

SEXUALIZED DRUG USE: GLOBAL TRENDS AND THE EFFECT ON THE HIV EPIDEMIC

Steven Shoptaw PhD

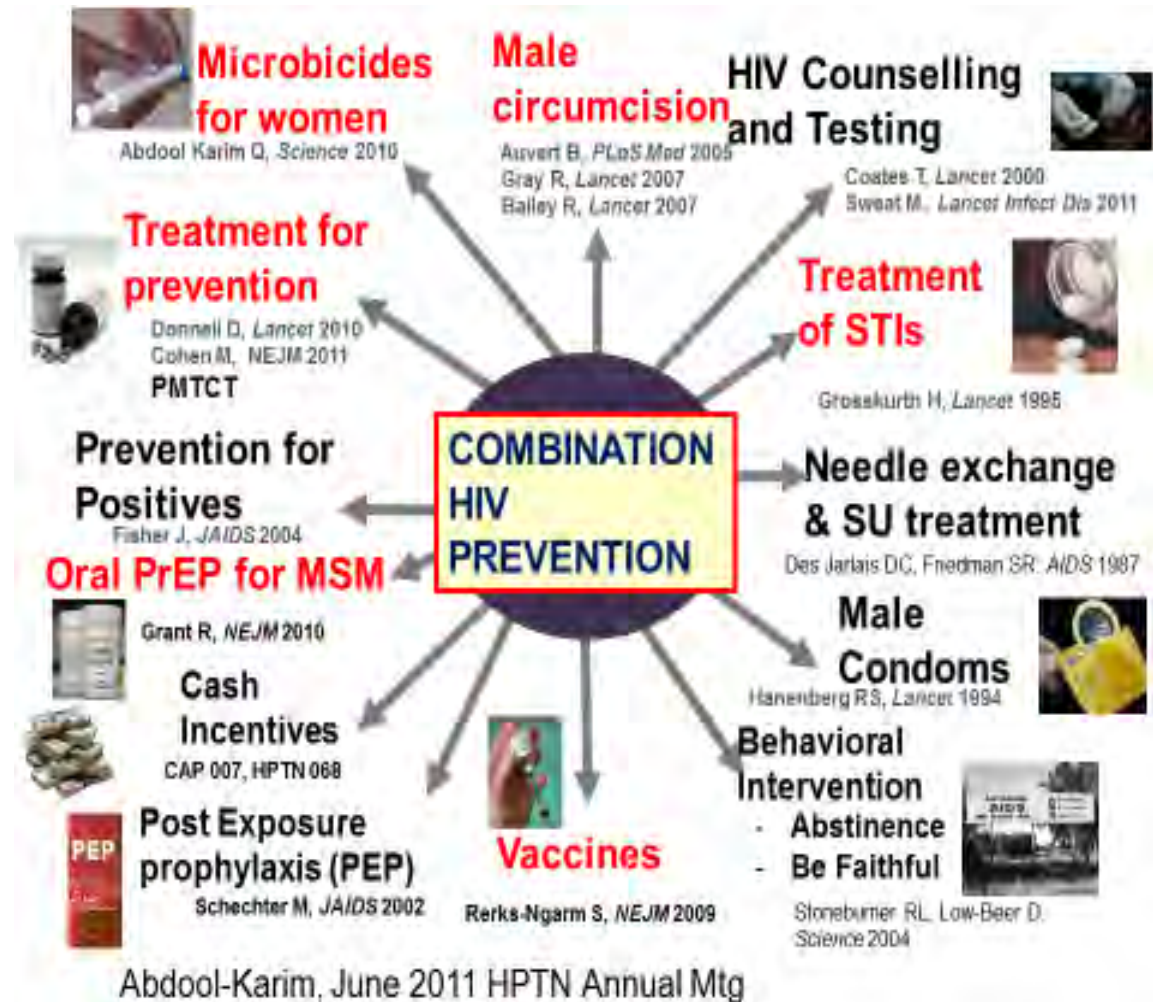
UCLA

June 4, 2019

Introduction

- Overview and Rationale
- Definitions in Drug Use
- Epidemiology on Links: Drug Use, Sexual Behaviors and Relevant HIV Outcomes
 - HIV Positive
 - HIV Negative
- Addressing Non-injection Substance Use Related Links to Relevant HIV Outcomes in HIV Prevention

