Panel Session – Local Research Opportunities and Challenges

2019 Medical Cannabis Symposium
Rutgers University and New Jersey Department of Health

December 18, 2019
Objectives and Disclosures

• At the conclusion of this presentation, the participant should be able to:
  – Recognize on-going work of local clinicians and researchers working on collateral issues related to medical cannabis
  – Describe challenges and research priorities related to medical cannabis use

• Moderators and panelists report no financial disclosures with regard to content
Moderators and Panelists

• Mary Bridgeman, PharmD, BCPS, BCGP
  – Clinical Professor
  – Ernest Mario School of Pharmacy

• Jill Williams, MD
  – Professor of Psychiatry
  – Director, Division of Addiction Psychiatry
  – Rutgers, Robert Wood Johnson Medical School

• Panelists:
  – Qiana Brown, PhD, MPH, LCSW
  – Kimberlee S. Moran, MSc, RPA
  – Marc Steinberg, PhD
  – Jiang-Hong Ye, MD, MSc
Prenatal Cannabis Use: A Model To Inform Socioenvironmental & Clinical Prevention Strategies

Qiana L. Brown, PhD, MPH, LCSW
Assistant Professor
Rutgers Schools of Social Work & Public Health
Director, The SURE MatCH Group
@ RU_SUREEMatCH
Clinical & Translational Science Scholar

Funding: KL2TR003018 NCATS / CTSA / NJ ACTS
Brown et al., 2017 (JAMA)

2015-2018 Trends in prenatal cannabis use

Image obtained from Governing.com

SAMHSA, 2019
Conceptual model adapted from Brown and Hasin, 2019 (Addiction)
Kimberlee S. Moran, MSc, RPA
Associate Teaching Professor & Director of Forensics,
Department of Chemistry Rutgers-Camden
Moran Lab at Rutgers-Camden

• Human remains recovery
• Taphonomy
• Fingerprint Enhancement
• Ancient fingerprints
• Environmental evidence
• Postmortem Toxicology
• Other analytical chemistry
Cannabis-Related Research

• Interested in projects with a forensic application

• Policy implications
  • *per se* laws
  • Cannabis vs. alcohol

• Work-place drug testing
  • Currently no requirement for confirmatory testing or quantification

• Forensic caseload & laboratory impacts
Cannabis-Related Research

- THC concentrations in CBD products
  - Labels don’t reflect actual contents
- CBD transformation to TCH
  - False-positive TCH results
  - Chemical transformations
- Pesticide contamination
- Vape cartridge deterioration
- Collaboration with Dr. Gene Hall, Dept of Chemistry, RU-NB
Interest in Quitting E-cigarettes Among Adults in the United States

Participants were 1771 current e-cigarette users in the US participating in Wave 3 of the Population Assessment of Tobacco and Health (PATH) study

62% plan to quit e-cigarette use for good

Of those... about 15% plan to quit in the next month with 8% planning to quit as soon as the next week

More than 25% tried to quit in the past year

Rosen RL & Steinberg ML.. *Nicotine & Tobacco Research, 2019*

[https://doi.org/10.1093/ntr/ntz062](https://doi.org/10.1093/ntr/ntz062)
How can we best instigate quit attempts in non-treatment seekers

- Smokers with serious mental illness
- Smokers from socioeconomic status

Task persistence predicts smoking cessation and is lower in smokers with schizophrenia than those without psychiatric disorders.
Cannabis research interests

- Comorbid cannabis and tobacco use
- Cannabis use and psychological correlates / psychiatric symptoms
- Relationship between cannabis use and tobacco cessation
Jiang-Hong Ye, MD, MSc
Professor, Department of Anesthesiology, Pharmacology, Physiology, and Neuroscience
Rutgers, New Jersey Medical School
Pain hypersensitivity (A) is accompanied with hyperactivity & hyper-glutamatergic state of LHb neurons (B) in alcohol dependent rats. (C) There was a positive correlation between the initial firing rate & sEPSC frequency, which is greater for EtOH-WD (Δ) then naïve (□) rats.
Activation of CB1R in the LHb reduces pain in alcohol-dependent rats

CB1R is reduced but MAGL is increased in the LHb of Post-EtOH rats. (A, B). CB1R was reduced but MAGL was increased in the LHb of Post-EtOH rats. (C, D) Intra-LHb infusion of the MAGL inhibitor JZL184 relieved pain hypersensitivity in Post-EtOH rats. JZL184’s actions can be reversed by CB1R antagonist rimonabant (RIM, 1nM/200nl/side). (E, F) Intra-LHb infusion of WIN reduced pain hypersensitivity in Post-EtOH rats.
The pain hypersensitivity, in alcohol-dependent rats (Post-EtOH), is accompanied with increased LHB glutamatergic synaptic transmission, and LHB hyperactivity.

This may, at least in part, be resulted from a reduction of CB1R function, either by the reduction of CB1Rs or by the increase of MAGL in the GPh-LHB glutamatergic terminals.

Thus, CB1R agonist could reduce pain in alcoholics through the inhibition of the glutamatergic synaptic signaling in the lateral habenula.

This indicates that CB1 agonist can reduce pain in alcoholics and may explain why alcoholics co-abuse marijuana.
Panel Session – Local Research Opportunities and Challenges

2019 Medical Cannabis Symposium
Rutgers University and New Jersey Department of Health

December 18, 2019