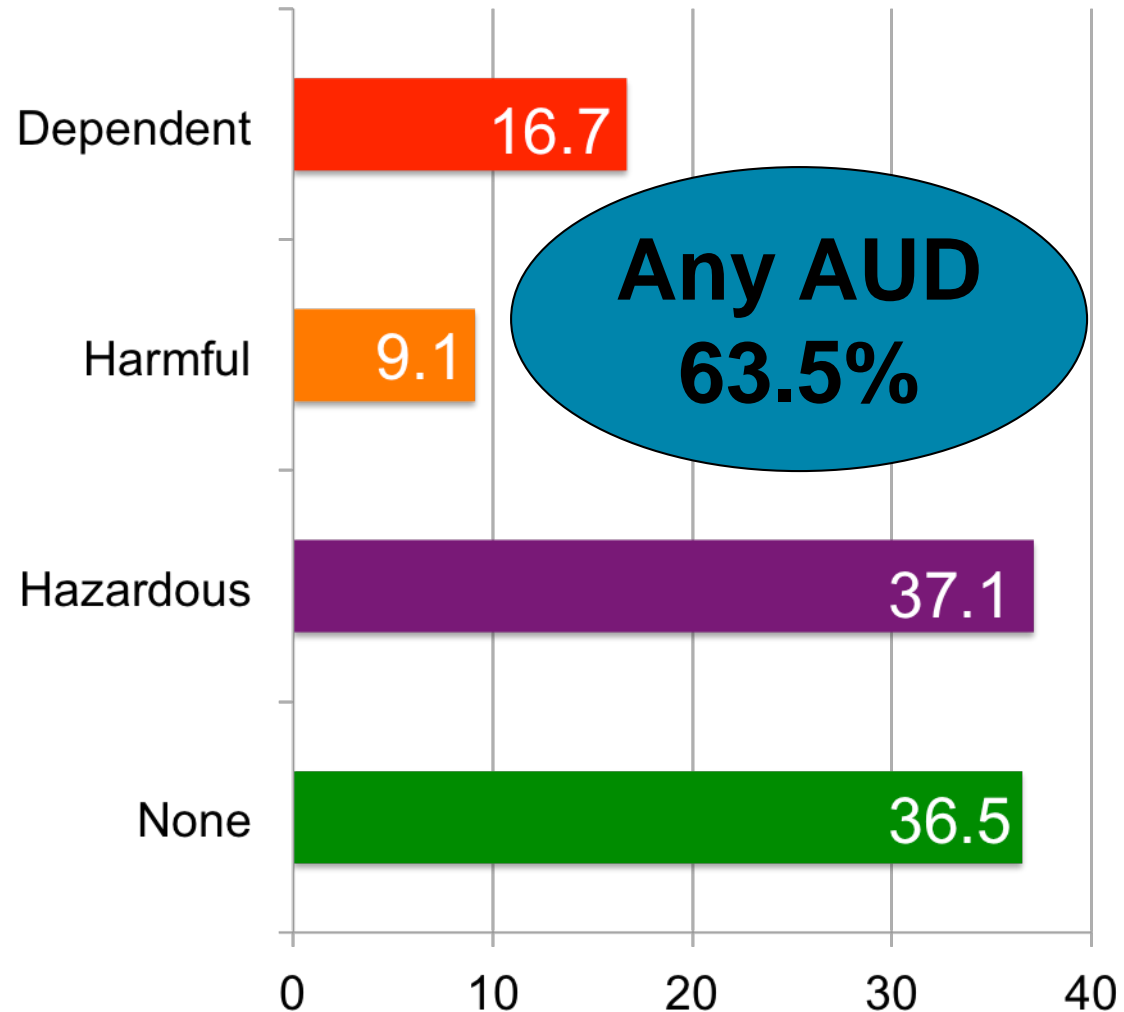
## Alcohol use disorders negatively influence antiretroviral medication adherence among men who have sex with men in Peru

Enrico G. Ferro<sup>a</sup>, Damian Weikum<sup>ab</sup>, Panagiotis Vagenas<sup>a</sup>, Michael M. Copenhaver<sup>c</sup>, Pedro Gonzales<sup>d</sup>, Jesus Peinado<sup>d</sup>, Robinson Cabello<sup>e</sup>, Javier R. Lama<sup>d</sup>, Jorge Sanchez<sup>d</sup> & Frederick L. Altice<sup>ab</sup>