80/20 Disaggregated HIV Prevention Strategy



- Those who can readily access and adhere to multimodal HIV prevention and care strategies do so
- Significant minority unable to sustain viral suppression (if positive) or to sustain PrEP vigilance (if negative)
- Disorganizing effects of substance use and mental health disorders link with deficits in relevant HIV outcomes

Not Just the Needle: The State of HIV-Prevention Science Among Substance Users and Future Directions

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Irene Kuo, PhD, MPH,†† Francisco I. Bastos, MD,‡‡ and Steffanie A. Strathdee, PhD§§
(*J Acquir Immune Defic Syndr* 2013;63:S174–S178)*



HIV Outbreaks for PWID

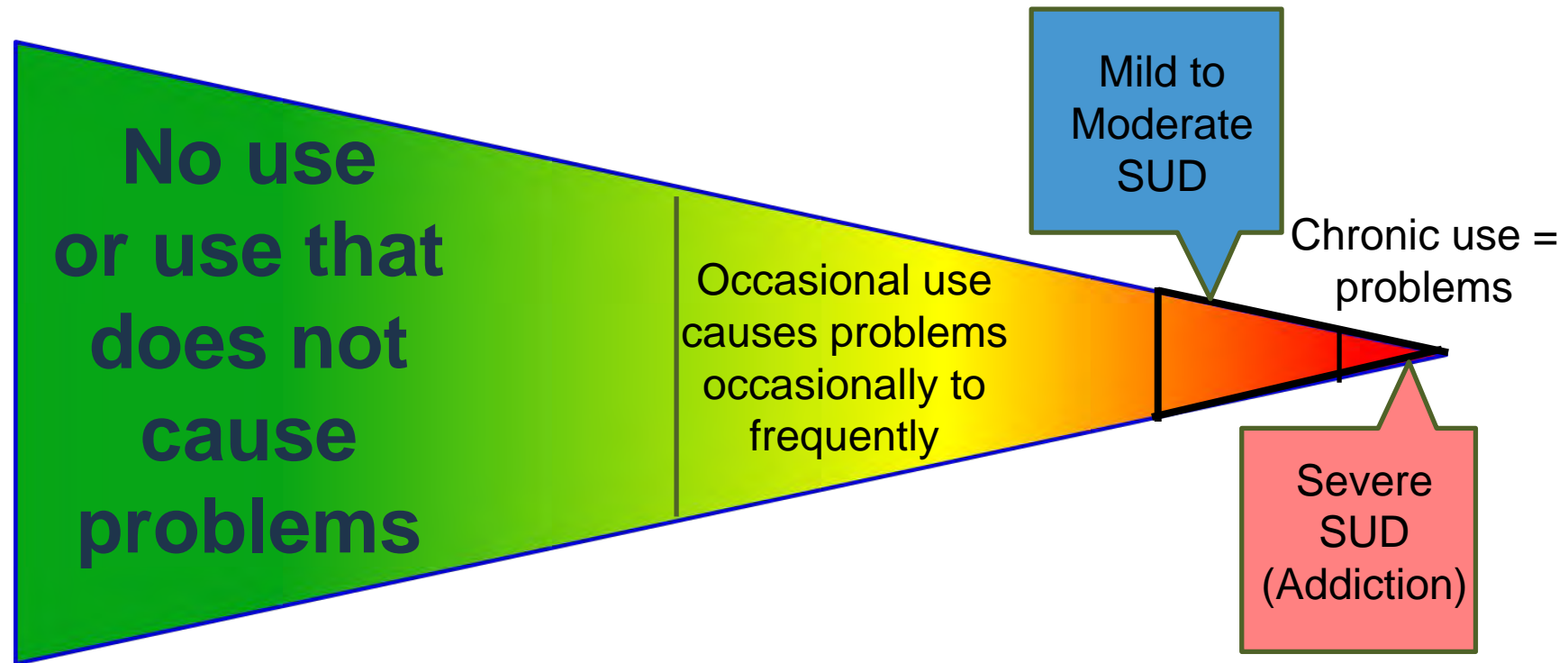
