



Uganda Russia Boston Alcohol Network for  
Alcohol Research Collaboration on HIV/AIDS

# Russia ARCH

What We Learned and What We Still Can  
Learn

URBAN ARCH Annual Meeting  
May 10th, 2022



**1<sup>st</sup> Pavlov**  
First Pavlov State Medical  
University of St. Petersburg

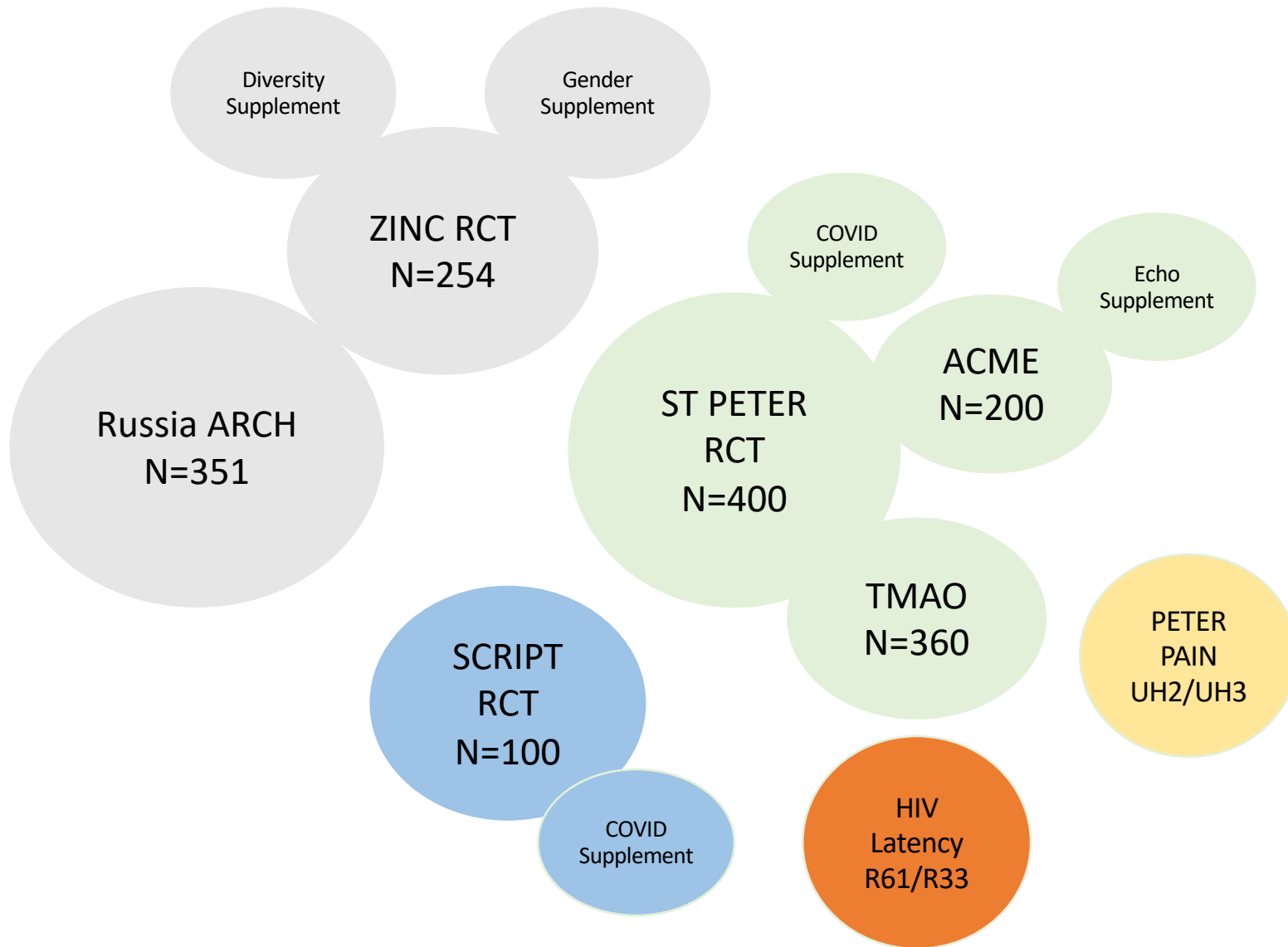
VANDERBILT UNIVERSITY  
MEDICAL CENTER





## Russia ARCH (2011 – 2022)

- Russia ARCH observational cohort (n=351)
  - HIV+; +/- alcohol use
  - ZINC nested RCT (n=254)
    - HIV+; heavy alcohol use
- St PETER RCT (n=400)
  - HIV+; daily smokers; heavy alcohol use
  - TMAO nested observational cohort (n=360)
  - ACME nested observational cohort (n=200)
- PETER PAIN UH2 (n=11)/UH3 (n=45)
  - HIV+; chronic pain; alcohol use
- SCRIPT Stigma RCT (n=100)
  - HIV+; current injection drug use