*AIDS Care, 2014*

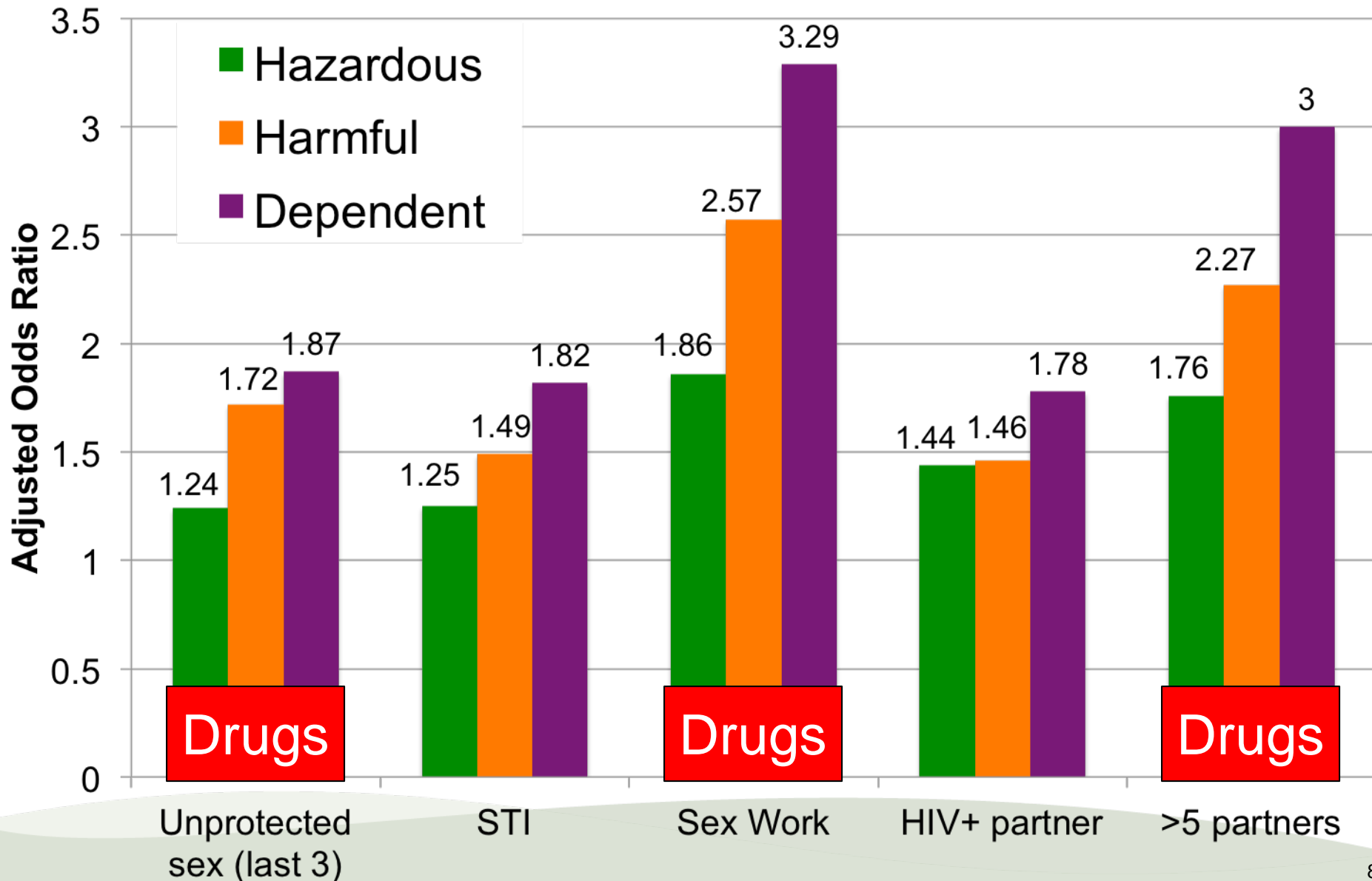
# Peruvian Biobehavioral Survey

- 5,148 biological men that reported sex with a man in the previous 12 months in five cities (half in Lima)
- TGW=700 (13.6%)
- Recent drug use (13.6%)





# Increased HIV Transmission Risk With Increasing Alcohol Use Disorder Severity in Peruvian MSM



# Correlates of Being Unaware of Being HIV+ Among Peruvian MSM

| Covariates                                  | Multivariate associations |                |
|---|---------------------------|----------------|
|   | AOR (95 % CI)             | <i>p</i> value |
| Unprotected sex with last partner           | <b>2.84 (1.09–7.40)</b>   | <b>0.032</b>   |
| Unprotected sex with any of last 3 partners | 1.24 (0.56–2.71)          | 0.596          |
| <b>Alcohol use disorder</b>                 | <b>2.14 (1.01–4.54)</b>   | <b>0.048</b>   |
| Syphilis infection                          | 0.52 (0.22–1.22)          | 0.135          |
| Age   | 0.97 (0.93–1.01)          | 0.087          |
|   | AIC = 201.2               |                |

**\* 90% of MSM were UNAWARE of being HIV+**

# **Alcohol Use and HIV Care**

# The Impact of Substance Use Disorders on HIV-infected Patients

- Over half of all HIV-infected patients in many settings have substance use disorders<sup>1</sup>
- The coexistence of drug or alcohol use and HIV is associated with each step of the HIV Continuum of Care<sup>2</sup>:
  - Delayed HIV diagnosis and care
  - Overlapping signs and symptoms that may complicate HIV care
  - Increased HIV morbidity and mortality
  - Poor adherence to antiretroviral therapy (ART)
  - Increased HIV transmission risk behaviors

1. Turner BJ, et al. *J Gen Intern Med.* 2001;16(9):625-633.

2. DHHS. *A guide to the clinical care of women with HIV/AIDS, 2005 edition.* <http://hab.hrsa.gov/publications/womencare05>. Accessed May 4, 2009.