Scott County IN

West VA

Lowell and Lawrence MA

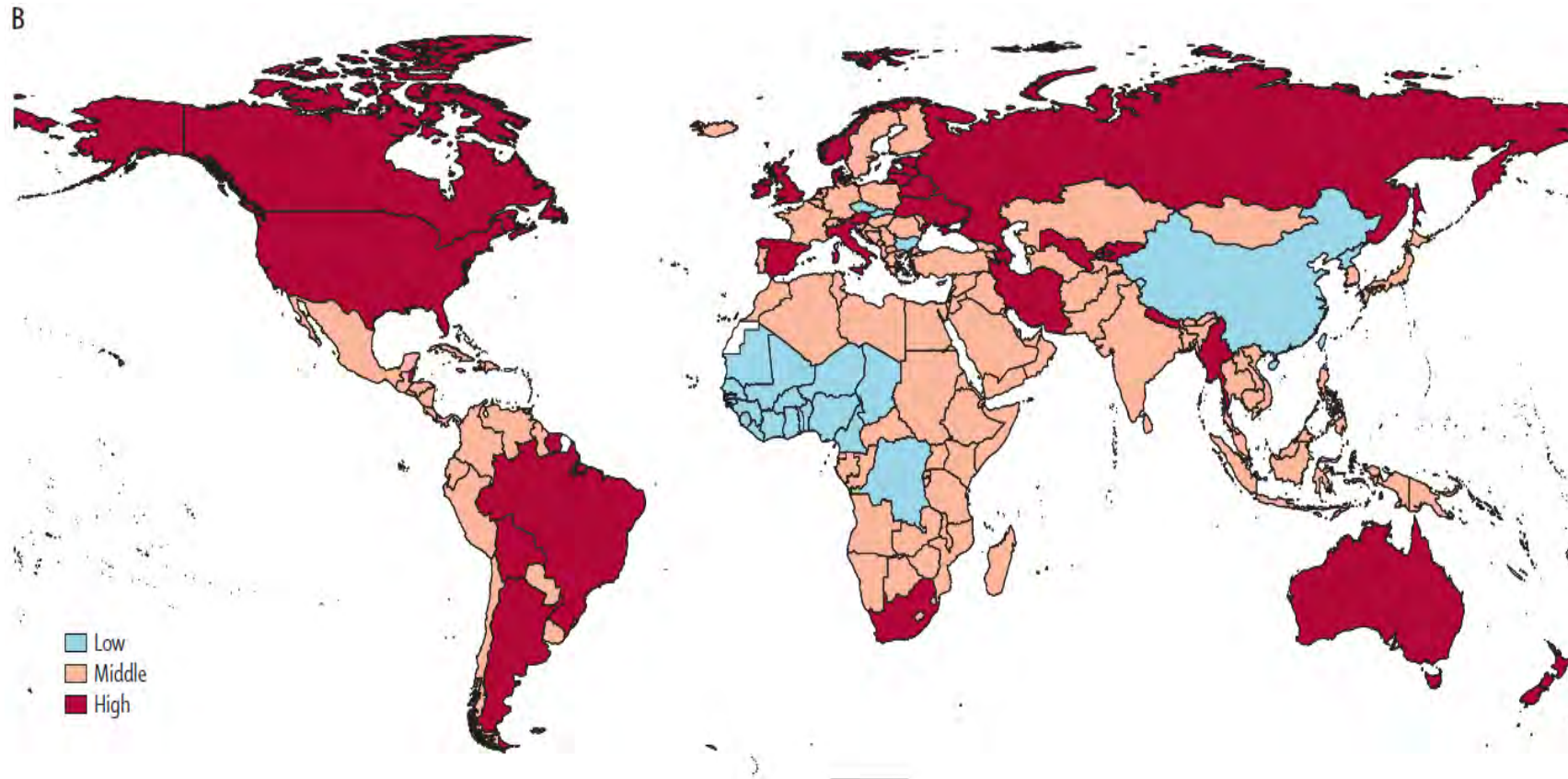
Seattle WA

Definitions of a Spectrum: Drug Use to Drug Use Disorder, Mild to Moderate to Severe



Fun → Fun with Problems → Problems

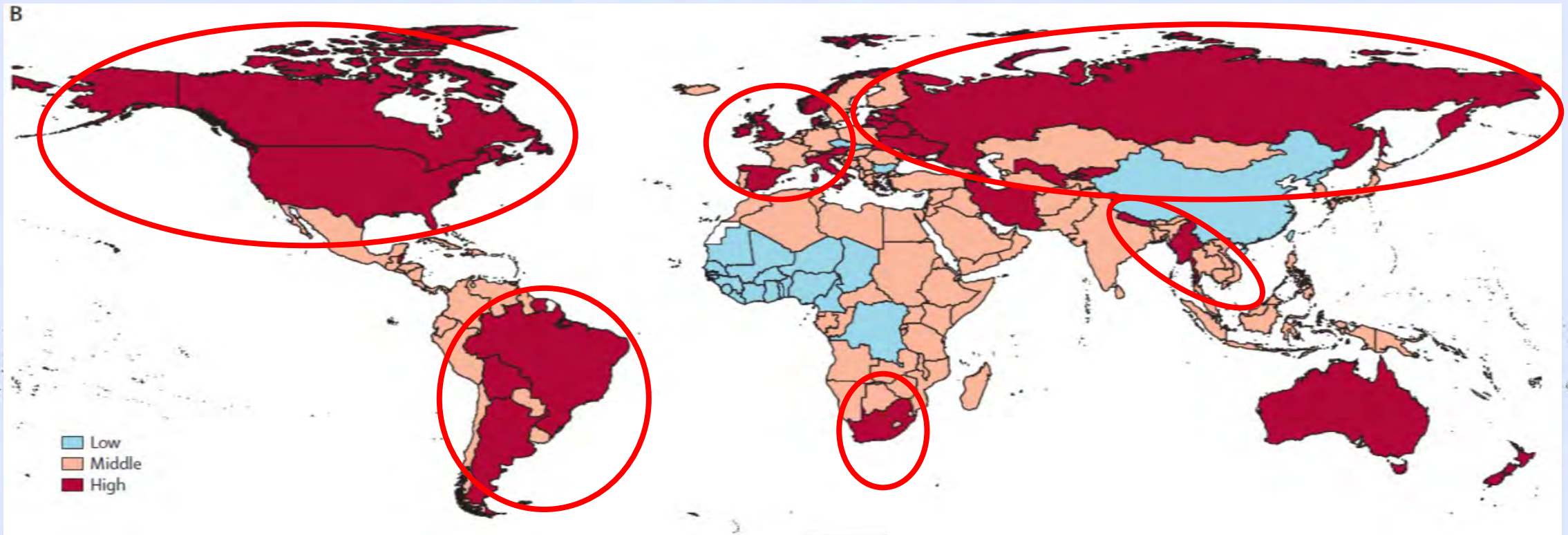
Global Burden of Amphetamines, Cannabis, Cocaine, Opioids – DALYs