## Published Paper Topics

inflammatory biomarkers PrEP care cascade

depression PEth mortality injection drug use

immune dysfunction HIV alcohol HCV

food insecurity T cells smoking liver disease

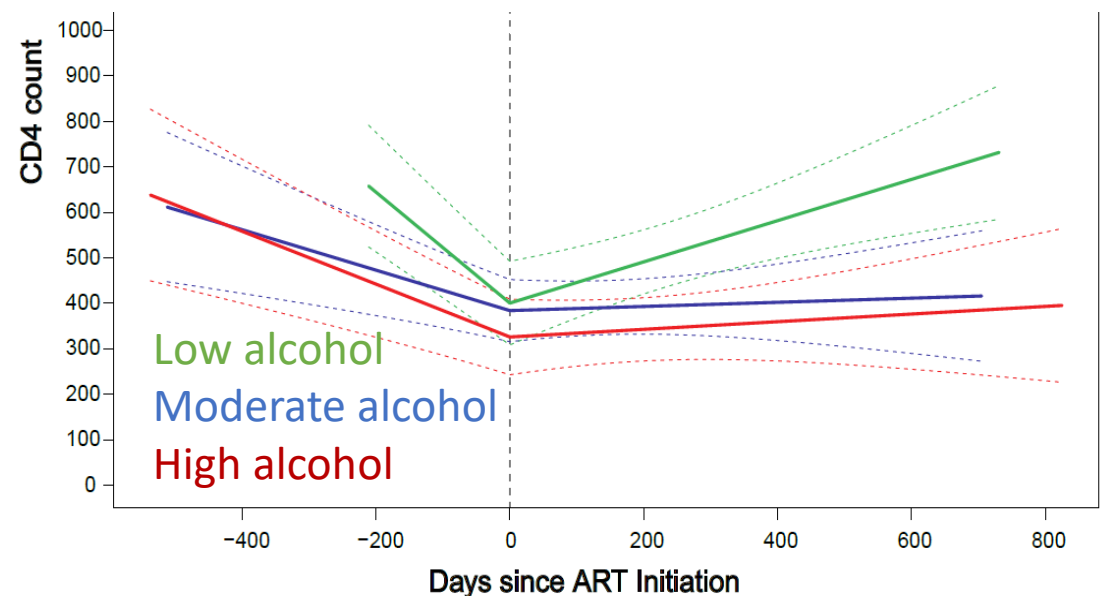
substance use zinc cannabis serodiscordance

opioids stigma



## The association of alcohol & immune function in people with HIV (PWH)

- Greater alcohol use is associated with:
  - Higher sCD14, IL-6, D-dimer over time<sup>1</sup>
  - Slower CD4 recovery after ART initiation<sup>2</sup>





## Unanswered questions

- Alcohol and inflammatory burden in PWH
- Alcohol and comorbidity in PWH
  - Lung function in TB



## ZINC HIV RCT

- Zinc supplementation did not reduce mortality risk, increase CD4 T cell counts, lower cardiovascular disease risk, or levels of inflammation and microbial translocation in PLWH with heavy alcohol use<sup>1</sup>



<sup>1</sup> Freiberg JAMA Network Open, 2020



## Unanswered questions

- Post-hoc secondary analysis involving all time-points suggested a “benefit”
- Other pilot studies suggest a benefit to zinc for reduction of inflammation<sup>2</sup>
  - Should prompt future studies with larger power





## Smoking cessation medications for alcohol reduction (St PETER HIV RCT)

- All participants were PWH with risky drinking and daily smoking and received both an active medication and a placebo. We did not detect differences between varenicline, cytisine, and NRT on any alcohol consumption or smoking outcomes<sup>1</sup>
  - In all arms, there was a reduction in both smoking and drinking
  - Post-hoc analysis suggests that those who quit smoking also had lower levels of drinking

<sup>1</sup> Under review



## Unanswered questions

- To determine if anti-smoking medications reduce alcohol directly or indirectly (through smoking cessation)





# Novel medications for pain among PWH with heavy drinking

- Pain associated with substance use & HIV risk<sup>1</sup>
- Nalmefene was not tolerable<sup>2</sup>
- In an RCT, no significant differences in pain severity/interference between low-dose naltrexone and placebo, and gabapentin and placebo<sup>3</sup>
  - Pain scores in all 3 groups decreased
- Future steps
  - Gabapentin for HIV and heavy drinking (GRAIL)
    - Collect data on pain for secondary analyses



# Stigma among people who inject drugs (PWID) with HIV

- Poor mental health and unhealthy alcohol use correlate with high stigma<sup>1</sup>
- Intersectional stigma is associated with less care utilization<sup>2</sup>
- Behavioral stigma coping intervention increases care engagement<sup>3</sup>
- Pandemic impact on PWID with HIV in Russia: less policing, less barriers to HIV treatment<sup>4</sup>



# Unanswered questions

- Intersectional stigma
- Implementation strategies





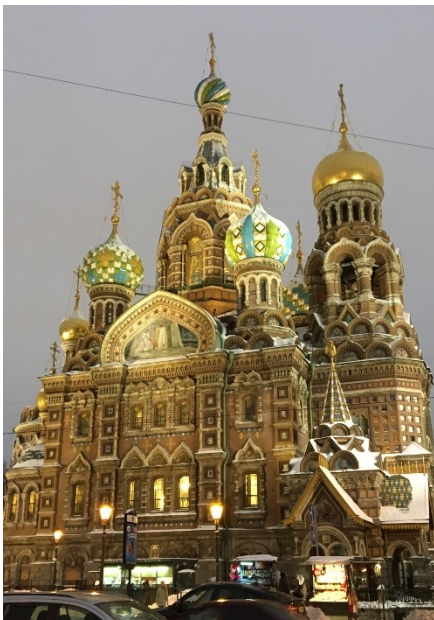
# What we can still learn

- Other examined topics
  - Food insecurity
  - Depressive symptoms & anxiety
  - Serodiscordance
  - Liver disease
  - HCV
  - Other substance use (opioids, cannabis)



# Potential future research questions

- Alcohol/tobacco use impact on pain and other HIV symptoms
- Co-use of substances- does change in one prompt change in others (i.e., alcohol and smoking)?
- Social determinants of health among Russian PWH who inject drugs
- Screening strategies related to prevention efforts
- Intersectional stigma, multi-level interventions
- Liver fibrosis and TMAO
- Oxidative stress, alcohol, smoking, and cardiac function
- Opioid exposure and cardiac structure and function



# Questions?