# Alcohol and Substance Use is Associated With Delayed Presentation to HIV Care

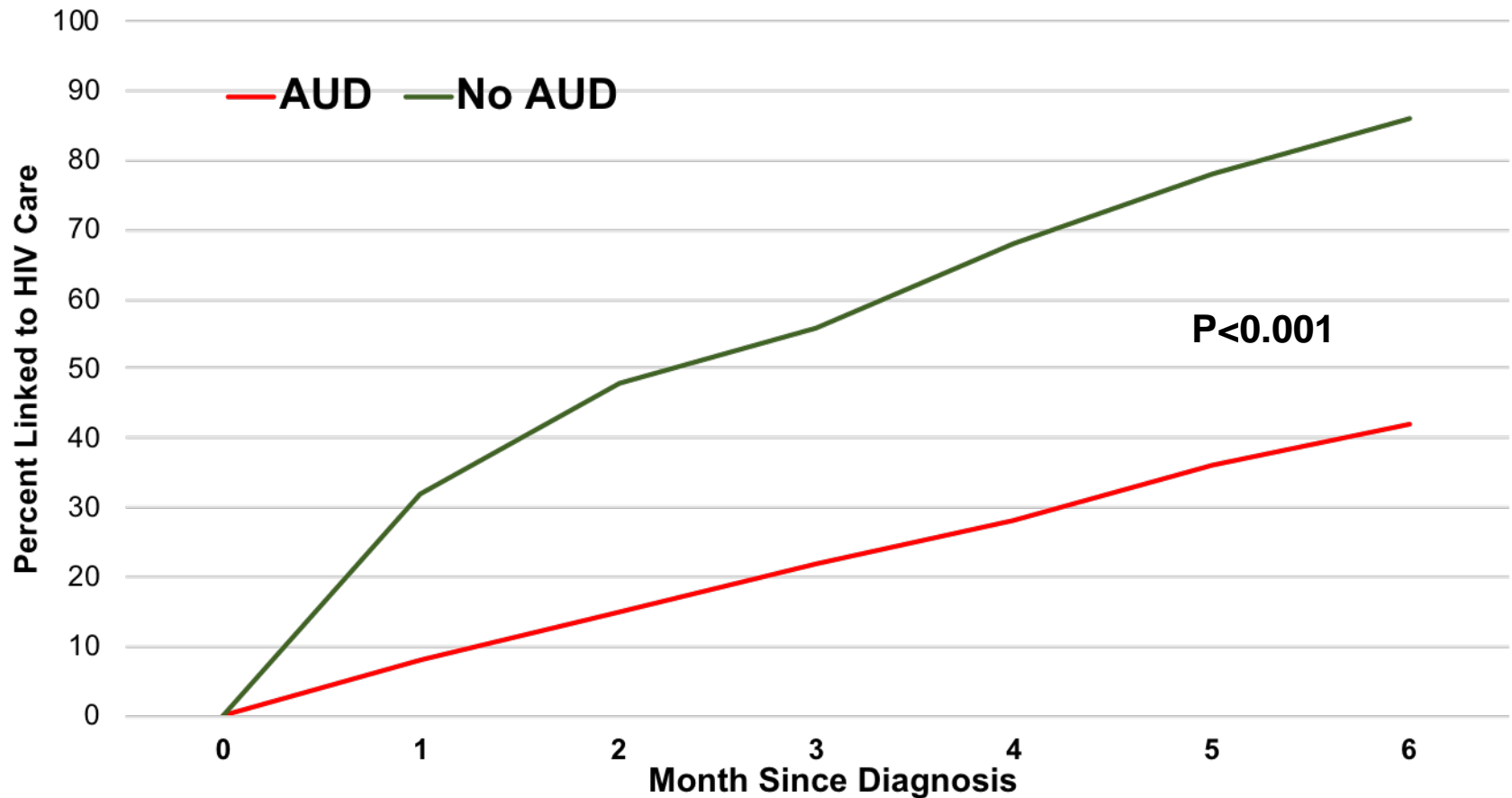
## Delay Between Positive HIV Test and Initial Presentation to Primary Medical Care (N=189)

| Patient Factors  | Additional Delay in Months (mean) | P    |
|--|-----------------------------------|------|
| Not having a spouse or partner                         | 8.6                               | .08  |
| Not having a living mother                             | 13.9                              | .01  |
| Not aware of HIV risk at testing <sup>a</sup>          | 18                                | .001 |
| Injection drug use                                     | 19.2                              | .001 |
| Not told of HIV-positive status in person <sup>a</sup> | 30.4                              | .002 |
| Alcohol use disorders <sup>b</sup>                     |                                   | .03  |
| Men  | 14.6                              | 0.01 |
| Women  | -10                               | .16  |