Degenhardt et al., LANCET, 2014

CO-LOCATION: MODERATE-TO-HIGH LEVELS OF HIV AND PROBLEM LEVELS OF NON-INJECTION DRUG USE

Prevalence of HIV among adults aged 15 to 49, 2017
By WHO region



Prevalence (%) by WHO region

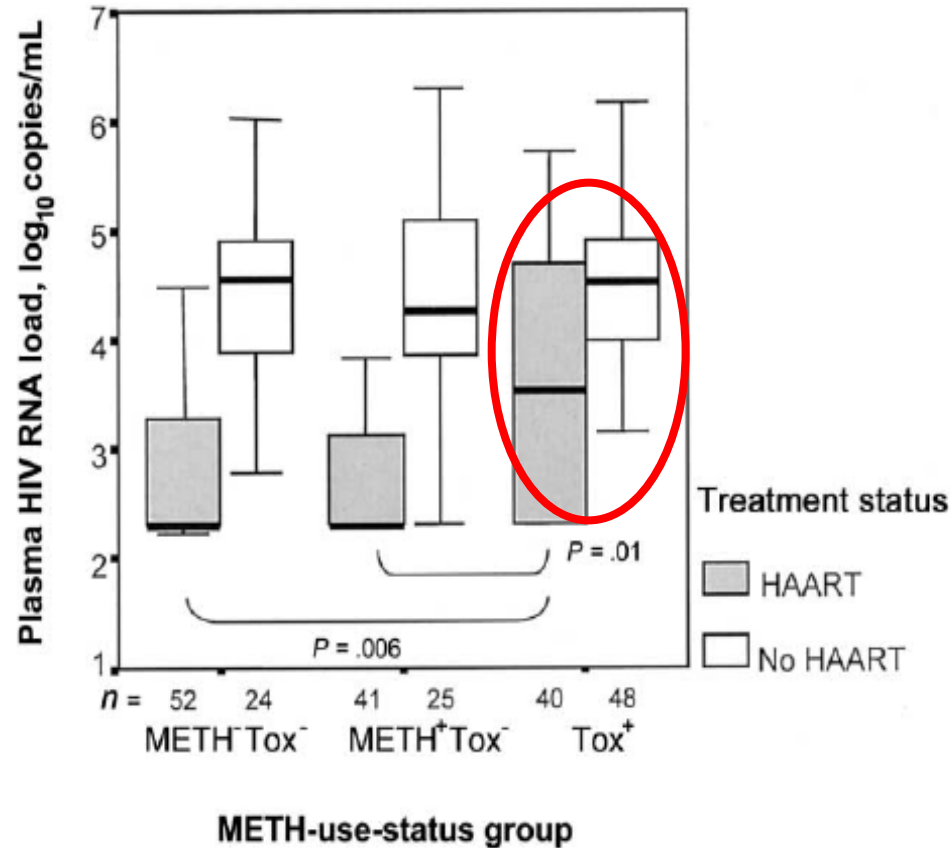
Eastern Mediterranean: 0.1 [$<0.1-0.1$]	Europe: 0.4 [$0.4-0.4$]
Western Pacific: 0.1 [$<0.1-0.2$]	Americas: 0.5 [$0.4-0.6$]
South-East Asia: 0.3 [$0.2-0.4$]	Africa: 4.1 [$3.4-4.8$]

Global prevalence: 0.8% [$0.6-0.9$]

Many PLWHA drink alcohol

- Meta-analysis of 21 intervention studies of >8400 PLWHA, ~69% problem drinkers, ~47% had alcohol use disorders, 51% use drugs with alcohol (Scott-Sheldon et al. AIDS Behav. 2017, 21(S2):126-143)
 - Interventions reduced VL compared to controls
- Meta analysis of Latin American studies, >22K PLWHA, 53 studies show 70% adherent to ART
 - Comorbidities of alcohol use, substance use, depressive symptoms, high pill burden, unemployment and unstable housing (de Mattos Costa et al. *JIAS*, 2018, 21:e25066)

Methamphetamine Effects on HIV Transmission...