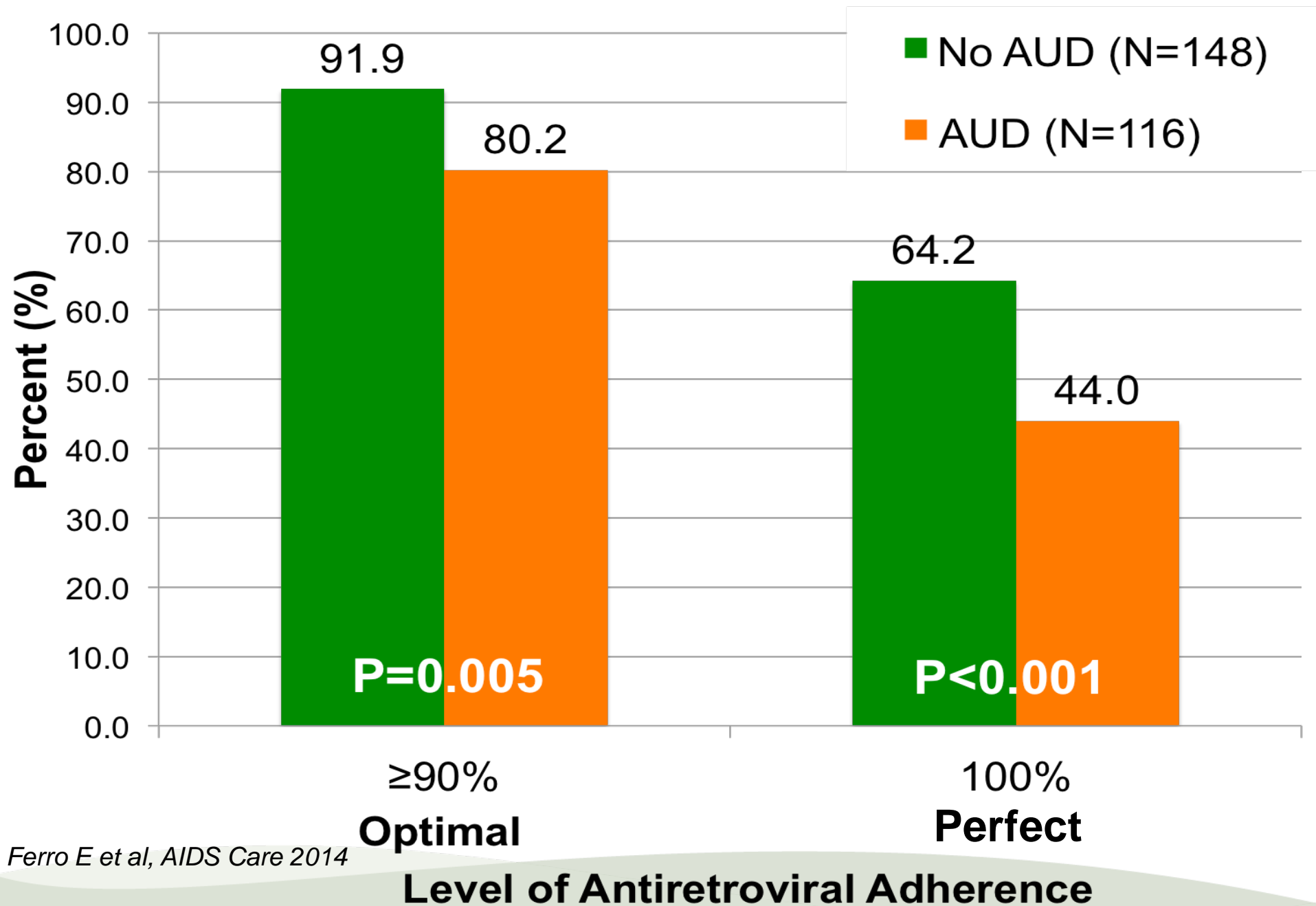
<sup>a</sup> N=187

<sup>b</sup> Assessment based on 4-question screening tool for alcohol and/or substance abuse (CAGE); delay significant in men, not women.

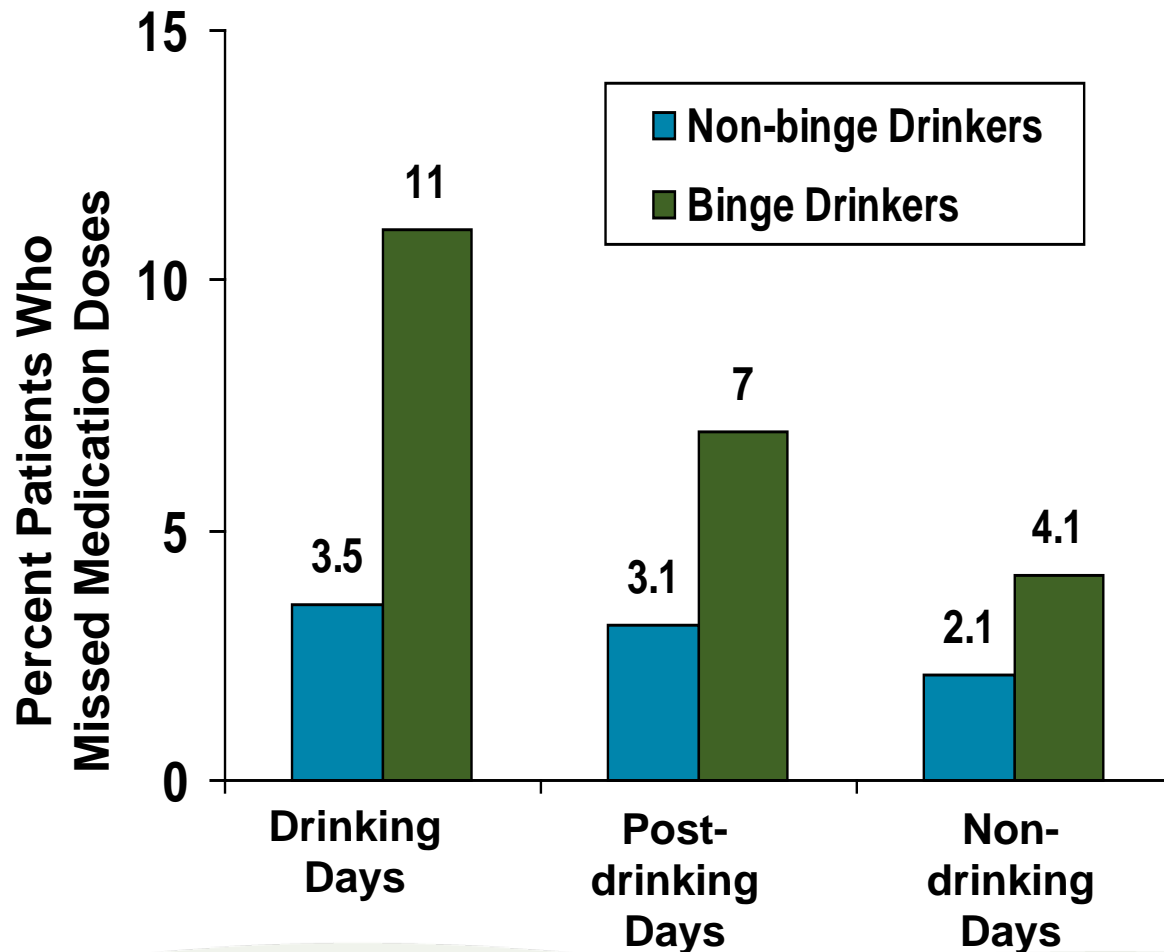
# Time to Linkage to HIV Care in Newly Diagnosed MSM/TGW in Peru (N=333)



*Lama JR et al, IBBS, 2010 (unpublished)*



# Binge Drinking Is Associated With Missed ART Doses (N=2702)



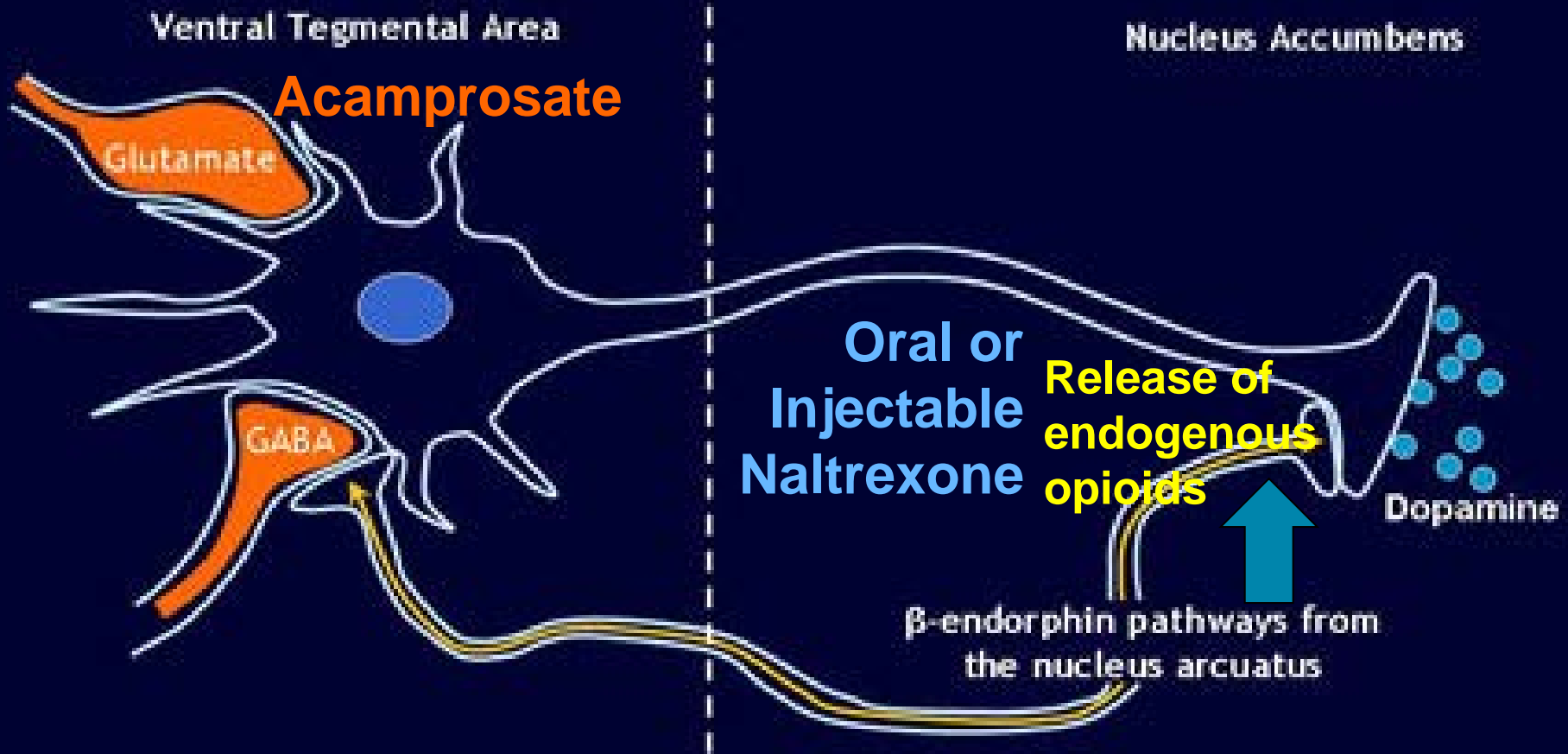
- Among patients who **abstained** from alcohol, 2.4% missed medication doses on a particular day
- In **BOTH** non-binge and binge drinkers, alcohol consumption was associated with missed doses on that day, and for the 2 days immediately following