- A biological mechanism to explain a behavioral assumption

Recent Methamphetamine Use Is Associated With Increased Rectal Mucosal Inflammatory Cytokines, Regardless of HIV-1 Serostatus

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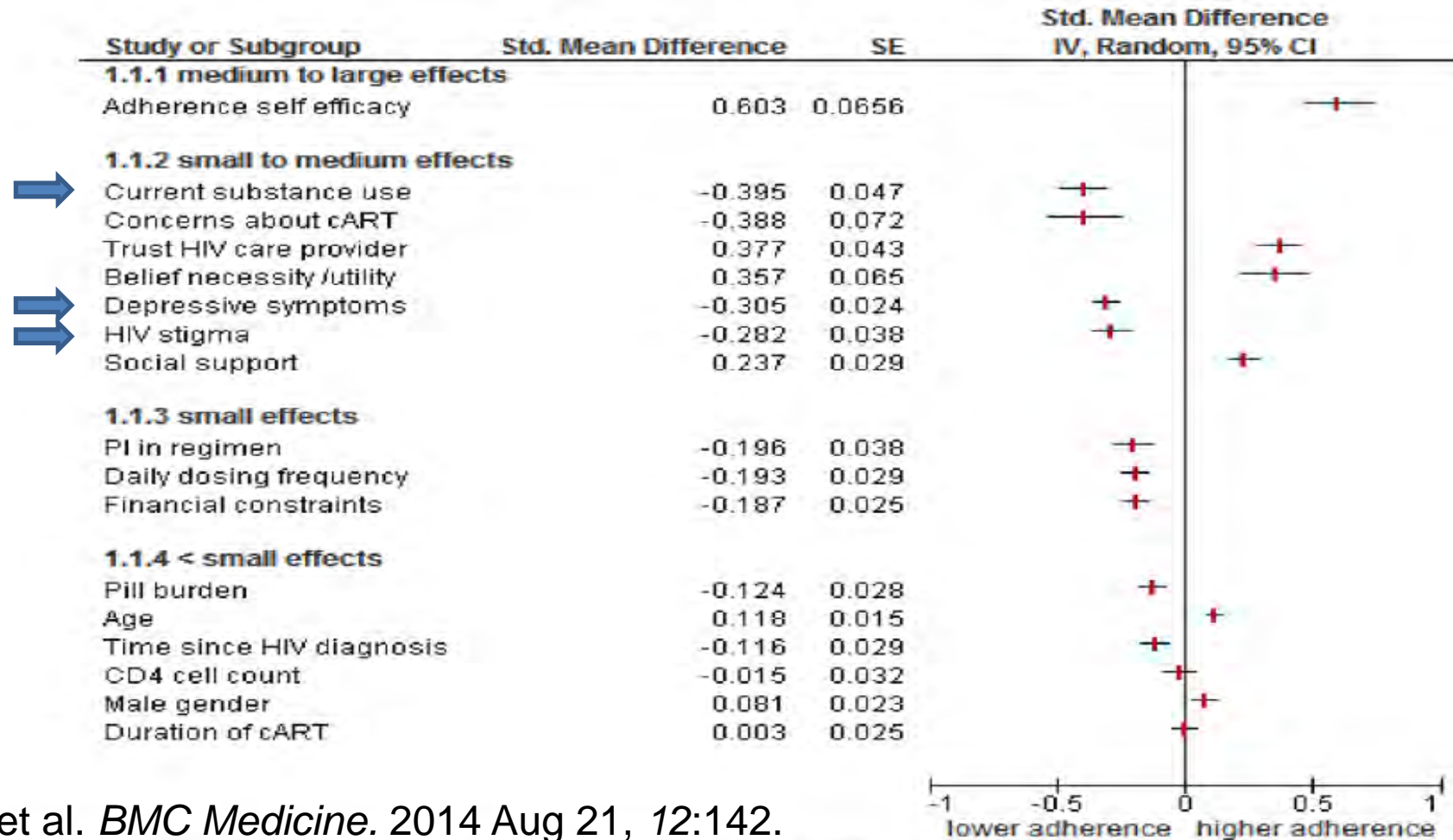
Fulcher et al. *JAIDS*. 2018, 78: 119-123