# **Treatment for Alcohol Use Disorders**

## ***Impact on HIV Treatment Outcomes***

# Alcohol Affects Diverse Neurotransmitter Systems

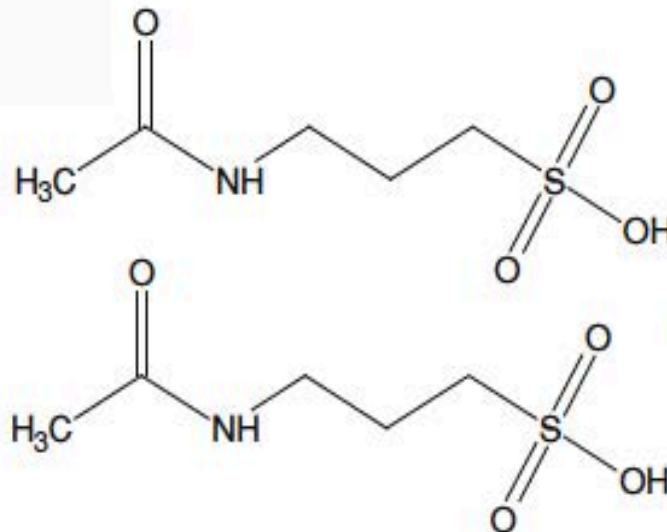
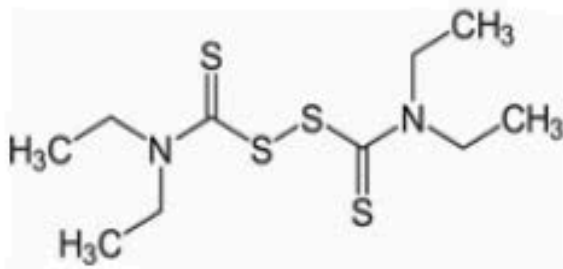


Alcohol releases opioid peptides that facilitate dopamine release

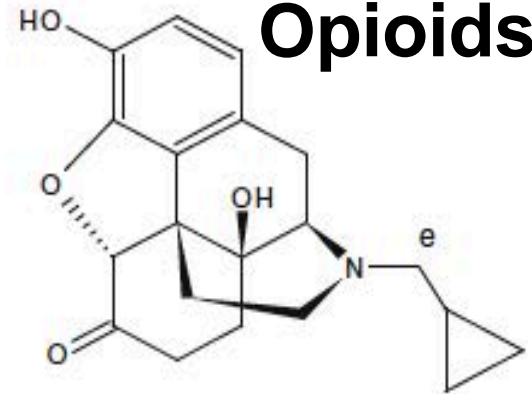
# 21<sup>st</sup> Century



## Glutamate



## Opioids

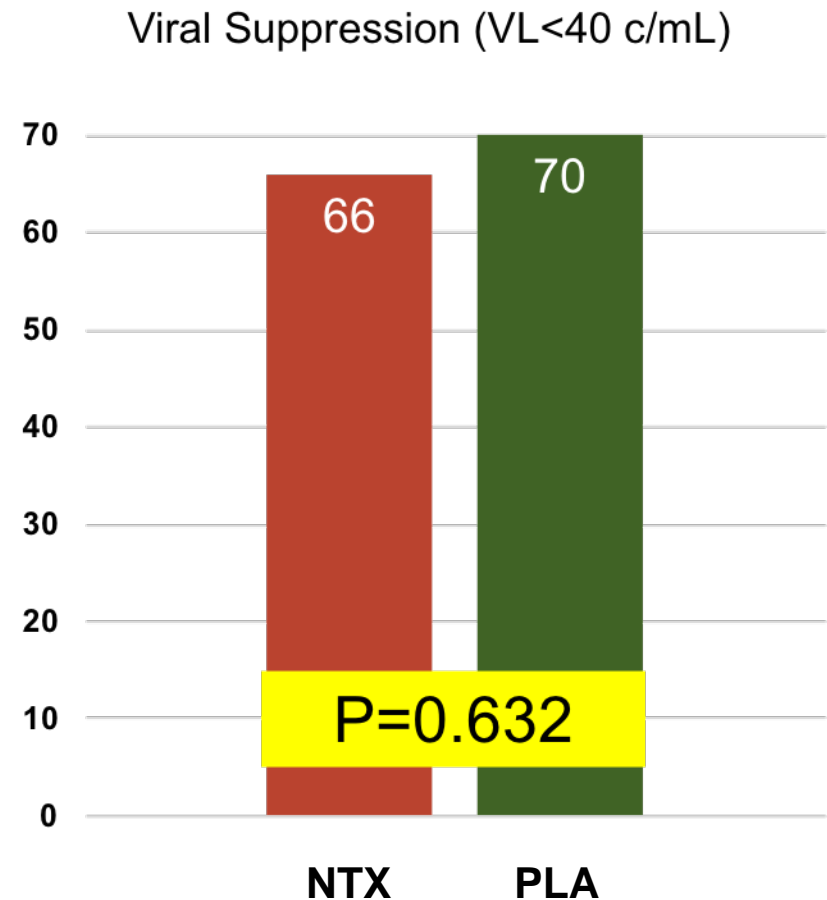


# Evidence-Based Treatment for Alcohol Use Disorders

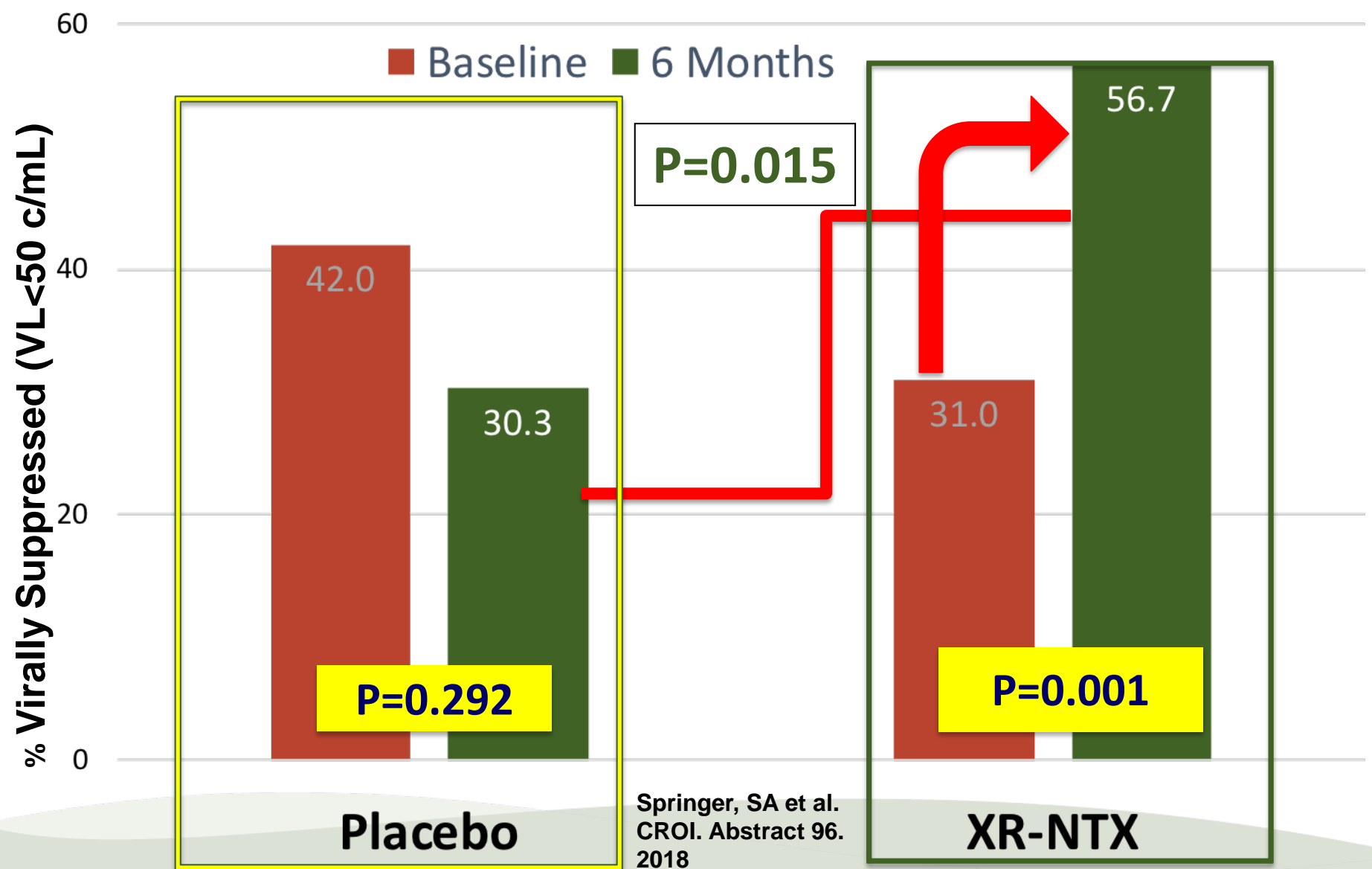
- Both naltrexone (oral and extended release formulations) and acamprosate are superior to placebo in RCTs (HIV+ patients excluded)
- COMBINE Study (head-to-head comparison)
  - Naltrexone (NTX) with medical management (MM) was superior to either an extended cognitive behavioral intervention (12 sessions), acamprosate or any combination of the above
  - Superiority outcomes included (best with >3 months of Rx):
    - Time to relapse
    - Decreased drinking and heavy drinking days
    - Abstinence