Ellis et al., 2003, *JID*: 188:1820-26

Depression and Viral Load

- Depression is most common comorbidity for PLWHA, with 20-33% affected
 - **For Latin America** (de Mattos Costa et al. *JIAS*, 2018, 21:e25066)
 - **For Sub Saharan Africa** (Heestermans T et al. *BMC Glob Health*, 2016 Dec 30, 1(4):e000125)
- Depression is very common comorbidity to non-injection substance misuse
- Depressive symptoms interfere with HIV disease progression beyond ART, ↓ CD4+ counts, ↑ VL (Carrico AW et al. *JAIDS*, 2011, 56:146).

Meta analysis: ART Adherence, Substance Use, PLWH







Langebeek N et al. *BMC Medicine*. 2014 Aug 21, 12:142.

Figure 2 Predictors/correlates of adherence to anti-retroviral therapy (ART).

HPTN 063 Substance Use, Adherence, Viral Load Levels





Tsuyuki K. et al. *AIDS & Beh.* 2019 23(3):649-660

	Thailand	Brazil
3 month substance use ↓ Undetectable Viral Load?		
Did Adherence mediate this link?		

In Brazil MSM, alcohol misuse links with viremia;
Number of substances links with viremia in het men

Depressive Symptoms, Adherence, Viral Load Levels

Tsuyuki K. et al. *AIDS & Beh.* 2019 23(3):649-660

	Thailand	Brazil
Substance use, Dep Sxs-> Detectable Viral Load?		
Did Dep Sxs mediate this link?		

In Thailand MSM, alcohol misuse ↑ Dep Sxs, but not VL

Key HIV-negative Populations, Non-injection Drug Use, HIV Markers

Women/Girls – Generalized epidemic

- Alcohol – risks for HIV, STIs, unintended pregnancy, IPV, Fetal Alcohol Syndrome
- Stimulants – stigma; sex – both interest and risks; weight loss (+!)
- Poly Substance Use – nayope, alcohol, cannabis

Transgender women

- Substance use facilitates sex risk (Global Findings); high HIV prevalence

MSM – Chemsex

- Stimulants – 16%-33% attributable risk to HIV incidence
- Poly Substance Use – ED drugs, “poppers,” fentanyl?

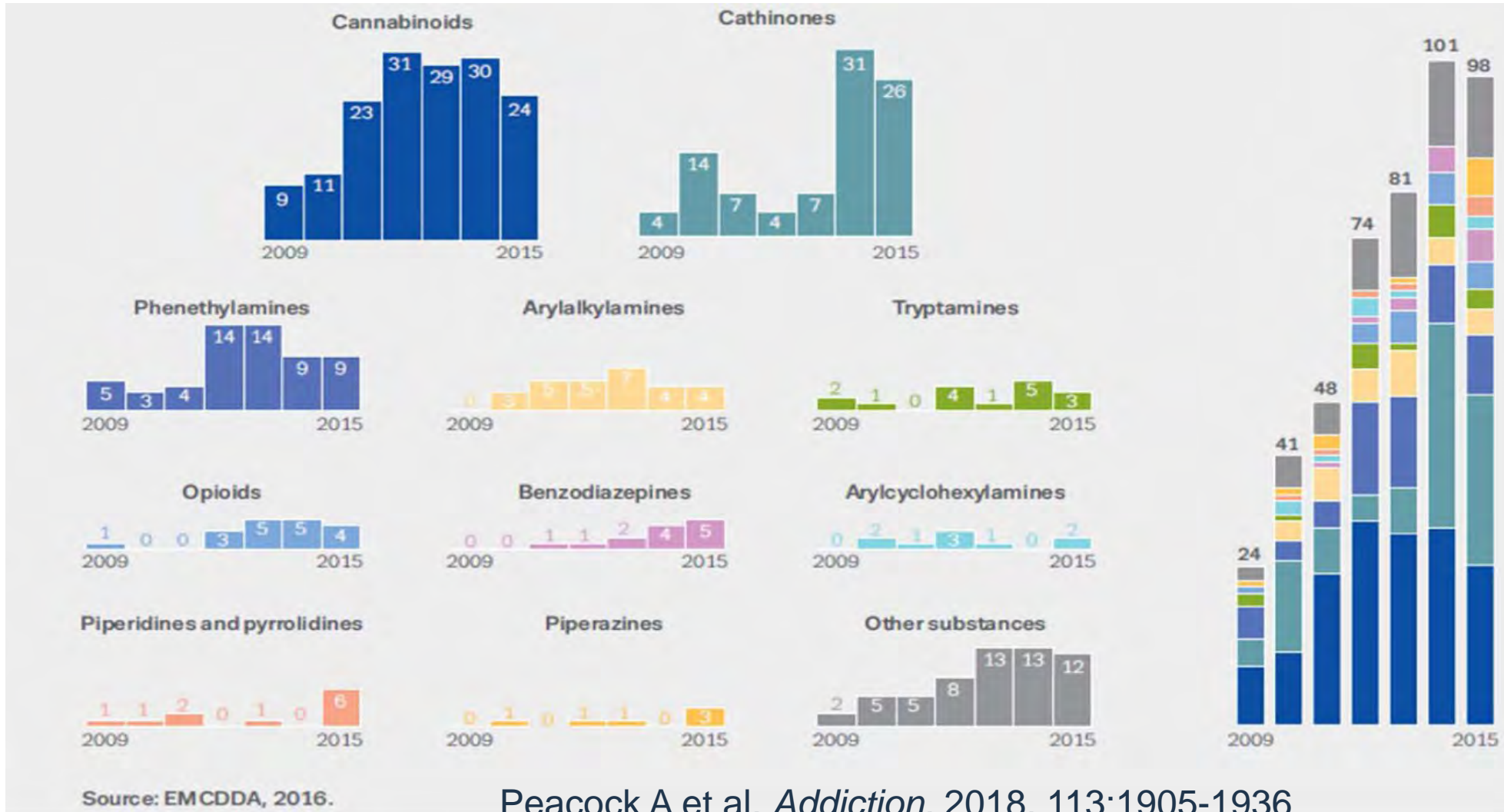
Female (and Male) Sex Workers

- Stimulants – many sex-functional purposes; linked with HIV incidence when used to enable sex work
- Poly Substance Use (including opioids)

Youth: Meta Analysis of Substance Use, HIV, Comorbid

	Tobacco	Alcohol	Cannabis	Other Illicit Drugs
Addiction	✓ ✓	✓ ✓	✓ ✓	✓ ✓
Depression	✓	✓	✓	✓
Anxiety	✓	✓	✓	✓
HIV, HCV, STIs	✗	? ✓	✗	✓ ✓

NPS – The Next Frontier? – New Drugs by Year



Summary

For the 80:

- Among those who can maintain HIV care and prevention, provide medicines and support to sustain suppression and prophylaxis

For the 20: (esp in areas with co-located non-injection drugs and HIV)

- Conduct epi to monitor HIV hot spots and drugs linked to them
- Integrated culturally competent HIV prevention services for key populations using non-injection drugs and encounter HIV risks
 - Women (and their male sex and drug partners), Trans Women, MSM, Sex Workers (♀ & ♂), Youth
 - Simultaneous services to meet mental health needs, physical health needs, inconsistent access to social determinants

Next Steps in HPTN to Address the 20...

- Cross scientific committee involvement to develop whole person, integrated strategies for HIV prevention
 - Optimize value of data collected in large studies and Vanguard studies to guide integrated prevention in key groups of people living with or at risk for HIV who use drugs, but don't inject
 - Develop concepts that address HIV prevention needs *and* comorbid conditions of mental illness, substance misuse and inconsistent access to social determinants of health
- Prioritize investments in global and domestic HIV prevention research with key populations who use non-injection substances

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