# Placebo-Controlled Trial of Oral Naltrexone in HIV+ MSM with AUD

- HIV+ MSM with AUD and initiating ART (N=159)
- Characteristics
  - Age (M=27 years)
  - Alcohol dependence (42%)  
Mod/Severe depression (47%)
  - Past 30-day drug use (16%)
- Similar baseline drinking and abstinence levels before starting NTX
- Poor adherence to NTX (64% →46% by 6 months) – lower in age<25 years



# Change in VS from Baseline to 6 months in HIV Prisoners Transitioning to the Community



# Multivariate Regression Analysis of Predictors of VS (<50 copies/ mL) at 6 months: INSPIRE

| Variables  | Odds Ratio                      | Lower CI     | Upper CI       | P-value                |
|--|---------------------------------|--------------|----------------|------------------------|
| Intercept  | 0.120                           | 0.02         | 0.84           | 0.032                  |
| <b>Treatment Arm</b><br>Placebo<br><b>XR-NTX</b>             | Referent<br><b>4.54</b>         | 1.43         | 14.43          | <b>0.009*</b>          |
| <b>Number of injections</b><br>2 or less<br><b>3 or more</b> | Referent<br><b>6.34</b>         | 2.08         | 19.29          | <b>0.001*</b>          |
| Cocaine Use Disorder   | 0.83                            | 0.66         | 1.04           | 0.112                  |
| Opioid Use Disorder  | 0.96                            | 0.79         | 1.15           | 0.645                  |
| Homelessness   | 0.45                            | 0.15         | 0.32           | 0.148                  |
| Major Depression   | 0.77                            | 0.17         | 3.52           | 0.735                  |
| <b>Race/ Ethnicity</b><br>Black<br>Hispanic<br><b>White</b>  | Referent<br>3.65<br><b>5.37</b> | 0.84<br>1.08 | 15.94<br>26.72 | 0.085<br><b>0.040*</b> |
| <b>Alcohol Improvement Score</b>                             | <b>1.43</b>                     | 1.03         | 1.98           | <b>0.033*</b>          |

# Extended-release naltrexone reduces alcohol consumption among released prisoners with HIV disease as they transition to the community



Sandra A. Springer<sup>a,b,\*</sup>, Angela Di Paola<sup>a</sup>, Marwan M. Azar<sup>a</sup>, Russell Barbour<sup>b</sup>, Archana Krishnan<sup>c</sup>, Frederick L. Altice<sup>a,b,d,e</sup>

*Drug Alcohol Depend*, 2017

- Validated a *new composite alcohol use outcome score* (derived from the COMBINE study)
  - Time to first heavy drinking day
  - Mean number of drinks/day (standardized)
  - Percent heavy drinking days
  - Change in average drinks/day
  - Total number of drinking days
- XR-NTX ↓ the time to first heavy drinking day for those under 30 years (size too small to assess in women)
- Alcohol composite scores improved more in those with 4 or more injections



# Men Who Have Sex With Men in Peru: Acceptability of Medication-Assisted Therapy for Treating Alcohol Use Disorders

**Shan-Estelle Brown, PhD<sup>1</sup>, Panagiotis Vagenas, PhD, MPH<sup>1</sup>,  
Kelika A. Konda, PhD<sup>2</sup>, Jesse L. Clark, MD<sup>2</sup>, Javier R. Lama, MD, MPH<sup>3</sup>,  
Pedro Gonzales, MD, MAS<sup>3</sup>, Jorge Sanchez, MD, MPH<sup>3</sup>,  
Ann C. Duerr, MD, PhD, MPH<sup>4</sup>, and Frederick L. Altice, MD, MA<sup>1,5</sup>**

- Themes
  - Skepticism that medications can treat AUD – perception of this being a moral weakness
  - Factors associated with willingness to take a medication
    - Cost
    - Family and social support
    - Ability to drink LESS, but not abstain completely since it was strongly cultural to drink socially

# Understanding the Differences

- LA injectable overcomes some of the adherence concerns in oral formulations
- Higher levels of dependent drinking in LA group (82% vs 42%)
- Younger age in the oral NTX study
- Oral NTX study involved new initiates to ART (i.e. motivational) vs long-term ART treated patients
- Cultural differences in alcohol expectancies in the two groups (e.g., criminal justice involvement and fear of reincarceration)

# Summary

- Alcohol is highly prevalent in MSM with or at risk for HIV **and** should be diagnosed and treated
  - Involves medications and counseling strategies
- It is important to use validated definitions for alcohol consumption and disorders
- Mixed findings from treating AUDs
- Consideration for using longer-acting NTX treatments – 3-month implants combined potentially with LA PrEP and ART

**Thank you!**  
**Muchas gracias!**  
**Muito obrigado!**